Sub-Saharan Africa Transport Program

The Road Maintenance Initiative
Building Capacity for Policy Reform


Carl Duisberg Gesellschaft

EDI SEMINAR SERIES
The Road Maintenance Initiative
Building Capacity for Policy Reform


Carl Duisberg Gesellschaft

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Foreword

The constraints that inefficiencies in the transport sector impose on economic development in Sub-Saharan Africa have long been recognized and have been recently underscored in the Long-Term Perspective Study of Sub-Saharan Africa prepared by the World Bank. Despite the great experience of donors in financing transport projects, the effectiveness and sustainability of past programs designed to increase the performance and efficiency of transport services have been disappointing.

In this context the World Bank, in close association with the UN Economic Commission for Africa (ECA) and several primary donors, has developed the Sub-Saharan Africa Transport Program (SSATP). The main objective of the program is to improve transport efficiency through major policy reforms. It also provides the ECA with substantive inputs for the preparation of the Second UN Transport and Communications Decade for Africa, which will serve as a framework for mobilizing energies and resources to improve the performance of the transport sector and pursue its development. The program is an excellent example of the cooperation that can be achieved by African countries and international agencies in addressing difficult policy issues through a regional approach.

This book is one of three volumes that report on a series of six subregional policy seminars organized by the World Bank and the ECA under the Sub-Saharan Africa Transport Program to address the problems and issues of road deterioration and maintenance. These policy seminars provided a forum in which policymakers from different countries, leading experts in development, and World Bank staff were able to share ideas and experience concerning development policies that relate to road transport and maintenance.

These reports are now being published for widespread distribution as a guide to defining future activities, programs, and initiatives for reforming road maintenance policies in Africa. Recognizing that policy reform is a complex, dynamic, and long-term task, all who participated in the seminars see the effort and these reports as the beginning of a long process.

Amnon Golan
Director
Economic Development Institute
The World Bank

Ismail Serageldin
Director
Technical Department
Africa Region
The World Bank
Preface

The present process of economic reform in Sub-Saharan Africa has far-reaching implications for the transport sector. Against a background of a deteriorating transport system and the high cost of providing new road infrastructure, issues of transport policy become especially prominent. These issues are inherently difficult to deal with because transport is almost always an intermediate output. As a first step toward addressing these issues and helping governments improve their own capacities to address transport problems, the Sub-Saharan Africa Transport Program (SSATP) was initiated in 1987.

The Road Maintenance Initiative (RMI) is one of the key components of the SSATP. It has been envisaged as a project with a five-year duration (1987–92), in two phases. Phase I consisted of six subregional policy seminars. Representatives from forty-two Sub-Saharan African countries attended one of the seminars held between May 1989 and February 1990 in Harare, Accra, and Addis Ababa (for anglophone countries) and Dakar, Libreville, and Antananarivo (for francophone countries). Country delegations to these seminars normally included ministers of public works, heads of highway departments, and senior officials from ministries of planning and finance. The objectives of Phase I were to develop awareness of the consequences of neglect of the road network, to recognize the policy nature of the problem, to identify key areas for policy improvement and endorse related policy options, and to engage delegations in the preparation of policy reform plans for their own countries through Policy Action Planning exercises. Phase II will include facilitation support for national activities directed toward improving national capacity to deal more effectively with important policy issues and reforms. Activities will consist of country-level development of Policy Action Plans for highway maintenance and will be designed to create a broad national commitment for policy changes and institutional reforms. Implementation of the Policy Action Plans with monitoring and evaluation would follow Phase II.

The Phase I policy reform seminars were organized by the SSATP Unit in the Infrastructure Division of the World Bank's Africa Technical Department and by the Infrastructure and Urban Development Division of the Economic Development Institute of the World Bank in close collaboration with the ECA. The SSATP has been made possible by the support, financial and otherwise, of a number of international donors. The RMI and the policy seminars, specifically, benefitted from donor assistance from the governments of France, Germany, Norway, Sweden, Switzerland, and the United Kingdom. The Carl Duisberg Gesellschaft, the International Labour Office, SETRA, and the Transport and Road Research Laboratory provided help and guidance.

The RMI seminars were conducted in two parts, beginning with an introduction to and discussion of, the regional issues in road maintenance. Three broad areas were considered: planning, budgeting and financing; operational efficiency; and institutional reform and the development of human resources. Following two days of presentations and discussions, individual country teams explored and applied the Policy Action Planning method, which was presented in workshop exercises designed to demonstrate a systematic procedure for prioritizing problems and developing policy reform action plans to resolve them.
The documentation for the Phase I seminars are being published in the following three reports:

- Volume 1: Building Capacity for Policy Reform
- Volume 2: Readings and Case Studies
- Volume 3: Guidelines for Policy Action Planning

The production and editing of these reports are a joint collaborative effort of the Infrastructure Division of the Africa Technical Department and the Infrastructure and Urban Development Division of the Economic Development Institute of the World Bank.
Guidelines for Policy Action Planning
PAP

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How will we apply Policy Action Planning in this seminar?

This Seminar is designed to

- introduce the “Policy Action Planning” method, and
- invite Country Teams to develop outline versions of policy action plans to address effectively road deterioration problems in their countries.

What is the sense of doing this in a short seminar when everyone knows that formulating government policies and determining their contents is usually a complex, amorphous and time-consuming political process, involving many participants with varying interests that need to be balanced and compromised?

The answer is that the Seminar provides a forum for free thought where, in an atmosphere detached from everyday pressures, some fundamental thinking can be done as to what policy reforms would really be desirable for addressing the crucial road maintenance issues in the individual countries. Of advantage is that in the Seminar such thinking is less restricted by quantitative detail, or curbed by controversies and compromises, allowing thoughts to run free to what can be considered “ideal,” which then can be shaped into what appears to be “feasible.”

Accordingly, the basic idea is that the Country Teams outline a framework for a Policy Action Plan that can be worked out in detail later. In this sense the the Policy Action Plan would take the shape of a Strategic Framework indicating the basic policy direction, identifying areas for decision and action and outlining the means for those actions.

The focus on Policy Action Planning is intended to

- trigger an initiative for policy reforms.

The framework of the “Policy Action Plan” outlined in the seminar is therefore expected

- to provide the leads for the Follow-Up in Phase II of the Road Maintenance Initiative where it is hoped that a government commitment would help action programs along the road towards implementation.
In the process of framing the Policy Action Plan during the Seminar there is ample freedom to use imagination coupled with professional experience and inside knowledge on institutional and technical aspects of road maintenance in the individual countries.

This paper offers structured guidelines to increase the efficiency of these efforts.

It comprises the following sections:

1. **Method for Policy Action Planning**
   - providing the definition, the components and the steps of PAP as a systematic method of planning, illustrated by examples.
   - (page 3-13)

2. **Option Charts**
   - providing the core of PAP applied to Road Maintenance. They serve as check items to outline a national Policy Action Plan. The Option Charts are presented both as a “Check Item Directory” and in comprehensive tabular form.
   - (page 14-55)

3. **Transition to Phase II**
   - suggested to prepare the activities necessary to gain national commitment to enter Phase II
   - (page 56-58)

4. **Work Sheets**
   - suggested for use in the Policy Action Planning exercise by the Country Teams
   - (page 59-66)

Let's Start

1.1 What is PAP?

Policy Action Planning (PAP) is a systematic process of preparing a statement of the measures to adopted and pursued by a government according to its stated objectives.

This process is characterized by the search for and the assessment of alternate solutions for the issues identified. It leads to a joint decision about what to do in the future and how to succeed by complementary measures and with the cooperation of all parties involved.

Referring specifically to road maintenance, PAP determines the way in which a government uses the national resources and administrative means available with the aim of carrying out its program for road maintenance, and improving road maintenance performance by the responsible agencies.
1.2 What are the Components of a PAP?

In line with our determination of PAP, a Policy Action Plan incorporates the following basic components:

- Efficient Road Maintenance System
- Main Policy Direction
  - Objective and Option(s)
- Key Measures
- Supporting Measures
- Responsibilities
- Time and Resources
The Main Policy Direction is an explicit formulation of a fundamental policy reform based on:

- an analysis of issues, needs and national conditions,
- an assessment of priorities and objectives,
- identification, appraisal and selection of options.

The Key Measures are formulated as a direct outgrowth of the "Main Thrust." They specify the selected option(s) and are designed for the purpose of putting the fundamental policy direction into practice. The Key Measures are the BACKBONE of the Policy Action Plan.

Supporting or Complementing Measures are designed to support the Key Measures with a view to securing operational success of the policy reform and/or creating favorable conditions, and/or neutralizing adverse side effects.

The Policy Action Plan requires an outline of the Executing Agencies and Institutions participating in policy implementation along with a brief description of their roles and responsibilities, together with a statement on the authority and capacity which must be assigned to them for successful policy implementation.

To render the Policy Action Plan feasible, it is important to determine the sequence and the time required for all necessary Key Measures and Supporting Measures. It is also necessary to identify the resources required.
1.3 How to Establish the Policy Action Plan?

The point of departure for designing policy action plans is the ANALYSIS of the current status of road maintenance in the individual countries which, ideally, identifies their crucial problems and indicates priorities for inducing change. The first step in Policy Action Planning would therefore require us to

**Step 1** SET PRIORITIES to where change should be effected. What are the Key Issues?

For this seminar a basis for this decision could be the Country Review and Analysis Questionnaire that has been filled by the "Country Teams" and the discussion on Topics "A," "B" and "C" in this seminar.

**Example of Step 1:** Suppose that in the Country Review and Analysis Paper or the Issues Tracking Sheet (1) Planning Deficiencies in the Road Agency, (2) Poor and Outdated Road Maintenance Equipment, (3) Inadequate Management and Engineering Capacities, and (4) Chronic Scarcity of Funds for Road Maintenance have been identified as the most important road deterioration issues in a given country. Suppose further that the Country Team would consider the chronic shortage of funds as the overriding issue; it would then decide that the allocation of funds to road maintenance should have top priority in the PAP process.
Based on the above priority decision as to where change is needed most, it is now possible to:

**Step 2**

**DECIDE what Policy Objective(s) are needed to address the priority issue.**

The objectives may focus on improvements in subject areas such as:

1. TECHNICAL AND OPERATIONAL PLANNING (reference: subject "A")
2. FINANCE
3. EQUIPMENT (reference: subject "B")
4. LOCAL RESOURCES AND CAPABILITIES (reference: subject "C")
5. INSTITUTION
6. MANPOWER

or other areas that the Country Teams may deem relevant, and from which a selection shall be made according to needs and priorities in order to give the Policy Action Plan a clear direction.

When the Policy Objective is chosen, the next step will be to:

**Step 3**

**IDENTIFY AND APPRAISE Policy Options relevant and applicable to achieve the selected Policy Objective with regard to the Overall Objective.**

The Basis for Step 2 and Step 3 could be the Option Charts (Section 2 of this paper) which provide a variety of potential objective policy option choices for Road Maintenance for the above six subject areas, specifying objectives and the corresponding policy options as a menu of check items to which the Country Teams can resort when discussing goal formulation and option alternatives.

For the purpose of a clearer identification and more valuable assessment of the Policy Options it may often be necessary to formulate the required Key Measures (see Step 4) and to consider the Supporting Measures required to increase the Options' effectiveness (see Step 5).
The choice of Policy Options may be based on the following:

- conditions for success
- possible consequences and effects
- criteria, given under overall assessment of the option given in the Option Charts
- support of Policy Objective by complementary option(s) with regard to the Overall Objective: Efficient National Road Maintenance System.

**Example of Step 2 and Step 3**

Following the above example, the Country Team, regarding the funding shortage as the most important area for change, would want to place the main direction for policy reform on increasing financial resources for road maintenance and state this as the key objective. The Team would then reflect on what options are available to attain that objective. The Country Team members would discuss alternative possibilities and presumably find that budget allocations for road maintenance should be stepped up by raising additional government revenue from an increase in road user taxes.

The Policy Objective (Increase Financial Resources for Road Maintenance) and the Policy Option the Country Team has selected (Raise Additional Revenues Through Road User Taxes) together would constitute the Main Direction of the Policy Action Plan.

The definition of the Objective/Policy Option edifice would determine the fundamental layout of the national Policy Action Plan.
While the previous steps have determined the overall policy direction and the basic strategic concept, this step introduces the main element of action.

The formulation of Key Measures derives from the policy option(s) representing the Main Direction of the Policy Action Plan. The next step is to:

**Step 4**

IDENTIFY AND SPECIFY the Key Measures necessary to implement the selected Policy Options

The Basis for this Step could also be the Option Charts offering a selection of Key Measures related to the various Policy Options.

As these Key Measures will be the backbone of the Policy Action Plan, they should be central to goal achievement and geared towards implementation.

**Example of Step 4**

Having chosen the option of increasing road user taxes, it is now a matter of specifying how this should be realized (key measures): increase of fuel taxes, and/or taxes on spares, tires, etc., and ways and means of channelling the additional revenues to road maintenance. The formulation of key measures will be subject to internal discussion of pros and cons in the Country Teams.
As a further step in relating means to objectives it is essential to indicate where Supporting Measures are needed to overcome resistance to change and to bring policy reforms to full effect. To do this it is necessary to:

**Step 5**

IDENTIFY conditions of success and inhibiting factors for the selected Policy Option.

INDICATE Supporting Measures (governmental actions) required to meet these conditions/factors.

The Basis for Step 5 could again be the Option Charts. To identify the Supporting Measures (Step 6) inside knowledge of the individual country is necessary.

The supporting measures would aim at creating, facilitating or empowering conditions either within the main agencies destined to implement the Key Measures, or in their environments where constraints to successful policy implementation could be expected.

**Example for Step 5**

Higher taxes on road users may not bring the desired effects because of, say, poor tax collection, tax evasion, or because the additional revenues will not necessarily be allocated to the road maintenance budget by the Treasury. It may also be the case that the Road Agency cannot spend them properly due to inadequate requirement planning or poor management. Supporting measures should be designed to overcome these obstacles. During team discussion on the supporting measures it may turn out that the obstacles are too stubborn for successful pursuance of the policy option chosen. This would provide feedback for revising the decision on the policy option.

**Step 6**

APPRAISE the PAP-outline (amount of options and Measures) with regard to the set Policy Objective and Overall Objective:

Is the PAP-outline persuasive and feasible? Criteria for appraisal of PAP-outline:

- sufficient to achieve Policy Objective and Overall Objective
- necessary, no redundancy
- compatible and consistent
This is the step in which we define "Who Does What" in policy implementation with regard to detailing content of the outlined Policy Action Plan, decision-making, policy execution, coordination, monitoring and control. For this purpose it is appropriate to:

**Step 7**

**INDICATE agencies and institutions whose participation is necessary to execute the Road Maintenance Policy Action Plan.**

Generally the following agencies and institutions may be participating bodies:

- Parliamentary Institutions
- Legislative Body
- Governmental Agencies, Ministries
- Executing Agencies
- Political Parties
- Multilateral and Bilateral Agencies
- Advisory Councils, etc.

For the implementation of a Policy Action Plan the participating bodies have to carry out specific responsibilities, therefore we must:

**Step 8**

**DESCRIBE AND ASSESS the tasks and functions of the participating bodies and the authority and the capacity they will need to execute the Policy Action Plan.**

**Example for Step 7 and Step 8**

Introducing reforms in (road user) taxation involves centrally the Ministry of Finance/Treasury and may require changes in legislation and approval by Parliament. Furthermore, cooperation and consultation with the Department of Transport, Public Works and the planning board as well as public and private interest groups (transport sector lobby) are presumably involved, too. An Inter-Departmental Committee (Transport, Finance, Public Works Road Agency) may assume a coordinating mandate, handling the process of introducing reform.
After having determined measures and responsibilities, time scheduling adds a new dimension to the framing of the Policy Action Plan. This step of the PAP deals with fitting the measures identified so far into a time frame that has some realistic background. To establish a time schedule we must

**Step 9**

ESTIMATE the time required for initiating and achieving general national commitment and for detailing the PAP-outline (Phase II) to achieve national commitment for planning implementation of Measures.

**Step 10**

DETERMINE sequence and time allowance for planning and implementation of the Key and Supporting Measures.

**Step 11**

ESTIMATE the point in time when measures will take effect.

The amount of time needed to prepare the implement Policy Action Plans depends on the administrative and legislative structure of Government and on the manner in which the political process develops the consensus necessary to make the policy reforms politically feasible.

We suggest providing a rough estimate of the time needed for (i) the progress towards reaching agreement on the need for reform (Commitment), (ii) preparatory studies, (iii) consultations with parties to be affected by the policy actions, (iv) detailed of reform contents (v) going through legislation and making the necessary administrative arrangements up to a roughly estimated point in time when the measures may become effective.
All kinds of resources may be required for planning and implementing Key and Supporting Measures. A Policy Action Plan is only complete and convincing if institutional bodies have been identified to provide the necessary resources.

Step 12

ESTIMATE the resources needed to plan and implement the Key and Supporting Measures.

Step 13

LOOK FOR institutions to provide these resources.
2. Option Charts for Road Maintenance Policy

2.1 Some Basic Considerations

Policy Action Planning involves

- identifying key issues, constraints and functional deficiencies
- setting clear objectives
- devising strategies for dealing with the objectives by reviewing policy options, and, finally,
- determining measures to be pursued by government institutions and agencies which are to be given the necessary authority and capacities for implementation.

While the road deterioration problem includes common features in all the countries in the SSA region the problem mix and empirical perceptions differ widely from one country to the other. Given the variety of issues and diversity of problem-mix, no “pre-fabricated” policies are available to cope with the road deterioration problem. Instead, policy actions have to be derived from the empirical perceptions of issues and needs in a given country and tailored to the conditions and circumstances prevailing in that country.

Consequently, the point of departure for designing policy action plans is a current status analysis that describes the problem structure of a given country, determines priorities and defines objectives. Operating on this basis, options have to be discussed and measures selected and combined in a package of policy actions along with directives on authorities responsible for implementation of a time schedule.

One issue that runs through all stages of delineating policy measures is the importance of recognizing interdependencies or “system effects” in designing policy actions. Measures that are considered important to solving one problem may create another problem in some other area. In this way the success of policy actions pursued to enhance efficiency in public sector operations is often limited and far from satisfactory, unless appropriate complementary actions are put in place to compensate for impeding effects.

The Option Charts for Policy Action Planning in the area of road maintenance provide a general framework of elements relevant to formulating policy actions. Such a framework for devising policy plans is designed as a menu-like directory of check items that are suggested for consideration. The lists of items do not claim to be exhaustive, as the Country Teams may find further points of relevance for their Policy Action Plans of road maintenance.
2.2 Structure and Elements

The Option Chart Directory consists of six POLICY OBJECTIVES which are formulated as desirable achievements in the key area where improvement or progress is needed:

1. TECHNICAL AND OPERATIONAL PLANNING
2. FINANCE
3. EQUIPMENT
4. LOCAL RESOURCES AND CAPABILITIES
5. INSTITUTION
6. MANPOWER

To each of the objectives is attributed a number of POLICY OPTIONS instrumental to meeting the objectives, explaining their basic rationale. Strictly speaking, the options are not necessarily alternatives but complementary policy directions which may be chosen as the primary thrust of policy action in accordance with the specific country priorities.

Under each policy option, a suggested series of KEY MEASURES is listed as major elements of reform action that may have to be pursued under that particular policy option. Policy actions may combine measures drawn from several selected options, with differing degrees of intensity, however, depending on the problem structure and needs in a given country.

The “Conditions for Success” and “Possible Effects and Consequences” are highlighted in the DISCUSSION OF OPTION; this may help to assess the effectiveness of a policy option and indicate where Supporting Measures are needed to overcome resistance to change and to bring policy reforms to full effect.

Prior to implementing policy action plans, more detailed appraisal would be required to estimate the benefits and costs of the policy reforms and to examine their further implications with regard to political and administrative feasibility. The “Criteria for Appraisal” are indicated to direct attention to these critical points.

Finally, a brief OVERALL APPRAISAL OF THE OPTION is provided, indicating the general usefulness and significance of the policy option, as well as potential hazards which may emerge.

The format of the structure is shown on the following page.
Objective X

X = 1. Technical and Operational Planning
2. Finance
3. Equipment
4. Local Resources and Capabilities
5. Institution
6. Manpower

Main Policy Option

Policy Option

- Key Measures

Discussion of Option

- Conditions of success
- Possible effects and consequences

Overall Appraisal

- Criteria
- Conclusion

Policy Option

- Key Measures

Discussion of Option

- Conditions of success
- Possible effects and consequences

Overall Appraisal

- Criteria
- Conclusion

Policy Option

- Key Measures

Discussion of Option

- Conditions of success
- Possible effects and consequences

Overall Appraisal

- Criteria
- Conclusion

Policy Option

- Key Measures

Discussion of Option

- Conditions of success
- Possible effects and consequences

Overall Appraisal

- Criteria
- Conclusion
2.3 Check Item Directory: Overview

An OVERVIEW of the OBJECTIVE/OPTIONS edifice is presented in the following tables.

The Total Directory is presented thereafter in six subsections, one for each policy objective. The first page of each subsection shows the Policy Objective and the associated Policy Options. The subsequent pages show — for each option separately — the check items regarding Key Measures, Discussion of Option and Appraisal.

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## Topic “B” - Management of Operation

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POLICY OPTION 1.1:

APPLYING NETWORK-BASED PLANNING

RATIONALE:

Under budget constraints, the entire road network should be used as the basis for selecting road sections to be maintained and other sections to be neglected.

KEY MEASURES:

- Develop strategy for network-based planning
  - selection criteria
  - maintenance standards.
- Prepare/update road inventory database on
  - road type (terrain, materials, geometry)
  - road age
  - climate
  - traffic.
- Perform regular inspections of roadnet.
- Ascertain true maintenance and road user costs.
- Coordinate regional, development requirements with agencies involved.
- Create/improve public awareness of the need for maintenance and network-based planning.

POSSIBLE EFFECTS AND CONSEQUENCES:

- Maintenance for roads carrying high traffic volumes may generate even more traffic on such roads while other roads with lower traffic may become even impassable.
- The decision to maintain one road and to neglect another one may be quite unpopular with those who are not served.
- Applying network-based planning and the need for a comprehensive data base will require tremendous efforts by the Agency. Technical assistance may be required.

OVERALL APPRAISAL OF OPTION 1.1:

- Under budget constraints, network-based planning of maintenance is indispensable.
- It gives the opportunity to implement regional development policies and therefore requires the cooperation with other Ministries/Agencies.
- Network-based planning and its short-term consequences may not be understood and accepted by all citizens. Public relations work is required.
- Option should be pursued with diligence. Most important is a proper policy decision on the criteria which apply to the selection of sections from the entire net.
POLICY OPTION 1.2

Improving Planning Efficiency by
Strengthening the Agency’s Legal and
Organizational Structure

RATIONALE:

The Road Agency and its subdivisions need a clear and realistic legal mandate and corresponding sound organization structure to perform the essential functions.

KEY MEASURES:

- Determine degree of decentralization.
- Streamline Agency’s administrative hierarchy and organization.
- Define functions and tasks, authorities and responsibilities of
  - state
  - province
  - district
  - council
  - community
  - others.
- Separate the Agency’s
  - planning
  - executive
  - supervisory divisions, but establish effective coordination among them.
- Establish the required management information systems.
- Improve management competence in general.

DISCUSSION OF OPTION 1.2:

CONDITIONS FOR SUCCESS:

- Degree of decentralization is feasible
- Agency’s management staff has job descriptions
- Agency’s staff has clear instructions on responsibility and authority
- Lines of direction and information are established
- An independent body to monitor the work and to perform post-completion auditing has been established
- Staff in Central Agency and subdivisions is motivated and ready to take responsibility on the level of given authority

POSSIBLE EFFECTS AND CONSEQUENCES:

- Changes in management may be necessary
- Restructuring within Agency may result in a slowdown of productive work
- External technical assistance may be required

OVERALL APPRAISAL OF OPTION 1.2:

- Option useful in attaining policy objective
- Option fundamental where organizational constraints cause major maintenance backlogs
POLICY OPTION 1.3

Improving Work Programming and Resources Assignment

RATIONALE:

The better the work is programmed and resources are utilized, the more roads can be maintained with funds available.

KEY MEASURES:

- Base planning on road inventories.
- Perform regular road inspections and road condition measurements.
- Determine work priorities for selected roads on the basis of true requirements.
- Base resources assignment scheduling on resource inventories.
- Establish/improve the work and cost recording systems and use data as feedback to future physical planning.

POSSIBLE EFFECTS AND CONSEQUENCES:

- Maintenance costs are analyzed for the various elements of the roads
  - pavement
  - verge
  - drainage, etc.
- Maintenance costs are analyzed in terms of
  - personnel
  - equipment
  - materials
  - overheads.
- Maintenance costs are analyzed in terms of
  - routine activities
  - periodic activities
  - emergency activities.
- Internal monitoring of work is done by an independent body.

DISCUSSION OF OPTION 1.3:

CONDITIONS FOR SUCCESS:

- Comprehensive and correct road inventories are available.
- Regular inspections are done as a basis for all routine and periodic maintenance work.
- Equipment and transportation to measure road conditions are available.
- Sufficient qualified staff is available to perform the inspections.
- Criteria for work priorities are set.
- Inventories on resources are available.
- Work reports are available.
- Recording of all costs as feedback to new financial planning is done.

OVERALL APPRAISAL OF OPTION 1.3

- Option is the key to cutting excessive, non-productive spending.
- Pursuing option involves a lot of detail work and time, but is a perfect opportunity to improve the skill of the staff.
- Option is fundamental to attaining policy objective.
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MAIN POLICY OPTION 2.1:

Mobilizing Existing Resource Potential

POLICY OPTION 2.1.1:

Increased Efficiency of Fund Use

RATIONALE:

Existing Budgetary Allocation would probably be adequate if it was spent efficiently.

KEY MEASURES:

- Establish more rational, priority-based physical planning procedures.
- Establish more effective fund appropriation procedures and expenditure regulations.
- Establish more effective financial control systems.
- Strengthen and upgrade competence of financial management and controlling.
- Assign clear responsibilities and authorities for budgeting, expenditure and control.
- Strengthen internal and external auditing and follow-up procedures.

DISCUSSION OF OPTION 2.1.1:

CONDITIONS FOR SUCCESS:

- Improved Management Efficiency
- Full Internal Accountability
- Allocation of Funds Linked to Physical Plans
- More Effective Controlling Procedures, Performance Auditing are Established
- Contracting Based on Competitive Bidding
- Fiscal Integrity and Absence of Arbitrary Fund Use, Effective Fiscal Control
- Increased Labor Productivity, More Productive Use of Equipment and Materials

POSSIBLE EFFECTS AND CONSEQUENCES:

- Personnel Changes in Management
- Full Evidence of Fund Misuse
- Reductions in Labor Force
- Reductions in Plant and Equipment
OPTION 2.1.2:

Budgetary Reallocations  
(e.g., from new constructions)

RATIONALE:

Capital expenditure for new construction is not justified in the existing roads are in serious disrepair.

KEY MEASURES:

- Revise the program of road construction, redefine priorities.
- Define the top-priority maintenance needs, financial priorities.
- Renegotiate financing arrangements.
- Reclassify budgetary titles and shift allocations to recurrent road maintenance title.
- Determine the time span for budget allocations.

DISCUSSION OF OPTION 2.1.2:

CONDITIONS FOR SUCCESS:

- Top level decisions and new national consensus
- Greater financial autonomy of roads organization.
- More effective financial control.
- Allocation of funds linked to physical plans with clear economic priorities

POSSIBLE EFFECTS AND CONSEQUENCES:

- Resistance from other government entities
- Cuts in roads construction expenditures
- Renegotiation with foreign donors on road projects
- Reorientation of programs funded by external aid agencies
- Reclassification of budgets and reorganization of budget structure

OVERALL APPRAISAL OF OPTION 2.1.1:

CRITERIA FOR APPRAISAL:

- Actual budget allocations in capital and recurrent budget for road infrastructure expenditure
- Scope of reallocations from capital to recurrent budget

CONCLUSION:

Opportunity to find a more appropriate balance between capital formation and maintenance of physical national assets; must be supported by a firm national consensus on resource allocation, and probably involves a reorientation of donor aid. If applied as one-time measure, helps cure symptoms only.
OPTION 2.2:

EARMARKING REVENUE FOR ROAD MAINTENANCE

RATIONALE:

Earmarked taxes or charges may safeguard the roads administration from dependency on the Treasury or Ministry of Finance.

KEY MEASURES:

- Determine the amount of funding to be regularly earmarked for road maintenance.
- Identify and decide on the sources of finance to be earmarked for road maintenance.
- Establish a road fund for the purpose of financing road maintenance programs and securing regular inflow.
- Determine the authority and organization or road fund control, management and supervision.
- Install sound management and fund use procedures, including auditing.

DISCUSSION OF OPTION 2.2:

CONDITIONS FOR SUCCESS:

- Improved management efficiency
- Stable revenue inflow
- Fiscal integrity and absence of arbitrary fund usage
- Greater financial autonomy of roads organization
- Strengthened technical and organizational capacity
- Fund use linked to physical plans
- Economic criteria applied in determining priorities, not relying on technical criteria only

POSSIBLE EFFECTS AND CONSEQUENCES:

- Reduced flexibility of government spending
- Remaining tax base inadequate for stable revenues
- Revenue-oriented expenditure rather than need-oriented expenditure
- Temptation to use funds for purposes other than road maintenance
- Foreign technical assistance required

OVERALL APPRAISAL OF OPTION 2.2:

CRITERIA FOR APPRAISAL:

- Source of funds for earmarking
- Tax leeway adequate
- Financial autonomy of the roads organization
- Management efficiency
- Road fund usage procedures

CONCLUSION:

Useful under conditions of insufficient, erratic recurrent budget allocations, not in tune with financial requirements for maintenance operations; this option needs to be complemented by measures relating to increasing the efficiency of fund utilization (Option 1.1).
MAIN POLICY OPTION 2.3:

Acquiring Additional Resources

POLICY OPTION 2.3.1:

Introduce/Increase Road User Charges

RATIONALE:

Road users should be charged at (marginal) costs they impose on the road system, whereby the charges should directly reflect the costs attributable to the vehicles on which they are levied.

KEY MEASURES:

- Select Road User Tax for Increase Revenue Generation
  - Fuel Tax
  - Taxes on Spares, Tires
  - Distance Taxes
  - Tolls
  - Non-Variable Charges.
- Determine (Incremental) Tax Rate.
- Determine Collection System.
- Determine Procedures for Allocating Increased Revenues.

DISCUSSION OF OPTION 2.3.1:

CONDITIONS FOR SUCCESS:

- Road User Charges Applied as (Marginal) Cost Pricing System
- Adequate Leeway for Additional Taxation
- Additional Tax Collection Efficiently Administered (Low Cost)
- New Tax Difficult to Evade
- Not Encouraging Uneconomic Shifts in Demand
- Neutral in Regard to Inflation
- Tax Yield Rises with Inflation
- Road Administration Receives Back Revenue

POSSIBLE EFFECTS AND CONSEQUENCES:

- Uneconomic Shifts in Demand
- Increase in Transport Costs
- Overburdening Tax or Road Fund Administration
- Yields Overestimated

OVERALL APPRAISAL OF OPTION 2.3.1:

CRITERIA FOR APPRAISAL:

- Remaining Tax Leeway
- Tax Rates and Efficiency
- Pricing, Benefit Taxation, Yield Estimates
- Tax Collection Organization and Cost
- Effects on Demand and Prices, Side Effects

CONCLUSION:

Advisable where potential for road user taxation is underutilized and economic distortions do not occur. Caution is advised since road user charges are already an important source of general government revenue in many countries in the region.
POLICY OPTION 2.3.2:

Levy/Increase Non-User Taxes

RATIONALE:

Taxes on indirect beneficiaries of road services can contribute to full cost recovery.

KEY MEASURES:

- Determine target group to be earmarked for taxation.
- Determine type of tax and rates.
- Determine collection system and procedures.
- Determine allocation process for the additional revenues.
- Establish legislation and law enactment.
- Introduce new administration procedures and establish the implementation process.

DISCUSSION OF OPTION 2.3.2:

CONDITIONS FOR SUCCESS:

- Indirect Beneficiaries Provide Adequate Tax Base
- Used as Complementary Measure to Reduce Dependance on Use-Linked Taxes
- Additional Tax Collection Efficiently Administered
- New Tax Difficult to Evade
- Not Encouraging Uneconomic Shifts in Demand
- Neutral in Regard to Inflation
- Tax Yield Rises with Inflation
- Roads Administration Receives Back Revenue to Sustain Desirable Levels of Road Maintenance

POSSIBLE EFFECTS AND CONSEQUENCES:

- Uneconomical shifts in Demand
- Price Increases
- Overburdening Tax or Road Fund Administration
- Yields Overestimated
- Difficulties in Translating Additional Levies on Road Beneficiaries into Better Roads

OVERALL APPRAISAL OF OPTION 2.3.2:

CRITERIA FOR APPRAISAL:

- Tax Base, Yield Estimates
- Tax Rates, Efficiency Pricing, Benefit Tax
- Tax Collection Organization
- Effects on Prices, Demand
- Side Effects

CONCLUSION:

Where dependence on road user charges is already high, non-user taxes may be used as a COMPLEMENTARY source of road maintenance finance. Charging secondary road beneficiaries should be based on principles of benefit taxation.
POLICY OPTION 2.3.3:

Seek Additional External Financing

RATIONALE:

The sheer size of the maintenance backlog implies demands for external finance, at least of the foreign exchange components.

KEY MEASURES:

- Determine the scope of financing required.
- Screen alternative sources of foreign soft loan funding or grant financing.
- Conclude financing agreements and secure disbursement arrangements.
- Secure debt servicing.
- Prepare the administration and executing agency for sound fund management.

POSSIBLE EFFECTS AND CONSEQUENCES:

- Foreign Technical Assistance Required
- Effects on Inflation
- Overburdening Administrative, Technical and Managerial Capacity of the Road Administration
- Rise of Foreign Public Debt
- Increased Debt Service
- Additional Needs for Local Costs Counterpart Finance

OVERALL APPRAISAL OF OPTION 2.3.3:

CRITERIA FOR APPRAISAL:

- Selection of Assets/Works to be Financed
- Foreign Exchange/Local Cost Financing
- Credit Rating of Public Entities and Roads Organization
- Terms and Conditions

CONCLUSION:

Where there is a backlog in road maintenance, external financing can be a viable option where benefits of maintenance work exceed costs of foreign financing and terms and conditions match financial capacities of public entities and the Road Agency.
POLICY OPTION 2.3.4:

Engage in Additional Domestic Borrowing

RATIONALE:

In the absence of tax revenue allocations, domestic borrowing may be required to cover emergency needs of road rehabilitation/overhaul.

KEY MEASURES:

- Determine the scope of borrowing required.
- Screen alternative sources of domestic credit.
- Conclude financing agreements and secure disbursement arrangements.
- Secure debt servicing.
- Prepare the administration and executing agency for sound fund management.

POSSIBLE EFFECTS AND CONSEQUENCES:

- Foreign Technical Assistance Required
- Effects on Inflation
- Overburdening Administrative, Technical and Managerial Capacity of the Road Administration
- Rise in Public Debt with Banking Sector
- Increased Debt Service

OVERALL APPRAISAL OF OPTION 2.3.4:

CRITERIA FOR APPRAISAL:

- Selection of Assets/Works to be Financed
- Credit Rating, Loan Appraisal
- Debt Service
- Repayment, Terms and Conditions
- Loan Supervision

CONCLUSION:

While maintenance should be financed from regular, recurrent income, borrowing may be an emergency measure in isolated cases when no other option is available. Increased debt service in the Road Administration for the benefit of short-term fund availability is likely to undermine liquidity for recurrent maintenance expenditure in subsequent years.
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MAIN POLICY OPTION 3.1:

Increased Availability of Equipment Fleet

POLICY OPTION 3.1.1:

Reduce Age of Equipment Fleet

RATIONALE:

The availability of the equipment will be higher with reduced fleet age.

KEY MEASURES:

- Prepare/update equipment inventories including age of every unit
- Prepare/update availability and status records for all units
- Prepare/update cost records for all units
- Establish write-off policy

DISCUSSION OF OPTION 3.1.1:

CONDITIONS FOR SUCCESS:

- Accurate analysis of equipment status, availability and costs
- "Charge back" or rental system at true hire rates established to refund replacement
- Qualified workshop and administrative staff to follow up write-off and replacement procedures
- Sale and scrapping programs

POSSIBLE EFFECTS AND CONSEQUENCES:

- Increased capital expenditure until program is implemented.
- The capacity of the Agency's mechanical and administrative department partly absorbed by the reform action.
- To sell old units requires that they be in operational condition or be sold as scrap at lower rates than their real value.

OVERALL APPRAISAL OF OPTION 3.1.1:

- Option useful in attaining policy objectives. But should be pursued with care!
- Requires long-term planning and good records. Note that new equipment can also be out of order.
POLICY OPTION 3.1.2:

Introduce Purchase Policy to Standardize Fleet and Increase Equipment Quality

RATIONALE:

The availability level will increase if the equipment is of good quality and operators are accustomed to the model chosen. The standardization of the fleet will generally facilitate its operation, maintenance and repair.

KEY MEASURES:

- Formulate policy on standardization and quality requirements
- Determine by long-term observations which makes and models of equipment are best suited for road maintenance in the country
- Detailed specifications and purchase regulations

DISCUSSION OF OPTION 3.1.2:

CONDITIONS FOR SUCCESS:

- Agency and other authorities involved determined to achieve a high quality, standardized equipment fleet
- Country's and donors' procurement policy must match
- Agency's staff in charge is qualified to prepare adequate specifications to review bids and to select suitable units for purchase

POSSIBLE EFFECTS AND CONSEQUENCES:

- Problems with donors and their lobbyists
- Problems with suppliers of equipment not in the standard line
- Monopoly of suppliers in standard line, lack of competition
- Standardization may result in loss of flexibility regarding innovation

OVERALL APPRAISAL OF OPTION 3.1.2:

- Option fundamental in obtaining policy objective
- Option requires close cooperation with donors to avoid excessive proliferation of different makes and models of equipment which would multiply spares requirements. Quality of equipment is essential. Cheap equipment can be very expensive in the long run.
POLICY OPTION 3.1.3:

Introduce Regular Maintenance for Maintenance Equipment

RATIONALE:

Regular preventive maintenance will increase the availability of the equipment.

KEY MEASURES:

- Introduce a policy related to a regular preventive maintenance for Maintenance Equipment and instruct departments as required.
- Develop and implement maintenance programs
- Monitor performance of equipment maintenance
- Adapt workshop facilities and tools to maintenance requirements
- Maintenance-related training of staff

POSSIBLE EFFECTS AND CONSEQUENCES:

- Road Maintenance crews may have other priorities and refuse to release units to workshops at scheduled dates
- Additional training and funds may be required

OVERALL APPRAISAL OF OPTION 3.1.3:

Option fundamental in attaining policy objective and easy to implement. More a matter of initiative than additional resource mobilization. Within just a few years records will prove positive results.

DISCUSSION OF OPTION 3.1.3:

CONDITIONS FOR SUCCESS:

- Discipline of road-maintenance and workshop crews to observe schedules for the maintenance of the equipment
- Availability of facilities and tools for equipment maintenance
- Staff trained and motivated to undertake preventive maintenance
- Manufacturers' maintenance manuals are available
POLICY OPTION 3.1.4:

Shorten Down-Time of Maintenance Equipment

RATIONALE:

Downtime for repair is the main factor determining the rate of equipment availability.

KEY MEASURES:

- Introduce an efficient communication system between maintenance crews and workshops to report breakdowns and arrange repair measures without delay.
- Ensure an adequate stock of the parts and material required for equipment repair.
- Introduce inventory control and reordering systems for parts.
- Introduce shift work for repair of key units.
- Involve private sector in the repair of key units to cover undercapacities of the Agency's own workshops, if any.

DISCUSSIONS OF OPTION 3.1.4:

CONDITIONS FOR SUCCESS:

- Local and Forex Funds available to procure parts
- Procurement procedures for parts set
- Mechanics trained and motivated (salaries and incentives)
- Manufacturers' repair manuals available to workshop staff
- Procedures set to involve private sector
- Funds for private sector work available
- Private sector is entitled to Forex for the procurement of parts

POSSIBLE EFFECTS AND CONSEQUENCES:

- Organizational restructuring of Agency's mechanical department may be required.
- More qualified staff to be provided (technical and administrative).
- Data collection and record systems to be reviewed/improved.
- Foreign technical assistance may be required.

OVERALL APPRAISAL OF OPTION 3.1.4:

- Option essential in attaining policy objective. Experience shows that besides the availability of parts, motivation of workshop personnel is the key to shorten repair time.
- The feasibility of shift work or the involvement of the private sector for repair of expensive and key units can easily be calculated on the basis of true hire rates.
MAIN POLICY OPTION 3.2:

Increased Utilization of Equipment Fleets

POLICY OPTION 3.2.1:

Cut Size and Type of Fleet to What Can Be Managed Properly

RATIONALE:

It is pointless to maintain an equipment fleet which by size and composition cannot be managed properly. The consequent underutilization is uneconomic for the owner.

KEY MEASURES:

- Determine minimum limits of annual utilization rates required for economically justified ownership
- Calculate actual utilization rates of the equipment on the basis of equipment inventories and utilization records
- Analyze reasons for underutilization, if any
- Improve fleet size and composition through corresponding purchase/write-off programs

DISCUSSION OF OPTION 3.2.1:

CONDITIONS FOR SUCCESS:

- Comprehensive analysis of utilization and true costs available
- Private sector hire rates for equipment are known
- Private sector is a reliable standby resource

POSSIBLE EFFECTS AND CONSEQUENCES:

- Agency may hold "core fleet" only and hire additional units from private sector as needed.
- Separate funds for equipment rental may be required.
- Additional administrative tasks to follow up rental agreements
- Private sector may not always be able to meet Agency's requirements.

OVERALL APPRAISAL OF OPTION 3.2.1:

- Option applies to countries where this is a private sector to rely on to satisfy peaks in demand or special requirements. In countries where the private sector is weak, the "core" fleet would be large. Regardless the size of the fleet, its composition must match with the type of work to be done.
- Option is useful to attain policy objective.
POLICY OPTION 3.2.2:

Improve Assignment Planning and Logistics

RATIONALE:

The selection of a particular unit for a specific job is as important to productivity as its handling and the logistical support.

KEY MEASURES:

- Ensure the feasibility of work programs.
- Ensure the suitability of equipment chosen to fulfil a particular task.
- Provide the required logistical support.
- Monitor the performance of operations.
- Organize shift work as may be required for key units.

POSSIBLE EFFECTS AND CONSEQUENCES:

- Funds may be needed to strengthen logistical support.
- Supervisory staff may have to be increased.
- More authority may have to be delegated to managers in charge to shorten the decision-making process.

OVERALL APPRAISAL OF OPTION 3.2.2:

Option useful to attain policy objective. Experience shows that poor logistical support in particular is often the real hindrance to production.

CONDITIONS FOR SUCCESS:

- Management knows production potential of equipment if properly operated
- Management competent to prepare realistic assignment schedules
- Equipment inventories including indication of present locations of units available to management
- Communication system between management and field crews established
- Sufficient capacity available for equipment transport
- Mobile fuel, service and repair units available
- Coordination among the various bodies involved (management, crews, workshop, etc.)
POLICY OPTION 3.2.3:

Training of Equipment Staff

RATIONALE:
Training and motivation of operators will improve the equipment-based work output.

KEY MEASURES:
- Introduce policy according to which 1% to 2% of working time shall be spent for training.
- Determine training needs.
- Organize training for operators in the field of:
  - operation
  - preventive maintenance
  - basic mechanics.
- Provide training facilities.
- Introduce policy for incentives and career planning for good performance.

POSSIBLE EFFECTS AND CONSEQUENCES:
- Training requires planning. Operators may be on training when needed for productive work.
- Trainable staff may be rare.
- Trained staff may seek employment with private sector.
- Trainer, training facilities, funds for training required.

OVERALL APPRAISAL OF OPTION 3.2.3:
Option indispensable in attaining policy objective. Training itself will create motivation. The feeling of being a trained operator will result in better output of the equipment and more careful handling of the equipment.

DISCUSSION OF OPTION 3.2.3:

CONDITIONS FOR SUCCESS:
- Agency's awareness of a need for training
- Trainable staff available
- Operator awareness of the great responsibility when operating a heavy (and very expensive) unit
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MAIN POLICY OPTION 4.1:

Increased Involvement of the Private Sector

POLICY OPTION 4.1.1:

Making Better Use of Local Contractors

RATIONALE:

Private contractors having more performance flexibility (incentives, hire-fire, better control of labor force) and less bureaucratic procedures could relieve the Government from direct management responsibilities and contribute to

- Routine maintenance
- Periodic maintenance
- Special work
- Equipment repair plus maintenance
- Equipment rental
- Material supply
- Contracts awarded projectwise for a
  - road section
  - network
  - specified work, measured against a BOQ
- Work ordered from nearby contractors on the basis of pre-negotiated unit rates for specified work items

POSSIBLE EFFECTS AND CONSEQUENCES:

- Maintenance work more expensive than necessary due to internal arrangements among contractors
- Definition of work standards and amount unrealistic
- Contractors to take the attractive jobs only and leave the difficult rest to Agency
- Underutilization of agency's own resources
- Contractors may take over good permanent staff from agency
- Late payments may demotivate private contractors and be counterproductive to maintenance

OVERALL APPRAISAL OF OPTION 4.1.1:

CRITERIA FOR APPRAISAL:

- Availability of skilled contractors
- Is there a demand to involve the private sector?
- Urgency of actions
- In what fields?
- Has the agency the technical and organizational capacity to involve the private sector?
- Cost analysis and comparison between private sector and own labor for maintenance
- Is there a governmental policy on developing the private market in general?

CONCLUSION:

- Option useful in attaining policy objective
- The idea "pay for output, not for input" can provide an important momentum towards more economy and efficiency in the field of maintenance
- Local contractors should be involved through competitive bidding only and on the basis of a comparative advantage in the private sector
- Option requires that Agency has to be able to control contractors
- The development of skilled local contractors could be advantageous to the national economy in general.

KEY MEASURES:

- Determine work standards
- Detailed contract documents, i.e., BOQs, work specifications, etc.
- Formulate bidding procedures
- Ensure proper contract administration
- Ensure quality and quantity control on contractor's work
- Ensure timely payment to contractors

DISCUSSION OF OPTION 4.1.1:

CONDITIONS FOR SUCCESS:

- Skilled contractors available and ready to work for Agency in the field of road maintenance
- Separate funds for contractor's work available
- Trained technical staff available to supervise contractor's work
- Stable market prospects for contractors working in this field
- Cost analysis and comparison between private sector and force account under continuous review
POLICY OPTION 4.1.2:

Making Better Use of Local Consultants

RATIONALE:

Consultants can compensate for Agency's undercapacities and provide special services for which they are better equipped and staffed.

Consultants may contribute to
- planning/design
- supervision
- project management.

POSSIBLE EFFECTS AND CONSEQUENCES:

- Underutilization of Agency's own resources
- Brain drain, risk that Agency's skilled professionals may become pure administrators
- Internal arrangements among Consultants may result in unreasonably high rates for their services

OVERALL APPRAISAL OF OPTION 4.1.2:

- Option useful in complementing the Agency's own planning capacities in the field of
  - data collection
  - special planning work
  - control/supervision

KEY MEASURES:

- Detailed tender documents and contract documents, which clearly describe the consultant tasks, authority and responsibility determine the relation between the client and the consultant.
- Ensure a proper control of Consultant's performance and the follow-up of the administrative matters.

DISCUSSION OF OPTION 4.1.2:

CONDITIONS FOR SUCCESS:

- Base of trust established among Agency and consultants as their representatives
- Skilled consultants available and ready to work for Agency in the field of road maintenance
- Trained administrative staff available to manage contracts with private sector
- Stable market prospects for consultants working in this field
MAIN POLICY OPTION 4.2: Increased Involvement of Other Local Resources

POLICY OPTION 4.2.1: Direct Hiring of Individuals and Groups

RATIONALE:
Individuals or groups could be hired to undertake labor-intensive maintenance under the Agency's supervision with lower costs and less logistical effort involved. A little "competition" among neighboring lengthmen can be very advantageous to the road.

KEY MEASURES:
- Determine administrative procedures within Agency to cope with this approach
- Select regions (remote areas) suitable for this approach
- Organize the recruitment of suitable labor
- Organize training, supervision, logistics, payment procedures, etc.

DISCUSSION OF OPTION 4.2.1:

CONDITIONS FOR SUCCESS:
- Hired men/groups furnished with needed tools
- Equipment support provided by Agency as required
- Technical guidance provided by Agency
- Work supervised and output monitored
- Timely payments
- Motivation, incentives for good work

POSSIBLE EFFECTS AND CONSEQUENCES:
- Need to lay off permanent staff, to gain funds for casual labor
- Demotivation of Agency's permanent staff
- Risk that a lack of organization, staff training and reliable back-up services will cause frustrations of hired labor and be counterproductive to maintenance work

OVERALL APPRAISAL OF OPTION 4.2.1:
- Option to be considered as a complementary approach and to be pursued as such. Applies to lighter, less capital-intensive routine maintenance work.
- Option involves a great managerial challenge and quick results cannot be expected.
- Approach well suited to remote areas
POLICY OPTION 4.2.2:

Agreements with Communities, Councils (Self-Help, Organized through Local Administrators)

RATIONALE:

Where the Road Agency fails to perform reasonable maintenance due to resource conditions and/or the remote location, the agency may come to agreements with local authorities such as communities, village councils, etc., to fulfill minimum maintenance requirements through self-help groups (paid or voluntary).

KEY MEASURES:

- Assess true maintenance conditions in remote areas and decide on delegation of authority and responsibility for maintenance to local authorities.
- Provide technical guidance, tools and equipment support as required.
- Introduce incentives for and competition among groups for better performance.
- If work is not paid, consider possibilities with providing the daily needs.

DISCUSSION OF OPTION 4.2.2:

CONDITIONS FOR SUCCESS:

- Local authorities willing to cooperate
- Local authorities have technical and administrative guidance/assistance from Road Agency
- Expectations as to level of performance not too high

POSSIBLE EFFECTS AND CONSEQUENCES:

- Risk that maintenance agency loses control and interest for such regions, once the responsibility has been delegated to local authorities.
- Self-help groups may, if they are not paid properly, neglect work specifications and quality.
- The planning of work and assignments becomes more difficult, as the outside groups are not an integral part of the agency's organizational structure and may not follow strictly repair standards and procedures, etc.

OVERALL APPRAISAL OF OPTION 4.2.2:

- Recommendable approach as long as agency maintains control for planning and performance of maintenance work within the framework of the entire network.
- Otherwise risk that no one feels responsible for the work.
- Option to be considered as a complementary approach to increase the national maintenance capacity.
**Check Item Directory**

Contents of this subsection concerning Topic "C," Objective 5:

<table>
<thead>
<tr>
<th>Topic “C” - Human Resource Development and Institutional Reform</th>
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<td><strong>POLICY OBJECTIVE</strong></td>
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<tr>
<td>5. INSTITUTION:</td>
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<tr>
<td>The Technical and Organizational Capacity of the Roads Administration is Improved</td>
</tr>
<tr>
<td>5.3 Create Workable Management Systems and Procedures</td>
</tr>
<tr>
<td>5.4 Create Adequate Financial Provisions for Road Maintenance</td>
</tr>
</tbody>
</table>
POLICY OPTION 5.1:

Adjust Institutional Arrangement and Create Adequate Organizational Structures

RATIONALE:

Within the structure of government institutions the Road Agency needs a clear mandate under compatible objectives, decision-making authority and functional clarity of organizational structures to eliminate excessive bureaucracy and overcome operational inefficiencies.

KEY MEASURES:

- Establish a clear mandate for the Road Agency.
- Enhance the standing of the Road Agency within the structure of Government institutions.
- Initiate progress towards greater autonomy of the Road Agency.
- Improve structure of control: separation of planning and control from direct execution of work.
- Allocate planning and execution functions to private sector where private sector has a comparative advantage.
- Establish an appropriate degree of decentralization.
- Create organizational structures within the Road Agency based on clear function tasks and clear lines of authority and decision-making.

DISCUSSION OF OPTION 5.1:

CONDITIONS FOR SUCCESS:

- A clear assessment of institutional shortcomings and organizational deficiencies has been prepared.
- The need for reform is acknowledged and national consensus on required actions is achieved.
- New structures proposed for implementation are simple with clear lines of authority and accepted within the government institutional setup.
- Management supports the reorganization and is committed to change.
- New post associated with reorganization can be filled by competent staff.
- External Technical Assistance is accepted by Management.

OVERALL APPRAISAL OF OPTION 5.1:

This option should only be pursued if major shortcomings in the institutional arrangement and organizational structures are identified in a systematic appraisal of the institutional setup. Unwarranted changes in institutional arrangement and structures may lead to disruptions in the work flow or may confound established and functioning lines of authority with the consequence of declining staff motivation.
POLICY OPTION 5.2:

Improve Management Competence and Manpower Performance

RATIONALE:

Conditions for manpower performance, for both managerial and staff, need to be improved to check brain-drain to the private sector and make better use of financial resources, material and equipment.

KEY MEASURES:

- Introduce systematic manpower planning based on the determination of needs and establish a personnel management division.
- Reduce influence of non-conducive civil service employee regulations as regards salaries, recruitment, promotion and discipline.
- Improve recruitment procedures for management and labor based on better recruitment policies.
- Introduce performance evaluation schemes.
- Enhance manpower and management training, in-house and external, provide facilities, equipment, training aids and funds for training.
- Introduce incentive schemes based on sound salary structures, promotion and career development planning.
- Improve procedures and provisions of social benefits as element of salary and incentive scheme.

DISCUSSION OF OPTION 5.2:

CONDITIONS FOR SUCCESS:

- Training is acknowledged as a means to improve staff competence and long-term continuity in training can be sustained.
- Training is made available on various staff levels in various forms making more efficient use of in-plant and external training facilities.
- Training priorities are determined on a systematic basis no spreading efforts too thinly over too many activities.
- Performance and competence oriented recruitment policies are effectively pursued.
- Salary and incentive structure is improved so as to keep a reasonable amount of qualified labor within the Road Agency.
- Institutional rotation of government officers is checked by an appropriate leadership.

OVERALL APPRAISAL OF OPTION 5.2:

This option is fundamental to attaining the above policy objective. Elements of reform under this option should not be omitted in formulating policy action packages aiming at improving the technical and organizational capacities of Road Administration.
POLICY OPTION 5.3:

Create Workable Management Systems and Procedures

RATIONALE:

Management systems for planning, programming, budgeting and control need to be adjusted to the technical and organizational capacity of the Road Agency with attention to structural constraints and personnel abilities, however, with a view to producing rational decisions of a higher quality.

KEY MEASURES:

- Improve routine field observation and reporting.
- Improve systematic data collection of relevant information.
- Establish standards for physical planning, costing and work scheduling.
- Establish guidelines for procurement.
- Introduce/improve material management and inventory control system.
- Introduce/improve equipment maintenance scheduling.
- Introduce systematic budget forecasting and financial requirement planning.
- Introduce/improve systematic priority plans for road maintenance work.
- Improve financial and operational controlling.
- Establish workable management information systems adapted to local conditions.

DISCUSSION OF OPTION 5.3:

CONDITIONS FOR SUCCESS:

- Management systems are not too complex and sophisticated and can be fully understood by the people to use them.
- The output produced by the system is effectively used in the organization and given proper attention by management in daily work.
- The organization of systems and procedures are straightforward and adapted to staff abilities, particularly with regard to the use of computers.
- Local available external know-how sources for system design, implementation and maintenance are involved and effectively employed, especially in the case of computer application.
- A reasonable degree of reliability in data collection and data handling and processing must be sustained.

OVERALL APPRAISAL OF OPTION 5.3:

While sound and straightforward management systems are essential for improving management efficiencies, they must not be too complex with heavy computer reliance, excessive data collection and multiple report output. The crucial point is acceptance by management and staff so that they make use of the systems after implementation.
POLICY OPTION 5.4:

Create Adequate Financial Provisions for Road Maintenance

RATIONALE:

Budget allocations and financial provisions to Road Agencies need to be related to financial requirements of road maintenance and rehabilitation.

KEY MEASURES:

- Establish a system of sound physical and financial requirements planning based on economic priorities.
- Create awareness of the problem of underfunding and its effect on road deterioration.
- Establish a system of regular fund provision to the Road Agency in line with physical plan requirements.
- Take a long-term view in planning financial requirements.
- Examine the feasibility of establishing a Road Fund, and implement, if feasible.
- Economize spending by setting priorities and out-contracting to private sector based on competitive bidding.
- Lobby for increased budget allocations for recurrent maintenance expenditures.
- Improve financial control procedures.
- Examine possibilities for tapping unused allocations (special emergency funds, etc.).

OVERALL APPRAISAL OF OPTION 5.4:

Next to personnel and management, providing adequate finance for maintenance and rehabilitation, is the second important input complex which must be taken into account in any institutional policy development. While the mobilization of existing internal resources probably has early limits, the acquisition of additional financial means for maintenance on a permanent basis would be the key factor under this option.

DISCUSSIONS OF OPTION 5.4:

CONDITIONS FOR SUCCESS:

- Sound physical planning, work forecasts and costing are professionally executed and procedures firmly established
- Agreement is reached with Treasury and the Road Agency on better needs-oriented recurrent budget allocations or on establishing a Road Fund.
- After agreement on priorities, no interference from outside on maintenance work execution and financing.
- No arbitrary fund use or diversion of funds to other purposes.
- Regular cash inflow to Road Fund.
- Sound controlling procedures on fund use are established.
Check Item Directory

Contents of this subsection concerning Topic "C," Objective 6:

<table>
<thead>
<tr>
<th>Topic “C” - Human Resource Development and Institutional Reform</th>
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<tr>
<td><strong>POLICY OBJECTIVE</strong></td>
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<td>6. MANPOWER:</td>
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<td>Staff and Manager Performance in Road Maintenance is Improved</td>
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</table>

6.2 Incentives:  
Enhance Motivation by Appropriate Incentive Schemes

6.3 Personnel Management:  
Strengthen the Personnel Management Function within the Road Agency

6.4 Recruitment:  
Make Better Use of Local Manpower Resources through improved recruitment
POLICY OPTION 6.1:

Training: Step Up Training Efforts and Enhance Effectiveness of Training

RATIONALE:

Where qualified and experienced manpower is not available in the local labor market, the operative agencies are largely required to obtain qualified manpower from their own resources through training.

KEY MEASURES:

- Establish a manpower development and training unit.
- Determine the training needs per job classification.
- Establish policies and procedures for staff training.
- Determine capacity of in-house training and utilization of external facilities.
- Develop training curricula for job classifications.
- Establish a qualified trainer capacity and set up training facilities.
- Develop an action plan for implementing training programs based on an established priority of manpower needs.
- Determine total financial resource requirements and secure resources.
- Secure long-term continuity of efforts and fund availability.

DISCUSSION OF OPTION 6.1:

CONDITIONS FOR SUCCESS:

- Training is truly recognized as a measure for improving staff competence and long-term continuity of efforts can be sustained
- An efficient training unit is established
- Training is carried out systematically on fixed programs for various job types
- Long-term employment of qualified trainers is secured
- Availability of fund for training is secured on a long-term basis
- Personnel can be retained in the organization after training
- Motivation of trainees is kept alive

OVERALL APPRAISAL OF OPTION 6.1:

This option is fundamental to obtaining the above policy objective. Elements of reform under this option should not be omitted in any policy action package and must be complemented by measures to retain a reasonable amount of personnel trained in the organization after training.
POLICY OPTION 6.2:

Incentives: Enhance Motivation by Appropriate Incentive Schemes

RATIONALE:

Given the limitations of the civil service salary structure compared to the private sector, appropriate incentive schemes can contribute to both gains in productivity and reducing brain-drain to the private sector.

KEY MEASURES:

- Review present salary and benefit structure with a view to integrating a performance-based incentive/bonus scheme.
- If required and possible, find a separate solution for Road Agency divorced from civil service bureaucracy.
- Establish performance evaluation and output measurement system.
- Set up work targets (i.e., time-based) at specified performance levels.
- Equip Personnel Administration to implement the scheme, establish procedures.
- Link incentive scheme to salary/benefit structure and promotion and career development procedures.

DISCUSSION OF OPTION 6.2:

CONDITIONS FOR SUCCESS:

- Scheme overheads can be supported and costly administration avoided
- Incentives are based on actual performance with a clear relationship between calculated and actual productive performance
- Scheme discourages nonproductive work
- Scheme is associated with a sound salary structure matching job classifications
- Scheme is an integral part of career planning and promotion procedures
- Absence of political patronage

OVERALL APPRAISAL OF OPTION 6.2:

In order to prevent incentive schemes from decaying they must be cost-effective and easy to administer. While cash incentives have only short-lasting effects, provisions for sound benefits linked to career development and promotion systems can be more effective in the long run. Incentive systems are indispensable for attaining the above objective. The crucial point is to associate bonus to genuine performance evaluation.
POLICY OPTION 6.3:

Personnel Management: Strengthen Personnel, Management Function within the Road Agency

RATIONALE:

As Road Agencies employ large staffs of thousands of people, an efficient Personnel Management Unit is required to ensure effective utilization of such a large number of employees and safeguard manpower development.

KEY MEASURES:

- Provide the Agency with its own Personnel Administration, including
  - Recruitment Unit
  - Salary, Benefit, Performance Management Unit
  - Manpower Development and Training Unit.
- Establish a greater degree of autonomy for in-house personnel management and recruitment from civil service bureaucracy.
- Enhance efficiency of personnel administration by manpower requirements and development plans, necessary organizational and staff provisions.
- Establish adequate personnel administration and recruitment procedures.
- Introduce/improve sound salary scales and benefit/promotion/discipline control systems.

DISCUSSION OF OPTION 6.3:

CONDITIONS FOR SUCCESS:

- A reasonable degree of autonomy of the Road Agency dissociated from excessive civil service bureaucracy
- Sufficient funds to cover Road Agency operating costs
- Availability of qualified personnel administrators
- Road Agency personnel administration and recruitment policies and procedures compatible with Government civil service policies and regulations.

OVERALL APPRAISAL OF OPTION 6.3:

The Road Agency should have its own efficient Personnel Management Division. Isolated measures to improve the performance of this division will have little effect under conditions of low technical and managerial capacity within the entire organization and little autonomy from the ministerial bureaucracy.
POLICY OPTION 6.4:

Recruitment: Make Better Use of Local Manpower Resources through Improved Recruitment

RATIONALE:
Antiquated or inflexible civil service regulations regarding management and manpower recruitment inhibit access to labor markets and limit changes for better labor resources utilization.

KEY MEASURES:
- Revise recruitment policies for labor and management with a view to competence and reduced influence of patronage, seniority, etc.
- Introduce more flexible elements to recruitment such as tapping private sector markets outside the civil service.
- Use management hire schemes, if feasible, or technical assistance in line function with related management counterpart training.
- Consider foreign management employment under "twinning" arrangements with foreign Road Agencies, or management and technical staff exchanges with foreign cooperating organizations.

DISCUSSION OF OPTION 6.4:

CONDITIONS FOR SUCCESS:
- A reasonable degree of autonomy of the Road Agency, dissociated from excessive civil service bureaucracy
- More flexible recruitment procedures can be made consistent with civil service policies
- Recruitment and appointment based on competence
- Direct responsibility of hired line management
- Sufficient funds to support new recruitment policies
- Adequate support for new procedures from Government so that personnel management and recruitment policies can effectively be enforced

OVERALL APPRAISAL OF OPTION 6.4:

In recruiting management and staff new approaches would have to be pursued with more flexibility, unhampered by civil service restrictions. This applies to both, tapping domestic manpower resources and employing foreign labor under technical cooperation schemes.
2.5 Options Charts in Tabular Form

The Option Charts being handed over in the seminar have to be filled in after this page.
3. Transition to Phase II

The outline Policy Action Plan implies a Policy Reform, which usually is difficult to initiate and to perform. If this is not to be left to the whims of fortune, some activities may be necessary to succeed in the initiative.

To reach Phase II, joint efforts of politicians, authorities and other actors may be required to achieve the National Commitment for policy reforms and to formulate them in detail and implement them in Phases II and III. These efforts would consist of a number of preparatory and supporting actions.

<table>
<thead>
<tr>
<th>“Initiation Committee”</th>
<th>Preparatory Actions</th>
<th>Supporting Actions</th>
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A Policy Action Plan is an Initiative to reform Policy. Therefore it should strongly be supported and monitored by a group of influential politicians. To be successful they should form a closely cooperating group.

The follow-up program consists of
- preparatory actions formally necessary for commitment, and
- supporting actions to influence positive policy decision.
When establishing the Initiation Committee, the following items may be considered:

- Who are to be the MEMBERS of the Initiation Committee to initiate and monitor the outlined Policy Action Plan?

- Who will be the person in charge of PAP in the Initiation Committee?

- How shall the members communicate and cooperate? Define their roles and responsibilities?

- When and where will the “Initiation Committee” meet?
Once a Policy Action Plan has been outlined and an Initiation Committee formed, thought should be given to what preparations are necessary to bring about national consensus and institutional cooperation.

Accordingly, the Committee has to decide how to follow up to initiate the Policy Reform.

- Which activities are necessary to achieve the general national commitment for Policy Action Planning in Phase II?

- Which activities are necessary to overcome political obstacles and to get political support for going on?

- Who takes care of these activities? Who is involved? When shall these activities be finalized?

The corresponding worksheet is attached under section 4 of these guidelines ("Follow-Up Plan").
4. Worksheets

The Worksheets to be used for the exercise in the Country Teams are presented hereafter in a scaled down form.
## Individual Issue Tracking Instruments

<table>
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<td>Relevant Issues:</td>
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Determine priorities and select issues to be discussed in the Country Teams

**Key issues identified:**

**TOPIC "A"**
1. 
2. 
3. 

**TOPIC "B"**
1. 
2. 
3. 

**TOPIC "C"**
1. 
2. 
3. 

...
Policy Action Planning

Group
Issue Tracking Instrument

| TOPIC "A" | TOPIC "B" | TOPIC "C"
| Key issues identified | Key issues identified | Key issues identified |
| 1. | 1. | 1. |
| 2. | 2. | 2. |
| 3. | 3. | 3. |

Criteria to set priorities and select issues:

1.
2.

Key issue selected by the Country Team (related to Topic "A")
Key issue selected by the Country Team (related to Topic "B")
Key issue selected by the Country Team (related to Topic "C")

OR OR OR

Policy Objective corresponding to the Key issue selected
Policy Objective corresponding to the Key issue selected
Policy Objective corresponding to the Key issue selected

Priority Priority Priority

continue with Priority One Objective

Take corresponding Option Chart (No. 1 or 2) and Options and Measures Sheet
Take corresponding Option Chart (No. 1 or 2) and Options and Measures Sheet
Take corresponding Option Chart (No. 1 or 2) and Options and Measures Sheet

decide on priority for change!
for Policy Objective: transfer PRIORITY ONE OBJECTIVE from group issue tracking instrument

1. Policy Option
2. Policy Option (complementary to achieve the above Policy Objective)
3. Policy Option (complementary to achieve an efficient Road Maintenance System as Overall Objective)

Key Measures:

Supporting Measures:

Criteria relating to the PAP-outline of options selected and measures identified:
- sufficient to achieve Policy Objective and Overall Objective
- necessary, no redundancies
- compatible and consistent

PAP-concept persuasive and feasible to achieve an efficient National Road Maintenance System
### Responsibilities for Main Policy Direction and measures identified

<table>
<thead>
<tr>
<th>Name (and brief description) of institutions involved</th>
<th>Functions and tasks to execute the national PAP</th>
<th>Remarks/Observations (e.g., capacity and authority required)</th>
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## Time Schedule

for Main Policy Direction and measures identified

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</table>
for Main Policy Direction and measures identified

A: "Initiation Committee"

Members of the Committee, supposed to initiate and control the outlined Policy Action Plan:

Person in charge of the national Policy Action Planning (of the Initiation Committee)

Kind of Cooperation of the members:

next meetings:

date: 
place:

B: Next steps to get a national commitment

<table>
<thead>
<tr>
<th>actions</th>
<th>actors responsible</th>
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<tbody>
<tr>
<td>preparatory actions necessary to get a general national commitment:</td>
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<td>supporting actions necessary to avoid political resistance and find promoters</td>
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