

A critique on participatory rural appraisal (PRA) as a data collection tool

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ABSTRACT

Social research and data collection are inseparable. Data collection tool is a weapon in the hand of a social researcher, the sharpness of which decides the accuracy of results. For a very long time we have been using traditional data collection tools such as questionnaire survey, case study method, projective methods etc. In the recent past, participatory rural appraisal (PRA) has been emerging as a data collection tool in social research. Initially, it has been used to draw strategic plan to develop an area by non-Governmental organisations (NGO) and by some Government institutions. But PRA's role as a data collection tool is recently felt and it is being increasingly used for social science research. In agricultural extension, the researchers used PRA for identification of research priorities, field problem identification, training need assessment, infrastructure facilities availability etc. An exhaustive list of PRA tools recommended for various information required is given which will give a lucid picture of an array of PRA tools available. This article is an epitome of how PRA tools can overcome the difficulties in other data collection tools and the inherent flaws in PRA itself.

INTRODUCTION

Data collection is an integral part of any social science research. Researchers of social science are using different data collection tools for varied situations, nature of respondents and objectives of the study. This includes questionnaire method, interview method, observation method, projective techniques, case study method etc. Researchers use appropriate methods for the objectives in hand. The success of social science research largely depends on the appropriate selection of data collection tool and the way in which the tool is applied by the researcher. The greater the appropriation of data collection tool, the greater would be the precision of results of the research. This has been proved through several research findings. A method suitable to one situation may not fit into another situation. Social scientists have been experimenting different data collection tools and continuously searching for a versatile tool, which could explore the required data from individuals with whom the research is conducted. Further, a good data collection tool should be cheap, less time consuming and effective in eliciting information from both extrovert and introvert type of individuals. While contemplating such a cost-effective versatile and novel tool, participatory rural appraisal (PRA) ranks first for the social scientists and it has its ramifications in all sorts of social research. This

article is an effort to highlight the importance of PRA as a data collection tool and application of different PRA tools for varied objectives. This article bears the views of different social researchers worldwide about PRA and its critical issues.

Critics about questionnaire surveys:

Among different tools available, questionnaire is most widely used in India. This western research tool in a foreign setting had attracted considerable criticism for reasons of cultural insensitivity by O'Barr *et al.* (1973) and Chen and Murray (1976). Social scientists had been discussing the strengths and weaknesses of formal surveys for many years. For example, the limitations of questionnaire survey have been described by Zarkovich (1966), Moris (1970) and Zeller and Carmines (1980).

Chambers (1983) argued that in rural areas of under developed countries, questionnaire surveys are difficult to design and administer, time consuming and expensive to implement, and often produced results which would be either wrong or which could only be confirmed by more research. He argued that when data analysis took place in an office or laboratory, it became difficult to cross check information of follow-up interesting results because of the physical problems of relocating respondents in remote areas with poor roads

Key words :
Rural appraisal,
Data collection
tool, PRA tools

Accepted :
September, 2009

and telecommunications. Furthermore, investigators had their own professional interests and consequently, they designed questionnaires according to their own technical background and information requirements. Slim and Thomson (1994) noted that the interview form has a tendency to put unnatural pressure on people to find ready answers, to be concise and to summarize a variety of complex experiences and intricate knowledge. In some societies, individual interviews are considered dangerously intimate encounters. Chambers (1983) again summarized spatial, project, personal (elite, male, user, active, present and living bias), temporal, diplomatic and professional biases which all limited the capacity of well educated, more wealthy and urban based researches to understand complex rural communities, while Chen and Murray (1976) described contextual bias which reduced the chances of open and accurate responses.

It was observed by Guba (1981) that researcher tends to use formal systems of inquiry because of peer pressure and career development incentives.

Stone and Campell (1984) and Nichols (1991) had highlighted the non-sampling errors due to questionnaire surveys and the related factors.

Differential priorities and need for methodological shift:

There is a wide gap existing between rural perception and perception by planners and development functionaries. The planners and development functionaries at the top regularly assess the farmer's needs and priorities based on their perception of the rural people. Hence, in the present rural development, the beliefs, attitudes and values of the rural people remain under perceived, under valued and simplified. Many incidents stand as examples for such differential perception between planners and the real beneficiaries. Orissa experienced where the hi-breed bull scheme was introduced and how it failed miserably and led to considerable damage to local lives and livelihoods. This was because people were never consulted rather they were allured to raise exotic livestock through gift of land, which later turned into a farce. Another example is the failure story of India's rural housing scheme "Indira Awas Yojna". Under this scheme, the poor were not consulted for constructing houses for them. The initial set of houses constructed for the poor were mostly abandoned because they were far from their original habitats.

This variation in perception between the planners and the end users necessitated a shift in methodology, which primarily involves people's participation from the initial stage itself.

The following illustrates as some of the dimensions of the changes that are presently taking place:

- From "command and control" system towards "more decentralised" approaches,

- From "positivist" framework to "constructivist" framework,

- From "closed" mindset to more "open" mindset,

- From "lecturing" mode to "listening" and "learning" mode,

- From "theoretical" approaches to more "practical and field-based" approaches,

- From "narrow" approaches to more "holistic" approaches,

- From pursuing "targets" to enabling "participatory" processes,

- From people as "objects" to people as "participants".

PRA as a data collection tool:

One essential requirement of the new paradigm of development is to have a methodology central to the people's participation, which would enable the local people to make their own analysis. The other desirable element is to have a relatively quicker method of data collection. Hence, a tacit shift required is from "extractive" to "participatory" and from "narrow-based" to "broad-based" approach in terms of greater participation and the range and nature of applications. This paradigm of participatory development is the starting point of Participatory Rural Appraisal (PRA). Today PRA is a widely preferred methodology for an interactive process of social development throughout the world.

According to Mukherjee (1992), PRA is a means of generating different kinds of data, identifying and mobilizing intended groups and evolving their participation and also opening ways in which intended groups can participate in decision-making, project design, execution, monitoring and evaluation. It provides an alternative framework for data collection. Chambers (1997) has also indicated that PRA and community participation in analysis are widely used by development, academic and political institutions worldwide.

The agricultural researchers in Zanzibar quantify local knowledge on the performance of different varieties of ginger and mango through PRA tools and they noted that while the information obtained using these methods was collected over a six month period, comparable data from conventional field trials would have taken over 40 years to collect (De Villiers, 1996)

Different sequencing of methods were reported such as the use of a questionnaire survey followed by PRA (Leach and Kamangira, 1997) and an opposite approach

Table 1 : PRA tools and information collection

Sr. No.	PRA tools recommended	Information collected through PRA tools
I. Participatory 'verbal' methods		
1.	Historical profile	Different changes which have taken place over a span of years
2.	Time line	Events/changes of recent and not-so-recent in origin, having an important bearing on the local community
3.	Oral trend	Broad overview of selected issues, comparing two periods, ex. Eco-trend, social trend, cultural trend etc.
4.	Daily routine/Activity chart	Time spent in different activities and the size of the work involved.
5.	Livelihood analysis	Listing and analysing livelihoods for further probing.
II. Participatory 'walking together' methods		
1.	Joint walk	Casual, random or systematic walk to have quick 'overviews' and in -depth probing of micro- environments.
2.	Physical/social transect	Systematic walking with local people for knowing local ecological conditions and the accompanying social dimensions.
3.	Walking to demonstration site/plot	First hand view of the opportunities and constraints associated with such sites managed by local people themselves.
III. Participatory 'mapping' methods		
1.	Sketch mapping	Quick and rough outlines indicating the relative location of a place with reference to nearby areas.
2.	Resource mapping	General picture of natural resources of a locality like fields, water source, trees, forests, ponds, wells, rivers, canals, dams, etc.
3.	Social mapping	Social profile of a locality which provides insight into the social aspects and social life, ex. Social categories such as marginal, small and big farmers.
4.	Social infrastructure mapping	Information about a particular social aspect in depth.
5.	Literacy mapping	Mapping of literacy categorized into literate, semiliterate and illiterate households.
6.	Health mapping	Information about major illness affecting the locality, the age group afflicted, the frequency of such illness.
7.	Children's vision mapping	Children's perception about their present locality and their dreams about future.
8.	Mapping-past, present and future	Constructing comparative picture of locality over time which appreciate the past and present status of living and future dreams/hopes/fears/vision.
9.	Status mapping	Give information about the present status of an area in terms of selected activities undertaken for development purposes.
10.	Mobility mapping	Information about the pattern of spatial mobility for different sections of a community with respect to different activities.
11.	SHG household mapping	Assessing the impact of self-help group activities on the households, which are members as compared to others which are not members of SHG.
12.	Body mapping	Highlighting different parts of human body which are causing problems.
13.	Well being/poverty/wealth mapping	Identifying different categories of households -rich, poor, poorest etc by mapping of all households in a locality.
14.	Social distance mapping	Comparing a poor household with either an imaginary or an actual household or 'proper' household.
15.	Participatory concept mapping	Facilitate local community members to evolve/describe concepts in their own way Eg. Desertification, child at risk etc.
IV. Participatory ranking (or) scoring methods		
1.	Vector scoring/ranking	Scoring of criteria/items for assessing their relative importance so as to prioritize problems/benefits/dangers/damages/opportunities etc.
2.	Pair wise ranking	Uses two items or attributes at a time for ranking in order to explore the local people's criteria for choosing one alternative over another.
3.	Preference ranking	Ranking of set of problems/preference/priorities by a group on the basis of their criteria.
4.	Matrix scoring	Scoring a range of comparable items against a range of criteria decided by local people themselves.

Contd.... Table 1

Table 1 contd...

V. Participatory 'calendar' methods		
1.	Seasonal disease calendar	Information about seasonal frequency of local diseases.
2.	Seasonal livelihood calendar	Indicating the sources of livelihood for men and women against different months.
3.	Seasonal food calendar	Information about food availability in different seasons.
VI. Participatory 'diagramming and flowchart' methods		
1.	'Chappati' (Venn) diagram	Availability of infrastructural facilities along with its distance and importance.
2.	Communication linkage matrix	Indicates the level of communication between different individuals and institutions assessed on the basis of multiple criteria.
3.	Link/anchor person venn diagram	Identifying actual or potential catalyst/ anchor person and other communicators at the local level.
4.	Support system's diagramming	Understanding the effectiveness of the constituents of the system, its strong points, problematic areas and constraints.
5.	Source diagram	Identifying sources of any activity, items, issues and other criteria, ex. source diagram for fodder.
6.	Pie chart	Illustrate relative shares of any item concerned ex-comparing land use pattern
7.	Impact flow analysis	Analyse the chain of impacts of any event, activity, asset etc., ex. Impact of thresher machine.
8.	Visual trend analysis	Information about quantitative changes over time in different aspects of village life such as yield, population, rainfall etc.
9.	Diagramming of income generating activities	Focussing on income generating activities, existing ones and those proposed in future.
10.	Causal tree analysis	Identifying issues as generic clusters and analysed in terms of branches of a tree, while the causes are thought as part of the root of tree.

Source: Pretty (1995) and Chambers. *et al.* (1990)

in which an initial participatory survey to guide the design of a questionnaire (Davis, 1997). Both combinations were thought to be useful.

Table depicts an account of information required and the appropriate PRA tool recommended are given below in Table 1.

The Table 2 gives a vivid picture of how PRA tools have been used by different researchers in agriculture and allied sectors.

Criticism about PRA:

Every method has the advantages and limitations. The most fundamental concern regarding the use of participation and PRA was the issue of power relationship either between 'outsiders' and 'insiders' or between different groups or individuals within communities. For example, Mosse (1995) felt that PRA was not very useful for understanding the social dynamics of communities or the reasons why marginalised groups might be excluded from decision-making or project benefits. It was also noted that how community leaders could direct PRA towards their own aims or attempt to undermine activities that had no obvious benefit to them. Pottier (1997) claimed that whatever the PRA pundits say about relaxed settings, participatory workshops are structured encounters marked

by hidden agendas and strategic maneuvers. Nyamwaya (1997) pointed out that researchers concentrated on methods, diagrams, data and reports which became the main output of PRA. Contextual and interactive features were overlooked.

PRA and statistical analysis:

Another reason why PRA is not being accepted as a data collection tool is its lack of amenability for statistical analysis. Regarding options for the use of formal methods in informal surveys, the researchers noted the limitations of participatory surveys in terms of extrapolation of findings to larger populations and suggested that probability-based sampling was required. It was also proposed that statistical analysis could be conducted on unbalanced, binary, categorical and ranked data sets using analysis of variance and multilevel models. In addition, the application of Bayesian statistics to qualitative but scored cause-effect diagrams was suggested. As a measure of increasing interest in the statistical analysis of data produced by participatory tools, Fieldings *et al.* (1997) suggested ways to collect data through PRA and analyse the results using non-parametric statistical tests for ranking, using the tests such as Kendall's coefficient of concordance and Friedman's test. However, the use

Table 2 : Use of PRA tools in different countries

Country	Title and PRA tools used	References
Kenya, Zimbabwe	Wealth ranking and disease ranking.	Maranga (1992); Young (1992)
Afghanistan	Wealth ranking, disease ranking, fodder ranking and seasonal calendars for designing an animal health project.	Leyland (1992)
Mongolia	Gender wise labour calendar to illustrate division of labour for livestock tasks.	Cooper and Gelezhamstin (1994)
Somalia	Preliminary investigation on rinderpest in remote area.	Mariner and Flanagan (1996)
India	Maps, interviews, seasonal calendars and livelihood analysis for an evaluation of a dairy buffalo project.	Devavaram (1994)
Sri Lanka	The timber species prioritization through pair wise matrix ranking in PMHE project.	Kabutha(1988)
Pakistan	Seasonal calendars, transect walk by AKRSP in northern Pakistan.	Conway (1991)
India	Prioritising research projects for jasmine through preferential ranking.	Janakirani (1999)
India	Pairwise matrix ranking and matrix scoring to assess the varietal preference and constraints of maize cultivators.	Ramasubramanian (2002)
Philippines	Systems diagram of percentage distribution of socio-economic constraints and bio-physical causes for cogon problem.	Schwabe (1982)
India	Matrix ranking an approach to analyse felt needs of crop varieties.	Manoharan <i>et al.</i> (1993)

of parametric statistical tools to analyse the data collected through PRA tools is very much limited. Since non-parametric tools are mostly used for PRA data, social scientists question its reliability and validity.

Venugopalan *et al.* (1998) had used PRA tools to identify farmer's field problems and quantified the problems by deriving a formula called 'Magnitude Value of the Problem'(MVP). They further compared the problems of two study villages by computing correlation coefficient using Spearman rank correlation, a non-parametric statistical tool. Sabaratnam (1988) had developed a quotient called Rank Based Quotient (RBQ) for quantifying the response of farmers engaged in PRA

Conclusion:

The social researchers with such a strong literature base on PRA as quoted throughout this article, can strive to sharpen already available PRA tools, can combine two or three tools to get composite information in lesser time, can do research and find more suitable PRA tools and can try PRA tools in different situations. The inherent flaws of PRA like lack of statistical amenability, influence of big shots in the exercise and other constraints related to PRA exercise as discussed in this article are challenges before social scientists. This intriguing and in depth information revealed through PRA tools, if combined with some other data collection tools will be of immense contribution to the farming community. Social scientists should venture into using PRA tools and can enrich this field with their findings. This article would support the

readers who are interested to know about PRA tools and its applications and could serve as a reference to students, researchers and academicians in the field of social science.

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