
PARTICIPATORY RURAL APPRAISAL

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Objectives of the paper

Abstract

Increasingly, the emphasis on rural transport research has been on the strengths and constraints of the rural poor in line with the sustainable livelihoods approach. In order to establish the access needs and constraints of the poor, a combination of quantitative and qualitative survey techniques are recommended to better the understanding of access needs. Participatory Rural Appraisal techniques (PRAs) are a range of survey methods to be used principally in the extraction of qualitative data.

PRA entails groups of local people analysing their own conditions and choosing their own means of improving them. They may use a variety of tools, such as maps and diagrams, and the support of a trained facilitator. Rapid Rural Appraisal (RRA) is a similar technique developed for analysing the needs of rural communities quickly, cost effectively and with little disruption to everyday life.

RRA evolved in the 1980s and emphasised multi-disciplinary teams, careful observation, semi-structured interviewing and focus groups. PRA, which began in the late 1980s offers methods which involve groups rather than individuals, and visual representations rather than solely verbal communication.

PRA has been described as 'a growing family of approaches and methods to enable local people to share, enhance and analyse their knowledge of life and conditions to plan and to act.'

Key issues

- To highlight the different PRA techniques available for understanding the access strengths and constraints of the rural poor
- To describe the best conditions for use of PRA techniques
- To highlight the constraints of using PRA techniques

Key topic areas

- PRA survey methods and their practical use
- Critical considerations of PRA methods, regulations and code of conduct

1. INTRODUCTION

Participatory Rural Appraisal techniques are typically used in the field to gather qualitative data, often to complement quantitative data derived from traffic counts and origin and destination data. The implications of such an approach are summarised by Pretty and Guijit (1992):

'It will have to begin with the people who know most about their own livelihood systems. It will have to value and develop their knowledge and skills, and put into their hands the means to achieve self-development. This will require a reshaping of all practices and thinking associated with development assistance. In short, it will require the adoption of a new paradigm.'

The emerging participatory development 'paradigm' suggests two perspectives:

- Substantively involving local people in the selection, design, planning and implementation of programmes and projects that will affect them, thus ensuring that local perception, attitudes, values and knowledge are taken into account as fully as possible.
- To make more continuous and comprehensive feedback an integral part of all development activities.

PRA and RRA emerged as an alternative to the two common qualitative methods, a) questionnaires which often proved lengthy, costly and prone to errors, and b) rushed site visits by researchers to collect haphazard data from local elites. PRA uses a combination of approaches and methods to enable rural people to share, enhance and analyse their knowledge of life and conditions, to plan and to act. PRA methods are based on some simple principles:

- A reversal of learning, to learn with and from rural people, directly, on the site, face to face, gaining from local, physical, technical and social knowledge.
- Learning rapidly and progressively, with flexible use of methods, improvisation, iteration, and cross-checking, being adaptable in a learning process.
- Seeking diversity. Looking for, noticing and investigating contradictions, anomalies and difference.
- Triangulating. Using a range of methods to ensure reliability and validity, and to enable cross-checking.
- Facilitating by the local people. Facilitating, investigation, analysis, presentation and learning by rural people themselves, so that they present and own their own outcomes.

The PRA approach is particularly useful as it enables vulnerable groups in a community to have a voice and impart their views on issues of transportation and access from which they are most often excluded. Hence, participation by different groups such as women, the elderly, disabled and even school children, researchers and other professionals are

able to paint a realistic picture of community life; and through use of the different PRA techniques, can answer the following questions relevant to their access needs:

- Which community members require the use of transport?
- When is access required ?
- Why is access required?
- Where to local people travel to?
- How is transportation paid for?
- What mode of transport to people take?

PRA techniques can also be used to prioritise the transport needs of the rural poor, and to determine the supply and demand relationship of transport methods. The intention of this paper is to identify some useful PRA survey techniques for use in rural transport research. The list is by no means exhaustive, and much of the existing PRA survey work has been undertaken with developmental or agricultural research in mind. Therefore, the application of these techniques for transport researchers has not been widely tested; however they are equally applicable in this field and provide a useful addition to more conventional quantitative research methods.

2. KEY PRINCIPLES FOR CONDUCTING PRA'S

2.1 Preparation

It is imperative that thorough preparation is undertaken prior to the surveys to ensure that all available secondary data on the locality and subject has been reviewed, allowing suitable villages to be identified to capture a broad sample, before surveying commences.

It is also sensible to enlist the help of external collaborators, preferably with detailed knowledge of the locality, and bearing no prejudice or hierarchical position.

2.2 Facilitation

It is imperative that the external professional displays good facilitation skills, which aims to enable local people to undertake some or all of the investigation, mapping, modelling, diagramming, ranking, scoring, quantification, analysis, presentation and planning themselves. Analysis is then shared with outsiders, but the information stays with the people who generated it.

In order to capture all that is to be observed and recorded during a PRA, it is recommended that a minimum of two external facilitators (sometimes three depending on the method used) are employed. This will allow information to be recorded in detail, whilst a facilitator observes the interaction between participants.

It is also useful to generate some feedback from the villagers surveyed on design methods employed.

2.3 Behaviour and attitudes

The behaviour and attitudes of external facilitators are of primary importance, more important than methods even. All important attitudes include: critical self awareness and embracing error, sitting down, listening and learning, not lecturing but allowing the villagers to be the main teachers and analysts. It means that outsiders must take time to reflect on how their role in community interactions change and what they must learn to do and to stop doing, if local people are to benefit from this.

2.4 Longevity

Participatory approaches are not substitutes for, but are rather an integral part of, long term dialogue and sustained interaction. A single, brief participatory exercise with a group of local people will not lead to positive and lasting change. PRAs are not a panacea to qualitative surveying. PRAs work most effectively where they are carried out over a sufficient length of time, with the facilitators living amongst the community under survey and absorbing themselves in community life. In this way, mutual respect will be gained, and less formal information can be extracted. In addition, the longer the survey, the greater and more representative the sample will be.

3. PRA METHODS

One of the strengths of PRA is that many of the methods are visual and, therefore, accessible to a larger group of people. The group debates that ensue further stimulate improvisation resulting in new applications. Group activities can also be very dynamic and promote further discussions, other than that which is pre-prepared. This section will elaborate on the description of PRA methods found in the survey techniques paper.

3.1 Triangulation

Triangulation is simply a method of linking different survey methods in order to cross-check the information collected from each method. These are often carried out in groups of three to increase the credibility of each survey technique. Triangulation is of particular use when employing mapping, ranking and scoring, flow diagrams, venn diagrams and wealth ranking techniques, as these involve group participation which may require some verification.

3.2 Observation

Prior to conducting any PRA techniques, researchers should be clear in their mind as to what exactly it is they are researching, and to have some realistic objectives of the PRA surveys. Although much of the techniques employed in PRA are flexible in their content and design, it is important to have some questions in mind at all times, to capture the livelihoods of the rural poor in their entirety. Researchers should act on what they see, and recognise distinctions in gender, age, and wealth etc. amongst the community.

Observation also aids improvisation, particularly when carrying out diagramming techniques, allowing household implements for example to be used in the PRA methods.

3.3 Semi-structured interviews

Interviewing is one of the main techniques used in development studies. Participatory methods have contributed to adjusting the interview to make it more conversational, while still controlled and structured. This is the semi structured interview (SSI) whereby only some of the questions and topics are predetermined, whilst the majority of questions will be formulated during the interview. Questions are asked according to a flexible checklist and not from a formal questionnaire. SSIs tend to be conducted alongside other exploratory and participatory techniques, and are used to complement the participatory survey methods with in-depth information. SSIs often take time to prepare, and to conduct on a one to one basis, and therefore should be used in addition to the group survey methods, but are useful in extracting information from particular members of the community. For a summary of the four key interview methods, refer to Table 1 below.

Table 1: Variations in interview instrumentation

Type of interview	Characteristics	Strengths	Weaknesses
1. Informal conversational interview	Questions emerge from the immediate context and are asked in the natural course of things, there is no predetermination of question topics or wording	Increases the salience and relevance of questions; interviews are built on and emerge from observations; the interview can be matched to individuals and circumstances	Different information collected from different people with different questions. Less systematic and comprehensive if certain questions don't arise 'naturally'. Data organisation and analysis can be quite difficult. Requires maximum attention by interviewer
2. Interview guide approach	Topics and issues to be covered are specified in advance, in outline form; interviewer decides sequence and working of questions in the course of the interview	The outline increases the comprehensiveness of the data and makes data collection systematic for each respondent. Interviews remain fairly conversational and situational	Important and salient topics may be inadvertently omitted. Interviewer flexibility in wording questions can result in incomparability of responses
3. Standardised open-ended interview	The exact wording and sequence of questions are determined in advance. All interviewees are asked the same basic questions in the same order	Respondents answer the same questions, thus increasing comparability of responses. Reduces interviewer bias when several interviewers are used. Facilitates organisation and analysis of the data	Little flexibility in relating the interview to particular individuals and circumstances.

4. Closed quantitative interviews	Questions and response categories are determined in advance. Responses are fixed; respondent chooses from among these fixed responses	Data analysis is simple; responses can be directly compared and easily aggregated; many questions can be asked in a short time.	Respondents must fit their experience and feelings into the researcher's categories; may be perceived as impersonal, irrelevant and mechanistic. Can distort what respondents really mean or experienced
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Participatory methods tend to make use of the informal conversational interview and interview guide approach, which are semi-structured interviews.

3.4 Ranking and scoring techniques

Ranking and scoring have long been used to assess people's expectations, beliefs, attitudes, preferences and opinions. Ranking and scoring means placing something in order:

- Ranking: putting in order
- Scoring: weighting differences

This is a useful tool to be used in generating basic information which helps to focus further questioning. It can also be used for obtaining sensitive information such as income or wealth as ranks or scores are easier to obtain than absolute measurements. In a transport context, ranking and scoring techniques are useful for obtaining information such as journey origin and destination, journey mode, journey purpose, frequency and cost etc.

3.4.1 Preference ranking

Preference ranking is a way of quickly identifying main preferences as experienced by individual villagers or village groups. A set of categories is identified, and ranked in order of priority with a score. Ranking can be used to discover individuals or groups relative prioritisation of components of a single issue. These can be further broken down by criteria which detail reasons why components have been ranked in that particular order. The basic technique is ranking, where elements are placed in order of preference, by writing, drawing or moving cards representing individual elements. In this way preferences from 1 to x can be discussed.

3.4.2 Matrix ranking

Matrices can be used to express other issues, where a two dimensional comparison is useful, such as where frequency or occurrence can be illustrated in the same way as preference scoring.

Matrix ranking involves listing the elements down one side, and the criteria on which they are judged, gained from informal discussion or pairwise ranking, across the top. Each element is then considered in terms of each criteria.

Eg. Ranking 1-5 (1 being most efficient mode of transport)

Elements	Judging criteria				
	Cost	Frequency	Availability	Energy	Time
Walk	1	1	1	5	5
Car	5	4	5	1	1
Bus	4	5	4	2	2
Bicycle	2	2	3	4	3
Cart	3	3	2	3	4

3.4.3 Card sorting

The most common technique for ranking is card sorting. Informants sort cards which represent occupations into piles. There tends to be a close correlation in rank orders between different informants, showing high consistency.

3.4.4 Scoring

When scoring, there are a number of different methods that can be used that have individual strengths and weaknesses depending on context and desired 'output'. Free scoring enables participants to score each element against each criteria with no limits placed on the scores.

Closed scoring can be done in three ways:

1. Each 'box' (element for that criteria) can be scored between eg. 0-5, this is repeated over the whole matrix.
2. A fixed number of 'points' can be awarded for each criteria (row or column), and these are distributed between the elements in that row or column in relation to their perceived importance.
3. A fixed number of points is allowed for the entire matrix, and these must be distributed between both elements and criteria as participants decide.

Please refer to figure 1 for an example of a matrix scoring technique.

Figure 1: Matrix scoring technique (Source: ActionAid, 1992)

	Egg Plant	Lettuce	Tomatoes	Sorrel	Barambi green	Nana	Bitter Tomato	Karen Kareng	Cassava	Okra	Onions	Cabbage	Hot Peppar	Mango	Sweet Peppar
More durable in terms of storage	••	•	••	•	••	••	•••	•	••	••••	••••	••	••••	•	••
More cash yielding	•••	•••	••	••	••	••	•••	••	••••	••••	••••	••••	•••	••••	••••
More blood giving	•••	•••	••		•••				•••		•••	••			
More energy giving	•••	•••	••	•	•••	••	•••	••	••	••	•••	••	•••	••	
Consumed most	•••	•••	••		••••		•••	•	•••	••	••	••		••••	
More marketable	•••	•••	•••	••	•••	••	•••	••	••	••	••	••	••	••••	••
Less water requirement			••••		•••				•••		••	••	••		

3.5 Wealth ranking

Wealth ranking enables villagers to divide households in the community according to economic and other 'well-being' categories. This helps identify target group members for projects, specifically the poorest sections of a society. It also subdivides larger groups for further PRA discussions. Differences in wealth and particularly well-being affect peoples perceptions and coping strategies. It is important to understand this prior to further appraisal or planning.

This type of ranking not only discusses relative positions of households in a community, but also points to local indicators of wealth and well-being.

Wealth ranking requires a list of names of households, which can then be ranked, either from:

- Card sorting, where household names are written on cards and these cards sorted into different piles.
- Direct from social mapping, which identifies individual households. Households are then ranked according to wealth at the side of the map.

Poverty cannot be measured by income alone, hence the need to identify categories of wealth relevant to the specific village or locality ie. Animal ownership, type of house, size of family, farm size etc.

Refer to figure 2 for an example of a wealth ranking exercise.

Figure 2: Wealth ranking exercise (Source: Guijit, 1992)

GRADE	CRITERIA	Compound No.	CASTE DISTRIB.	AATC INPUT ASST.
RICHEST	ELECTRIC FACILITIES (GENERATOR), PRIVATE CAR, 2 MILLIKES, A HERD OF CATTLE, HIGH LABOUR FORCE, ENOUGH FARM IMPLEMENTS, INTERNAL & EXTERNAL ASSISTANCE, BETTER HOUSING FACILITIES, A LOT OF LIVESTOCK, INFLUENTIAL.	32		
RICHER	HERD OF CATTLE, LABOUR FORCE, FARM IMPLEMENTS, GOOD HOUSING FACILITIES, EXTERNAL ASSISTANCE, POPULARITY.	① 2, 3, 4, 5, 6, ⑧, 12, 20, 26, 27, ⑬, 35, ⑭	GRIOTS - 2 COMP. B/SMITHS - 1 " COBBLAR - 1 "	
POORER	AVERAGE HOUSING FACILITIES, LESS FARMING IMPLEMENTS, LESS LABOUR FORCE, SKILLS,	⑮, 10, 13, ⑯, 15, ⑰, 24, ⑱, ⑳, ⑳, 31, 34, 36, 40	B/SMITH - 2 COMP. COBLAR - 2 " SLAVE - 1 "	
EVEN POORER	POOR HOUSING FACILITIES, HIGH DEPENDENCY RATIO, VERY LITTLE IMPLEMENTS, LOW LABOUR SUPPLY, HUNGER (FOOD SHORTAGE)	⑨, 11, 16, 17, 19, 21, 23, 28, ⑳, ⑳, 41, 44, 45, 46	COBBLAR - 1 COMP. GRIOT - 1 " B/SMITH - 1 "	
POOREST	VERY POOR HOUSING, HIGH DEPENDENCY RATIO, LOW LABOUR SUPPLY, FOOD SHORTAGE, NO FARM IMPLEMENTS, LARGE FAMILY SIZE, NO SOURCE OF SUPPORT	⑳, ⑳, 45, 47	SLAVE - 1 COMP. COBBLAR - 1 "	
		8 GRIOTS COMP. B/SMITHS	⑳ SLAVES COMP. COBBLARS	

4. DIAGRAMMING

Diagrams, including maps, sketches and transects, summarise data in such a way that they can be used for different purposes such as planning, field discussion, analysis and problem identification. They are useful for opening up discussions between community members and the external team and helping clarify issues and questions.

4.1 Participatory mapping

Maps can be used to identify the comparative location and importance of different resources within an area. They can examine a great breadth of subject matter, and allow for a range of different types of map to be produced for one area, or for comparative analysis by different groups within the same area. Maps are also a useful tool to aid communication and to generate the following:

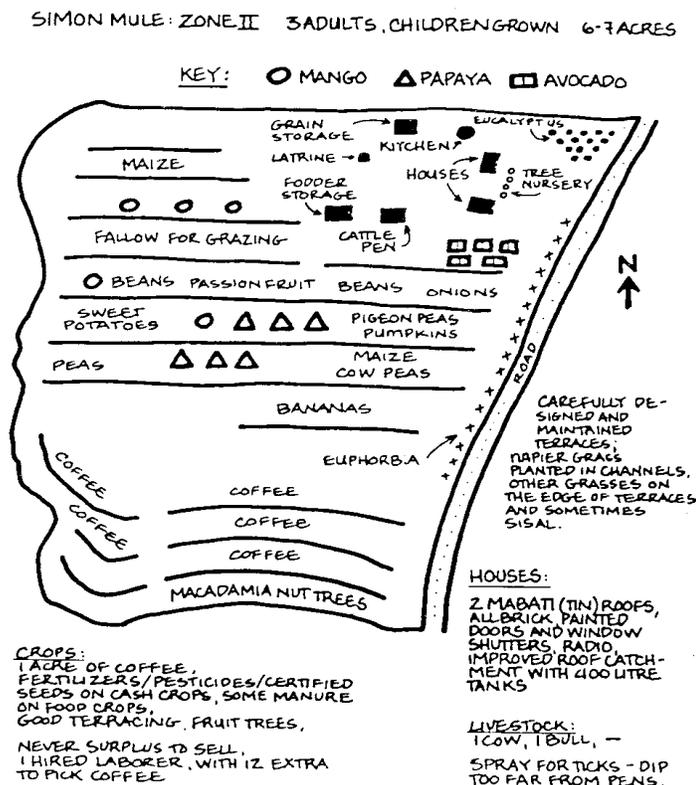
- Provide a framework for discussion over the relative location of resources

- Highlight resources of importance, using maps as a spatial guide
- Raise issues which affect or are affected by these resources
- Analyse the present status or condition of a location
- Create a focus for interest in a discussion over resources

Social maps can be used to locate houses, services and infrastructure within an area. Maps should be used as a visual stimulant, to identify the parameters faced by local people and to facilitate discussion about the importance people place on infrastructure provision etc.

Refer to figure 3 for an example of a 2 dimensional participatory map.

Figure 3: Participatory map, Farm Sketch from Kyevaluki (Source: NES, 1990)



4.2 Flow diagrams

Flow diagrams are used for the systematic analysis of a wide range of issues whereby a whole series of cause and effect relationships are examined. They can act as a basis for discussing the relationships between different groups, individuals or issues, and can demonstrate potential multiplier effects.

In general, a flow diagram has the main issue written in a central circle, with elements radiating from it. Where possible, the diagram should be used as a retrospective tool, in order to prevent it becoming a 'wish list' for villagers. For example, it should identify the actual economic, social and environmental impacts of road construction or maintenance on a village, rather than perceived impacts.

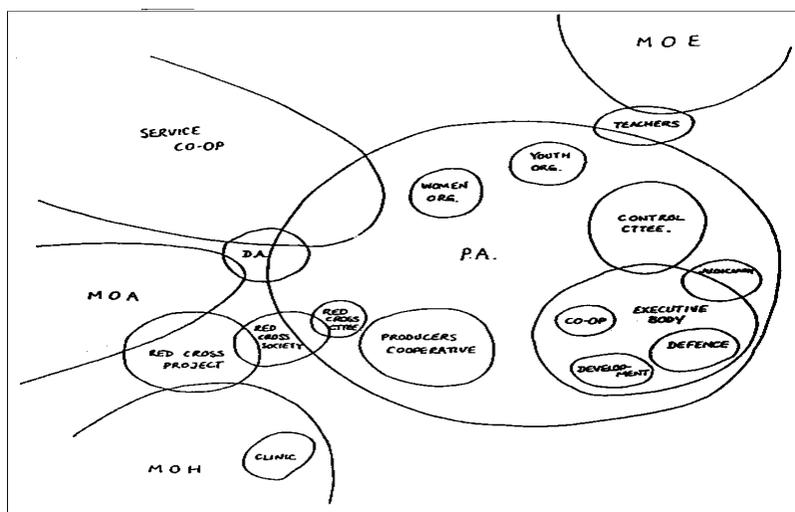
4.3 Venn diagrams

Venn diagrams are used to depict key institutions, organisations and individuals, and their interaction with the local community. Key players in decision making are shown, and institutions analysed can be both local ones internal to the community, and external ones which have a local influence. On the Venn diagram, each institution is represented, usually by a circle. The size of the circle represents the importance, significance or power of that institution, and the degree of overlap between the circles represents the level of interaction that occurs.

The organisations, individuals and decision makers are represented on circular cards rather than drawn directly onto the paper, as this leads to greater discussion and the potential to move organisations around as consensus is reached on their importance and the amount of contact.

In the rural transport context, Venn diagrams can be used to demonstrate the interaction between local villagers, transport operators and local government for example, to demonstrate the marginalisation of the rural poor. Refer to figure 4 for an example of a Venn diagram.

Figure 4: Venn diagram of decision makers in a Peasant Association in Wollo, Ethiopia (Source: Ethiopian Red Cross Society, 1988)



5. CONSTRAINTS OF PRA METHODS

Although PRA techniques have a potentially wide application in the field of project development and research, it is important that they are applied appropriately, with sufficient resources and should not be conducted hastily. The process of carrying out PRA methods requires mutual respect and trust between external facilitators and village participants, this takes time, and requires an understanding of the local culture. Hence, the general messages to consider are to avoid being dogmatic, be flexible in field study design without losing direction, be sensitive to the context of the field study and adjust the approach accordingly.

The following is a list summarising lessons learnt from existing PRA surveys:

- A common mistake is, projects do not contact local government officials from the start - hence no local government support which is a prerequisite for success.
- The step from problem identification with participatory PRA methods to follow up project definition is often poorly prepared.
- Project Officers should leave any class and gender biases they may carry at home!
- There should be continual analysis of the qualitative data whilst in the field.
- PRA methods require that the researcher knows the context and participates.
- Dialogue between the target group and Project Officers will be of benefit to both parties. The researcher must be able to listen but also to establish dialogue and share own experience.
- Very few project results are shared with the people who most need them. The filters are too many and too closed.
- Participants are introduced to a 'code of conduct':
 - Time suitable to the villagers
 - Cultural protocol
 - Avoid raising expectations
 - Avoid lecturing - listen and learn
 - Stay in the village throughout the training session

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