Chasing the dragon: Developing indicators for the assessment of community participation in health programmes[☆]

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ABSTRACT

Community participation was identified as one of the key components of Primary Health Care as articulated in the Alma Ata declaration of 1978 and is enjoying a renewal of interest in both low and high income countries. There remains, however, an on-going challenge in how to assess its role in achieving health improvements. This is largely due to the multiplicity of definitions of community participation, which has made it difficult to evaluate its impact on desired programme outcomes, such as uptake and sustainability, as well as broader health improvements. This paper addresses this challenge by first defining a continuum of community participation that captures its many forms, and then incorporates this into an evaluation framework that enables an analysis of the process of participation and links this with health and programme outcomes. The continuum of participation and framework is based upon the spidergram of Rifkin, Muller, and Bichmann (1988), but modified in the light of the growing literature on community participation and also in relation to our original requirements to evaluate the role of community participation in nutrition-related child survival programmes. A case-study is presented to provide a worked example of the evaluation framework and its utility in the evaluation of community participation. While this is a literature-based and retrospective analysis, it demonstrates how the evaluation tool enables a nuanced analysis of the different ways in which communities can participate in the delivery of health-related interventions. It could be used prospectively by those involved in programme design and implementation to further our understanding of community participation and its relationship with health outcomes, as well as key programme outcomes, such as sustainability.

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Introduction

In a world where cost-effectiveness and target oriented approaches dominate, planners and managers see assessing participation in health programs as a mythical dragon. It is so desirable, but also so elusive. Community participation came to prominence in the public health arena with the Alma Ata Declaration in 1978 (WHO, 1978), but it has been described as the principle that has been "lost" in pursuing primary health care (Lawn et al., 2008). As we celebrate the 30 year anniversary of Alma Ata there is much renewed interest in Primary Health Care (PHC) and in community participation (Walley et al., 2008) and there are now several decades of history of community participation in health. These experiences cut across both high and low income country contexts with much activity in the US, Canada, Australia, New Zealand and the UK in addition to low income countries (see for example: Minkler & Wallerstein, 2008a; NICE, 2008; Perry, Freeman, Gupta, Rassekh, the Community-Based Primary Health Care Working Group, & International Health Section, American Public Health Association, 2009).

While there are obviously some differences in goals, approaches and implementation in these contexts, what is shared is the assumption that the involvement of communities enhances the delivery and uptake of health interventions to address health

inequalities (Assai, Siddiqi, & Watts, 2006; NICE, 2008; Taylor-Ide & Taylor, 2002). However, while there is evidence that without community participation health and development programmes flounder (Pritchett & Woolcock, 2004), evidence of the converse, that is of a direct relationship between community participation and positive health outcomes, remains limited (Hossain, Bhuiya, Khan, & Uhaa, 2004; NICE, 2008; Wallerstein et al., 2008). One major reason is the multiplicity of definitions of community participation. As Popay (2006) notes, this lack of a consistent definition(s) of community participation or engagement has complicated attempts to investigate the links between participation and, combined with the related lack of analysis of community participation or engagement processes, it is difficult to draw wider conclusions about its role in achieving and sustaining health outcomes. Thus the challenge remains how to develop a simple yet valid analytical tool to describe community participation in order to evaluate its relationship with health improvements and other programme outcomes, and one that is equally useful to planners and managers on the ground. To meet these requirements, two key issues must be considered: firstly how to define community participation in a way that reflects meanings in different settings; and secondly, how then to incorporate this definition(s) into an evaluation framework in order to relate the process of participation to defined outcomes and other health impacts in programme settings.

This paper addresses these requirements by firstly modifying a continuum of community participation originally developed by Rifkin et al. (1988), then illustrating how this can operationalised and incorporated into an evaluation framework, and finally how the process of participation can be presented visually using a spidergram also developed in the original paper and so link the process with programme outcomes. This framework and revised spidergram were developed as part of a critical review commissioned by the A2Z Project (a US-based NGO funded by USAID with a mandate to implement and strengthen micronutrient programs to improve the nutrition and health of vulnerable populations and provide global technical leadership in micronutrients) to evaluate the evidence on the relationship between community participation and the uptake and sustainability of child survival programmes, particularly those focused on anaemia (Rifkin, Hewitt, & Draper, 2007). It also builds on previous work by the authors (see for example: Rifkin et al., 1988; Rifkin, 1996; Rifkin, Lewando-Hundt, & Draper, 2000). The development and use of the evaluation tool in this context is thus literature-based, retrospective and non-participatory. As discussed later, this is not ideal but illustrates the utility of the framework as a practical tool for the planners and managers of health programmes via the analysis of a selected case-study (with two further case-studies in the web supplementary file). We start by discussing some of the challenges and difficulties in defining and evaluating community participation and conclude by examining the potential value of the framework for understanding community participation in health programmes as well as the challenges.

The challenge of defining community participation

There have been many attempts to define community participation, but a standard definition remains both elusive and contentious. There is an enormous literature on community participation that crosses both subject and disciplinary boundaries ranging from health and the delivery of other public services through to environmental risk assessment and agricultural development. Within this large body of work there is a profusion of definitions of community participation.

Within the health field Morgan (2001) has identified two dominant perspectives − the utilitarian and the empowerment models. Both the models have attracted critical comments. In the late 1990s there were many criticisms of participatory development and these largely focused on the more utilitarian models of participation, particularly as implemented by agencies such as The World Bank, arguing that participation had been co-opted as a technocratic solution to a political problem (see for example Cooke & Kothari, 2001). Another line of commentary argued that the perceived failure of community participation programmes was due in part to unrealistic expectations, which themselves derived from conceiving participation within the utilitarian or biomedical model as an intervention rather than a social process to address health problems created by poverty and inequality (Rifkin, 1996). On the other hand, the empowerment models of participation that seek to enhance the agency of communities and individuals have also proved difficult to implement (Michener, 1998). They have also been criticised for making unrealistic assumptions about the abilities of the poor and marginalised to participate (Brett, 2003) and ignoring wider social and political realities (Carpenter, 2007).

Implicit within these debates is the problem of defining the nature and purpose of community participation. As Martin (2008) shows there are tensions between these differing concepts of and rationales for participation that in part derive from contrasting ideological and political values and also concepts of citizenship. For instance, the purpose and value of community participation in health programmes as an intervention to improve the efficiency of service delivery by improving uptake of interventions, or should it be linked with broader concerns, such as equity, structural inequalities, governance and citizenship (Cornwall & Gaventa, 2001; Rifkin, 2003; Sen, 1999)? One key source of tension is the issue of power and specifically the extent to which this is or should be devolved to community members (Morgan, 2001; Nelson & Wright, 1995). A number of typologies of community participation have been developed that are based on a continuum of power-sharing of which Arnstein's ladder is perhaps the most famous (Arnstein, 1969). She ranks the different degrees of citizen participation starting at the lowest rung of manipulation and ascending upwards to the highest level of participation, citizen control in which power is directly transferred from government to people. Following Arnstein a number of similar models or typologies have been developed including those developed for use in specific contexts, such as the Contra Costa Health Services ladder of community participation (Morgan & Lifshay, 2006). This is a practice-based tool for public health practitioners in local health departments in the US. In many of these typologies "lower" levels of participation have sometimes been described as community mobilisation, or "getting people to do what the professional wants" (Rifkin, 1985). Morgan's empowerment model of participation is implicit in these typologies. These have been criticised as being based on idealist notions of democracy by others (Bishop & Davis, 2002), who have developed discontinuous classifications based on a more technocratic or utilitarian approach. As Mahoney, Potter, and Marsh (2007) note, these discords stem largely from different views of the telos or goal of community participation − are the benefits primarily technocratic or utilitarian ones, such as enhanced programme efficiency, or is there a broader emancipatory intention?

While these ideological tensions cannot be reconciled within this paper, in relation to the evaluation of community participation one issue that clearly emerges is the need for a more flexible and inclusive typology of community participation that can be used to describe the differing ways in which communities can be involved in health programmes (Mahoney et al., 2007). Past experience has shown the difficulty of doing this and also that unitary or one-

dimensional definitions or typologies fail to capture the many forms that participation may take. One reason is that these tend to focus on single characteristics or features, such as whether it is active or passive, collaborative or transformative and so forth (Oakley, 1991). Any definition or typology of participation also needs to reflect what Laverack and Wallerstein (2001) describe as the multiple organisational domains of empowerment (a term that is now often used as synonymous with community participation. See Rifkin et al., 2000). These domains refer to the social, economic and contextual factors that influence the process of participation and that are often critical to its success (CSDH, 2008). Following this, community participation is best understood as a complex and variable social process and one that is situation specific. Hence the search for a "gold standard" for replication or evaluation is neither realistic nor appropriate. Any evaluation framework thus needs to be able to examine the role and function of community participation in its various forms and experiences suggest that such a framework should include the following features: it should allow the description of process as well as outcomes; it should thus contain qualitative as well as quantitative indicators; it should be robust and flexible to allow the definition of indicators to reflect the particular programme and contexts under consideration. Such a framework is presented in the methods section of this paper.

Thus far we have discussed the protean concept of participation, but similar definitional issues and ideological debates arise with the concept of community (Jewkes & Murcott, 1996). Most community-based programmes or interventions are usually and by default based on a geographic definition of community, i.e. a group of people who live in the same area whether a village or a designated urban area. This definition is most common in public health programmes because of the dominance of an epidemiological approach to programme planning. The distinction between community-based interventions (programmes that are based in communities, but focus on achieving change in individuals) and community-level interventions (programmes that seek to achieve change in a whole community via participation and other community wide changes) is also rarely made (O'Dwyer, Baum, Kavanagh, & Macdougall, 2007). As O'Dwyer et al. note although the rationales of the two are quite different, they are often conflated and there is a lack of rigorous evaluations of community-level interventions. It is beyond the remit of this paper to enter into this debate and it has been considered extensively by others, so we will follow convention in using the term community-based but note that this usage is problematic.

The challenge of evaluating community participation as process

Having argued that community participation should be seen as a social process and not as a discrete intervention, and further that it is a flexible process that can take many forms, why and how do we capture this in an evaluation? From a number of quarters there is growing recognition for the need to understand the processes or pathways by which interventions are implemented and changes achieved (see for example: Anderson, 2005; Bryce, Victora, Habicht, Black, Scherpbier, & MCE-IMCI Technical Advisors, 2005; Victora, Habicht, & Bryce, 2004). This is particularly important for those interventions that are "complex". As defined in the original Medical Research Council (MRC) guidelines (MRC, 2000), complex interventions are "*health interventions that are non-pharmacological or clinical … and typically comprise more than one active ingredient or component*" (Campbell et al., 2000). Most programmes or interventions in which community participation is a key component are complex in that they usually comprise the delivery of several components, including of course participation itself. Also their success or impact is dependent upon real world context, that is

where, who with and how they are implemented — i.e. the process is part of the intervention and as such also needs to be described and understood (Hawe, Shiell, Riley, & Gold, 2004; Sheill, Hawe, & Gold, 2008). It should be noted that there are some differences in terminology here and that we define a process evaluation not as one designed to capture type III error or the fidelity with which an intervention has been implemented (Linnan & Steckler, 2002), but rather as "looking at *how* something happens rather than or in addition to examining outputs and outcomes" (Patton, 2002, p.159). The latter has been described in some contexts as implementation or translational research, for instance in the US (Minkler & Wallerstein, 2008b); whereas in Europe these terms and particularly the latter refer more to the study of how research findings are implemented into routine health care and how to enhance this process. As Minkler and Wallerstein (2008b, p. 12) phrase it, we need to understand the "added value" of community participation, how to relate its processes to outcomes, and to identify the characteristics of successful experiences.

There is now a growing literature reporting process evaluations of health care and health promotion interventions (see for example: Levesque, Guilbault, Delormier, & Potvin, 2005), but outside of the North America there have been few published process evaluations of community participation, particularly in low income countries. As recent reviews of the effectiveness of community participation in improving health outcomes have shown, these evaluations mostly lack detail of the community participation component (see for example: Bjorkman & Svensson, 2009; Perry et al., 2009). The need thus remains to develop an approach to evaluation that avoids the assumption that participation is an input or intervention whose "dose" can be standardised and whose "effect" is independent of either process or context, but rather captures its complexities and variations. This is the challenge that we address here.

Methods

In this section we describe how to define participation in such a way as to reflect its differing forms and then how to incorporate this into an evaluation framework that allows these processes to be described and linked with outcomes. We also then describe how this evaluation framework was applied to selected case-studies using a visualisation technique, i.e. the spidergram. As noted in the introduction, given the confines of our commission the development and use of the evaluation tool was literature-based, retrospective and did not involve any of the project planners, managers and/or beneficiaries. The limitations of this approach are discussed later.

Description of the participation continuum

To understand the range of experiences of integrating community participation into health care programmes, Rifkin (1985) has previously developed a typology for planners to view how planners approached community participation in their own programmes. Rifkin identified the following ways in which communities participate in health programmes:

1) The medical approach in which planners defined health as the absence of disease and participation as having people do what the professional advises. This approach may be seen as one of *mobilising* communities. To mobilise is defined by the Encyclopedia Brittania as "to marshal (as resources) for action; supporting a proposal" (www.Britannica.com Accessed 30.11.09). A typical example of participation as mobilisation is mass campaigns for immunisation days (Gonzalez, 1965).

2) The health services approach in which health is defined by the WHO definition as "the physical, mental and social well being of the individual" and participation as a contribution of the community's time, materials and/or money. This approach might be viewed as *collaboration*, but with the professionals defining what is needed. Community health worker programmes where local people are trained to give first line health care and also, in many cases, act as health promoters are an example.

3) The community development approach in which health is defined as a human condition and participation as the planning and managing of health activities by the community using professionals as resources and facilitators. This approach can also be seen as one of *empowerment* (defined as creating opportunities for those without power to gain knowledge, skills and confidence to take decisions that affect their own lives) (Rifkin & Pridmore, 2001). An example of this is the Basic Needs Programme in the Eastern Mediterranean, which is presented below as a case-study of the application of the evaluation framework and spidergram.

Each of these approaches have distinct historical and ideological roots that have been reviewed elsewhere (see Rifkin et al., 2000). They are not mutually exclusive; rather they can be seen as points on a continuum of participation although each is based upon particular views of health and community actions that lead to different expectations of inputs and outcomes. This continuum is proposed not as a definitive typology, but rather as providing a practical lexicon to move evaluation practice forward (Mahoney et al., 2007). Fig. 1 shows a representation of this continuum.

Turning the participation continuum into a spidergram

Rifkin et al. (1988) previously developed a continuum for participation which had narrow participation at one end and wide participation at the other end. They disaggregated the continuum in terms of five components or indicators of community participation and used these to analyse whether participation was wide or narrow in respect to each. These indicators were: 1) needs assessment; 2) leadership; 3) organisation of the programme; 4) management of the programme; and 5) resource mobilisation. Each indicator was then visualised as a continuum in its own right and linked to the other four by placing the narrow end at the point of connection and the wider end away from the connecting point. Where all the points on each continuum connect a small circle was drawn to remind assessors that in all communities there is always some type of participation, however minimal (See Fig. 2).

This approach has been successfully and widely used to assess health programmes incorporating community participation (see
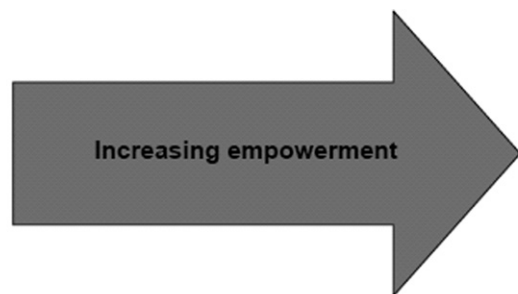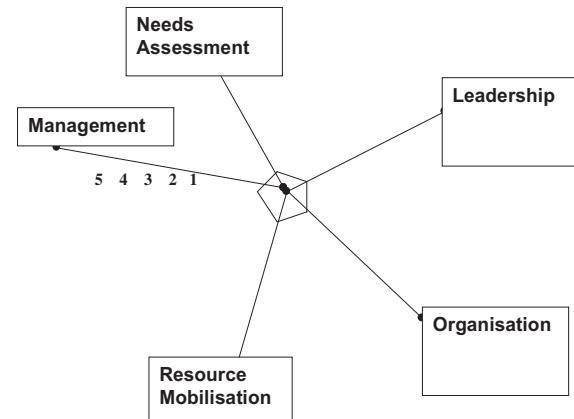

Fig. 2. A spidergram for assessing participation. From Rifkin et al. (1988).

for example: Eyre & Gauld, 2003; Jacobs & Price, 2003; Naylor, Wharf-Higgins, Blair, Green, & O'Connor, 2002). It offers a simple, but useful means of characterizing the nature of participation within a health programme. It is for this reason that it was used here with modification to examine indicators of participation in relation to child survival programmes. The five indicators within the spidergram were revisited in light of the ever expanding literature on community participation, the increasing use of the concept of empowerment, and to reflect relevant aspects of the child survival programmes reviewed. This is described next.

Selection of process indicators and development of the framework

Recent reviews on community participation in health programmes, including maternal and child health in low income countries, have identified the following factors as critical in programmes where community participation has contributed to or weakened a programme's success: 1) Leadership of the community and of the professionals introducing the intervention; 2) Planning and Management forging partnerships between community and professionals: 3) Women's Involvement; 4) External Support for Programme Development in terms of finance and programme design; and 5) Monitoring and Evaluation examining how intended beneficiaries are involved in programme activities (Gryboski, Yinger Dios, Worley, & Fikree, 2006; Murthy & Klugman, 2004; Rifkin, 1990; Rifkin et al., 2000; Zakus & Lysack, 1998). These five factors were thus selected to revise the spidergram with women's involvement included as particularly relevant indicator for child survival programmes and consideration of external resources as relevant for consideration of sustainability. Process indicators were then developed from these factors and were operationalised in relation to the participation continuum. Table 1 lays out the descriptions of these indicators with each cell providing a definition of the value of the indicators at different points.

Application of the framework to selected case-studies

The case-studies selected for the full review were examples of community-based child survival programmes in low income countries with a focus on those that addressed micronutrient deficiencies. They were chosen to reflect differing approaches to community participation within the context of health programmes and to give geographical spread. The sampling was thus purposive with cases chosen to provide insight into the range of community participation experiences in child survival programmes in low income countries. The goal was not to generate a representative

Fig. 1. The participation continuum. Adapted from Rifkin and Pridmore (2001).

Table 1
Process Indicators of Participation.

Indicators of Participation	Continuum of community participation				
	Values for mobilisation	↔	Values for collaboration	↔	Values for empowerment
Leadership Professionals introducing intervention, or by community of intended beneficiaries	Health professionals assume leadership. Local leadership does not necessarily try to widen the decision-making base in the community.		Collaborative decision-making between health professionals and community leaders. Local leadership tries to present the interests of different groups.		Programme is led by community members who are selected through a representative process. Health professionals give leadership training if necessary. Local leadership ensures that the interests of various groups are represented in decision-making.
Planning and Management How partnerships between professionals and the community are forged	Health professionals tell the community how they may participate. They decide the programme's focus, goals and activities and provide the necessary resources.		Collaboration instigated by health professionals. Community invited to participate within a predetermined remit. Activities reflect community priorities and involve local people and existing community organizations. Both professionals and community members provide resources. Some transfer of skills occurs.		Partnerships between communities and health professionals created and institutionalised. Professionals' facilitate; the community defines priorities and manages the programme. Local people learn skills they need for management and evaluation.
Women's involvement	The inclusion of women is not specifically sought outside their traditional roles and their active participation is not a programme objective.		Women actively participate in some aspects of the programme, but they have minor decision-making roles.		The active participation of women in positions of decision-making and responsibility is a programme objective.
External support for programme development In terms of finance and programme design	Funding comes from outside the community and is controlled by health professionals. Programme components, including community participation, designed by health professionals to address health outcomes they prioritise and in ways they deem appropriate.		Majority of funding is from outside the community, but local people are asked to contribute time, money and materials. Professionals allocate resources, although they may consult community members. Programme is designed by health professionals in discussion with community representatives. Role of each in the programme, including women and minority groups, is negotiated.		Community members work towards finding ways of mobilising resources, including through external funding and with their own resources, e.g. micro-financing. Programme is designed by community members with technical advice from professionals on request. The design is flexible and incorporates wide community participation, including women and minority groups.
Monitoring and evaluation How intended beneficiaries are involved in these activities	Health professionals design M&E protocols, choose the outcomes and analyse the data in ways to suit their information needs. Approach is mainly one of hypothesis testing and statistical analysis of health-related outcomes. Communities may not be made aware of the findings.		Health professionals design mixed method M&E protocols and perform analyses, but community members are involved in data collection. A broad definition of 'success' is used. Responses to monitoring findings are jointly decided and community feedback is both sought and given.		Communities do a participatory evaluation that produces locally meaningful findings. A variety of data collection methods are used and the community chooses the indicators for success. Professionals assist at request of community. Communities actively involved in participatory monitoring and in deciding how to respond to monitoring findings. Communities contribute to any wider external evaluations.
Score given	1	2	3	4	5

sample from which to draw empirical generalisations, but rather to generate theoretical insights into how different approaches to community participation may modulate programme outcomes from information-rich cases. Given that this was a literature-based evaluation, availability of programme information available in the public domain was also a practical consideration.

Each case-study was analyzed using the process indicators above in Table 1 to appraise the nature and extent of participation achieved in relation to each of the components and at what overall point a programme is on the continuum between community mobilisation and community empowerment. For each programme the indicators were scored in relation to the participation continuum using the following values: 1 representing mobilisation, 3 representing collaboration and 5 empowerment, with scores of 2 and 4 for intermediate types. These values represent the broad position of each component on a scale from low to high community participation. Each case-study was appraised by both GH and AD and, if there was disagreement, by SR as well and the majority value was applied. The agreed value for each component was then applied to the spidergram. These values were not intended to be precise quantified measures, but rather a means of positioning each component on the participation continuum.

Selection of outcome indicators

To relate the process indicators to health and programme outcomes, data available in the public domain for each case-study was also collated on the following standard outcome indicators:

- Health outcomes: all data available on child survival, including morbidity and mortality, and nutritional status.
- Programme outcomes: all data available on the delivery and uptake of the interventions, coverage, and any other relevant information that was available.
- Programme sustainability: this is another term with many meanings, but we selected as relevant two of Shediac-Rizkallah and Bone's five definitions – the maintenance of a programme

or service over time and the continued delivery of benefits over time after the withdrawal of external funding and other support (Shediac-Rizkallah & Bone, 1998). All relevant and available information on these were collated.
- Whether programmes were scaled-up or replicated elsewhere.

Findings

Five case-studies were included in the full review (available on-line, see Rifkin et al., 2007), but because of space restrictions only one is presented here to provide illustration of the utility of the evaluation framework and the revised spidergram. For comparison a further two case-studies from Honduras and Nepal are available in the on-line web Supplementary file. Table 2 summarises the data sources for the case-study included here.

Basic development needs programme (BDNP)

BDNP was launched by WHO in 1987 in its Eastern Mediterranean Region (EMRO). The BDNP aims to achieve a better quality of life and health for all by building communities' capacity to find local solutions to local problems through creating and managing sustainable development activities. It is based on recognition of the link between poverty and health. The BDNP works by alleviating poverty, creating awareness, building capacity, enhancing literacy, and providing essential nutrition and health services. Central to the process are equity, community empowerment and the promotion of self-reliance through self-management and self-financing. It requires a strategy that pursues integrated socio-economic development based on the involvement of social groups supported by strong, co-ordinated inter-sectoral collaboration.

In each community in the programme in Djibouti a village development committee (VDC) was established. Community and VDC members were trained in a range of skills, including financial management. The VDCs then conducted a needs assessments, developed action plans for projects and, with support from local public sector departments, implemented and managed these

Table 2
Data sources and information for programme outcomes.

	BDNP Djibouti
Date programme established	2001 – 4 sites (1 since ceased) 2004 – 3 sites 2005 – 1 site
Programme evaluation date and source	Evaluated by WHO ROEM in 2005 (WHO ROEM, 2006a)
Additional sources of information	Background information on BDNP (Abdullatif 1999; Assai et al., 2006; Sheikh 2000); background information on BDNP in Djibouti (WHO ROEM, 2006b)
Health outcomes	Findings from the BDN community survey were compared to national averages[a] (Ministry of Health and Pan Arab Project for Family Health data) to assess health indicators: Infant mortality rate: BDN sites 14–65/1000 live births; NA 103/1000 Under 5 mortality rate: BDN sites 12–25/1000 live births; NA 124/1000 Children <5 yr followed for their growth: BDN sites 91–98%; NA 23% Vaccine coverage at <1 yr: BDN sites 96–100%; NA 64% Women vaccinated against tetanus: BDN sites 96–100; NA 64%
Programme outcomes	A number of other impact indicators were compared to national averages: Families with access to sufficient water: BDN sites 70–100%; NA 52% Households with latrines: BDN sites 0–100%; NA 19% rural, 81% urban Families with access to refuse collection: BDN sites 50–100%; NA 0% rural, 15% urban Children who attend school: BDN sites 28–75%; NA 53% Children who dropped out of school: BDN sites 15–60%; NA 38% Children who never attended school: BDN sites 5–67%; NA 26%
Programme sustainability	The programme evaluation reports sources of funding for 6 sites. Communities provided from 5 to 21% of funds with the Government, WHO and other international organizations the remainder. External funding and support therefore remained necessary.
Programme scaling up and/or replication	Expanded from 4 to 7 sites over 4-year period. BDNP has been replicated in 12 ROEM countries.

ROEM Regional Office for the Eastern Mediterranean; NA National average; FCHV Female community health volunteers; DGLV Dark green leafy vegetables; EBF Exclusive breast-feeding.

[a] Baseline data were not collected in the original programme sites; the evaluation report does not provide details of the BDN community survey.
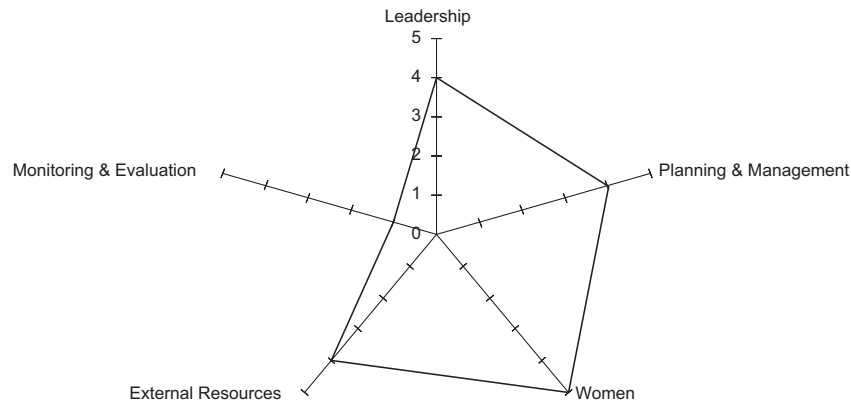
Fig. 3. Spidergram of BDNP.

projects. Interest free loans were provided for income generation activities and VDCs provided resources for literacy classes. Two community health workers (CHW) and one midwife in each village were trained by the Ministry of Health (MOH) and a range of health activities were integrated into the programme including health promotion, immunisation, screening women for anaemia, malaria control, refuse collection and sanitation, school health and the construction of health centres.

Unfortunately the collection of baseline data in BDNP villages was poor, but comparison of health indicators with the national average shows positive outcomes, despite the fact that only 14 out of 34 elements of the programme were directed towards health. Infant mortality rates ranged between 14 and 65/1000 live births in programme sites compared with a national average of 103/1000. Under 5 mortality rates ranged between 12 and 25/1000 in programme sites compared with a national average of 124/1000. Vaccination of children <1 yr reached 96–99% coverage in programme sites compared with a national average of 64%, and vaccination of women for tetanus ranged from 96 to 99% coverage compared with a national average of 64%. Participation in growth monitoring achieved 91–98% coverage compared with a national average of 23%.

Fig. 3 shows the spidergram for the five factors according to the type of community participation achieved by the BDNP. The programme was scored highly for all indicators except monitoring and evaluation: 4 for leadership, planning and management and external support; 5 for women's involvement; and 1 for monitoring and evaluation. This was because the VDCs were given a strong role in the leadership, planning and management of local projects, and women were very deliberately and actively involved with some projects headed by women. While there was external support and resources from the government, United Nations and bilateral agencies, communities themselves made substantial contributions. Thus the overall participation achieved was situated clearly towards the empowerment end of the participation continuum with the exception of the monitoring and evaluation components; this was scored low because these were conducted by external professionals and did not involve community members.

Discussion

The analysis presented here is retrospective and based on secondary evidence, but it provides illustration of the application of the evaluation framework and the revised spidergram. While wider social and political contexts fall outside the evaluation framework, the use of the participation continuum and its associated process indicators allow a nuanced characterisation of the different ways in which communities can participate in the delivery of health-related interventions, with the spidergram providing graphic illustrations of these processes and the inter-relationships between the different indicators of participation. While only one case-study could be presented here, the evaluation framework allows analysis of the process of participation itself and can show where different programmes fall along the community participation continuum. Importantly this process evaluation framework is also multi-dimensional and does not focus on just one element of the process of community participation; it captures diversity and can capture the dynamics of process. While the analysis presented here was retrospective and only shows one point in time, the framework could be used to capture changes over time from baseline onwards, i.e. prospectively, and in combination with a community timeline to allow linkage of processes with outcomes in a more dynamic way. For those involved in programme design and implementation this could provide a greater understanding of the dynamics of community involvement and its relationship with programme objectives and outcomes over time.

The analysis presented here was literature-based and did not involve participants from any of the projects due to the constraints of our commission, but the framework could easily be used prospectively and arguably should be used as part of the participation process itself, that is involve community members in the collection and analysis of data and the selection and definition of the process indicators. While this might present another set of challenges and the potential for differences of opinion, as Rootman, Goodstadt, Potvin, and Springett (2001) note approaches have developed to deal with these. The strengths of using the spidergram, as illustrated by the case-study above, is that it provides a powerful yet simple and practical way of visually demonstrating the extent of community participation in key areas and crucially to link these with outcomes. It is also an approach that can be used by planners and programme managers to assess how changes in community participation are reflected (or not) in changes in health status and the achievement of programme goals.

To conclude, it is clear that community participation remains a critical, if not essential, component of community-based programmes for health improvements, but it must be recognised that it can take many forms. Communities too are heterogeneous and complex and their participation needs to be viewed as a social process. Our framework could make a contribution in capturing the elusive dragon of assessing the contribution of community participation in improving health and to further our understanding of its role in achieving and sustaining improved health outcomes.

Appendix. Supplementary data

Supplementary data associated with this article can be found in the on-line version, at doi:10.1016/j.socscimed.2010.05.016.

References

Abdullatif, A. A. (1999). Basic development needs approach in the eastern Mediterranean region. *East Mediterranean Health Journal, 5*, 168–176.

Anderson, A. (2005). *The community builder's approach to theory of change: A practical guide to theory development*. New York: The Aspen Institute Roundtable on Community Change.

Arnstein, S. (July 1969). A ladder of citizen participation. *American Institute of Planners Journal* 216–224.

Assai, M., Siddiqi, S., & Watts, S. (2006). Tackling social determinants of health through community based initiatives. *British Medical Journal, 333*, 854–856.

Bishop, P., & Davis, G. (2002). Mapping public participation in policy choices. *Australian Journal of Public Administration, 61*, 14–29.

Bjorkman, M., & Svensson, J. (May 2009). Power to the people: evidence from a randomized field experiment on community-based monitoring in Uganda. *The Quarterly Journal of Economics* 735–769.

Brett, E. A. (2003). Participation and accountability in development management. *Journal of Development Studies, 40*, 1–29.

Bryce, J., Victora, C. G., Habicht, J. P., Black, R. E., Scherpbier, R. W., & MCE-IMCI Technical Advisors. (2005). Programmatic pathways to child survival: results of a multi-country evaluation of Integrated Management of Childhood Illness. *Health Policy and Planning, 20*(Suppl. 1), i5–i17.

Campbell, M., Fitspatrick, R., Haines, A., Kinmouth, A. L., Sandercock, P., Spiegelhalter, D., et al. (2000). Framework for design and evaluation of complex interventions. *British Medical Journal, 321*, 694–696.

Carpenter, M. (2007). Gilding the ghetto again? Community development approaches to tackling health inequalities. In E. Dowler, & N. Spencer (Eds.), *Challenging health inequalities: Multi-disciplinary perspectives* (pp. 193–211). Bristol: Policy Press.

Cooke, B., & Kothari, U. (2001). *The tyranny of participation*. London: Zed Books.

Cornwall, A., & Gaventa, J. (2001). *From users and choosers, to makers and shapers: repositioning participation in social policy*. IDS Working Paper 127. Brighton: IDS.

CSDH. (2008). *Closing the gap: Health equity through action on the social determinants of health*. Geneva: World Health Organization. Final report of the Commission on the Social determinants of Health.

Eyre, R., & Gauld, R. (2003). Community participation in a rural community health trust: the case of Lawrence, New Zealand. *Health Promotion International, 18*, 189–197.

Gonzalez, C. L. (1965). *Mass campaigns and general health services*. Public Health Papers No. 29. Geneva: World Health Organization.

Gryboski, K., Yinger, N. V., Dios, R. H., Worley, H., & Fikree, F. F. (2006). *Working with the community for improved health*. In *Health bulletin 3*. Washington, DC: Population Reference Bureau.

Hawe, P., Shiell, A., Riley, T., & Gold, L. (2004). Methods for exploring implementation variation and local context within a cluster randomised community intervention trial. *Journal of Epidemiology and Community Health, 58*, 788–793.

Hossain, S. M., Bhuiya, A., Khan, A. R., & Uhaa, I. (2004). Community development and its impact on health: south Asian experience. *British Medical Journal, 328*, 830–833.

Jacobs, B., & Price, N. (2003). Community participation in externally funded health projects: lessons from Cambodia. *Health Policy and Planning, 18*, 399–410.

Jewkes, R., & Murcott, A. (1996). Meanings of community. *Social Science & Medicine, 43*, 555–563.

Lawn, J. E., Rohde, J., Rifkin, S., Were, M., Paul, V. K., & Chopra, M. (2008). Alma-Ata 30 years on: revolutionary, relevant, and time to revitalise. *The Lancet, 372*, 917–927.

Laverack, G., & Wallerstein, N. (2001). Measuring community empowerment: a fresh look at organizational domains. *Health Promotion International, 16*(2), 179–185.

Levesque, L., Guilbault, G., Delormier, T., & Potvin, L. (2005). Unpacking the black box: a deconstruction of the programming approach and physical activity interventions implemented in the Kahnawake schools diabetes prevention project. *Health Promotion Practice, 6*, 64–71.

Linnan, L., & Steckler, A. (2002). Process evaluation for public health interventions and research: an overview. In A. Steckler, & L. Linnan (Eds.), *Process evaluation for public health interventions and research* (pp. 1–24). San Francisco CA: Jossey-Bass.

Mahoney, M., Potter, J.-L. L., & Marsh, R. S. (2007). Community participation in HIA: discords in teleology and terminology. *Critical Public Health, 17*, 229–241.

Martin, G. P. (2008). 'Ordinary people only': knowledge, representativeness, and the publics of public participation in healthcare. *Sociology of Health and Illness, 30*, 35–54.

MRC. (2000). *A framework for development and evaluation of RCTs for complex interventions to improve health*. London: MRC.

Michener, V. J. (1998). The participatory approach: contradiction and co-option in Burkina Faso. *World Development, 26*, 2105–2118.

Minkler, M., & Wallerstein, M. (2008a). *Community-based participatory research for health: From processes to outcomes*. San Francisco: Jossey-Bass.

Minkler, M., & Wallerstein, N. (2008b). Introduction to community-based participatory research: new issues and emphases. In M. Minkler, & M. Wallerstein (Eds.), *Community-based participatory research for health: From processes to outcomes* (pp. 371–392). San Francisco: Jossey-Bass.

Morgan, L. (2001). Community participation in health: perpetual allure, persistent challenge. *Health Policy and Planning, 16*, 221–230.

Morgan, M. A., & Lifshay, J. (2006). *Community engagement in public health*. Martinez, CA: Contra Costa Health Services, Public Health Division.

Murthy, R. K., & Klugman, B. (2004). Service accountability and community participation in the context of health sector reforms in Asia: implications for sexual and reproductive health services. *Health Policy and Planning, 19*, i78–i86.

Naylor, P.-J., Wharf-Higgins, J., Blair, L., Green, L., & O'Connor, B. (2002). Evaluating the participatory process in a community-based heart health project. *Social Science & Medicine, 55*, 1173–1187.

Nelson, N., & Wright, S. (1995). *Power and participatory development: Theory and practice*. London: Intermediate Technology Publication.

NICE. (2008). *Community engagement to improve health*. In *NICE public health guidance 9*. London: National Institute for Health and Clinical Excellence.

Oakley, P. (1991). *Projects with people: The practice of participation in rural development*. Geneva: International Labour Office.

O'Dwyer, L. A., Baum, F., Kavanagh, A., & Macdougall, C. (2007). Do area-based interventions to reduce health inequalities work? A systematic review of the evidence. *Critical Public Health, 17*, 317–335.

Patton, M. Q. (2002). *Qualitative research and evaluation*. Thousand Oaks, CA: Sage Publications.

Perry, H., Freeman, P., Gupta, A., Rassekh, B. M., the Community-Based Primary Health Care Working Group, & International Health Section, American Public Health Association. (2009). *How effective is community-based primary health care in improving the health of children?* Washington DC: American Public Health Association.

Popay, J. (2006). *Community engagement and community development and health improvement: A background paper for NICE*. London: NICE.

Pritchett, L., & Woolcock, M. (2004). Solutions when the solution is the problem: arraying the disarray in development. *World Development, 32*, 191–212.

Rifkin, S. B. (1985). *Health planning and community participation: Case studies in south-east Asia*. Dover, NH: Croom Helm.

Rifkin, S. B. (1990). *Community participation in maternal and child health/family planning programmes*. Geneva: WHO.

Rifkin, S. B. (1996). Paradigms lost: toward a new understanding of community participation in health programmes. *Acta Tropica, 61*, 79–92.

Rifkin, S. B. (2003). A framework linking community empowerment and health equity: it is a matter of CHOICE. *Journal of Health, Population and Nutrition, 21*, 168–180.

Rifkin, S. B., Hewitt, G., & Draper, A. K. (2007). *Community participation in nutrition programs for child survival and anemia*. Washington, DC: A2Z. http://a2zproject.org/a2zorg/node/29.

Rifkin, S. B., Lewando-Hundt, G., & Draper, A. K. (2000). *Participatory approaches in health promotion and health planning: A literature review*. London: Health Development Agency.

Rifkin, S. B., Muller, F., & Bichmann, W. (1988). Primary health care: on measuring participation. *Social Science & Medicine, 26*, 931–940.

Rifkin, S. B., & Pridmore, P. (2001). *Partners in planning. Information, participation and empowerment*. London: Macmillan Education Ltd.

Rootman, I., Goodstadt, M., Potvin, L., & Springett, J. (2001). A framework for health promotion evaluation. In I. Rootman, M. Goodstadt, B. Hyndman, D. V. McQueen, L. Potvin, J. Springett, & E. Ziglio (Eds.), *Evaluation in health promotion: Principles and perspectives. European series no. 92* (pp. 7–38). Copenhagen: WHO Regional Publications.

Sen, A. (1999). *Development as freedom*. Oxford: Oxford University Press.

Shediac-Rizkallah, M. C., & Bone, L. R. (1998). Planning for the sustainability of community-based health programs: conceptual frameworks and future directions for research, practice and policy. *Health Education Research, 13*, 87–108.

Sheikh, M. R. (2000). Basic development needs approach in the eastern Mediterranean region: from theory to practice. *East Mediterranean Health Journal, 6*, 766–774.

Sheill, A., Hawe, P., & Gold, L. (2008). Complex interventions or complex systems? Implications for health economic evaluation. *British Medical Journal, 336*, 1281–1283.

Taylor-Ide, D., & Taylor, C. (2002). *Just and lasting change: when communities own their future*. Maryland: John Hopkins University Press.

Victora, C. G., Habicht, J.-P., & Bryce, J. (2004). Evidence-based public health: moving beyond randomized trials. *American Journal of Public Health, 94*, 400–405.

Wallerstein, N., Oetzel, J., Duran, B., Tafoya, G., Belone, L., & Rae, R. (2008). What predicts outcomes in CBPR? In M. Minkler, & M. Wallerstein (Eds.), *Community-based participatory research for health: From processes to outcomes* (pp. 371–392) San Francisco: Jossey-Bass.

Walley, J., Lawn, J. E., Tinker, A., de Franciso, A., Chopra, M., Rudan, I., et al. (2008). Primary health care: making Alma-Ata a reality. *The Lancet, 372*, 1001–1007.

WHO. (1978). *Declaration of Alma-Ata*. Geneva: World Health Organization. http://www.who.int/hpr/NPH/docs/declaration_almaata.pdf Accessed 16.02.09.

WHO Regional Office for the Eastern Mediterranean. (2006a). *Evaluation of the basic development needs programme in Djibouti*. Cairo: WHO.

WHO Regional Office for the Eastern Mediterranean. (2006b). *Community-based initiatives: Success stories from the eastern Mediterranean region*. Cairo: WHO.

Zakus, J. D., & Lysack, C. L. (1998). Revisiting community participation. *Health Policy and Planning, 13*, 1–12.