

Socio-economic enhancement of development projects (guidelines)



CONSTRUCTION AND DEVELOPMENT SERIES, NUMBER 1

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PREFACE

The formulation of policies and strategies to promote development in South Africa is arguably as important a product of the Development Bank of Southern Africa as its loan finance and technical assistance programmes.

This series of publications on "Construction and Development" illustrates this point.

Development projects in South Africa have traditionally been undertaken to meet only the physical needs of the recipient community. South Africa's changing social and economic environment demands that such projects be executed in a manner that ensures that the communities' other needs are also addressed. To achieve this projects should be structured so that opportunities for employment and the development of skills and entrepreneurial abilities are maximised.

Construction is an essential sector in any growing economy. In South Africa, it has historically been both an important employer and an industry which typified the over capitalisation which has bedevilled the economy. These considerations, together with the fact that a large proportion DBSA's lending goes to construction projects, suggested that it would be helpful to make practical proposals to assist the industry to adapt and contribute to development in the new circumstances.

The publications in this series present an approach to development that focuses on:

- the identification of the broad economic and social needs of communities;
- optimal use of resources available to them;
- ways in which communities can exploit the opportunities presented by development projects;
- approaches to making best use of labour, an abundant but underutilised resource;
- appropriate design, methods of building and construction and
- the use of, and misconceptions about building regulations.

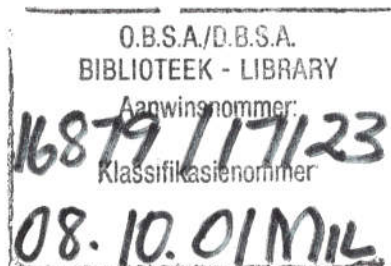
The publications are thus designed to help alleviate the constraints which have inhibited poorer communities from developing the skills at both individual and community level that can lead to the development of entrepreneurship and genuine empowerment.

This is perhaps the most important message of the series. It is above all through active participation in the process of development and that individuals and communities can improve their quality of life. And it is to this end that the series is dedicated.

Development Bank of Southern Africa



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**SOCIO-ECONOMIC ENHANCEMENT OF
DEVELOPMENT PROJECTS**

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MODIFICATIONS AND ADDITIONS

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PART ONE – OVERVIEW

INTRODUCTION

Why this document?

These guidelines attempt to describe an approach for enhancing the socio-economic impact of physical projects in developing communities. In South and Southern Africa there is an urgent need for such guidelines to assist those who are working for the upliftment of developing communities, both from inside and outside such communities. Projects which produce physical assets assist with upliftment, but even more can be achieved if attention is paid to enhancing the socio-economic impact of actual project implementation. To describe this, we have coined the phrase "development impact approach".

For whom is this document prepared?

This document should prove useful to anyone involved in development projects in the underdeveloped areas of Southern Africa, including decision makers, funding agencies, planners, consultants and the public at large. Part One is intended to give an overview of the issues, providing a justification for, and an outline of, the approach for the benefit of those working at a policy-making level. Part Two gives more guidance to those charged with putting the approach into practice.

What is development impact?

There is an emerging consensus in South Africa which recognises that development is much more than the expansion of income and wealth, and that economic growth, though essential, is not sufficient. The focus is increasingly on *human development*, broadly defined as *expanding people's choices*. These choices range from enjoying a decent standard of living, leading a long and productive life and being educated, to experiencing a greater sense of participating in the various activities of one's community. Viewed in this light, a project in a developing area should include objectives that go beyond the provision of a physical facility. *How* a project is undertaken, and *by whom*, are just as important as *what* is delivered for it to have its maximum development impact.

What this document is not

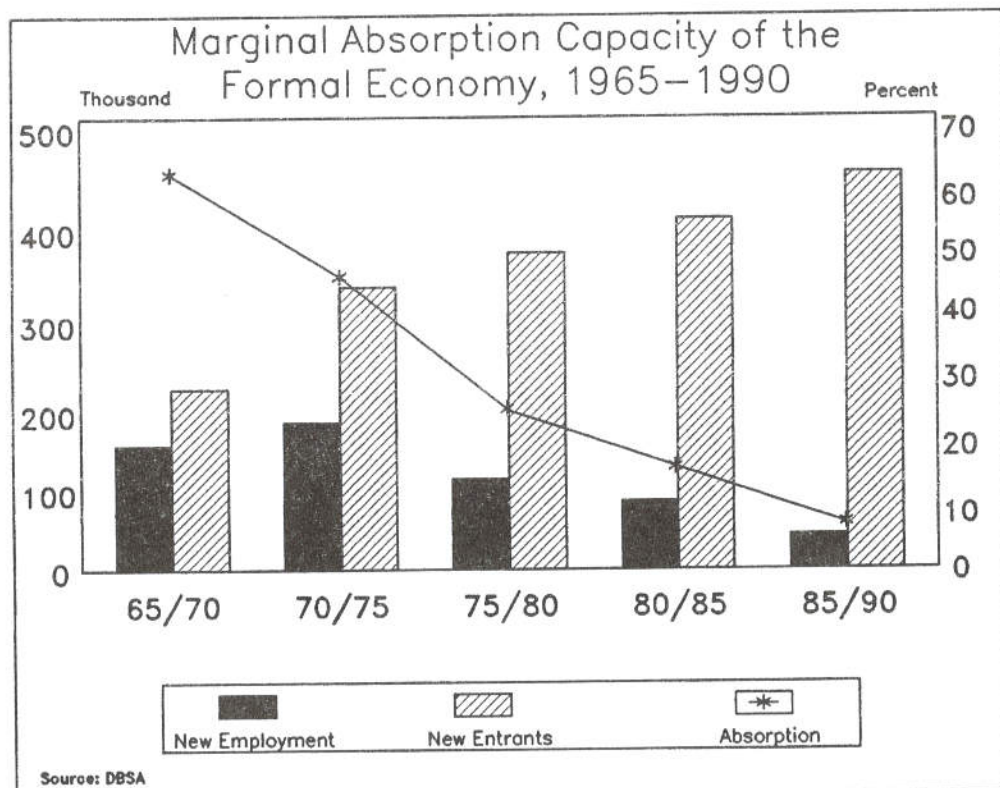
These guidelines have been prepared with one aim in mind: to increase the development impact of any project during implementation. No attempt is made to justify investment decisions taken for other reasons. They do not replace existing professional procedures (e.g. PROCAP for architects) but should supplement them to ensure optimal socio-economic impact during the preparation and implementation of development projects. Nor do these guidelines provide technical details, except for the purpose of illustration. South African trained technical personnel are well able, if convinced of the desirability of such an approach, to devise technical solutions appropriate to local conditions.

SOCIO-ECONOMIC CONTEXT

Establishment of a non-racial democracy in South Africa will redress the exclusion from political power of the majority of South Africans, but will not in itself solve the problems of poverty and deprivation. Differences in opportunity and of control over resources between sections of the population result in the exclusion of many people from the development process.

The South African economy is characterised by:

- A long-term decline in economic growth performance since the 1950s, with the average annual rate of growth falling from around 5,0 per cent during the 1950s to around 1,5 per cent in the 1980s, leading to a general decline in standard of living as measured by per capita GDP.
- Growing unemployment due, inter alia, to the long-term decline of economic growth and the increased use of labour-saving equipment in production processes. In the 1980s the part of the labour force without formal employment opportunities fluctuated within a narrow band of 30-33 per cent, numbering about 8,3 million people in 1990.
- The decline in the labour absorption capacity of the formal economy has led directly to an increase in the number of people in dire poverty. The accompanying chart highlights the predicament of those seeking employment.
- Other development challenges due to unequal racial distribution of income and wealth, the prevailing spatial distribution of economic activities, escalating urbanisation and vast backlogs in housing, education and health services.



Important economic policy objectives must be to increase the growth potential of the economy, to change the pattern of growth of development and to increase the real performance of the economy. *Unutilised and underutilised physical and human resources among the less advantaged communities must be put to socially desirable uses in the production of goods and services.*

On the basis of sound economic and development principles, the following are some key policies for growth and development in South Africa:

- Emphasis on economic growth and development through the optimal use of local, physical and human potential in order to maximise the benefits for the communities concerned.
- Creation of a supportive environment of physical and social infrastructure and also a policy framework aimed at fostering more efficient production, individual initiative and social stability through government or private intervention and support.
- Support of individual initiatives and capabilities and of local institutional capacities for individuals and communities to initiate, implement and manage their own development on a sustainable basis.

Central to the human development approach of these policies are three key elements:

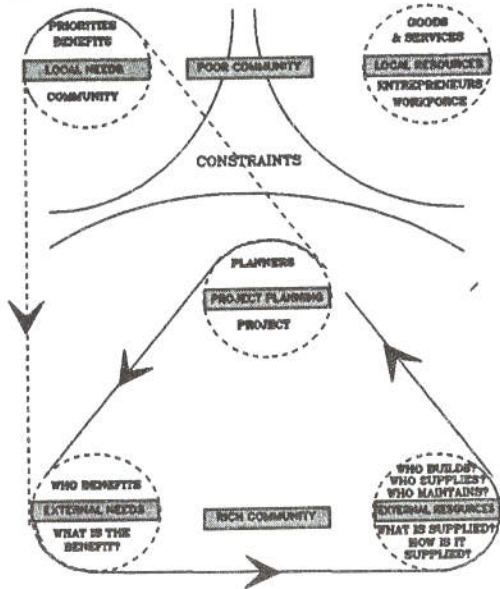
- Empowering and enabling people, rather than directing and controlling them by perpetuating their dependence through handouts.
- Interpreting empowerment as promoting opportunities, as well as human capabilities. Thus, ever increasing opportunities will enable people to use their capabilities to the full.
- Promoting an attitude and style of "people participation" that emphasises the *process rather than the product*. The process then becomes the vehicle for the delivery of other products.

The productive use of underutilised physical resources in less developed communities can contribute significantly to the growth of the economy and to changing the growth path. The approach also has qualities of sustainability and of self-fulfilment for the people involved.

A comprehensive and integrated development approach would proceed by releasing constraints (e.g. financial, economic, institutional, social, environmental, technical and technological) on the mobilisation and utilisation of physical and human resources. This approach avoids the pitfalls of considering development as little more than a series of ad-hoc support programmes or projects for improving the living conditions of a selected number of communities. Each project would then be judged on both its own merits and its wider socio-economic ramifications.

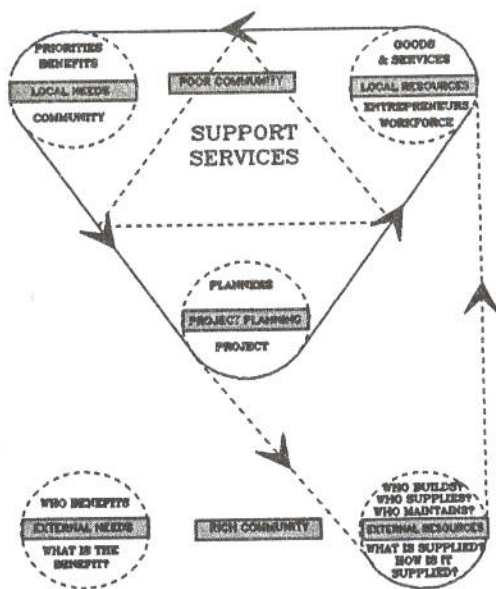
TWO APPROACHES TO PROJECTS

Conventional Approach – Passive Community Response



- COMMUNITY DOES NOT FULLY BENEFIT FROM OPPORTUNITIES CREATED BY ITS NEEDS
- MAXIMUM INWARD FLOW OF EXTERNAL RESOURCES
- MAXIMUM OUTWARD FLOW OF BENEFITS FROM LOCAL COMMUNITY
- CONSTRAINTS NOT REDRESSED
- MONEY CIRCULATES IN RICH COMMUNITY

Development Impact Approach – Active Community Response



- COMMUNITY BENEFITS FROM OPPORTUNITIES CREATED BY ITS NEEDS
- MAXIMUM LOCAL INPUTS
- MINIMUM INWARD FLOW OF EXTERNAL RESOURCES
- MINIMUM OUTWARD FLOW OF BENEFITS
- SUPPORT SERVICES REDUCE CONSTRAINTS
- MONEY CIRCULATES IN POOR COMMUNITY

DEVELOPMENT IMPACT APPROACH

INTRODUCTION

The present dire socio-economic conditions in this country are a powerful inducement to re-evaluate projects in developing communities with a view to increasing their socio-economic impact on the communities they are designed to serve. The intention of the development impact approach is to encourage the participation of local communities throughout the project sequence, from identification to operation and maintenance, so that maximum benefits accrue to the community as a result of the process.

The objectives of the development impact approach are:

- to provide the opportunities, and to enable and empower people to assume the responsibility, for improving the quality of their lives;
- to facilitate the upgrading of the social and physical environment;
- to increase employment;
- to reduce poverty;
- to stimulate economic growth;
- to reduce imbalances in access to opportunities.

TWO APPROACHES TO PROJECTS

Conventional Approach – Passive Community Response

The conventional approach to projects is not well suited to development projects. If this approach is adopted, the local population will not be involved and only their physical needs will be satisfied. The income and employment opportunities generated during project implementation will not benefit the developing community, but rather the developed one, which has less urgent needs to satisfy.

When the constraints on community involvement in the project sequence are left in place, the local community is in a passive mode. The project, however well intended, is perceived as being imposed by others. The local community may well have to pay for it without having had a say in identifying the need for it or in building, operating and maintaining it.

Development Impact Approach – Active Community Response

The development impact approach is designed to achieve the multiple development objectives mentioned above through the active involvement of the local community.

When constraints are removed and the local community participates fully in the project sequence and in operating and maintaining the facility, the economic and social benefits are kept within the local community and outflows are kept to a minimum.

The accompanying figure illustrates how, under the conventional approach, the local community is effectively prevented from participating in the project and, conversely, once the constraints are removed, how community involvement is enhanced.

THE GUIDELINES : INTRODUCTION AND SUMMARY

Part Two of this publication gives more detail and ideas on how to apply the development impact approach. The guidelines are also supported by illustrations and extracts from case studies to enhance the user's understanding of the general principles.

Preparation Phase

To implement this approach successfully requires considerable attention to the preparation phase, during which several assessments or analyses should be undertaken. These assessments are focused on the local community and its environs but some view of the wider regional context (ideally a summation of local assessments) is required, especially when considering the support services needed to overcome constraints at the local level.

At the *local level*, the exercise is place specific and detailed and involves local institutions (local authorities, community based organisations and NGOs, among others). It is suggested that local institutions conduct local assessments and accept responsibility for managing and updating the information. Local assessments should be perceived as a matter of community interest, that convey the message: "This is who we are and this is what we can do". Ownership of the information should be public and freely accessible.

At the *regional level*, the planning process must take account of the economic, financial, environmental, social and institutional aspects that condition a community at the local level. Opportunities in developing communities will only materialise when these are facilitated at the regional level. For this to happen, it is necessary to identify and classify, on a regional basis, the resources and institutional support services available to local communities. Regional assessments should be undertaken by regional institutions, both public and private, active at that level (development corporations, political parties, aid agencies, NGOs, etc.).

The following actions are required :

Social assessment: Draw up a social profile and identify issues which enhance or inhibit development. From an understanding of the client community and the major issues develop a strategy to involve the client community fully into decision making for the project.

Community needs analysis: Establish, with representative local people, the priorities and broader community needs to be satisfied. Discuss those needs with the community to identify what they themselves can do. Stress that decision making entails responsibility for the decisions taken.

Local resource (supply) analysis: Assess the availability and acceptability of all local resources which could be used to satisfy the identified need and achieve the stated objectives, with special emphasis on human resources which could be mobilised for the preparation, implementation and maintenance of the project.

Constraints analysis: Identify and evaluate constraints on the mobilisation of local resources to satisfy local needs. Consider both internal and external constraints and consider them from the viewpoint of each party. Accept constraints as given but not insurmountable.

Support analysis: Establish the need for and the scope of support services and mobilise them accordingly. The support needed is determined by the constraints identified, and by the absence of certain resources which are vital to the project. Support services must be directed at overcoming constraints without creating dependency. They should aim to convert the need for external resources into opportunities for local resources mobilisation, giving preference to local support institutions while avoiding duplication. Only support that cannot be locally sourced should be borne by the project.

Planning and Implementation Phase

The results of the preparation phase should make the planning of physical assets, and the process required to build them, more responsive to the broader needs and priorities of the client community. Decisions on technical details should be consistent with the aspirations and capabilities of the community and maximise local economic linkages and spin-offs.

Project planning should be an integrated whole, giving constant attention to a whole range of issues, including the following :

Project criteria: Identify key criteria in response to needs as identified locally. In selecting criteria bear in mind the dual project objectives of delivering a physical asset and uplifting the community. Include criteria for operation and maintenance.

Project proposals: Develop project proposals which ensure local resource mobilisation and which focus on the upliftment of the poor through job creation including longer-term opportunities. In conjunction with the community, consider various alternatives which will satisfy their identified needs, objectives and project criteria.

Project design: From the selected proposals, prepare detailed designs, avoiding preconceptions and giving as much attention to the process as to the product. Place emphasis on efficiency and effectiveness so that the optimal use of resources will be ensured and project criteria satisfied.

Project management alternatives: Preference should be given to management available or readily accessible to the community, as determined by the resource analysis. Give preference to labour-based approaches. The choice of management approach should maximise local managerial and entrepreneurial skills and opportunities for longer-term economic activities.

Procurement procedures: Devise procurement procedures appropriate to the management alternative selected. The complexity of procedures and specifications should match the complexity of the work and level of understanding of contracting parties.

Control measures: Determine the control measures required (in addition to normal professional supervision) to ensure that problems are anticipated. Additional risks should be covered by additional appropriate control mechanisms. Keep control and advice separate by clearly defining the roles of supervisory and support staff.

Institutional roles: Key institutional players must be committed to the objectives and process. Clearly define their roles, responsibilities and share of risks, if necessary, with a written agreement.

"As a result of the conflicts within the community and other pressures, getting things built by formal contractors can be expensive and difficult. To overcome this problem and to gain community participation Soweto has established a Contractors Development Program for training and directing small contractors in new water main construction. This has been a success in terms of unit cost and job creation and has enabled work to continue throughout periods of unrest."

AH Davies: *Managing in the NuSA*

CONCLUSIONS

The ultimate test of the success of any development project must be the response to the question: How better off in socio-economic terms is the local community after the implementation of a project? The development impact approach identifies linkages with other parts of the local economy that will enhance the impact of the project at the local level. Project evaluation must assess how well the following guiding principles were adhered to throughout the sequence of project and project related events:

- Projects must contribute to the satisfying of broader community needs, not just needs in terms of physical facilities.
- Local resource mobilisation must be maximised and environmentally sustainable.
- Support mechanisms to overcome constraints must be facilitated.
- Planning must be integrated, involving all parties and generating suitable alternatives.
- Appropriate control measures and risk apportionment must be instituted.
- Devolution of decision making to grassroots level must be achieved.

The development impact approach is not static and finite but ongoing, requiring evaluation, adaptation and updating as circumstances dictate. The approach adopted for a given community should reflect the degree of development of that community. As a community develops further and grows in confidence, so do its resources (human, financial, natural and technological) so that it contributes more to its own upliftment. The development impact approach helps to identify opportunities for the local community to make the best use of its own resources and to use others (outsiders) only when it is in their own interests.

PART TWO – GUIDELINES

PREPARATION

1. Social Assessment

Draw up a social profile and identify issues which enhance or inhibit development

Social assessments give information on local institutions and socio-economic conditions for the identification, preparation and planning of development projects. The information helps to structure projects in response to people's needs and priorities. The information gathered need not be excessively detailed; the degree of detail should match the needs of the project. If other projects are planned in the area, more detailed information may be justified. The social assessment can be performed by consultants or by the client community if they have the necessary capacity.

The assessment aims to gain an understanding of the local socio-economic conditions and the social dynamics of the community. Information can be had from research papers and institutions, universities, government departments, maps and orthophotos for population estimates, soil studies, etc. This information forms the basis of the assessment and should be supplemented by:

- interviewing local leaders (formal and informal), citizen groups and key people (shopkeepers, teachers, nurses, magistrates, extension officers, etc.) for information about local conditions and insights into local knowledge, attitudes and perceptions;
- observing the local environment by walking through the area and talking to people.

Social assessment, by providing first-hand information relevant to the project, is a first step and should be followed by detailed discussions and negotiations at the local level. Another important aspect of social assessment is the identification of issues pertinent to the participation of the client community in the decision making process. This can provide the basis for the development of sustainable local institutions.

"The RAC helped the women to set goals and prioritise their needs through a series of workshops. Mafeke women are presently involved with a brick making project to build a creche. This is two-fold, both to place the children in a creche and to use the brick making skills to solve their unemployment problems by selling the bricks."

Tiny Mankge: *Rural Advice Centre, Update*

Key factors:

- * **Develop an understanding of the client community and the major issues through a rapid social assessment.**
- * **Use the knowledge gained from the social assessment to develop a strategy for bringing the client community fully into decision making for the project.**

2. Community Needs Analysis

Establish, with representative local people, priorities and broader community needs to be satisfied

From the outset, it must be realised that developing communities have broader needs than just physical facilities. They also have a need for employment, education, accommodation, health services and recreation. It has been shown that the active participation of the community is the best way of establishing their needs. However, there is a distinction to be made between a perceived need and its underlying cause. Housing may well be a genuine community-felt need; its root cause though is likely to be a lack of work. Consequently, in attending to the one, sight should not be lost of the other.

The degree of community participation can vary according to the circumstances from least participatory to most participatory, as follows:

- **Information sharing:** There is a two-way flow of information between the implementing agent and the target population. Control of the project is in the hands of the implementing agent, who, although not consulting the client community, looks for inputs from them on local information to enhance project design.
- **Consultation:** Control of the project is in the hands of the implementing agent but the community is consulted on key issues. Since the beneficiaries are not responsible for the project, maintenance and support services have to be managed and provided by others.
- **Decision making:** Decisions regarding the project are made jointly by the community and the implementing agent. Control over the project is shared. The client community is likely to accept responsibility for project maintenance and cost sharing because it has shared in decision making and therefore has a sense of ownership.
- **Initiating and controlling action:** The community initiates and assumes control of all or part of the project. By achieving this degree of involvement the client community controls its development as it is responsible for planning, building, operating and maintaining the project.

"While we have resisted the temptation to make special deals with local pressure groups, it is undoubtedly true that at least partial compliance with their wishes on the part of the contractor is necessary for the uninterrupted performance of the contract."

JA Croswell: *Labour Intensive Construction, Practical Details for Success*

"Upgrading informal settlements in urban and peri-urban areas should be an exercise in joint decision making. Investment funds will be limited, especially if maximum coverage is the goal. The willingness of residents to contribute will probably be limited and certainly variable. And the ability of residents to make regular payments for services supplied will also vary. Under such circumstances it is imperative to consult with the community to establish what their priorities are and what they would be willing and able to pay for such improved services."

BM Jackson: *Helping People to Help Themselves*

Key factors:

- * **Assist the community to identify their broader needs and priorities.**
- * **Client community to participate in decision making to the fullest extent possible.**

3. Local Resource (Supply) Analysis

Assess the local resources

Local resources are those available in a region which can be employed for a task. In simple terms, local resources are the four M's, namely manpower (human resources), money (financial resources), materials (natural/physical resources) and machinery (technological resources):

- **Manpower** consists of decision makers and the (potentially) economically active population in a region. Institutional capacity and levels of managerial and technical competencies and the support available locally and regionally must be assessed.
- **Money** means the public budget and private sector funds from commercial banks, savings and loan associations (stokvels, etc.). It also includes contributions from individuals and households, both as one-off payments and regular payments.
- **Materials** consist of those from local sources (stone, sand, clay, timber, etc.) and manufactured into elements or components by the community or local entrepreneurs for use in the project. The sustainable use and extraction of local materials could be subject to environmental constraints. Information regarding empty or underutilised buildings and infrastructure should also be recorded.
- **Machinery** includes equipment and technologies available and accessible locally.

The quantification and evaluation of local resources is the basic input to the project planning process. The information may not be available in a systematic form. Consequently, the design and specification of projects for developing areas often calls for technologies, components and materials not readily available locally. The inventory of local resources is important at project planning stage. It is necessary for all parties to have a clear understanding of what is locally available, how the resources can be used, who can supply and who can do the work. It is this awareness, manifested in the design and specification of a project, that will ensure maximum development impact at the local level.

"The site was covered with large boulders, but little modern plant or machinery was available locally for their removal.

We organised our labour into teams to crush the boulders to make aggregate - in one operation getting rid of the boulders, creating on-the-spot building material and creating jobs."

John Devine, managing director of Stocks & Stocks (Eastern Cape)

Key factors:

- * **Consider all local resources.**
- * **Optimise use of all local resources.**
- * **Use materials in an environmentally sensitive way.**
- * **Assist the community to become aware of their options and abilities.**

4. Constraints Analysis

Identify and evaluate constraints that hinder the mobilisation of local resources to satisfy local or project needs

Developing communities have difficulties in interacting with a system devised for developed communities. These difficulties can be divided into internal and external constraints.

- **Internal constraints** are those factors influencing efficiency over which the community has control. They take the form of a lack of literacy, numeracy or managerial, technical or entrepreneurial competence. The constraints can be overcome with appropriate training and support (lack of appropriate support is an external constraint).
- **External constraints** are those factors over which the community has little control, and are frequently imposed by various authorities. They arise from the economic conditions that distort the market-place and from structural aspects within which economic activity takes place. External constraints may be reduced by a variety of interventions. These include the mobilisation of support services and appropriate development strategies such as the provision of economic infrastructure (banking, insurance, etc.) and financial assistance, and the simplification of procedures.

The following are examples of external constraints that should be addressed by the authorities or overcome by innovative planning:

- **The regulatory framework**, that is the by-laws and standards, together with planning practices, tender procedures and contract documentation, that hinder the effective mobilisation of local resources, with the result that entrepreneurial and employment opportunities are lost to the community.
- **Construction methods** are often chosen regardless of local skills and resources. Furthermore, there is very little commitment among many institutions, consultants and contractors to involve local communities and mobilise their resources; as a result, opportunities generated by labour-intensive techniques, self-help and entrepreneurial approaches are often not realised.

A trend in the construction sector has been to move from a craft-based industry to a machine-based one relying on such materials as steel and plastics rather than on natural (local) resources. Current approaches to design have often encouraged high-tech solutions with low levels of development impact within local communities.

- **Institutional constraints** experienced by the various parties, such as lack of capacity to provide the necessary support (training, counselling, etc.) can block an implementing agency's efforts to overcome the internal constraints mentioned above.

Key factors

- * **Consider both internal and external constraints.**
- * **Consider constraints from the viewpoint of each party.**
- * **Accept constraints as given but not insurmountable.**

5. Support Analysis

Depending on the constraints to be overcome and the resources vital to the project but lacking, establish the need for support services and mobilise them accordingly

Support mechanisms should in the first instance access institutional support that may be freely available in the region. In this case, any cost incurred will not be included in the project. If support is not available, it has to be provided as part of the project and included in the project budget.

Activities requiring external resources can become opportunities for building local capacity with application of the appropriate degree of support. However, where activities are not sustainable but purely of a one-off nature, care should be taken not to create excessive capacity and skills or unrealistic expectations of future business.

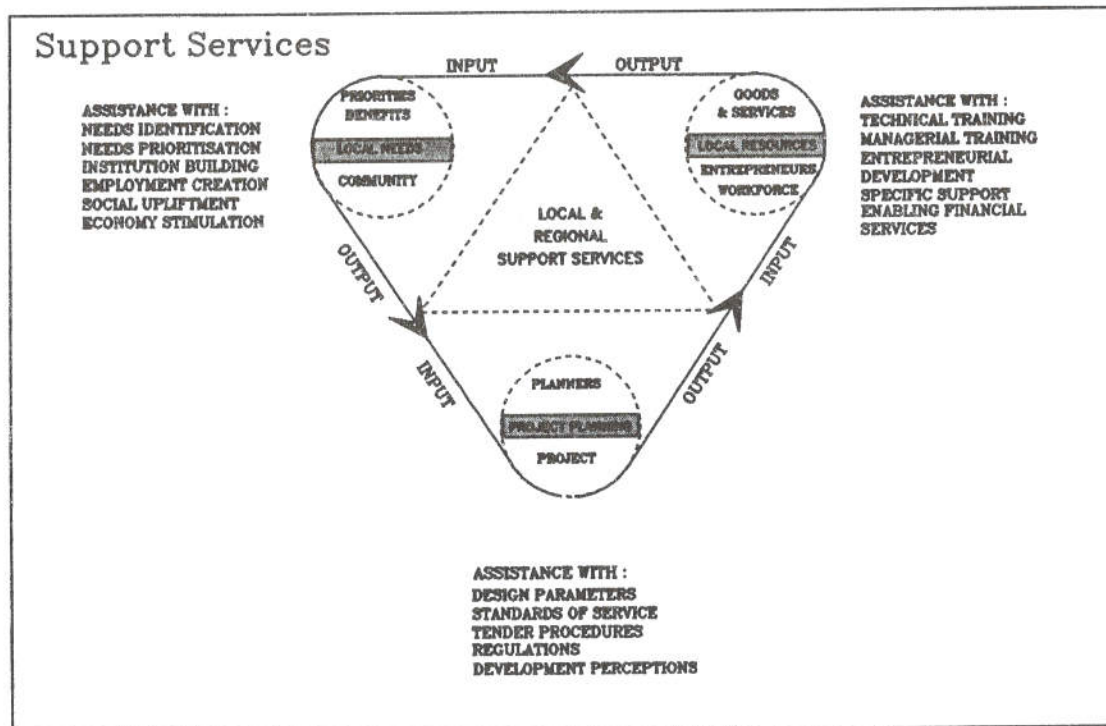
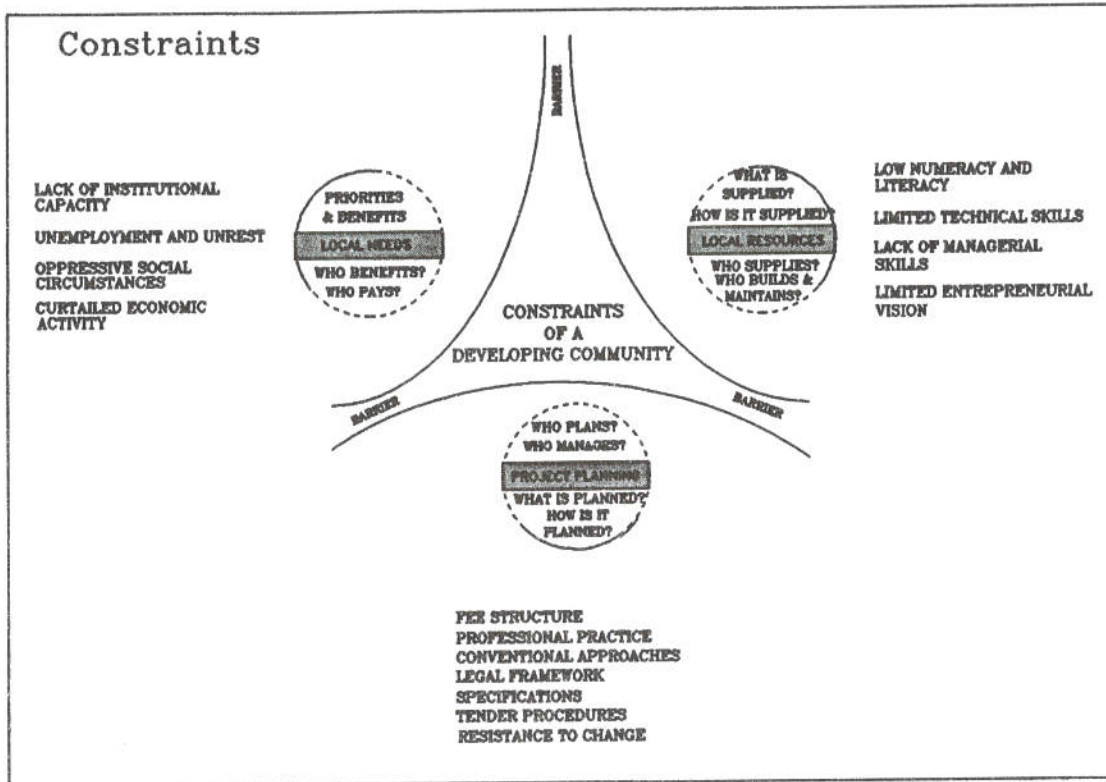
When communities or small contractors are involved, comprehensive support is likely to be required in the following areas:

- **Access to finance:** In low-income communities, where financial resources are limited, appropriate financial support is essential to assist the community and small contractors. Consideration should be given to short-term bridging finance and medium-term finance for working capital and equipment.
- **Access to reasonably priced construction materials:** The cost of materials often constitutes the largest portion of the total project cost. The implementing agency can play a facilitating role in securing reasonably priced materials for the small contractor or community. It can supply direct, organise discounts through existing outlets, provide finance for bulk purchases or, preferably, assist small local manufacturers to supply materials for the project.
- **Technical and management counselling and training:** Technical and management counselling and training of small contractors and communities will contribute to the development of the local construction industry. This training and advice should not be limited to small contractors, but should include communities and interested individuals.
- **Community management support:** Procedures for improving community participation and for facilitating cost-effective decision making should be considered.

Support services can be provided by development agencies, training agencies and professional consultants or contractors in various ways to suit the requirements of the project. The support should avoid the creation of dependency.

The accompanying figure shows the areas of support needed to overcome community constraints, and the areas of assistance which could be provided.

CONSTRAINTS AND SUPPORT SERVICES



Overheads

"Aspects of the budgeting are the overheads attributable to the contractor, the contract insurance, Workmen's Compensation Insurance, contractors transport and project management costs. The items effectively form the head office, mark-up and profit elements of a conventional tender and are often foreign to consultants. In conventional contracting the aspects over and above direct identifiable costs which are added to tenders may amount to between 35% and 45% and it is important to stress that whereas the labour based tender makes up an important part of the costs, the management of the contract and the 'support function' supplied by the Project Manager is just as much a part of the contract cost and is certainly not to be regarded as a professional fee in the accepted sense of the word."

Financial Support

"We have found that the involvement of small local contractors is in fact a process of involving entrepreneurs with no capital in a capitalist system. Invariably these contractors do not have the facility to provide guarantees or sureties and it is pointless to make these aspects conditions of tendering as they only serve to exclude potential contractors from the process. In our opinion every opportunity should be afforded to anyone to tender, no matter his educational level, his financial status or his experience. His only qualification need be his willingness to tender and his enthusiasm for the project."

Funding

"The contractor in general does not have the capital to fund payment of his workers before he receives his payment and therefore a method of funding has to be established. Several alternatives present themselves:

- Very rapid processing of payment certificates.
- Bridging finance by the funding authority.
- Bridging finance by the Project Manager."

Bulk Buying

"The importance of bulk buying must be emphasized as substantial discounts are available and this aspect forms an important part of the overall cost structure of labour based construction. Obviously the funding authority must be made aware of the cash flow implications of early delivery of material. The security aspect of large quantities of materials as well as the necessary audit function must also be clarified. The store function and the attendant control must be simple and foolproof both from the point of view of the funding authority and from the contractor's perception of equity as to his liability for materials issues."

JA Crosswell: *Labour Intensive Construction, Practical Details for Success*

Assisted Tendering

"In Lesotho the Project Co-ordination Unit of the World Bank-funded Urban Development Project developed a tendering process for small contractors which incorporated both 'negotiated' and competitive elements which satisfied the Government Tender Board's requirements. It was accepted under the name 'Assisted Tendering'.

Pre-qualified tenderers were gathered to discuss base rates for the work, i.e. careful estimates of the direct cost to the contractor of carrying out each item of work. The tenderers and the client's representatives (usually the engineer and/or quantity surveyor) would reach consensus on the base rates to be used in the contract. The actual tender would then be on the basis of those rates plus the contractor's mark-up for his time, overheads and profit. In this way, emergent contractors learnt more about estimating, the tenders were genuinely competitive, and both client and contractor were protected against unrealistic bids."

RT McCutcheon et al.: *Interim Guidelines for Appropriate Contract Procedures and Documentation for Labour-Based Construction*

Entrepreneurial Training

"Evidence suggests that there is a vast latent potential in cement products manufacture. While the industry, with PCI, have the capability to provide the technical training and support, EDSA have the capability to provide the vital missing component, entrepreneurial training."

"Two pensioners who working from home and employing 4 labourers had previously produced 400 blocks a day were now producing 400 by noon. Their increased production was purely due to improved production layout and storage. Their increased availability of stock had also increased their sales and they were now realising some profit from their business. They are now considering finding industrial premises to expand further."

Colin Griffin; *Entrepreneurial Training for Concrete Products Manufacturers*

Contractor Training

"Training of labour-based contractors commences when tenders are advertised. Prospective contractors are afforded the opportunity of attending pre-tender classes where tender procedures are explained. This is followed by:

- * an initial mentorship period;
- * technical training;
- * a formal training phase; and
- * a counselling phase."

City Engineer's Department (Soweto); *Contractor Development in Labour-based Construction*

Key factors

- * **Support services should be directed at overcoming constraints without creating dependency.**
- * **Support services should aim to convert the need for external resources into opportunities for local resources mobilisation.**
- * **Give preference to local support institutions and avoid duplication.**
- * **Only support which cannot be locally sourced should be borne by the project.**

PLANNING AND IMPLEMENTATION

6. Integrated Project Planning

Integrated project planning should incorporate all those factors that are necessary to ensure that a developing community can undertake the project successfully

An integrated development impact approach implies the interaction at regional and local levels of the planning professions, funding and implementing agencies and client communities. At the regional level, the planning process must attend to economic, financial, environmental, social and institutional aspects and their linkages within and without the region. For this approach to work, action is required at both levels. The practical application of the approach at the local level requires that projects in developing communities be identified, planned, implemented, operated and maintained according to the principles of:

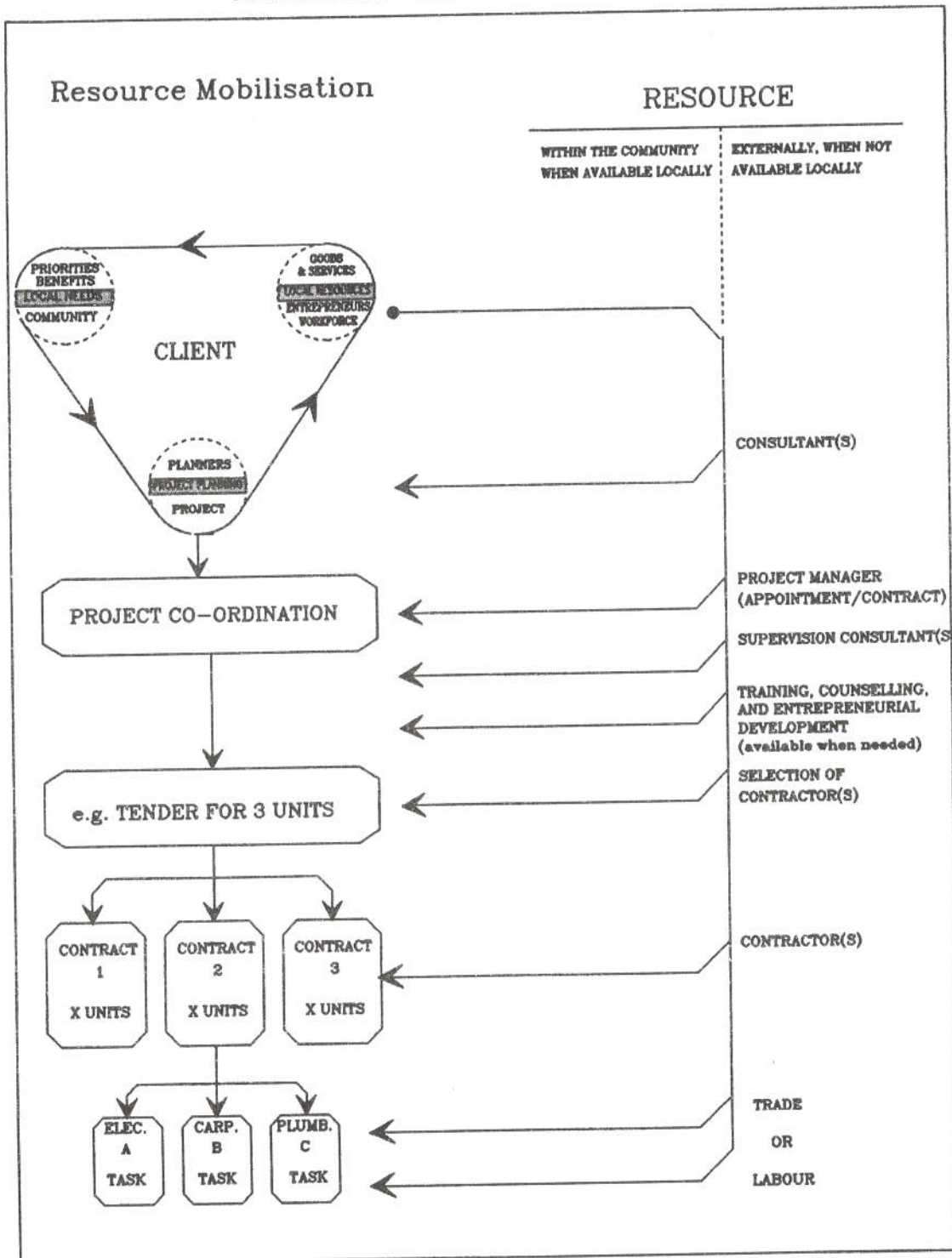
- **Community participation:** Projects are to be done with and not for communities. This will enable people to gain a sense of ownership of and responsibility for a project.
- **Local resource utilisation:** The optimal utilisation of local resources (human, financial, natural, physical and technological) should be the aim of all development projects so that money remains in the area and directly benefits the local community.
- **Integrated local and regional support:** These are necessary conditions for overcoming structural imbalances which, if not addressed, will limit a local community's access to information, curtail its decision making capability and impose on it inappropriate standards.
- **Affordability and acceptability:** Projects, and subsequent user costs, should be both affordable and acceptable to the end users. Ways of meeting the end users' ability and willingness to pay should be explored by offering suitable alternatives.
- **Sustainability and replicability:** This principle is the ultimate measure of the success of projects undertaken by and for developing communities. One-off projects are often little more than short-term palliatives if they create expectations that are not fulfilled over the longer term.

All project-related decisions (economic, financial, institutional, social, environmental and technical) must be consistent with the above principles. The figure illustrates some aspects of the integrated planning approach.

Key factors:

- * **Involve all parties and attend to all aspects jointly with them.**
- * **Identify broader needs and priorities locally and regionally, encourage linkages and maximise local spin-offs.**
- * **Client community to participate in decision making to fullest extent possible.**
- * **Stick to development principles.**

COMMUNITY-BASED CONTRACTING



9. Project Criteria

Choose criteria in response to project needs as identified locally

The local assessment identifies needs and their quantities and order of priority. The next step in the project sequence is to determine how to get greatest development impact at the local level.

All projects must meet basic criteria determined by the need to be satisfied. The criteria are factors that have to be taken into account at the planning stage. The technical criteria for a school, for instance, are the standards the building has to meet. The standards for classrooms are such items as the ratio of pupils to teacher and the floor area per pupil. The appropriate building code and the fire regulations are the statutory building standards that ensure structural soundness and safety.

Criteria must be developed for all aspects of the project: not only technical/functional, but also economic, financial, institutional, social and environmental (see the project planning framework in Appendix 1).

It is important that the criteria adopted for a project should be realistic and appropriate to the circumstances of the project. Criteria should focus on the "performance required to meet the need" and be confined to the "fitness for the purpose" of the selected solution. The unquestioned acceptance of conventional criteria may run counter to the development objectives of a project.

Impact on a Community

"The upgrading that is taking place at this moment in the townships has aroused the curiosity and interest of the local people. The most important aspect of these projects is that locals now realise that these contracts are run by their own people. At first they were very sceptical when we told them that. It took a lot of talking and persuasion to make them believe in Black advancement."

Sipho Mazibuko, local contractor on Soweto Contractor Development Programme (reported by Nick Sweet of BS Bergman)

Key factors:

- * In selecting criteria, bear in mind the dual project objectives of delivering a physical asset and uplifting the community.
- * Choose criteria in response to the local needs; include the operational and maintenance aspects.

8. Project Proposals

Develop project proposals which ensure local resource mobilisation and which focus on the upliftment of the poor through job creation and, together with the community, consider alternatives which will satisfy their needs, objectives and the project criteria

- **Physical alternatives (town planning, architecture and engineering):** Options acknowledging different income levels, specific needs, etc. must be developed. If the need is sanitation the solution could be waterborne sewerage, VIP latrines, septic tanks, etc. Advantages and disadvantages of the systems, especially the benefits (short and long term), must be assessed with the community. Similarly, the implications for local authorities (e.g. financial, operations and maintenance) must be taken into account.

Physical alternatives should be based on performance criteria and standards which are appropriate to intended use, with due regard to their environmental impact.

- **Construction alternatives:** The range of construction methods should be considered, that is conventional, traditional and innovative. For example, if VIP latrines are selected, they can be constructed in various ways, such as with concrete blocks, clay bricks, precast elements, etc. To enhance local socio-economic development, preference should be given to methods using local resources (materials, labour and entrepreneurship).
- **Supplier/manufacturer alternatives:** Preference should be given to local suppliers and manufacturers (support can be devised to ensure suitable quality and quantity). Where local suppliers/manufacturers do not exist, consideration should be given to creating them, provided there is sufficient demand for the product in the region, beyond the immediate needs of the project.
- **Operations and maintenance alternatives:** When considering alternative forms of physical assets, infrastructure, buildings, etc., options for operating and maintaining them should be considered. These may generate entrepreneurial opportunities for local people, if allowed for in the design, thus producing longer-term employment beyond the project implementation period.

When the project team and its consultants have compiled suitable alternatives, these must be presented to the community in a way that can be clearly understood so that informed decisions can be made.

"Technically, labour based methods are very flexible during construction. Projects can be started or stopped very quickly, even when access is difficult. When the site conditions are poor it is a simple matter for the work to be continued on the more rocky sections for a few days. If a few men from the quarry gang fail to turn up one day it is easy to transfer some others off formation work. Perhaps most important, the villagers who have built the road themselves are more likely to look after it during maintenance."

Hamish Goldie-Scott of Scott Wilson Kirkpatrick & Partners: *Labour Based Construction Works, "The Lesotho Experience"*

Key factors:

- * **Develop feasible alternatives.**
- * **Present alternatives in a comprehensible manner.**
- * **Consider longer-term opportunities.**

9. Project Design

From the selected proposals, prepare detailed designs placing emphasis on efficiency and effectiveness for optimal use of resources and satisfaction of project criteria

The detailed design of project components is essential, and designs may need to be adapted as the approach is developed and finalised, for example roads designed for labour-intensive work need cut and fill to be balanced laterally over short distances, not longitudinally as for machine operation; buildings generally should be low-rise and follow the contours.

In addition to taking cognisance of particular needs, and objectives and local resources, design should also generate physical alternatives and consider performance and maintenance standards, construction techniques and selected procurement procedures.

The content of the project should be evaluated by considering its degree of difficulty, the size of its components and the required level of expertise and capabilities of the contractor needed to perform the work.

Project designs should take account of the following:

- **The design should be one that local contractors can build:** The design should also acknowledge the limitations on the ability of contractors to perform the work. For example, emerging contractors may experience problems with certain types of work such as complicated brickwork details, structural steelwork, electrical, plumbing and other specialised work. They may also experience difficulties with tight construction schedules and plant- or machinery-intensive operations.
- **The size of contracts should be within the capabilities of local contractors:** As the size of the project can also deter the emerging contractor, steps can be taken to reduce this in two principal ways, thereby allowing more than one contractor to participate:
 - * **Vertical stacking** or breakdown into various trades, so that separate contracts are awarded for earthworks, flooring, brickwork, steelwork, electrical, plumbing, fencing, etc. This approach usually requires more in-depth programming, control and suitable project management. This could be provided by the implementing agency, an established contractor or an appointed consultant.
 - * Projects could also be divided into **separate units**, for example a sewer line or manholes, individual road drains and culverts, and each awarded to a local emerging contractor. This approach requires suitable programming, control and project management, but often of a less intensive nature than the previous approach. Combinations of the two approaches could also be applied, especially if all specialist work is awarded separately, e.g. electrical, plumbing, drain laying.

To conclude: smaller, less complicated projects are more suited to emerging contractors, but innovative design and procedures applied to larger projects can also render them suitable.

- **Local materials and components should be specified in preference to imported ones:** To facilitate local resource mobilisation, design specifications should encourage the use of local materials and locally produced building components. Procurement from local suppliers should be encouraged to further promote economic activity within the area, or the community supported in manufacturing components.
- **The community should be fully aware of what the project will cost:** The community should be made aware of the cost implications to itself of operating and maintaining the building structure or service provided.

Design

"Once some indication of the aspects to be included in the prospective contract have been decided upon, for instance trenching, earthworks, road construction, building, stormwater management or whatever, the design approach can be moulded and influenced by that decision. Bearing in mind that the design must be sensitive to the unit of production, i.e. a pair of hands, the vital design stage can be embarked upon."

"The involvement of the community in the design process is important to a point that it is imperative that the community accepts ownership of the scheme. Their involvement is far greater than in a conventional contracting environment and they must identify with the project if it is going to be accepted, particularly if it is going to be to an alternative standard. A close communication with the community leadership would tend to identify the skills available and the willingness of the available manpower to do the work in the way envisaged. An important factor which needs careful handling is the involvement of women. In certain areas manual labour is not foreign to women. In addition we have found that, given encouragement, women become excellent contractors."

Flexibility

"It is our opinion that whatever design method is used, it must include the ability to investigate alternatives because the factor of production is so sensitive to minor changes in design (for example, depth of trench). For this reason some form of sensitivity analysis needs to be undertaken to weigh the financial cost or advantage of alternative design against the practicality of constructing by hand. We have found that computer modelling largely answers these needs as the inertia to attempt yet another design is not as great and an optimisation of the entire design can be achieved fairly rapidly. In short therefore, it may require a hightech method to ensure the success of a lowtech solution."

"Preconceived ideas about design parameters need to be put to one side and lateral thinking brought to bear if optimisation of design is to be achieved. It is necessary for the design engineer to have a completely open mind, otherwise preconceived ideas will direct the design possibly away from a labour based solution."

JA Croswell: *Labour Intensive Construction, Practical Details for Success*

Key factors:

- * **Design and specification to acknowledge locally available resources.**
- * **Project task complexity and the subdivision of tasks to match local skills and abilities.**
- * **Maintain a flexible approach to design and adapt, if necessary, to achieve objectives.**

10. Project Management Alternatives

Give preference to management services available or readily accessible to the community, as determined by the resource analysis

The choice of management approach should maximise local managerial and entrepreneurial skills and opportunities for longer-term economic activities. The needs analysis invariably identifies employment as a top priority; the resource analysis usually indicates an abundance of labour. Thus preference should be given to labour-based construction methods.

The primary difference between conventional construction approaches and labour-based projects is the management structure. This structure could be the responsibility of government departments, established contractors, project managers or consultants.

The workforce could be directly employed by the management, which would make it a labour-intensive project, or the workforce could be self-employed entrepreneurs, or small contractors, working on a labour-only or subcontracting basis. The development of entrepreneurs within the community gives the best chance for building local capacity.

The management alternatives to be considered with the community are:

- **Self-help projects** where communities are assisted, through project management and other support services, to execute the projects themselves.
- **Demonstration projects** to test new approaches that should enhance the socio-economic impact, to demonstrate successful approaches and to develop appropriate procedures and documentation.
- **Training contracts** with an established contractor/project manager responsible for training local people in technical and managerial skills and equipping them to execute future phases and operate and maintain current phases.
- **Management contracts** where large projects are subdivided for small local contractors, who are given the full range of support services and are subject to controls to ensure success.
- **Small contracts** to be executed by small contractors with the usual support and control.
- **Conventional contracts** in which an established contractor executes as many areas of the work as possible using labour-intensive techniques.
- **Combination projects** combining the above aspects as required by circumstances.

It is important to realise that ease of communication between all parties is one of the key factors for project success.

Key factors:

- * **Maximise and enhance local managerial and entrepreneurial skills.**
- * **Give preference to labour-based approaches.**
- * **The choice of management approach should maximise opportunities for longer-term economic activities.**
- * **Maintain effective channels of communication between all parties.**

11. Procurement Procedures

Devise procurement procedures appropriate to the management alternatives selected

The more sophisticated the management the more complicated the procedures can be; simplified procedures again can encourage the participation of less sophisticated management. The following are some aspects to consider when drawing up appropriate procurement procedures:

- **Calling for tenders** should be done at a level with which small contractors feel comfortable. For example, small contractors can be personally invited to a tender meeting (in addition to advertising). At this meeting, the documentation should be explained so that the requirements are understood. Participants will then be in a position to tender competitively.
- **Contracts** are often too complicated for the emerging contractor or community to understand. They also contain requirements that the emerging contractor or community cannot meet, such as performance guarantees, insurances and penalty clauses. These constraints can be overcome by simplifying contracts, entering into labour-only contracts or providing support services.
- **Documentation** should be simplified as far as possible, using only working drawings and specifications for smaller projects. The degree of complexity of the documentation should match the size and complexity of the projects.

Some training agencies offer courses for small contractors, both civil and building, dealing with pricing and management. These courses should be promoted, and documentation compiled to coincide with the course material, thereby reconciling theory and practice.

- **Specifications** have a direct bearing on the skills required for implementing a project. Standard specifications may need redesigning to suit labour-intensive construction; the engineering or architectural detailed designs should be modified according to the need.
- **Insurance and risk apportionment** strategies can be adopted to suit the different contractual arrangements: small contractors, for example, often do not qualify for all-risks insurance, which if required should be borne by the implementing agency by means of Principal Control Insurance.

Different Approaches to Specifications (for, say, a latrine floor slab):

* The performance specification might say: 'a cube strength of 20MPa after 28 days',

* the task specification might say: 'use 3:2:1 sand stone cement mix',

* the fitness for purpose specification might say: 'when simply supported, it should carry four men without cracking'.

Project Structure

"Three distinct disciplines form the project structure:

- * Design, preparation of drawings and tender documents.
- * Construction management – which administers the contracts in their entirety except contractor's labour.
- * Materials handling – which procures, stores, and issues all materials to the contractors as a 'free issue'. The materials handling team is also responsible for providing a monthly reconciliation and for paying suppliers."

BS Bergman & Partners Inc. *Bergwind*.

The Tendering Process

"The response to the advertised invitation to tender has been both encouraging and overwhelming, but it has become clear from the outset how much training the tenderers require."

Adjudication and Philosophy

"In normal open tender procedure, it is accepted under the General Condition of Contract that tenderers are experienced contractors. In one case in Soweto, tenderers are learning the trade and we must teach them and also ensure that they are awarded tenders at the right price."

The Contracts

"Each contract has a value of approximately R150 000 and a duration of between 90 and 105 days in which some 5,6 kms of main pipe is laid. All work is carried out by labour only (plant being used for transport and blasting only) and each labourer is paid a minimum of R21 per 4,32m³ task for excavation. (In soft digging conditions, two tasks can be completed in one day.) A typical contractor's team will consist of up to 28 labourers and one or two plumbers with one or two assistants each."
"With six contracts underway at the same time, and including the construction management site team, up to 240 people can be engaged on such a project."

Training and Development

"Site meetings with all contractors present have been held at fortnightly intervals during the main portion of the contracts and weekly towards the end. We place great emphasis on the importance of such discussions as part of training and development. The process is a continuous one and the construction management team pursues it at every opportunity. While formal training and group sessions undoubtedly have a most important part to play, there is particular value in discussing aspects of the work with the contractor on an individual basis as a new situation or problem is encountered."

BS Bergman & Partners: *Soweto City Council*

Invitations to Tender

"A list of prequalified firms was prepared after evaluating the prequalification submission from prospective tenderers. The list was ranked in order of perceived competency. Starting from the top of the list four firms at a time were invited to submit tenders."

DG Wilkinson: *Small Contractors Evaluation Report*

Specifications

"The SABS 1200 series of specifications was used; these standardised specifications were amended by special provision where necessary. It was through this mechanism that the contract specification made provision for the limiting of mechanical plant to that which would allow specific objectives such as the required compaction to be achieved without compromising the objectives of the project." "The only plant and equipment allowed was agricultural type tractors of 50kW maximum size, vibrating type rollers of 1500kg maximum size, and compressors."

Ninham Shand Inc: *Consultants on Labour-Based Engineering Construction*

A Labourer's Viewpoint

"In February 1985, I became part of a structures gang. Some small culverts were made using slabs of stone. Later we also built drifts, vented fords and arches. Some of the staff talked about a bridge they had built over the Qhoasing River, which is over 30 metres wide. We did not build anything that big, but we were still proud of what we had done. Most of us had learnt on the job, yet we had still managed to do everything. One arch we built was 3 metres high and did not need any pipes or reinforcement. It took 10 of us only six days.

"It is now June 1986. The site is closing down as most of the 32km has been built. We would have finished in February if more tippers had been available. Everyone is proud of what they have done. For the first time in 10 years, there is money in the valley. Some villages have collected enough to have boreholes drilled. Government officials have begun to visit us. A new school has already opened in Sinxondo. More vegetables are being grown in the village, as they can now be sold in Quthing the same day."

Benefits of Using Labour

"There are the social benefits of providing employment and allowing men to work closer to their own families. Labour-based construction methods are not always the most appropriate, but should certainly be considered at the planning stage of any project."

Hamish Goldie-Scott of Scott Wilson Kirkpatrick & Partners: *Labour Based Construction Works. "The Lesotho Experience"*

Task Work

"Task work forms the basis of cost and time control in the management of labour based projects. It is therefore important to understand what is meant by task work.

A labour force may be engaged by one of three methods, viz:

- i) daily wage, where payment is unrelated to productivity;
- ii) piece work, where payment is related to completion of a particular task and is unrelated to the time taken;
- iii) task work, where payment is related to productivity.

A task may be defined as the quantity of work which an average man can perform in a particular period. Thus, the wage of a worker is determined by the number of tasks he performs in a given period of time. The daily production of a contractor's team can easily be monitored since this is a function of the number of tasks completed.

Since task work forms the basis of measurement and payment in labour-based construction work, construction rates need to be assessed at an early stage of a project. Pilot schemes (small scale, trial or demonstration projects) can be run before the main project to determine these rates. A recent road building pilot project undertaken in Soweto, yielded the following production rates for a contractor employing 25 labourers:

Activity	Daily Production (production/ contractor/day)	Task (production/ labourer/day)
Soft excavation	80 m ³	3,2m ³
Intermediate excavation	40 m ³	1,6m ³
Loading and carting away of spoil	137,5m ³	5,5m ³
Levelling of road bed	1 500 m ²	60 m ²
Picking of road bed	1 000 m ²	40 m ²
Compaction of road bed	500 m ²	-
Construction of kerbing:		
* Straight	162,5m	6,5m
* Curved	50 m	2 m
Spreading of waterbound Macadam	1 250 m ²	50 m ²
Levelling of waterbound Macadam	625 m ²	25 m ³
Spreading of fines (dry processing)	1 250 m ²	50 m ²
Compaction of waterbound Macadam	500 m ²	20 m ²

City Engineer's Department (Soweto): *Contractor Development in Labour-based Construction*

Key factors:

- * The complexity of procedures and specifications should match the complexity of the work and level of understanding of contracting parties.
- * Contractual requirements should be achievable by all parties.
- * Specifications should include "fitness for purpose".

12. Control Measures

Determine control measures required (In addition to normal professional supervision) and set them up before problems arise

Control measures safeguard the successful implementation of the project, especially where a developmental approach has been adopted.

Control measures for the efficient implementation of the project must be considered at an early stage. *Control* must not be confused with *advice* and the two functions should be kept separate. Areas requiring control are: quality, progress, finance, materials and management. The representative local body concerned with project decision making should have a part in project control. This body can mediate between labourers and project management and also provide insight into local perceptions and attitudes.

The need for effective project organisation and management exists irrespective of technology. However, it is often not appreciated that the managerial requirements of labour-intensive projects are as demanding as, but different from, those of equipment-intensive projects. There are unique problems associated with the recruitment, supervision and motivation of labour, which call for different supervisory skills and project organisation. The implementation of labour-intensive projects depends on the organisational and managerial capabilities of the public works authority or contractor. Of importance, is the ability to recruit, mobilise, organise and supervise large numbers of people; without these capabilities, projects undertaken along these lines will be at risk and are likely to give the approach a bad name.

Project Control

"It is necessary for the group of local small contractors to be guided and controlled by a professional conversant with contracting procedures. We will use the term Project Manager (PM). If it is not already clear, the involvement and commitment of the PM has to be intense, this is no arms length arrangement, the PM has to be available to instruct, to guide and to assist at every stage and must accept this responsibility as part of the entire concept. This commitment by the PM must be matched by commitment on the part of the funding authority. Our experience is that each project will have such variations as to almost certainly require adaptation during the currency of the contract."

"It is important that the consultants involved should not underestimate their involvement and commitment to the project and should avoid being optimistic about the costs of this aspect. At present there is no adequate standard documentation covering the appointment of Project Managers in this type of contract and negotiation between the enlightened parties is required."
JA Crowell: *Labour Intensive Construction, Practical Details for Success*

Key factors:

- * **Additional risks should be covered by additional appropriate control mechanisms.**
- * **Keep control and advice separate.**
- * **Clearly define roles of supervisory and support staff.**

13. Institutional Roles

Involve all relevant parties and clearly define their roles, responsibilities and share of risks

The development impact approach relies on the active participation and commitment of all parties. Traditional institutional roles may need to be modified when emphasis is given to the development impact approach.

The executing agency and its consultants must be open to the needs of the community. Local authorities may need to adopt a more supportive role than they are used to. Community organisations may be required to assume considerable responsibilities for planning, organisation and implementation.

As mentioned earlier, certain support services (financial, technical, managerial etc.) may have to be provided by local institutions. The local institutions should obviously identify themselves with the objectives of the development impact approach and their role should be to support and apply the criteria suggested in this document. As a result of this, the benefits of applying this method will accrue to all the institutions involved.

It is important to realise that if any one party does not fulfil its role, the entire approach is placed in jeopardy. This means that some form of written agreement should be entered into which clearly describes each party's role, responsibility and share of the risk. It should be clearly explained and understood by all and, if necessary, translated into the prevailing local language.

Communication with the local residents

"The matter of communication with local residents is an important advantage of labour-based construction. A resident will readily express his opinions and problems to a group of manual workers, whereas talking to a backactor operator is not easy. In any event, the management of plant is often done from afar at a relatively high level, and local site staff are unlikely to take notice of residents' complaints. Labour-based projects, on the other hand, are managed and controlled at the site and problems can be efficiently solved. A good relationship can be established between contractors and residents, who can contribute in many ways to the success of the project. The labour-based contractors themselves make the best public relations officers."

"Examples of assistance given by residents to labour-based contractors in Soweto are the overnight storage of materials, tools and plant on private property, the provision of water and toilet facilities and even the safeguarding of the site at night."

City Engineer's Department (Soweto): *Contractor Development in Labour-based Construction*

Key factors:

- * **Key Institutional players must be committed to the objectives and process.**
- * **Define all roles, responsibilities and risks clearly.**
- * **Confirm that all aspects have been allocated to a specific party.**
- * **Draft a written agreement.**

MYTHS & PROBLEMS

A recent review by the Informal Settlements Advisory Group (ISAG) of the CSIR examined developments in labour-based construction in South Africa and presented the basic principles required for its success. The extract below deals with the myths and problems:

MYTHS

"Tools will always disappear. It is quite possible to institute a system whereby workers' payment is always in arrears by at least the value of the tools in their possession, and this value is then deducted if the tools go missing. After the system is learned, tools stop disappearing, and those previously lost often reappear."

"Voluntary labour can be used to keep costs down. It is possible to use voluntary labour, particularly on rural projects serving cohesive communities who are paying directly for the improvements. This is, however, open to abuse, with some doing more than their share of the work, and others less, which can have the result that the work loses momentum and is not finished. If at all possible, it is always better to remunerate any contributions to the work, even if only at a modest rate."

"Standards should be lowered to allow for labour-based methods. If a task is suited for labour-based methods, it can be finished to the same standards as that achieved by machinery."

"Labour-based construction is backward and incompatible with the modern world. This may be true in wealthy, fully developed countries, where labour is very expensive, but it is not true in our region. If the end product is the same, and built to a good standard, that is all that matters."

"Labour-based methods can be used for any construction activity. This was obviously true when they built the pyramids, but now it is a misconception. Certain activities, such as the compaction of road layers, and haulage of materials over long distances (over 5km), tend to be uneconomic using labour-based methods."

"Labour-based construction is only for welfare relief schemes. With a properly organised project, labourers can earn as much as, or even more than, the going daily wage for unskilled work, which will be more than welfare rates. The problem is that the layman often cannot distinguish between a properly organised labour-intensive project and a relief project."

"Ill-educated contractors will never understand tender procedures. Provided that the work is divided up into realistic packages, which should be kept simple, especially during the early stages while subcontractors are learning the ropes, there need be no problems. The project manager will often have to put some effort into training the subcontractors in tender procedures, and this should be part of his brief."

PROBLEMS

"It is within the power of the project manager to solve certain commonly experienced problems, such as disappearance of tools. There are other problems, however, particularly relating to relations between the project manager and the client, which are likely to be with us for some time. These are discussed below."

"Few clients are able to expedite payment for labour and materials fast enough to keep a labour-based contract operating smoothly. Labour must be paid promptly if they are to keep their faith in the system, and the subcontractors seldom have the cash reserves to pay their workers before themselves receiving payment. Projects have also been known to stand idle because of the shortage of some crucial input that is supposed to be supplied by the client, such as trucks or diesel. If the project manager cannot make alternative arrangements, at his own expense, then the project will be seriously retarded. This can mean that the project manager will have to live on a large overdraft, while he waits for reimbursement from the client. There is a need for general recognition of this problem, and an acceptance that project managers should be compensated for the cost of financing these higher than usual overdrafts."

"Many clients are still not open to even considering a labour-based approach to new projects. Others will agree to it, but may lack the experience and commitment to see it through. There is a substantial learning curve that all involved with labour-based construction must go through, the client included. Where projects have been a success, it has often been because there has been an individual in the client organisation that has championed the process from beginning to end."

"In some projects, particularly those that are in rural areas and fully community-based, there can be **ambiguity in the chain of command.** The consultant thinks he has been fully appointed by the community to oversee the project, but when he starts hiring and firing contractors, he finds that he was only meant to be helping in an advisory capacity. The exact responsibilities of all parties should always be agreed upon before commencement of the project."

DA Still: *Labour Based Construction in Southern Africa Today*, CSIR

APPENDIX 1

PLANNING FRAMEWORK FOR LOCAL RESOURCE MOBILISATION

It is recommended that community needs, project criteria and the availability of local resources be confirmed through a workshop with the local community. The project team and community representatives could compile these using the outline planning framework as a guide, and go on to discuss the implementation of a project.

Table 1 identifies main headings, subheadings and items for consideration by the project team. Tables 2 and 3 are examples of how the framework could be used for particular projects. One example has been drawn up for civil works and the other for buildings.

The planning framework in Table 1 summarises key issues to be dealt with by the project team and the local community. These issues are derived from the guidelines in this document and particularly from the key factors at the end of each section. Once a project has been identified, the framework is a practical way of conceptualising specific project requirements. In the workshop the community and project team can be made aware of the importance of the options and decisions that have to be made to carry out a project.

PLANNING FRAMEWORK FOR LOCAL RESOURCE MOBILISATION

PROJECT :

PROJECT ASPECTS	RESOURCE ANALYSIS				PROCESS					
	DESIGN OPTIONS	LOCALLY AVAILABLE			CONSTRAINTS	SUPPORT REQUIRED	PROJ. MNGMT. OPTIONS	PROCUREMENT PROCEDURES	CONTROL REQUIRED	INSTITUTIONAL ROLES
		MATERIALS	MACHINES	MANPOWER						
FUNCTIONAL/ TECHNICAL	PHYSICAL			TECH. SKILL	CLIENT VIEW-POINT	INSTITUTIONAL	MNGMT.	DOCUMENTATION	ON-SITE	CLIENT
FINANCIAL	CONSTRUCTION			MNGMT. SKILL				TENDERS		SUPPORT INSTITUTION
INSTITUTIONAL		NOT LOCALLY AVAILABLE			CONTRACTOR'S VIEWPOINT	PROJECT	MIDDLE MNGMT	CONTRACTS	OFF-SITE	FINANCIER
ECONOMIC	MANUFACTURER			TECH. SKILL			WORKFORCE	INSURANCE		COMMUNITY
SOCIAL				MNGMT. SKILL						
ENVIRONMENTAL										

PLANNING FRAMEWORK FOR LOCAL RESOURCE MOBILISATION

PROJECT : SMALL INDUSTRIES

PROJECT ASPECTS		RESOURCE ANALYSIS				PROCESS					
PROJECT CRITERIA	DESIGN OPTIONS	LOCALLY AVAILABLE		MONEY		CONCONSTRAINTS	SUPPORT REQUIRED	PROJ. MNGMT. OPTIONS	PROCUREMENT PROCEDURES	CONTROL REQUIRED	INSTITUTIONAL ROLES
		MATERIALS	MACHINES	MANPOWER	BUDGET						
FUNCTIONAL/ TECHNICAL Prod. area Light Ventilation Occupancy Ablutions Yards	PHYSICAL Slab only Roof & slab Core & roof Enclosed/ complete	STONE	CONC. MIXER	TECH. SKILL	BUDGET	CLIENT VIEW- POINT Responsibility & Accountability & Risk sharing Standards Client perception of emerging con- tractors - lack of tech. & Mngmt. skills - unreliability - workmanship experience - creditworth- iness - fin. exposure	INSTITU- TIONAL	MNGMT.	DOCUMEN- TATION	ON-SITE	CLIENT
		Sand Bricks Blocks Cement Timber	Land tools Wheel- barrows scaffolding	Bricklayer Carpenters Plumbers Mngmt. Skill Small Bidn contr. Support staff Client							
FINANCIAL Capital Bridging finance Running cost Affordability Cost recovery	CONSTRUCTION Steel/IBR					Admin. Risk sharing PROJECTS Access to: - finance - technical training - mngmt. training			TENDERS Pre-quality invited	OFF-SITE Financial Materials Overall Mngmt. Counselling	SUPPORT INSTITUTION Level of support Special control
INSTITUTIONAL Capacity Ability Willingness	Brick/IBR Brick/tiles Brick/tiles Block/thatch	NOT LOCALLY AVAILABLE		MANPOWER	MONEY	CONTRACTOR VIEW		MIDDLE MNGMT.	CONTRACTS Simple		FINANCIER Facilitators COMMUNITY Identify labour
ECONOMIC Devl. Objectives Economic benefits Spin offs Macro Policy	MANUFACTURER Local small industrialist Community self- help	Steel IBR	Compactors Trucks	Tech. Skill Electricians	DBSA loan	Consultants Professional Reliability Procurement Procedures Red tape time Perform criteria Political pressure on client		Ditto WORK- FORCE	INSURANCE PCI		
SOCIAL Community Particip. Preparation Implementation Maintenance Ownership	Local supplier Ext. supplier	Thatch	Cranes	Mngmt. skill Surveyors Consultants		CONTRACTOR'S VIEWPOINT Tender procedure Standards too high Regulations Access to finance Performance Insurance req. Access to support Access to info. SUPPORT INSTIT.					
ENVIRONMENTAL Nat. Environ. Stormwater Env. mngmt.						Capacity to meet demand					

PLANNING FRAMEWORK FOR LOCAL RESOURCE MOBILISATION
PROJECT : SMALL BRIDGES

PROJECT ASPECTS		RESOURCE ANALYSIS				PROCESS				
PROJECT CRITERIA	DESIGN OPTIONS	LOCALLY AVAILABLE		MONEY	CONSTRAINTS	SUPPORT REQUIRED	PROJ. MNGMT. OPTMS.	PROCURE- MENT PROCEDURES	CONTROL REQUIRED	INSTITU- TIONAL ROLES
		MATERIALS	MACHINES							
FUNCTIONAL/ TECHNICAL Traffic levels Site Specific & Geometry Network importance Flood volume Bridge width Service level - Benchmark - Policy Durability Design criteria Maintainability Constructability	PHYSICAL ALTERNATIVES Drift Pipe culvert Verted ford Multiple arch bridge Column and slab bridge	STONE	CONC.MIXER	BUDGET	CLIENT VIEW POINT Responsibility Accountability & Risk sharing Standards Client perception of emerging con- tractors - lack of Tech. & Mngmt, skills - unreliability - workmanship experience - creditworthiness - fin. exposure Consultants Professional Reliability Procurement Procedures Red tape Time Perform Criteria Political Pressure on client	INSTITU- TIONAL Consultant - quality - progress - contract admin. Risk sharing PROJECTS Access to: - finance - technical training - Mngmt. training	MNGMT. Departmental - established contractor Management Agent - Emerging contractor MIDDLE MNGMT. Ditto WORK- FORCE Ditto and labour	DOCUMEN- TATION Wkg. dwgs. Specs. Material list TENDERS - Pre-quality - Invited CONTRACTS - Simple INSURANCE - PCI	ON-SITE Quality Progress Payment OFF-SITE Financial Materials Overall mngmt. Counselling	CLIENT Special Planning & Execution SUPPORT INSTITUTION Level of support Special control FINANCIER Facilitators COMMUNITY Identify labour
		Local stone Sand Bricks/blocks Cement Timber	Hand tools Wheel- barrows Scaffolding	Bricklayer Carpenters Plumbers Mngmt Skill Small Bidn. contr Support staff Client						
FINANCIAL Capital investment Bridging finance Running cost Affordability Cost recovery	CONSTRUCTION ALTERNATIVES Cone pipe Armco pipes Reinf. steel struct. Steel mesh Stone MANUFACTURER Local entrepre- neurs Community self-help Local suppliers Large suppliers	NOT LOCALLY AVAILABLE	MACHINES AVAILABLE	MONEY	CONTRACTORS VIEWPOINT Tender Procedure Standards too high Regulations Access to finance Performance Insurance Req. Access to support Access to info. SUPPORT INSTTI Capacity to meet demand	Access to: - finance - technical training - Mngmt. training	MIDDLE MNGMT. Ditto WORK- FORCE Ditto and labour	CONTRACTS - Simple INSURANCE - PCI	OFF-SITE Financial Materials Overall mngmt. Counselling	SUPPORT INSTITUTION Level of support Special control FINANCIER Facilitators COMMUNITY Identify labour
		Steel Mesh Shutters	Cranes Trucks	Operators Surveyors Civil Con- tractors Consultants						
INSTITUTIONAL Capacity Ability Willingness	MANUFACTURER Local entrepre- neurs Community self-help Local suppliers Large suppliers			DBSA loan						
ECONOMIC Development Obj's. Econ. benefit Spin offs Macro Policy										
SOCIAL Community particip. Preparation Implementation Maintenance Ownership										
ENVIRONMENTAL Nat. Environ. Stormwater Comm. involvement in env. man.										

APPENDIX 2

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