

46788

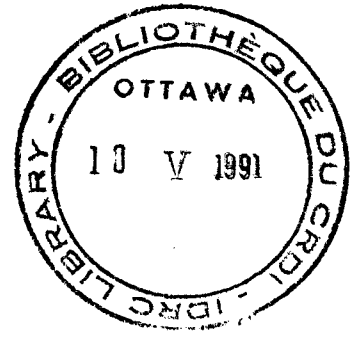
IDRC - Lib

United Nations University,
UNICEF, PAHO/WHO, Plan International and the International
Development Research Centre.

International Conference on Rapid Assessment Methodologies for
Planning and Evaluation of Health Related Programmes.

Qualitative and Quantitative: Two Styles of Viewing the World or
Two Categories of Reality ?

(Note: This is a draft prepared for presentation purposes only, and
submitted to the Conference for publication.
It should not be quoted.)



Dr. Duncan Pedersen,
Health Sciences Division, IDRC

Washington, D.C.
November 12-15, 1990

ARCHIV
PEDESEN
no. 5

Introduction

In social research on the health-disease process and health programming and evaluation, two opposing approaches have been characterised.

On the one extreme there are those who, in their attempt to identify causes and disease distribution in the social and natural environment, tend to simplify reality to such an extent that the complex network of factors and the human experience of illness is lost in the search for establishing empirical generalisations for the sake of presenting reliable results. Generally speaking, this approach is identified as the quantitative-experimental and deductive model, and is based on the paradigm of the natural sciences. Hence the tendency to use numbers as a language (hard data), disregarding the subjective and phenomenological human experience. Emphasis is placed on the explanation of phenomena from the point of view of researchers, that is, from the outside (etic approach).

At the other extreme, there are those who conduct research using a phenomenological, predominantly qualitative approach. This approach is based on the social sciences paradigm which aims at understanding the human dimensions of the phenomena through qualitative research methodologies, whose language is mainly verbal (soft data), and its methods non-intrusive,

naturalistic and inductive. Emphasis is placed on coming to terms with reality from the actor's point of view, from within (emic approach).

I would like to make it clear from the outset that I have not come here today to defend either of these two approaches, nor to promote an "infallible" methodological quantitative-qualitative blend. Nor have I come to appeal to the common sense approach of methodological pluralism, as insinuated by the title of this session. Let me make my position clear from the very beginning: the presentation that follows is based in two premises: first, that what researchers do is essentially very straightforward: to look, to ask and to read, and occasionally to think. Observation, interviews, questionnaires and other tools, under the title of research methods, are not necessarily quantitative or qualitative per se. And second, any attempt to quantify involves a qualitative judgement, and vice-versa, qualitative statements imply a certain hierarchy, number and magnitude which give form to meaning (1).

In the following paragraphs, I will be referring to the origin of surveys, the limitations of various methods and to the antagonistic, reciprocal and complementary relationships existing between quantitative and qualitative methods in health research. Finally, I will take a critical look at rapid assessment methodologies and review some of their premises, with the aim of provoking an exchange of ideas and experiences.

The origins of survey research.

The systematic use of registers of vital events and population surveys for health planning and assessment is a relatively recent phenomenon whose remote origins lie in population enumeration for tax or military recruitment purposes. Much later, the use of census and surveys has broadened substantially in order to meet the political and administrative needs of ever-expanding colonial powers.

In the 1930s, and since the Second World War in particular, surveys became much more rigorous and adopted the scientific method (2).

Whereas surveys in the industrialised nations were carried out to determine the population's opinion of a given aspect of social and political life, their use in countries of Africa, Asia and Latin America responded to other needs, related to the process of domination, control and the exploitation of resources. It is quite clear that the first colonial nations and later, the countries of the North, needed specific base line information about the native populations: demographic data and information about what people say or do, have or have not, for the purpose of planning and executing administrative functions, and in this way to establish the terms for economic and cultural exchange, or religious and

ideological imposition or domination. The implicit purpose of the surveyors was to collect information from those who had no decision making powers in order to make decisions for them. For this purpose, political authorities, administrators, the military, religious orders and later, of course, social scientists and health professionals, all collaborated.

Despite the popularity of survey research, it soon came to light that what is needed to survey and measure in one population, ethnic group or social class, is not necessarily valid in another population, ethnic or socio-economic group. The questions that the surveyors asked over and over again were whether the same survey instruments could be used in different population groups and contexts. Later, when the need to adapt or develop new survey instruments became evident, surveyors asked themselves whether data collected in this way were reliable and comparable, and moreover, whether the results could be extrapolated to the general population. The various sampling strategies and the application of standardized questionnaires in cross-sectional surveys are two techniques which were developed to facilitate the generalisation of results; to reduce errors and biases; to shorten time frames and lower costs; and to establish a basis for comparison between the population under survey and the referral group.

I would like this historical perspective to reveal not only how methods and techniques evolved as societal aims changed, but more importantly, I want to stress the transformation which came about with the process of appropriating knowledge. In other words, research evolved from asystematic and isolated observations into a systematic series of observations and comparisons, with increasingly technical interpretations of reality. This process led to the transfer of the power to create knowledge from the people to those who held the required skills and controlled the application of methods and techniques (3).

The problems and limitations of survey research.

The dissatisfaction experienced with conventional approaches to survey research led to the search for new approaches, strategies and alternative research methods. I would now like to go on to review some of the general limitations recognised by different researchers (3), and point out others, more specific to health research.

One general limitation attributed to survey research is the oversimplification of social reality. The arbitrary design of questionnaires and multiple-choice questions with pre-conceived categories, represent a biased and overly simplistic view of reality. Individual responses to questions and their addition and

subtraction, lead to the arithmetic manipulation of figures, creating frequencies, averages and rates, which represent "average replies", ratios or proportions, which bear no real significance on their own, and rather mystify reality (e.g. 37.5% of respondents reported a health problem within the last two weeks). Cross-sectional surveys lead to the reading of a static or "photographic" image of what is, in reality, an interactive and dynamic process.

A second important concern in survey research has been the problems related to validity and reliability of results. The inconsistency of collected data can be attributed either to the dynamic and genuine variability or fleeting occurrence of the phenomenon observed (e.g. blood pressure, morbidity episodes, attitudes, etc), or to the lack of truth or consistency in the given replies. Even when questions are correctly formulated and are well-intentioned, they often end up being inadequate or even irrelevant with respect to the culture and values of the respondents. Survey research techniques are clearly blemished by prejudices, or influenced by the ideology and value system of the researchers. Although sampling strategies and changes in questionnaire construction have improved the application and acceptability of surveys, they have proved once again to be insufficient in overcoming these prejudices.

Today, a large proportion of health research corresponds to cross-sectional surveys and KAP (knowledge, attitudes and

practices) studies, on samples of rural or urban populations undergoing acculturation and rapid change. These studies often involve the collection of information about births, deaths and family reproduction history, food availability, distribution and intake, child-rearing and child-care practices, sexuality, contraceptive use and abortion, income, use of drugs, alcohol and tobacco, defecation and the disposal of waste, and other more or less intimate or "clandestine" behaviours. Survey research often demands clear-cut answers to questions related to illness perception, beliefs, health-seeking behaviours and therapeutic usages, and reasons for using or not using available health technologies and services. This kind of survey study, which explores the intimate and discreet behaviour of everyday life, leads to questionable results, and about half of collected data is considered erroneous or misleading (4), and therefore of poor reliability and dubious validity.

The use of close-ended questionnaires and pre-coded forms often elicit an incorrect, evasive or deliberately wrong answer. There are few references to the occurrence and importance of lying informants in survey research (5,6,7), and most agree that respondents do not lie without good reason. Often, lies are resorted to as a mechanism of escape from an embarrassing situation, created by the nature of the subject the question evokes.

Many authors have reported that information given by mothers on past illness episodes of their children, health care and child-rearing practices, or health services utilisation, presents such large discrepancies with reality, that about a third of all responses should be invalidated. The conclusions speak for themselves: the reliability of responses given by any segment of the population decreases with the lengthening of the recall period (telescopic memory effect), and whether because of omission, imprecision or deliberate distortion, half of the time, what is reported bears little resemblance to behaviour actually adopted(8).

In synthesis, survey methods are an effective tool in collecting objective data, but "weak and wasteful" in collecting subjective and attitudinal data, particularly when dealing with illness beliefs and health behaviour. Experience in using health surveys on populations in Third World countries has demonstrated additional limitations in their application, and problems with regard to reliability and validity of data. It is regrettable that all the rigour and expense involved in study design and stratified random sampling is actually wasted, if the data collected are of poor validity, leading to unreliable results (9). The point in question is whether this is due to the conceptual perspective, the type of questions and methods used, the researchers themselves, the culture of the respondents or to a combination of all these factors. To this debate, we can add two epistemological approaches,

one based on the social sciences and the other on the natural sciences' paradigms: the qualitative and the quantitative.

Qualitative or quantitative: two styles of viewing the world or two categories of reality?

The polarisation of the debate between the qualitative and the quantitative has centred on the capacity of the data, as collected by one or the other method, to describe, understand and explain social phenomena. A growing number of researchers have adopted a more eclectic position, from which they claim that no method per se has the monopoly of inference. They argue that quantitative and qualitative approaches should not be considered as antagonistic, but rather as complementary (10, 11).

Within this debate of qualitative vs. quantitative, three stereotypes have evolved: the purists, the eclecticists and the integrationists or pragmatics (12).

The purists or segregationists, argue that quantitative and qualitative paradigms are incompatible, deriving "...from different, mutually exclusive epistemologic and ontologic assumptions about the nature of research and society." (13)
From this perspective, methods are based on opposing assumptions and therefore, lead to profoundly different visions of the world.

From the second position, identified as eclectic or situational, both approaches are considered valid. The application of one or another depends on the situation, and although both sets of methods can be used complementarily for the study of the same subject, they still represent distant assumptions. Many evaluative studies advocate this perspective, where quantitative and qualitative methods are used, in parallel or sequentially, as the situation dictates.

Finally, the pragmatics or integrationists maintain that there is a false dichotomy between the quantitative and the qualitative, and argue for the integration of both methodologies in the same study subject. From this position, polarisation is seen as representing the extremes of a continuum, along which there is a gradient of possible combinations of quantitative and qualitative methods, both supporting each other and enhancing the credibility of study results.

In the health field in general, and in epidemiology in particular, there is growing consensus that applying both sets of methods in an iterative mode, can increase the reliability of data and lead to a more complete understanding of the phenomenon under study. The combination of methodologies in the study of the same phenomenon, has been coined as "triangulation" (14).

Combining quantitative and qualitative methods: triangulation.

Some researchers experienced in using a combination of qualitative and quantitative methods have reported effects and results which transcend mere complementarity. Blending and integrating methods and data in studying the same phenomena can "...capture a more complete, holistic and contextual portrayal" (15) of the subject under study, by eliciting data leading to new hypotheses or conclusions, for which single methods would be blind.

Most research designs using triangulation methods, hold the hidden assumption of triangulation: that the weaknesses and limitations of each individual method will be counter-balanced by other methods, exploiting the assets, and neutralizing, rather than compounding, the liabilities (15).

The use of multiple methods in research has been applied for over a decade. Its introduction into the health field has been relatively recent, and yet there seems to be reluctance in accepting it. This is partly because the dominant paradigm of the natural sciences in biomedical research has looked with disdain at the use of qualitative methods as proposed by the social scientists. On the other hand, norms and requirements of scientific publications have placed rigid criteria for review and acceptance of manuscripts, introducing biases in the selection of studies for publication. Refusal is often based on quantitative criteria: "lack

*A complete
method
...first*

of replicability", "small samples" invalidating generalisation of results, or "no statistically significant differences".

Furthermore, most existing research training manuals emphasise the use of single methods, either quantitative or qualitative, and there is a lack of instructional material that will guide students and researchers in the actual collection, analysis and interpretation of data from different perspectives, using the "triangulation" approach.

In my opinion, the analysis of qualitative-quantitative data requires perseverance, experience and skills in the processing and interpretation of both "hard" and "soft" data. It is the analysis and integration of both sets of data into the conventional epidemiological model, what remains as the main challenge and impediment for a more extensive use of quantitative-qualitative methods in health research.

The pros and cons of Rapid Assessment Methodologies (RAM)

In concluding this presentation, it is worthwhile pointing out some of the advantages and disadvantages in the application of RAM to health research. In order to do this, we should call to mind the premises which uphold rapid assessment strategies and ask ourselves what the benefits are in proposing an

abbreviated time frame and a "new" set of field research tools in health-disease.

First of all, the introduction of rapid assessment methodologies should be recognised as an effective strategy for finding wider acceptance for qualitative and phenomenological research in the scientific community and amongst health professionals. As we saw above, although the triangulation strategy has been applied successfully to health research, resistance is still met when it comes to adopting innovations in the use of qualitative methods. The incorporation of qualitative methods in health research is a sine qua non for expanding the conventional epidemiological and biomedical model; for re-orienting health plans and programmes; and for designing more effective health interventions and evaluative models.

It has been said more than once that RAM is just a bit more than organised common sense. Chambers did right in warning RRA (Rapid Rural Appraisal) enthusiasts of the dangers of superficiality and error in the said method. Above all -- affirms Chambers -- rapid assessment techniques are not supposed to save time, but " ...should release time for more contact with and learning from the poorer rural people." (16).

Unfortunately, there are many examples of health research amongst high risk groups and longitudinal ethnographic studies of

groups or ethnic minorities, whose results are untimely and at times irrelevant for the groups under study. However, the duration of field work is probably only one of the reasons for this. It may take a year or more of intensive field work to complete a longitudinal study with participant observation, in-depth interviews, and prospective follow-up of illness episodes and therapy-seeking behaviour. Conversely, it usually takes a couple of weeks to design a survey questionnaire, and once the sample is drawn, only a few days (depending on resources available) to complete. The former is labour-intensive and requires a great deal of personal commitment, and long exposure to the field conditions; the latter is much easier to apply, to analyse, and more likely to be published and disseminated.

In reviewing the premises on which "rapid" methods of research and assessment are based, it is claimed that prolonged fieldwork leads to the unnecessary accumulation of ethnographic material which is not always relevant to the subject under study. As a result, it is proposed that field visits be shortened and efficiency increased so that only information considered necessary be collected. In order to do this, a list of subjects considered universally relevant is drawn up, and recommendations are made for the combined use of quantitative and qualitative methods in the collection of data. The underlying assumption is that the adherence of the researcher to this "prescription" or list of subjects, and

the use of combined methods will render data-collection both efficient and reliable.

This is an incomplete premise, and today we should take it upon ourselves to review this partial (and reductionist) concept of scientific research, which often leads to an oversimplification of reality. A broader approach departs from the assumption that each phase or stage in the research process is in dynamic interaction with the other phases and components, and simultaneously, with the whole. Once again, we have to insist on the adoption of an "expanded" view of scientific rigour and the research-evaluation process as a whole (17).

Scientific rigour in research cannot (and should not) be restricted to the discussion of data collecting methods, nor to the efficiency or rapidity with which it is carried out. Therefore, scientific rigour should not be tied down to the selection of techniques and the proportions to which the quantitative and qualitative methods be applied, but rather to the quality of decisions which researchers make throughout the research process. The definition of the problem, the conceptual framework, the generation of hypotheses, fieldwork and the selection of informants, and the analysis and interpretation of results all form an integrated whole, to which data collecting methods and instruments are added.

Moreover, the RAM approach assumes that other prejudices and sources for error in the research process, such as the ideology and value system of researchers and informants, either do not exist, or are neutralised by the effects of the method, and by the type of information gathered.

Information collected cross-sectionally and over a short period of time may be efficient from the researcher's viewpoint, but it runs the risk of being incomplete and of presenting a static image of reality. Research in general "...should be a dialectic process, a dialogue over a long period of time" (3) and the "dialogue" cannot be restricted to certain stages, like the collection of data. The process of collecting and interpreting is iterative, which is why it should be done on a continuum, each helping the other. This does not mean we should extend fieldwork and analysis indefinitely, but the time allotted should be sufficient to allow for the analysis of information in situ and if necessary to return to gather additional data.

Another unsolved problem with regard to RAM is the interpretation of information and the use of data collected. Various alternative routes can be followed in the interpretation of data. Results can be laid out in such a way that they describe a programme or interpret a health problem or assess the impact of an intervention, but data has to be analysed not only in order to understand, evaluate and explain reality, but also to transform it.

Finally, the generation of new methods, and the substitution of some research techniques by others does not solve the problem of the monopoly of knowledge. I would like to emphasize here that all research and assessment (rapid or conventional) should involve the people and the community who have up to now been excluded from the process. This leads us to ask once again: What do we really need in order to conduct and expand the horizons of health research? Do we need greater number of researchers qualified in the application of more sophisticated scientific research techniques?

The application of RAM should not underestimate the knowledge and experience of local researchers and informants. The participative research approach, which brings together decision-makers, professional researchers and representatives from the local community in the research process, represents a valid alternative for increasing efficiency, reducing time frames, ensuring timely feedback and the democratisation of the process of production and utilisation of knowledge.

Research leading to action, whether "rapid" or "conventional" should be a long term commitment with the local community. This seems to be the way of becoming both responsible and participant of the research process and of the actions derived from it. Fundamental social change will emerge from committed "militant" research leading to the revaloration of local knowledge,

demystification of research methods, and empowerment and genuine participation of the people in the research process.

References

1. Davies B., Corbishley P., Evans J. and Kenrick C. Integrating Methodologies: if the intellectual relations don't get you, then the social will. In Burgess RG. Strategies in Educational Research: Qualitative Methods. London: The Falmer Press, 1985: 289-321.
2. Max Drake H. Research Method or Culture-Bound Technique? Pitfalls of Survey Research in Africa. In: O'Barr WM, Spain DH and Tessler MA, eds. Survey Research in Africa: Its Applications and Limits. Evanston: Northwestern University Press, 1973: 58-69.
3. Hall B. Breaking the Monopoly of Knowledge: Research Methods, Participation and Development. In: Hall B., Gillette A. and Tandon R. Creating Knowledge: A Monopoly? Toronto: International Council for Adult Education, 1982
4. Bernard HR., Killworth PD., Kronenfeld D. and Sailer L. The problem of informant accuracy: the validity of retrospective data. Ann Rev Anthropol 1984; 13: 495-517.
5. Evans-Pritchard EE. The Nuer. Oxford: Clarendon Press, 1940.

6. Salamone FA. The methodological significance of the lying informant. *Anthropol Quart* 1984; 50 (3): 117-124.
7. Bleek W. Lying Informants: A Fieldwork Experience from Ghana. *Pop Dev Rev* 1987; 13 (2): 314-322.
8. Husband R. and Foster W. Understanding Qualitative Research: a Strategic Approach to Qualitative Methodology. *J Human Educ & Dev* 1987; 26 (2):51-63.
9. Van den Berghe PL. Social Science in Africa: Epistemological Problems. In: O'Barr WM et al Eds. *Survey Research in Africa: Its Applications and Limits*. Evanston: Northwestern University Press, 1973: 25-35.
10. Trow M. Comment on Participant observation and interviewing: a comparison. *Human Organization* 1957; 16: 33-35.
11. Cook TD and Reichardt CS., eds. *Qualitative and Quantitative Methods in Evaluation Research*. Beverly Hills, CA: Sage, 1979.
12. Rossman GB and Wilson BL. Numbers and Words: Combining Quantitative and Qualitative Methods in a Single Large Scale Evaluation Study. *Evaluation Review*, 1985; 9 (5): 627-643.



268995

13. Collins R. Statistics versus Methods. In: Collins R. ed. Sociological Theory. San Francisco: Jossey-Bass, 1984: 329-362.
14. Denzin NK. The Research Act. New York: McGraw-Hill, 1978.
15. Jick TD. Mixing Qualitative and Quantitative Methods: Triangulation in Action. In: Van Maanen J, ed. Qualitative Methodology. Beverly Hills, CA: Sage Pub. 1983: 117-134.
16. Chambers R. Shortcut Methods of Gathering Social Information for Rural Development Projects. In: Cernea MM, ed. Putting People First: Sociological Analysis in Rural development (Published for the World Bank). New York: Oxford University Press, 1985: 399-416.
17. Ratcliffe JW. and Gonzales-del-Valle A. Rigor in Health-Related Research: Toward an Expanded Conceptualization. Int J Health Serv. 18 (3), 1988: 361-392.