
COMMUNITY PARTICIPATION IN RURAL TRANSPORT INFRASTRUCTURE

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Objectives of the paper

Abstract

These guidelines are aimed at transport planners and engineers alike, wishing to engage communities or groups of people in the rehabilitation and maintenance of transport infrastructure. The guidelines have been developed over three years from research conducted in East Africa, specifically Uganda, Tanzania and Kenya. They also draw on worldwide experience from other development projects engaging communities in the sustainable maintenance of communal resources. The maintenance of communal resources and particularly Rural Transport Infrastructure (RTI) has been neglected in the past and a cycle of re-construction or rehabilitation has evolved.

Key issues

- Greater emphases should be placed on the maintenance of communal resources, especially RTI.
- Projects and programmes must focus on the development of more sustainable and realistic approaches to maintenance.

Key topic areas

- Factors affecting community participation
- Project steps for community participation

1. INTRODUCTION

Road maintenance is of crucial importance in Sub-Saharan Africa because of the inherent characteristics of their road networks. Low levels of development mean that levels of traffic are low, which in turn means that it is difficult to justify expensive paved roads. As a result many roads are commonly built of earth or gravel, which are cheaper to construct but relatively more expensive to maintain. These higher costs invariably result in inadequate maintenance regimes, which suppress the travel and transport benefits and limit their developmental impact and the possibility of further improvement. This vicious circle stifles economic growth and has prompted the Department for International Development (DFID) to contract IT Transport Ltd. to research and produce 'Guidelines for Community Participation in Road Maintenance'.

These guidelines are aimed at transport planners and engineers alike, wishing to engage communities or groups of people in the rehabilitation and maintenance of RTI. They present a number of options for community participation and have been developed over three years from research in Uganda, Tanzania and Kenya. They also draw on worldwide experience from other development projects engaging communities in the sustainable maintenance of communal resources. Although, all the projects studied were distinctly different and so required slightly different approaches the core questions remained the same:

- Who participates and why?
- Who benefits?
- What are the prospects for long term sustainability?

2. DEFINITION OF TERMS

2.1 Community

The concept of a community varies between projects, sectors, regions and countries. Three different types of community can be identified in terms of their legal/administrative, social and resource characteristics.

2.1.1 Legal/administrative communities

These are usually defined by each country's local government's legislation, which recognises a hierarchy of communities and codifies their administration in terms of traditional or political structures.

2.1.2 Social communities

These are defined by the members themselves and reflect the differentiation of the rural population by prevailing social, economic and cultural norms, which may be reinforced by residential segregation. Examples of these may be traders, farmers, and local administrators.

2.1.3 Geographical communities

These might be defined in geographic or planning terms and for example natural features or levels of demand/supply might be used to identify communal interests or catchment areas.

In simple terms participation is the active involvement of a community to take part or share in an activity. Types of participation are shown in Table 1.

Table 1: Types of participation

Participation Type	Characteristic
Passive participation	People participate by living in the area of the project. They may be told what is going to happen or has already happened but will have no other input.
Participation for material incentive	People participate by being paid for labour in food or cash, for a pre-determined project. This may be as a 'community' or as groups.
Participation by resource contribution	People participate by contributing a resource such as labour or money, to a pre-determined project.
Participation by consultation	People participate by being consulted (perhaps with options) on projects where the majority of the decisions have been made. Their view may/may not be considered.
Interactive participation.	People participate by joining with external professionals in analysis of their situation, developing action plans and determining common projects.
Spontaneous mobilisation	People participate by taking their own initiative independent of external professionals to change their situation. This may lead to self-help projects or requests to other institutions for assistance.

2.2 RTI

Community participation may be relevant for all types of RTI from waterways to roads, however, for the purposes of this paper we will look at community participation in a generic way and not specific to a particular type of RTI.

It is argued that if communities participate in the maintenance of transport infrastructure, not only would this be more cost effective but it would have important developmental spin-offs. These would include improved cash income opportunities, skill development and a greater sense of ownership. For central government and important local roads, the benefits of community participation particularly apply to routine maintenance, which suits the skill profile of farming communities and can be adapted to fit in with the agricultural calendar.

However, the lack of local government funds means that community participation is increasingly applied to the periodic and emergency maintenance of community and feeder roads. In this situation, the lack of road construction skills and materials can limit the effectiveness of unskilled community labour.

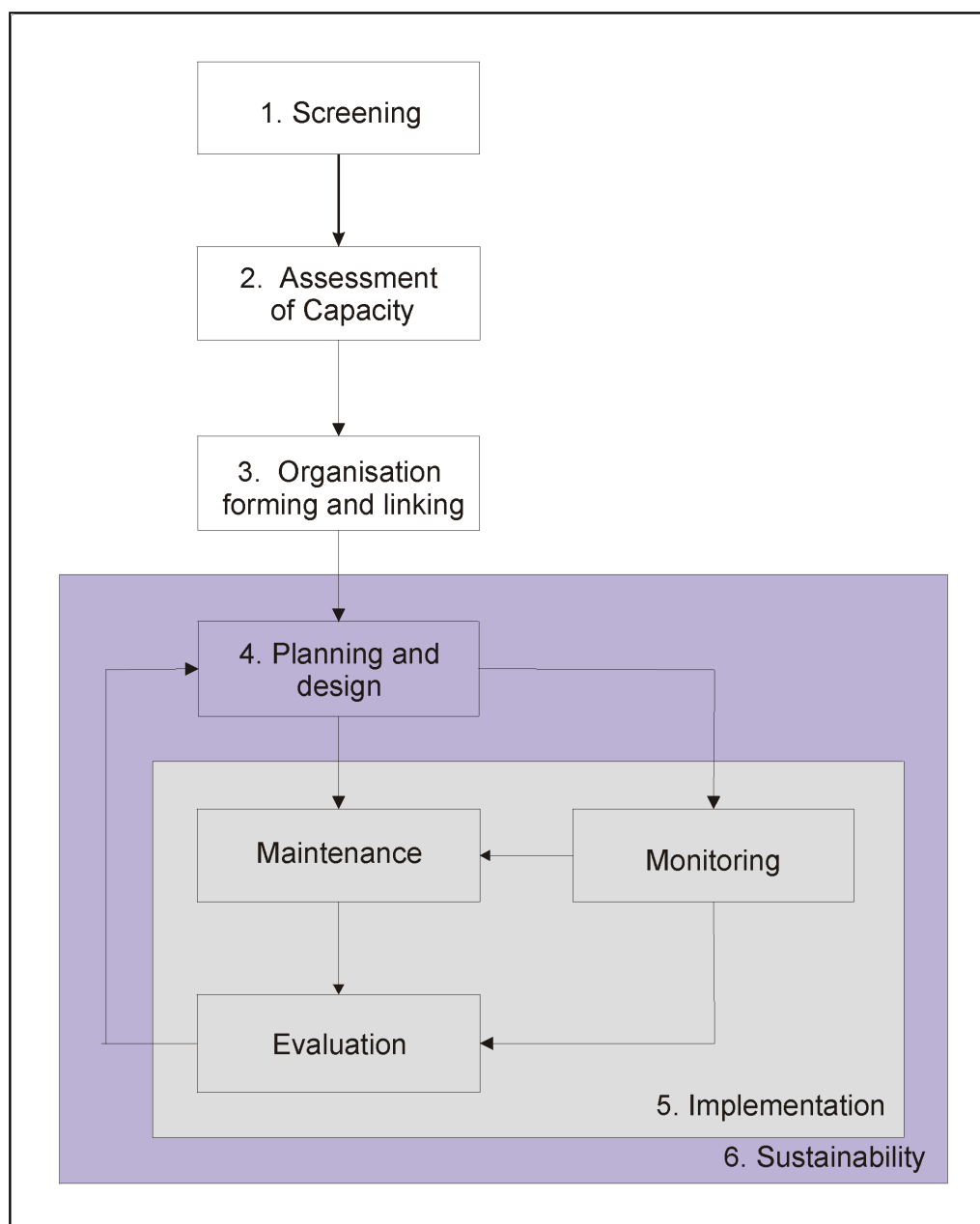
3. FACTORS AFFECTING COMMUNITY PARTICIPATION

- From the research it is clear that for community participation to be successful and sustained there needs to be large homogeneous groups within the community that accrue a benefit from having good roads.
- The community maintains the road to match its need for a particular level of access, e.g. dry season access for motorised transport. If sufficient people do not feel such a need for example if the majority of the people walk or headload crops to a nearby market, it is likely that the community will be reluctant to participate in other than footpath and footbridge maintenance.
- Participation will be dependent on the ability of the community council to enforce local labour-levy by-laws and organise works. Therefore, if people default on the work they have to pay a fine or carry out the work at a later date. For wealthier households they may decide to pay the fine or pay others to do the work. Unfortunately, in many rural communities these labour-levy by-laws are unpopular and are not enforced.
- Previous work carried out on the communities' RTI has a profound impact on its willingness to participate. If work has been done on the road and there has been little or no consultation with the villagers, they feel the responsibility for the road has passed over to organisation conducting the works.
- The construction method can greatly effect the willingness of communities to participate in road maintenance. If a road has been worked on using large plant and machinery with a number of experts and imported labour, it disempowers the community and undermines its ability to conduct further works. In contrast, the use of labour-based techniques and manual tools reduces the organisation and time scale of road construction at the community level and they can identify with and apply these techniques to their own activities.

4. PROJECT STEPS FOR COMMUNITY PARTICIPATION

The following figure summarises the process undertaken to engage communities in community participation.

Figure 1: Project steps for community participation

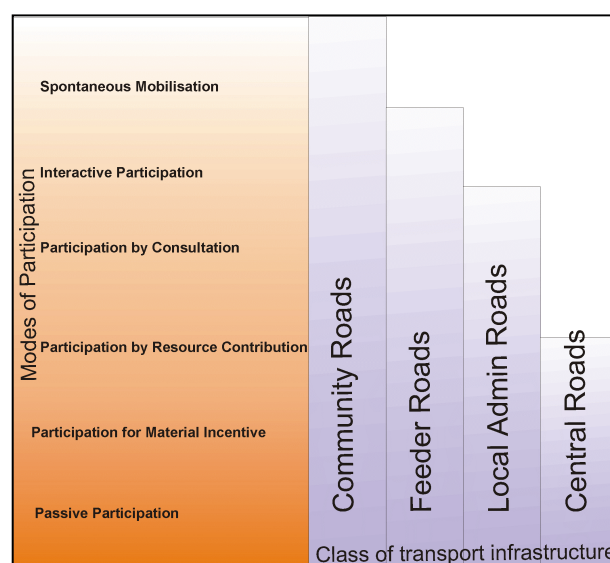


4.1 Screening

Screening is the first step in the process of community participation. Screening serves two purposes: firstly to assess whether road maintenance is a priority to the community; and secondly to assess whether your project lends itself to community participation.

There are many different ways of assessing community needs that range from quantitative surveys to participatory techniques. The majority of community development officers will be versed in these methods and may already have community plans or requests. At this stage the type of project you are planning will not have the fine details or work plans but the basic structure will be in place, e.g. trunk road maintenance not feeder road spot improvement. As we can imagine, the range of participation modes decreases as the size and importance of the road increases. Figure 2 gives an indication of the modes of participation that can be expected.

Figure 2: Participation type against road classification



From these two assessments you can gauge the communities willingness and intent to participate as well as what type of participation you can expect from your type of project.

4.2 Assessment of capacity

The sustained capacity of your organisation and a community to participate is an essential but often assumed project risk. For example many communities will be willing to participate once, but on the longer term they may be less willing. It must also be whether the chain of financial and physical management have the capacity as well.

At the community level capacity can be explored in the following areas:

- Community organisational capacity
- Natural resources, e.g. timber, soil, gravel and rock deposits can be used for maintenance.
- Human resources e.g. labourers, supervisors, technicians or monitors can cut project costs and increase community responsibility and participation.
- Financial resources.

Within all the above factors there is a need to assess the capacity within the sub groups in the community e.g. men, women, children, old, young, etc.

There a number of methods of assessing the above that include interviews, questionnaire surveys and participatory group techniques

4.3 Organisation forming and linking

From the capacity assessment, knowledge of the administrative or community leadership structure will be gained. Within this structure there will be a number of sub-committees that deal with different sectors, including village infrastructure. From the capacity assessment stage it will be clear whether or not they are capable of representing the community and participating in the project. If the committee they are not capable then they may need to be revitalised or completely restructured.

The representation of the community in these committees is essential on two counts. First, inadequate knowledge of the range of individual travel and transport patterns in a community, means that the planning and activities of the project may be biased towards a minority of the population. Secondly, if only these minority needs are addressed then it is likely that long term sustainability will be undermined.

This may mean that the committee needs revitalising, which could be a simple election with seats allotted to specific groups in the community e.g. men, women, traders and farmers. It could go further to incorporate training that committee members might need to participate more effectively in the project. This may include an introduction to road maintenance including its costs and physical constraints, bookkeeping, and possibly project monitoring and evaluation.

If it is felt that a new committee is needed the main issue is how well it fits into the existing council structure and what legal standing it will have in this structure and the rest of the administration. The other issue is how sustainable will the new committee be once the project finishes. Ways of encouraging this are discussed further on, but at this early stage there may be a need to develop links with other organisations to aid long-term sustainability.

Other links that can be formed are between planners and engineers, and other government and non-governmental offices. If access problems are to be addressed an appreciation of what the water or health sectors are planning is essential. Also, links with non-governmental organisations can also prove useful, as many will have first hand experience of working with communities.

4.4 Planning and design

The previous three steps can all feed into or be an integral part of the planning stage in a project. The majority of the information collected can be used to shape the way in which the process of participation is going to continue in to the more detailed design and implementation stages.

To maintain the trust and relationship with the community that has been developed so far, their inclusion in the planning stage is vital. This should include both the planning for physical activities as well as managerial aspects.

4.4.1 Physical

Community representatives may not have high levels of technical knowledge but they will have knowledge of the local area and the problems they face and this knowledge can be of great value in deciding and prioritising which roads can be improved.

A quick and simple way of gathering such knowledge is by using a map drawn by the villagers, showing roads, rivers and services such as schools and clinics.

Project improvements will invariably increase the mix of vehicles and the speed they travel on or near the community. This can lead to an increase in traffic accidents. These will have a direct negative impact on the community and so an awareness of traffic changes and discussion on mitigating matters can improve the relationship with the community. Therefore, accident black spots should be discussed along with ways to decrease them such as signs and traffic calming measures.

After this first planning stage is finished the engineers and architects can start to apply their technical expertise and present their ideas to the community in the form of drawings, artists' impressions and models.

4.4.2 Management

Again the level of infrastructure will make a difference to the level of community organisation. For a trunk road the community may only be involved in the review meetings or for a path or track the community may organise contributions, labour, meetings and much more. At the planning and design stage it is good to set the parameters for implementation. Therefore, how many meetings are required at what intervals, how many people are required for how many days, etc?

Contributions in labour may have been conducted in the past and there may be a traditional system for mass mobilisation. When planning works using community labour the following factors should be considered:

- The number of people in the community who are able to work.
- The time of year - is it a busy time of the year? When are the traditional times of year for community work?
- Who is organising the labour? It is often easier to let the community committee organise this kind of labour.

However, an increasing number of projects are obliged to pay communities for their labour. This is particularly the case where past projects have paid for labour in cash or food. In these situations people are reluctant to give their labour without payment.

The management of these inputs is best left to the community, however, a trained engineer/works supervisor should be involved in the supervision of works. The parameters and timetable for both these contributions should be agreed before implementation and possibly in a contractual form.

4.5 Implementation

The implementation of a project is when the majority of the activities take place, this of course all rests on a bed of good planning. Therefore, if there is to be active and sustained community participation the previous steps are essential for good participation in the implementation stage. The following section gives a guide for the elements of project implementation in which a community can most actively participate.

4.5.1 Contractors

The use of contractors presents an excellent opportunity to allow the local communities to physically participate in the implementation of a project. This participation may be at a number of levels:

- Skilled to unskilled labour for a large contractor.
- Unskilled and semi-skilled for a petty contractor.
- As contractors themselves.

The use of large contractors is common in the construction and rehabilitation of roads. The use of local people can be as skilled to unskilled labourers. Most local people will not have construction skills and will be employed as unskilled labour, with the contractor bringing their own semi-skilled and skilled labour. In some cases the contractor will train local labourers, and may even use them again in subsequent works.

Petty contractors who are usually locally based are best contracted to conduct maintenance works of a routine or periodic nature. Community members can be employed on a semi regular basis as semi and unskilled labourers to carry out tasks such as grass clearing and drain/culvert cleaning. With the use of labour-based techniques the participation of these labourers can be expanded to periodic works such as re-surfacing or earth works repair.

Community contractors have developed as a particular kind of petty contractor over the last few years and have taken many forms. They are usually a small work gang (2-3 people) with one contractor/supervisor who conduct routine maintenance such as grass cutting and drainage clearance.

Many of the petty and community contractors (or small contractors) have been formed and directly contracted as part of a project. Often, without project funds and support, their sustainability is questionable. Constraints to continued work might be a lack of funds, poor tools and a lack of status and ability to competitively bid for jobs. There are a number of strategies to deal with these problems:

In the tendering of works there are often contract value levels to which certain procedures are attached, which constrain smaller contractors. To enable smaller contractors to participate the job should be broken up into smaller contracts.

Small contractors may not have the resources - staff, machinery to register as recognised contractors. This can be avoided by enacting a local by-law to allow small contractors to be registered. This will enable them to bid for works contracts. If this

is not possible, small contractors can be sub contracted by the larger contractors. Therefore you must set up these links before the project finishes.

Seed money or revolving funds can be set up to aid contractors to purchase or hire equipment to conduct works.

The training of small contractors in how to run a business can ensure some sustainability as they will have the skills to bid for and run contracts after the project has finished. If this training and their experience are in routine and periodic maintenance works it more likely that there will regular work than for construction or rehabilitation works. Although, sufficient funds must be allocated to ensure the maintenance works can continue.

Directly employ contractors initially to allow them to gain experience and capital. Then start to introduce competitive bidding once they are established.

4.5.2 Advertising of works

If the contractors are not to be employed directly, advertisements to tender for works need to be well placed. You will have usual channels for doing this, which may include local newspapers and invitations to tender. However, these may not reach the wider community and other media should be used. This will serve two purposes: firstly more contractors will see the advertisement; and, secondly the community will be alerted to the fact that works will be commencing in the area. In many projects, especially for routine maintenance, women contractors have been more effective and produced a better quality of work than male led contractors. Therefore, the advertisement may want to encourage female applications.

4.5.3 Assessment of tenders

There will be a set of procedures for assessing tenders for works that are based on a technical and financial basis. Many of these procedures will not include criteria that refer to the wider developmental goal of the project, which may include the participation of communities. To address this, assessors may want to wide evaluation procedures to include criteria such as the number of local people to be employed, the use of local materials, gender desegregation, etc. The issue of the choice of construction method is also relevant as it can have impact on the involvement of communities.

4.5.4 Choice of construction technique

The choice of construction technique will depend on the machinery available, human resources and financial resources. There has been a long debate on the merits of plant and labour based techniques, through which a number of distinct issues have arisen. In the context of community participation the application of labour based methods is favourable for the following reasons:

- A greater number of local people can directly benefit by earning money.
- The community is more involved in road works, which may engender a responsibility toward the infrastructure.
- Labour-based projects usually train even the unskilled labourers, these skills can be used in continued maintenance or other jobs.

- Labour-based gangs can work on a number of sites at one time, so allowing a 'lengthman/contractor' system to be used.
- If the population density is sufficient along the road, contractors can be village based.
- Maintenance works can be done on piecework rates that can take up to half a day to allow community members to conduct other tasks such as child care or farm work.

As mentioned above women can be better contractors than male led contractors, in terms of speed, quality and ease of construction. With these pluses it is questionable why more women are not participating in road works, however when considering the wider context it becomes apparent. For example women may not want to work because they have no one to care for their children, or work on the roads is seen as demeaning by the wider community. Thus, when planning works and wanting to enable women to participate planners must consider a woman's wider needs, such as working hours, crèche, feeding and toilet facilities.

4.6 Monitoring and evaluation

The monitoring and evaluation of a transport project is usually concerned with the physical monitoring i.e. length of kilometres improved, amount of material used, quality of works, etc. Some projects go on to monitor the social and economic effects and impact. Communities can participate in both of these stages and a third stage that is the monitoring and evaluation of the actual community participation.

4.6.1 Physical

A qualified engineer will have the knowledge, experience and procedures to carry out the more quantitative elements of monitoring activities. Community participation can be included but the role is rather limited. However, at the evaluation stage the community can play a great part. For example if the road has been constructed to a poor standard the community who use the road will soon tell you, as long as they have a channel to do so. They may also have inside information if the contractor has been using local labour. Also if there is a part of the works that they feel needs changing they can often assess this more quickly than the engineer in charge.

This type of evaluation are best done in two stages:

- Meetings with the local committee to present and discuss progress on the works.
- After the initial meeting a site visit may be appropriate to show the committee members why a piece of works had to be done that way.

4.6.2 Social and economic

The social and economic monitoring and evaluation methods used depends on the size of the road. For central government roads conventional economic methods that rely on traffic counts are appropriate. However, for smaller roads with more pedestrians and bicycles they are not so appropriate. Therefore household questionnaires, participatory techniques, local administration records can all be used. The community's participation in a passive sense is implicit, however they can participate more actively in the collection and analysis of data.

In conventional economic analysis community participation is limited to community members being employed as traffic counters. If trained, community members can become enumerators for questionnaire surveys. One of the weaknesses of questionnaire surveys is the accuracy of data, if the respondent is familiar with the enumerator this may produce more accurate results.

The use of participatory techniques obviously lends its self to the participation of communities in both monitoring and evaluation of the impacts of the infrastructure on their lives. If the planning of a project is done using participatory techniques, such as ranking and mapping, the results can be revisited by the community and assessed next to the current situation. Therefore, indicators of change that can be explored further can be provided through using other participatory techniques, such as H-diagrams.

4.6.3 Community Participation

As community participation is new to many planners and engineers the monitoring and evaluation of its use will enable learning from experience, as well allowing the project to keep a track of progress and activities.

The monitoring of community participation can be done by collecting information on activities such as number of meetings, their attendance, by which stakeholders, etc.

4.7 Sustainability

The continuation of the community participation after the initial input or the end of the project is often neglected. As a result many committees set up for the project also finish working with the project.

Maintenance is a long-term activity, therefore if community participation has proved to be useful it needs to be sustained. For sustainability there needs to be willingness on the part of the community as well as willingness on the part of the engineers, planners and other local officers. This willingness can be engendered in a number of ways the most practical are highlighted below:

Routine meetings - many committees will only meet when there is an emergency such as the wash out of a road section and/or the loss of a bridge. Committees convening on this basis rarely meet and as a result issues such as mobilising labour or money for routine or periodic maintenance will not be discussed. Therefore, when setting up or revitalising a committee, regular meetings should be convened at least once every four months, from the start. As mentioned above willingness is also needed on the part of the engineers and planners.

Agenda - Even if there are regular meetings they will need an agenda of some substance. Maintenance activities lend themselves well to this, due to their cyclic nature. Therefore, the committee can be planning, implementing and assessing future and past activities. Again it is important that representatives from other organisations are there and contribute and guide the meetings agenda.

Reporting back - If the above activities are documented in meeting minutes that are copied back to your office, it ensures the meetings are monitored, the meetings take place and progress is checked.

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