Participation and Numbers

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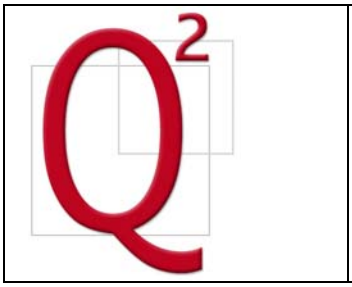

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Background

In recent years increasing attention has been paid to combining qualitative and quantitative methods in research (e.g. Booth et al 1998; Marsland et al 2000; Kanbur 2003). Complementarities have been recognised between the depth and detail contributed by qualitative research and the representativeness and statistical robustness contributed by quantitative research. The benefits of such combinations are not now seriously in dispute. They do, though, tend to overlook the power and potential of participatory approaches and methods. In this connection, two assumptions are still quite common: first, that participatory approaches only generate qualitative insights; and second, that quantitative data can only be produced by questionnaire surveys or scientific measurement.

To the contrary, numerous experiences now show both these assumptions to be false. Since the early 1990s, a quiet tide of innovation has developed a rich range of participatory ways by which local people can themselves produce numbers. The methodological pioneers have rarely recognised the full significance of what they have been doing. This chapter presents some of the evidence, experience, issues, frontiers and potentials concerning the generation of numbers using participatory approaches and methods (participatory numbers for short).

Ways of generating numbers

Participatory activities can generate numbers in different ways and for different purposes.

First, in a comparative research mode, there is the analysis of secondary data which have been generated in a participatory manner without pre-standardisation. Deciding categories and allocating to them can be difficult but the results can be significant and persuasive. Karen Brock (1999) gathered findings from participatory research on poverty, and analysed what had come from 58 groups and individuals in 12 countries who had been asked to identify key criteria for poverty, ill-being, or vulnerability. She then used a computer programme (NUDIST) to classify and count these by criteria, separated into urban and rural, and into men and women, and presented the results diagrammatically to show frequency of mention as percentages. One striking finding was that water was a much higher priority for poor people in urban than in rural areas.

In this mode, the numbers are ’ours‘, that is, they are derived and used by the outside analyst.

Second, in a more empowering mode, participatory monitoring and evaluation (PM & E) (Estrella & Gaventa, 1997; Guijt, 1998, 2000; MaGillivray et al., 1998; Estrella et al., 2000) can generate and use numbers. Local people identify their own indicators and then monitor them. The indicators can be numbers that are counted, qualities that are scored, quantities that are measured or estimated, and so on. To illustrate, in Somaliland, herders evaluated wells by scoring them before and after improvement according to their own 45

criteria (Joseph et al., 1994). There is a large, growing, and relevant literature on PM & E[1]

In this mode, the numbers are more 'theirs', that is, they belong to and are used by local people.

Third, and the main focus of this chapter, is the generation of numbers from several or many sources using participatory approaches, methods, and behaviours which are to some degree standardised and predetermined. This practice has evolved and spread quietly, almost unnoticed. Often the methods are visual (see e.g. Mukherjee, 1995 and 2001; Jones, 1996; Shah et al., 1999). The activities can be by individuals, but most often they take place in groups: different groups of people do similar things which provide numbers which can be added, averaged, compared, or used as a basis for various calculations. Local people can do calculations themselves at their own level, but it is usually the outside researcher/facilitators who aggregate and calculate beyond the group level.

In this mode, the ownership varies depending on context and facilitation.

Participatory methods, applications, and activities

Methods often used to generate numbers include participatory mapping, modelling, pile sorting, pie diagramming, card writing, marking and sorting, matrix ranking and scoring, linkage diagramming, and pocket voting (for which see van Wijk-Sebesma, 2001). Their common applications include social and census mapping, household listing, wellbeing ranking, trend and change analysis, seasonal diagramming, preference ranking, causal-linkage analysis, and problem trees. The participatory activities which generate numbers include counting, calculating, measuring, estimating, valuing, ranking, and scoring. Comparing things is often involved, giving numbers or scores to indicate relative sizes or values.

Examples of *counting* are social and census maps. These tend to be very accurate for identifying and listing households, for headcounts and for household characteristics which are common knowledge (for seven cases see Chambers , 1997: 143-5). Participants can 'see what is being said' and correct and add detail. An illustration is the community censuses with participatory mapping conducted in 54 representative villages in Malawi (Levy and Barahona forthcoming). Applying strict statistical principles, the findings indicated a rural population of the order of 11.5 million, some 35 per cent higher than the official census figure of 8.5 million.

An example of *calculating* comes from Bangladesh where as part of the appraisal for community-led total sanitation local people work out the quantities (e.g. cartloads for the whole community) of faeces produced in a year (Kar, forthcoming).

[1] For selected abstracts see www.ids.ac.uk/ids/particip.

Examples of participatory *measuring* can be found with timber stocks, water flows, arm circumferences, and land use areas from participatory GIS modelling (Rambaldi & Callosa-Tarr, 2000).

Examples of *estimating* are often associated with comparing and relative proportions, as in historical matrices (e.g. Freudenberger, 1995; PRAXIS, 2001) which indicate trends and changes; seasonal food calendars which show seasonal variations in things like amount and type of food consumed (e.g. Mukherjee & Jena, 2001) and health problems (Shah, 1999); and as in proportional piling for income and food sources (e.g. Watson, 1994; Eldridge, 2001a; and Stephen Devereux and Henry Lucas, pers. comms). There are many applications with variants of methods such as the Ten Seed Technique (Jayakaran, 2002) or the allocation of 100 seeds, stones, or other counters to give percentages.

Examples of *valuing* are preference ranking, matrix ranking and matrix scoring (Jones, 1995). Things compared range from crop varieties in Zambia (Drinkwater, 1993) and India (Manoharan et al., 1993) to contraceptive methods, from markets in Bangladesh (Kar & Datta, 1998) to political parties, from girls' preferences for sex- partners in Zambia (Shah, 1999) to wild plants collected for winter feeding of goats in Afghanistan (Leyland, 1994). Examples in the UK include health providers and candidates interviewed for a university post.

Comparing which combines estimating and valuing is also common. Perhaps the best known and most widespread example is wealth or wellbeing ranking, where analysts group households according to their judgements of personal or household conditions (see e.g. *RRA Notes* 15, 1992 for an introduction).

Going to scale

Local people can generate numbers in all the above ways. In practice, this is usually with facilitation of individuals, or more usually groups, by one or more outsiders. Local people can also themselves be facilitators, but outsiders' skills are usually needed where participatory activities occur on a scale which requires later aggregation, with or without statistical analysis. In these situations, some degree of standardisation of process is common to assure comparability and enhance the validity of aggregation. The outcomes are often presented in tables no different from those generated by questionnaire surveys. There are now numerous examples. A few illustrations can indicate the sort of thing that has been done and point to future potential.

- The earliest case of a large-scale survey with participatory visual analysis and no questionnaire may[2] have been the 1992 use by ActionAid of PRA-related methods, mainly mapping, classifying and, counting, in over 130 villages in Nepal (ActionAid-Nepal, 1992). This was a survey of utilisation of services. It covered the whole population in the villages and generated 13 tables. The population summed to 35,414.

[2] I shall be grateful to anyone who can tell me of any earlier case.

- An SCF (UK) study in 20 Districts in Malawi, Zambia, and Zimbabwe used pile sorting and other participatory methods for a retrospective study on how individual poor farmers coped with the 1992 drought (Eldridge, 1995, 1998 and 2001). The resulting tables were similar to those from a questionnaire survey.

- Focus groups have undertaken participatory studies of urban violence in Jamaica, Guatemala, and Colombia with identification of different types of violence, their seriousness, and the importance, positive or negative, of different institutions (Moser & Holland, 1997; Moser & McIlwaine, 2000a; Moser & McIlwaine, 2000b; and Moser, 2003). In the Guatemala study this led, for example, to a table derived from 176 focus group listings which showed the frequency of mention of 22 different strategies for coping with violence (Moser & McIlwaine , 2000b)

- A participatory study was undertaken in Malawi of the 'starter pack' (of seeds, fertiliser etc) programme and of small farmers' ideas of sustainability (Cromwell et al., 2001). In each of 30 villages, analysis by three focus groups, each of a different category of farmer, included pairwise ranking of the relative importance of 15 indicators of sustainability. The results were combined in a table of mean values across villages by region.

Applications: participatory poverty numbers

- A pioneering effort in Kenya used wealth ranking to enable pastoralists to separate out three groups – rich, middle, and poor. A ranking game was then played for the relative importance of problems, and the results averaged for 24 rich, 17 middle and 27 poor groups. There were sharp differences between the groups in the priorities they identified. Livestock management scored 87 for the rich, for example, but only 7 for the poor (Swift & Umar, 1991).
- SARAR either here or earlier
- Narayan: Tanzania PPA. .Aggregating from focus groups has been a feature of some Participatory Poverty Assessments, for example, the Kenya and Tanzania PPAs led by Deepa Narayan in the mid-1990s
- the Bangladesh PPA (UNDP, 1996) where poor women and poor men's priorities were elicited separately.
- Voices of the Poor (Narayan et al 2000). Aggregation from focus groups was also undertaken in the Voices of the Poor study (Narayan et al., 2000) in 23 countries. This involved aggregating the views of hundreds[3] of discussion groups in over 200 communities on directions of change in violence against women and of characteristics of institutions, the results of which were then presented diagrammatically.
- Malawi, policy-related research using participatory methods and following statistical principles has been used to investigate questions considered too complex for

[3] A precise figure cannot be given for two reasons: the total number of discussion groups was not recorded for every country though it was probably over 1,500 (Narayan et al., 2000: 298-305); and not all discussion groups produced relevant comparable data suitable for analysis.

questionnaires, such as the proportion and distribution of the very food insecure and the proportions who should be targeted by an intervention (Levy & Barahona, 2003, and Levy, this issue)
- PPIs in China

Methodological and research issues

In these approaches, process is sensitive to quality of facilitation. Good selection, training, and commitment of facilitators are vital, as are adequate time and resources devoted to training. Group characteristics and dynamics are another key area. Groups may be unrepresentative, or dominated by one or a few, or by one sort of person (for example, men in a mixed group of men and women). Care in selection, in judging size of group, and observation and facilitation of process can offset these dangers.

Some methodological questions concern applying statistical principles[4]. Others concern optimising trade-offs, for example:

- Closed and commensurable versus open and diverse: trade-offs between the rigidity of preset categories and the diversity of categories likely to result from open-ended participatory processes. David Booth has expressed concern that the exploratory, responsive, and reflexive nature of enquiries will be sacrificed through standardisation to permit aggregation upwards (Booth, 2003). The issue is serious and likely to be a perennial. To date, a partial solution has been progressive participatory piloting and evolution towards degrees of standardisation as in the Malawi starter pack study (Cromwell et al., 2001).

- Standardised versus empowering. The more standardised the process, the more extractive and less empowering and accommodating of local priorities and realities it is likely to be. The less standardised it is, the harder the outcomes will be to analyse.

- Scale, quality, time, resources, and ethics:the issues here are far from simple. Smaller scale, more time, and more resources can allow for higher quality and better ethics but losing on representativeness; and vice versa.

For research, there are many questions. Three which stand out are:

- Relative costs: assessments of relative costs of participatory approaches and questionnaires have tended to show that the participatory approaches are cheaper, but an up-to-date collation and analysis of evidence is needed.

- Relative benefits: assessments of validity, relevance, and utility comparing participatory approaches with questionnaires.

[4] For a clear and authoritative statement of the application of statistical principles to these processes see Levy & Barahona, forthcoming.

- Comparative analysis: comparing approaches, methods, and outcomes to learn about and be able to spread good practice.

Potentials

Two potentials deserve special note.

1. ***Alternatives to questionnaires.***

The numbers generated are similar to those from questionnaires, but with advantages including better access to insights on topics which are sensitive, complex or unexpected, often greater accuracy and relevance, and the potential for 'the best of both worlds', namely qualitative as well as, or combined with, quantitative insights. To illustrate, a participatory study in India gave the caste-wise breakdown of number of families with addiction to alcohol (PRAXIS, 2001). Moser and McIlwaine's work in nine urban communities in Colombia elicited numerous types of violence, and (2000a) produced the unexpected finding that 54% of the types of violence identified were economic, as against only 14% political, contrary to the common belief that political violence was the bigger problem (Moser, 2003).

There is a case for methodological pluralism. Some questionnaires will surely always have a value, done well in some contexts (for example, perhaps, the National Sample Survey in India). But with the evidence and experience we now have, should questionnaires be seen as a second best, to be used only if there is no participatory alternative? There is a reversal here of mental set and reflex, with participatory approaches, methods, and behaviours replacing questionnaires as the first option considered when numbers are needed.

2.***Empowerment***

Participatory numbers can empower. The questions:

Whose research is it, and for whom?
Whose monitoring and evaluation?
Whose indicators and numbers?
Analysed and used by whom?
Who is empowered?

can be asked of every process, and again and again. Participatory numbers may be needed by outsiders, but gains by participants may be less improbable and difficult than appears at first. The insights and numbers can often be of interest and use to community members. To an extent easily overlooked, people enjoy and learn from the processes of analysis and sharing of knowledge, values, and priorities, and feel good at discovering what they can show and express, and having their views heard. A typical observation is that, 'People participating in the groups seemed to enjoy the discussions and exercises and most stayed for the entire duration' (Adato & Nyasimi, 2002). In good PRA practice

there is a tradition that the data – the maps, matrices and diagrams – should be retained by those who created them. There is no a priori reason why data from participatory numbers activities should not be shared. Efforts can be made throughout the piloting and design of the process to make the data of mutual benefit, and able to lead to and support local action.

Participatory numbers can also support decentralised and democratic governance. Examples from the Philippines stand out (Nierras, 2002). There, grassroots health workers have made their own classifications and disease maps, conducted their own analyses, and produced village figures at variance with official statistics, but which officials came to accept. Moreover, they identified priority actions which led in a matter of months to a sharp decrease in mortality. Or again, participatory investigation of land holdings in the Philippines led to revisions of figures which doubled local government takings from the land tax which was the principal source of revenue. These compelling examples open one's eyes to what appears to be a widespread potential.

Spread and good practice

Despite much remarkable innovation, the potential of participatory approaches, methods, and behaviours has been little recognised by mainstream professionals. Several explanations can be suggested: innovators in NGOs have lacked time or interest to write up; questionnaires are embedded professionally and institutionally as *the* way to generate numbers in research; rather few academics or other researchers have been interested in new approaches in research; and participatory approaches are regarded as qualitative not quantitative. But all this is changing. The question now is how with spread to establish good practices, both methodologically and ethically.

Conditions are like the early days of RRA in the late 1970s (Khon Kaen, 1987), and PRA in the late 1980s and early 1990s, when it was becoming clear that something was about to happen on a wide scale. Both RRA and PRA challenged and presented alternatives to professionally embedded methodologies. With both there was some excellent and inspiring good practice as they spread. But there are dire warnings from both. With rapid spread and heavy demand, many who claimed to be RRA or PRA trainers and practitioners had top-down attitudes and behaviour, and lacked practical experience. Much practice was bad – imposing, routinised, insensitive, unimaginative, exploitative, and unethical. People were alienated, and the data were unusable and unused.

Two differences from RRA and PRA do, however, give grounds for hope.

The first is the serious professional and academic interest in qualitative-quantitative issues and going to scale, including the application of group-visual methods. This is evident in recent publications such as *Participation and Combined Methods in African Poverty Assessment: renewing the agenda* (Booth et al., 1998), publications of the Statistical Services Centre at Reading University, the Cornell March 2001 Qualitative-Quantitative Workshop (Kanbur, 2003), and the Swansea July 2002 Conference on

Qualitative and Quantitative Methods in Development Research. Starting in 2002, the International and Rural Development Department and the Statistical Services Centre at the University of Reading have convened workshops for PRA/PLA practitioners on 'Dealing with data from participatory studies: bridging the gap between qualitative and quantitative methods', combining statistical professionalism with participatory practice and ethics.

The second difference is that the application of participatory numbers approaches requires more serious preparation than PRA. Almost anyone can do almost anything participatory and call it PRA. To generate numbers, however, requires more thought, preparation, pilot testing, and discipline.

For the future, different observers will have different prescriptions. Good ideas can be found in statements from workshops in Sussex in 1994 (Absalom et al., 1995), Bangalore in 1996 (Kumar, 1996) and Calcutta in 1997 (all three published in PRAXIS, 1997). Box 1 shows a personal short list for good professional practice in this new context:

Box 1: ***Participatory numbers: good professional practice***

- Donors, governments, and international NGOs to exercise restraint and patience and not to demand too much, too fast, and with too few resources.

- Approaches and methods to be invented and evolved by sensitive and experienced innovators to fit each case, recognising the need for time and resources for the critical phase of methodological development.

- Care to be taken in the selection and training of field facilitators, recognising that training takes time (weeks not days), will be a substantial proportion of expenditure, and will bring long-term as well as immediate benefits through capacity building.

- Monitoring, evaluation, and feedback to be facilitated and sought from community participants and combined with practitioners' self-critical reflection, to learn each time how to do better, and the insights shared widely.

- Above all, ethical practice to be demanded and held to. This means not misleading, exploiting, or endangering people. So often local people's time is taken to their loss not gain, their expections are raised and disappointed, and they are exposed or expose themselves to danger without protection or disadvantage without recompense. Honest transparency about purpose and about what people can and cannot expect are paramount. To the extent feasible, the process should be empowering, a good experience, and a net gain for them.

A code of good practice for participatory numbers facilitators, users, and sponsors has been evolved by members of an informal network and is (July 03) in near final draft[5]. The bottom line is that when numbers are generated in participatory ways, ethical considerations have to come first.

Sources on participatory numbers and statistics can be found at the website of the Statistical Services Centre, Reading University www.reading.ac.uk/ssc/

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[5] The draft Code of Conduct is being finalised by Jeremy Holland j.d.holland@swansea.ac.uk who is also together with Savitri Abeyasekera editing a book provisionally entitled Who Counts? on participatory numbers

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