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***Human Resource and  
Institutional Development***  
in  
***The Road Sector***

*Modal Summary Report  
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## FOREWORD

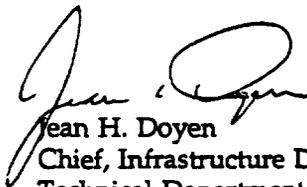
The constraining role of inefficiencies in the transport sector in Sub-Saharan Africa (SSA) on economic development has long been recognized; it has also been recently underscored in the Long Term Perspective Study of Sub-Saharan Africa prepared by the World Bank. Despite the long experience of the World Bank and other donors in financing transport projects, the effectiveness and sustainability of past programs keyed to increasing the performance of institutions in the transport sector has been disappointing.

In this context, the Human Resource and Institutional Development (HRID) Project of the Sub-Saharan Africa Transport Program (SSATP) developed an analytical framework for the evaluation of institutional performance in the transport sector. This framework was applied to the institutions responsible for the road sub-sector infrastructure in four different SSA countries. On the basis of the findings of the four road agency case studies—conducted between September and December of 1989—, a strategy for HRID has been developed. This report discusses that strategy in terms of both content and methodology.

The report gives emphasis to the importance of the interrelationships between and the ordering of such concepts as commitment, autonomy, responsibility, incentives, and resource management within institutional settings. It stresses the importance of participation governments, road organizations, and donors in the design and implementation of HRID interventions. It suggests the need for new approaches and concepts in the promotion of HRID in SSA.

In addition to the institutional case studies conducted for the HRID project, this report draws upon existing management and international development literature. This includes both documents prepared by the World Bank as well as externally produced publications. A bibliography of selected references follows the main report.

This report is one of a series prepared by the Technical Department of the Africa Region of the World Bank under the SSATP addressing policy issues related to the management of transport infrastructure. The findings and conclusions provide guidelines for applications on a country-specific basis. The report is expected to be disseminated in seminars and workshops with African policy makers and managers of road organizations. The lessons learned should also be of value for the technical staff of development agencies and for training institutions.



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## ACKNOWLEDGMENTS

This report is a study of Human Resources and Institutional Development (HRID) in Sub-Saharan African (SSA) Road Agencies. It is one of two modal studies of transport sector institutions—road agencies and railways—carried out by the World Bank under the HRID component of the Sub-Saharan Africa Transport Program (SSATP). The SSATP is a transport sector policy and institutional reform program being implemented by the World Bank in association with the U.N. Economic Commission for Africa (ECA). Its HRID component is financed by the United Nations Development Program (UNDP) and by the Governments of Norway and Italy. HRID in other transport modes is also being studied under the overall HRID Project for the SSA Transport Sector financed by the UNDP. The following reports are under preparation by other agencies:

• Ports	UNCTAD
• Civil Aviation	ICAO
• Road Transport Organizations	ILO
• Shipping	IMO
• Telecommunications	ITU

Phillip Moeller, HRID Specialist and consultant to the World Bank's Africa Technical Infrastructure Division (AFTIN), reviewed the case studies and prepared this modal summary report. Max Iacono, HRID Specialist and Task Manager of the HRID component of the SSATP, managed the design and implementation of the case studies and was responsible for the design of the HRID analytical, intervention, and methodological frameworks used in the modal summary reports. Guita Hourani served as Research Assistant for the HRID component.

The report was prepared under the overall direction and review of Jean H. Doyen (AFTIN Division Chief) and Bernard Chatelin (SSATP Program Manager). Other members of the staff of IBRD also participated in the internal review process. Among these were: P. Morris, A. Faiz, S. Carapetis, S. Berkman, and R. Pinto. J. Armar assisted the proofing and editing of the final draft, and K. Waters-Reed and V. Herron assisted in the final word processing of the report for publication.

The findings, interpretations, conclusions, and recommendations expressed in this report do not necessarily reflect the official policy of the World Bank, its affiliated organizations, members of the Board of Executive Directors or the countries they represent.



## LIST OF ACRONYMS

ACBI	African Capacity Building Initiative
ECA	Economic Commission for Africa
HRD	Human Resource Development
HRID	Human Resource and Institutional Development
IBRD	International Bank for Reconstruction and Development (also known as the World Bank)
ICAO	International Civil Aviation Organization
ID	Institutional Development
ILO	International Labor Organization
IMO	International Maritime Organization
ITU	International Telecommunications Union
MSPP	Management Systems, Processes, and Procedures
NGO	Non-Governmental Organization
SSA	Sub-Saharan Africa
SAL	Structural Adjustment Loans
SECAL	Sectoral Adjustment Loans
SSATP	Sub-Saharan Africa Transport Program
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme



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## EXECUTIVE SUMMARY

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- HISTORY AND PURPOSE OF HRID PROJECT
- THE SSA ROAD SUB-SECTOR
- INSTITUTIONAL DEVELOPMENT
- HUMAN RESOURCE DEVELOPMENT
- METHODOLOGICAL LESSONS

### HISTORY AND PURPOSE OF HRID PROJECT

1. The inefficiency of the transport sector—including high relative costs, poor availability, and low quality of services—is a major constraint to economic growth in Sub-Saharan Africa (SSA). In recognition of this constraining role, the United Nations Development Programme (UNDP), the Economic Commission for Africa (ECA), and the World Bank established the Sub-Saharan Africa Transport Programme (SSATP). Although deficiencies in basic transport infrastructure remain, sector inefficiency derives primarily from the need to more effectively manage and maintain the infrastructure in place. The primary objective of the SSATP, therefore, has been the improvement of transport efficiency and the promotion of sustainability through policy reform and institutional improvements.
2. The marginal success of long standing efforts to improve the performance of road operations in Sub-Saharan Africa (SSA) has led to an increasing appreciation of the importance of human resource and institutional development (HRID). Accordingly, the Human Resource and Institutional Development Project was established as a component of the SSATP in May 1988. Through a program of research, dissemination of findings, and institutional reforms the HRID Project aims, first, at understanding why HRID has not occurred more satisfactorily and, second, at identifying an approach and methodology to address the problems identified.
3. The project is funded by the UNDP with additional financing for project management from Italy and Norway. It covers all transport sector modes—alternately referred to in this report as sub-sectors—as well as the telecommunications sector. The executing agencies for transport are: UNCTAD (Ports), IMO (Shipping), ICAO (Civil Aviation), ILO (Road transport Organizations), and the World Bank (Highways and Railways). The ITU is responsible for Telecommunications. The UNDP chairs the Interagency Committee which oversees the development and implementation of the project. The ECA will be responsible for the dissemination of the findings.
4. This report is the modal summary for road operations prepared for the HRID Project. It draws on the findings of four institutional case studies, each of which examined the administration of the road network in a different country in Sub-Saharan Africa: **Madagascar, Malawi, Senegal, and Tanzania**. Each of the case studies examined four categories of factors constraining HRID: Institutional Environment Factors, Institutional Factors, Human Resource Factors, and Development Assistance Factors. The report also draws upon the experience of the World Bank in the SSA road sub-sector.

## THE SSA ROAD SUB-SECTOR

5. Beginning in the mid 1960s the region saw two decades of concentrated road construction. The result was the addition of thousands of kilometers of roads to the road network in SSA. Associated with this addition was an equivalent increase in the need for routine and periodic maintenance. The concern for construction and upgrading diverted attention from the need to provide for maintenance of the road networks. The impact of this neglect was not immediately apparent, especially for the newly constructed or upgraded roads. By the early 1980s, however, the deterioration of the road networks in the region had become both evident and a major policy issue. <sup>1/</sup>

6. Initial efforts to upgrade the capacity for road maintenance focused on financial and technical solutions. Subsequent evaluation of project impact indicated that the major limits on the performance of maintenance arose from the need for institutional and human resource development. In response, the design of transport projects gave greater emphasis to technical assistance and training components. Despite substantial investment, however, the HRID objectives of road projects were often not met and institutional capacity was not substantially upgraded. Thus, one of the central concerns leading to the establishment of the SSATP was how to achieve more progress in HRID in the transport sector.

7. The improvement of institutional performance in the road sub-sector requires the resolution of many issues at different levels. The interaction of the causal factors affecting HRID suggests the need to address these issues on an integrated basis. Thus, the extent and dynamics of HRID go beyond the application of remedies and require systematic, comprehensive reform.

### Operation in the Public Sector

8. Road operations in SSA face the limits common to all public sector activity in the region. The central governments in SSA exercise considerable control over the direction and operation of their national economies. Often this has translated into political interference in technical decision-making for road operations. Pressure has continued for the construction of new roads at the expense of efforts to maintain the existing network. Such pressure generally fails to consider the added recurrent cost for the maintenance of the new roads. Most politicians do not clearly understand the requirements of road maintenance and the implications of its neglect. User and supplier groups which might put pressure on the government for a rationalized maintenance policy, are not well organized. Additionally, inadequate financing and the constraints imposed by the civil service erode managerial autonomy, accountability, and motivation. This weakens the overall ability of management to lead and seriously constrains the institutional development of road organizations.

### Organization and Management of Road Operations

9. The management of road operations is complicated because the overall mission of road operations is assumed to be obvious and is seldom well defined in relation to overall development objectives and priorities. The provision of the functions associated with road operations, moreover, is divided between several ministries or government agencies. This has been a particular problem in Senegal, for example. The need for inter-ministerial and agency coordination is high, but liaison mechanisms are often weak.

10. Administrative problems within the road organizations themselves include overlapping functions and tensions between the responsibilities accorded to headquarters and regional staff.

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<sup>1/</sup> Data collected in 1987 and 1988 indicated that neglected maintenance had resulted in half of Sub-Saharan Africa's paved roads and more than 70 percent of the unpaved roads being in only poor to fair condition. Deferring road maintenance results in increased rehabilitation and reconstruction costs, elevates vehicle operating costs, and increases the transport costs which must be added into the production costs of other sectors.

Road organizations have generally consolidated decision-making at the expense of delegation. In Malawi, for example, this has been an issue. This results in senior management being preoccupied with a wide range of control responsibilities at the expense of strategic management. Correspondingly, it means that the technical officials responsible for the execution of the works do not have the authority to direct and control operations.

#### Human Resource Constraints

11. Institutional and human resource performance have a special relationship. They are influenced by the same underlying factors, and they are mutually interdependent. The quality of the human resources supporting road operations depends upon the external human resource environment. Primary considerations include the qualitative and quantitative characteristics of the output of the educational system and competition from other sources of employment, and the difficulties faced in managing and motivating staffs employed under civil service pay and career structures.

12. The management of human resource development is an evolving skill in SSA. Training is often provided without the benefit of realistic projections of manpower needs or accurate assessments of the actual skills required for the performance of work. Improving the appropriateness of training has been a recent concern, for example, in Tanzania. The potential impact of training is often counterbalanced by the fact that manpower is poorly supervised and poorly utilized.

#### Development Assistance: Donor Policies and Practices

13. From an institutional development perspective, development assistance provided by external donors in the past has been a mixed blessing. Projects have often been inadequately conceived, designed, or implemented, resulting in fewer benefits than expected. Donor policies and practices in some cases have resulted in new difficulties, ranging from the evolution of mixed fleets of equipment and plant—which have complicated maintenance and availability—to demands for project support in excess of the capacity of the road organizations being assisted.

14. The coordination of in-country operations by donor groups on a national basis has become relatively effective, but in the past this was not the case. The different policies and practices under which different donors operate continues to be confusing or complicating for host governments. There is an ongoing need for active monitoring of project implementation by the donors. The dependency on aid has reduced the sense of government ownership and responsibility for road maintenance. The direction and steering of policies and project objectives by donor representatives has often been at the expense of participation by government decision-makers and has reduced government commitment to such policies and objectives.

### INSTITUTIONAL DEVELOPMENT

15. Although there is no fixed plan or formula for the administration of road operations, the modal summary suggests a framework for the implementation of interventions supporting institutional development (ID). The framework is based on the apparent ranking of institutional issues and the order in which they should be addressed (as presented below). The framework builds upon examples of success and failure. It mirrors the realities of reform in that successful change at one level is generally dependent upon prior conditions having been met at a higher more strategic level. The framework is a conceptual guide to action which must be fit to the specific political, economic and social environment in which an individual road organization must operate.

#### Review of the Sub-Sector Mission and Performance

16. The starting point for the successful reform of road network operations is a review of the mission defined for the sub-sector and an evaluation of the performance of the institutional systems supporting that mission. The mission of most road organizations throughout the region

has often been assumed to be obvious and, as a result, has been imprecisely defined. The sub-sector mission needs to be defined within the context of the overall mission for the transport sector. This requires an examination of the roles to be played by the respective transport modes in the movement of goods, services, and people both internationally and internally. The importance of road maintenance and alternate institutional arrangements for providing it must be central to the review process.

17. An assessment of the extent to which institutional performance supports the mission defined for the sub-sector indicates the degree to which reform is required. Such an assessment can also identify issues which need to be considered in the development of reform policy. Relevant issues for the road sub-sector might include:

- establishment of a separate road fund;
- reduction of overstaffing;
- revision of career and pay structures;
- roles for the private sector in the provision of road maintenance; and
- increased use of labor-intensive methods.

#### Develop Commitment to the Need for Reform

18. Experience indicates that successful reform in the road sub-sector requires the firm commitment of governments and the acceptance of change by the management of road organizations. Where a government has not understood the requirements of road operations, policy objectives have often been inappropriate. Where management has not supported change, the results of ID efforts have been disappointing. The facilitation and funding of the reform process also requires the support of the donor community. Thus, commitment to the reform process is required by a tripartite group composed of government, management, and donors.

19. The generation of commitment is a complex process which requires the participation of the tripartite group in all phases of reform activities. It begins with the recognition of the need for reform arising from the review of the sub-sector mission and performance and is reinforced by participation in the identification of the specific issues to be considered. Commitment is necessary for the subsequent refinement of specific reform policies and methods and is essential as well throughout the implementation of the reforms.

20. Policy action planning workshops have proved to be effective mechanisms for both the development of government ownership of the reform process and the specification of the general terms for reform policies and options for the management of road operations. The success of these workshops is based on pre-workshop inputs, participatory sessions during the workshop, and follow-up actions.

21. All of the case studies accorded high priority to the need for government commitment in order to achieve HRID in the road sub-sector. The government as the source of funding for the sub-sector plays a client role for road organizations. Equally important, however, is the access the government provides to the resolution of the broad range of HRID constraints external to the road organization itself.

22. The top management of the road organization must also be willing to commit itself to the concept of reform. Reform policy may include a revised mission for the road sub-sector and the road organization, the adoption of alternate institutional arrangements, including expanded reliance on the private sector, the restructuring of the road organization, and new managerial and operational systems/procedures. Top management has vested interests in all of these areas and is likely to be wary of the reform process before it even begins. Reform will require the sustained commitment of the top management of the road organization over a prolonged period of time. The establishment of an Organizational Core Management Team can be a useful mechanism to promote and renew commitment as well as assist coordination and management of change.

23. Donors can facilitate HRID by promoting the consideration of policy reform in conjunction with assistance programs and by identifying the costs and benefits of reform, but the reform process will not be successful if it is donor-driven. Donor commitment needs to include a review of the lessons which can be learned from past experiences of reform initiatives. Donors need to review their approaches to project design and prepare for long-term implementation cycles. The monitoring of project implementation should involve frequent and close review of performance and conditionality in order to provide an early warning of potential difficulties and problems.

#### Develop and Refine Reform Policy

24. Once there is an initial commitment to the need for reform, the government, the road organization, donors, and other stakeholders should participate in the definition of a specific reform policy. The elements of the reform policy will vary from country to country but in all cases should represent a response to the evaluation of institutional performance in support of the sub-sector mission. Organizational autonomy will be a key management issue and road maintenance will be a central technical issue. The centrality of road maintenance, however, should not result in the neglect of the planning, design, and construction functions. Human resource development must also be addressed.

25. The reform policy must focus on the need to reduce external constraints, including political interference in decision-making, funding requirements, and reform of the civil service. It may require the modification of institutional arrangements and the shifting of certain functions such as maintenance to the private sector as is underway in Senegal. The road organization itself may need enhanced management, restructuring, additional resources, or management systems.

26. Implementation of the reform policy will require a comprehensive action plan which integrates the identified interventions needed to meet reform policy objectives, provides an implementation/transition schedule, and identifies support requirements. The action plan also needs to provide concurrence on methodology and detail the reporting, monitoring, and evaluation mechanisms for the implementation of reform interventions. The more comprehensive the reform envisioned, the more detailed will be the action plan. An Inter-Ministerial Steering Committee could be an effective mechanism to continue development of the reform policy and coordinate the implementation of the supporting Policy Action Plan.

#### Implement Strategic Reform and Restructuring

27. Experience indicates that the implementation of reform policy requires strategic management of the reform actions. The implementation of reform will involve a series of actions over a prolonged period of time to prepare for change, enable accommodation to the reform process, and ensure that appropriate action takes place. This is facilitated by the teaming of top management to serve as a dynamic leadership group. Such teaming has recently proved to be very effective in Malawi. Strategic management of reform should be an internal responsibility of the road organization and should not be diverted to external advisors or specialists. Task forces—drawing from government ministries, the road organization, and stakeholders—may be useful mechanisms to assist the implementation of reform.

#### Strengthen Top Management Environment, Motivation and Incentives

28. High levels of institutional performance are dependent upon competent top management. Managerial competence needs to be nurtured by supportive external and organizational environments. Management needs to be motivated and given incentives to perform. Road organizations in SSA are often deficient in these areas. In most of the region managerial issues represent greater constraints on institutional development than do technical factors. Top management works in an environment within which it is difficult to be motivated. Political interference in decision-making is common, and financial and other resources are uncertain. Objectives are often imprecise or conflicting, there are inadequate financial rewards and incentives, and career mobility is limited. Certain of these issues arise from external constraints. The restructuring of institutional arrangements and the initiation of strategic reform would seem preconditions to increased performance by managers.

29. The existence of a strong top management provides the basis for the spread of sound management throughout the entire road organization. The management style and roles of those at the top of the road organization need to be adjusted. Increased emphasis should be given to strategic planning, and communication and reporting channels should be improved. Subordinates may need to be encouraged to participate in key decisions, make delegated decisions, and take actions on their own.

30. The road organization also needs to prepare a Management Plan which outlines the specific responsibilities, objectives and expectations for each of its departments. The mission statement for the road organization provides a general guide to functional responsibility of the road organization as a whole, and the Policy Action Plan specifies the reform policy needed to better perform those functions. The Management Plan should be more detailed and provide indicators by which to judge performance and the realization of objectives. The Management Plan should become a permanent tool of the road organization, being annually reviewed and revised.

#### Improve Resource Availability

31. The availability of financial resources represents a major constraint throughout the region. At issue are the size of budgets, the proportion of the budget allocated to maintenance, the flow of disbursements, and the availability of foreign currency. In Senegal, for example, the budget for roads in 1989, although twice that of the two previous years, still enabled funding of only 25 percent of the maintenance scheduled for the year. Where roads have been financed as line items in national budgets, the funding level has often been based on a percentage of allocations in prior years rather than keyed to actual requirements. Road organizations throughout SSA should consider introducing performance-based budgeting as a means of evaluating the adequacy of annual allocations.

32. Maintenance operations have been frequently deferred because allocations for roads were diverted to other uses. The most commonly advocated funding solution is the creation of an autonomous road fund financed by taxes or charges on road users which are specifically earmarked for the road fund. Donor experience with road funds indicates that administrative systems have been highly resistant to their introduction, and even when established they have not been inviolable. <sup>2/</sup>

33. Throughout SSA plant and equipment availability and utilization are consistent constraints on road operations, especially maintenance. The key issue is the lack of preventive maintenance, in turn restricted by the lack of spare parts, procurement policies and procedures, and the limited availability of foreign currency. All international donors have extensive experience with efforts to increase the availability and utilization of plant and equipment in road sector projects, and road organizations have become dependent upon external assistance for the provision of the majority of heavy road equipment. Projects have focused on both equipment purchases and training, but unless supplemented by investment in maintenance systems and management skills these activities have not significantly increased availability or utilization rates on a long-run basis.

34. Throughout SSA, human resources are a qualitative and quantitative constraint on institutional development and performance in the road sub-sector. Human resource constraints are often more difficult to resolve than are the improved availability of financial or material resources. Investment in human resource development requires a longer time-frame than does the procurement of equipment and road materials; its impact may be less immediately felt than the provision of adequate finances. The significance of human resource development for institutional development is sufficient to warrant expanded discussion in Section IV.

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<sup>2/</sup> Financial resources are also required for the implementation of redundancy programs. The need to reduce Manning levels is common to most road organizations in SSA. Attrition is often advocated as the least painful approach to meeting this need. In many cases, however, the extent of the problem requires additional planning to provide balanced reductions within acceptable time-frames. This may require a government fund to assist and retrain terminated staff ( See Section IV).

### Implement Organizational Restructuring and Management Control

35. In the past, institutional development activities in the region only too often have focused on the organizational restructuring of a road agency as the key to the resolution of management problems. Often conducted without the resolution of more strategic issues, such restructuring has seldom been an effective means of increasing institutional performance. In Madagascar, for example, the result has been an erosion of performance. The case studies provide examples of such activities which have lacked adequate provision for preparation, follow-up, monitoring, evaluation, and adjustment.

36. The restructuring of a road organization should respond to the review of the mission of the sub-sector and the functions the road organization is intended to provide. It may be a direct response to the overall restructuring of the institutional arrangements themselves. For example, if sub-sector reform calls for the establishment of an independent road authority, or the execution of work through private contractors, the structure of the remaining organization would have to be adjusted.

37. The need for the clear specification of objectives and the linkage of objectives to the realities of both road organizations and their environments is clearly supported in the case studies. Objectives for an organization cannot be set until there is a clear image of the mission of the institution. Within the context of the reform process advocated here, it also requires the definition of reform policy and the implementation of institutional and organizational restructuring. The objectives should be linked to the Management Plan developed by management and consistent with the terms of the Policy Action Plan. Once objectives have been established they can provide the basis for management and supervision throughout the road organization.

38. Management by objectives is used by many governments and firms in the private sector. Experience has shown that the approach works best when all managerial and supervisory staff in an organization are involved in the objective-setting process. The mechanisms enabling participation vary but center on systematic specification of objectives for respective levels of the road organization. Usually one begins at the top with participation of subordinate levels, in a descending process so that the objectives of one level guide those of the next lower administrative unit, but adjustment must be made in both directions.

39. The use of objective matrices for a road organization should also be linked to performance requirements in the job descriptions designed for personnel and the technical requirements of the road maintenance and other operational systems. This is particularly important when organizational objectives specify performance in terms of specific levels of service.

### Managerial Systems, Processes, and Procedures

40. The case studies indicate a widespread deficiency in the managerial systems, processes and procedures (MSPP) <sup>3/</sup> used by the road organizations in SSA. It is not that MSPP do not exist; rather it is that they are often inappropriate, incomplete, ineffective, or even inoperative. The primary impact of the MSPP deficiencies is inadequate management control. In turn, resources are used ineffectively, performance is impaired, and hazards to safety may increase.

41. The installation of operational management systems is essential to the effective operation of road organizations. The systems need to be structured to support the primary management functions of: planning (including budgeting), organizing (including staffing), directing, and

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<sup>3/</sup> Management systems range from comprehensive management information systems to specific operational systems for such activities as road maintenance or equipment management. Processes and procedures range from the administrative steps required to requisition resources to the steps required for patching potholes.

controlling. Operational systems supporting road management can be designed to support different categories including:

- Construction management
- Maintenance management
- Pavement management
- Bridge/structure management
- Roadside management
- Traffic Systems management
- Equipment management (including spare parts)
- Materials management

42. Many road sector projects in SSA have included MSPP components. These have sought to either build upon existing MSPP elements or introduce new ones. Over time the results of investment in MSPP can be easily eroded, however, as a result of faults in system design, installation, or maintenance. A central issue is the availability and handling of management data. Data needs to be accurately collected in a timely manner. This requires the support of field personnel for the data collection process; field support appears to be greatly enhanced when time is taken to explain the value of data and how it will be used. In order for the data to be useful for management, it should indicate conditions and levels of performance. Time must also be spent in gaining the confidence of management personnel in the utility of systems and consolidated reports. Investment in the design and installation of MSPP will not guarantee increased institutional performance. Their operation is dependent upon an accountable management and staff and operable incentives. Only within such a context can they enable management control.

43. Management systems do not need to be computer-based systems, but the need to process data and provide meaningful management reports for the direction and control of road operations can be greatly facilitated by the use of micro-computers. Malawi provides an example of the range of micro-computer applications relevant to road organizations. Simple processes and procedures should not be overlooked as effective means of controlling or enhancing performance. Operating check lists, equipment use and maintenance cards, diagrams, and even posters can assist quality control and the standardization of operations.

### HUMAN RESOURCE DEVELOPMENT

44. Human resource development (HRD) cannot be guaranteed by any fixed plan or formula. It must be addressed within the context of each individual road organization and its institutional environment. Evidence drawn from the case studies, however, does support a framework for interventions in support of HRD. The framework is a conceptual guide to action. Because many of the needs are interrelated, their solution may require simultaneous interventions. The sustainability of HRD appears assured, however, only by addressing these needs in an ordered manner (as presented below).

45. The case studies illustrate the interdependence of institutional development and human resource development; they suggest the importance of a supportive institutional context as a precondition for HRD. The institutional context necessary for human resource development would seem to require both an enabling institutional environment and the internal organizational conditions in which people wish to stay, can perform, and can develop their practical skills, knowledge, and professional careers. Road organizations may wish to address ID and HRD concurrently, but without consideration of the institutional requirements discussed in Section III the impact of HRD on the performance of road organizations is likely to be marginal and difficult to sustain.

### Improve Human Resource Policies and Management

46. Human resource management—ranging from recruitment and motivation to personnel administration and training—is a vital determinant of institutional performance. Many road organizations in SSA have neglected the importance of their manpower resource and concentrated on the more tangible aspects of budgets and material resources. Strategic management of human resources may be constrained by:

- deficient mandate over manpower and personnel decisions;
- weak planning and forecasting mechanisms for overall road programs and maintenance needs;
- failure of top management to appreciate the importance of HRD;
- political interference in decisions affecting personnel and promotions;
- inadequate human resource management policies or plans;
- inadequate manpower and personnel data; and
- low prestige accorded to personnel and training functions.

47. The importance of human resource management makes it a central concern for the strategic management of road organizations. It may be necessary to cultivate both an understanding of human resource concepts and commitment to their development. This requires gaining an understanding at all levels of management that it is just as important to manage human capital as it is to manage the other resources of the road organization. The generation of support may be directed first at top management but then must filter down to all other levels of management and supervision in the road organization.

48. Human resource management requires a capacity for long-term manpower planning. Manpower planning requires the possession of accurate manpower data which can be matched to management plans developed in conjunction with strategic planning exercises for road organizations. It may be necessary to conduct a manpower assessment which includes an inventory of the current and future manpower requirements—numbers, skills, etc.—of the road organization, and assesses the extent to which these are currently being met or will be met. Manpower planning has been seriously constrained in many road organizations, in Madagascar, for example, by the extensive use of temporary workers.

### Adjust Workforce to Employment Needs

49. Most road organizations have had some experience with reductions in their levels of manning, but usually this has been in response to externally imposed manpower and personnel policies. Road organizations often have not participated in the decision-making process for manpower policies and have had a limited role in the implementation of redundancy programs. In many road organizations, as has been the case in Senegal, the majority of the budget is required to meet salaries, leaving little funding for maintenance and other operations. Nearly all road organizations in SSA will be faced with redundancy programs involving larger numbers and more compressed time-frames than in the past. This suggests an increased need for the involvement of road organizations in redundancy programs and an upgrading of redundancy management. The ability of road organizations to strategically manage redundancy programs will be directly affected by the extent to which human resource management is supported by top management. It will be correspondingly limited by the absence of manpower planning mechanisms and deficiencies in the personnel systems in place. Most road organizations will need assistance in the development and implementation of redundancy programs.

### Strengthen Accountability, Incentives, and Sanctions

50. Accountability, incentives, and sanctions need to be strengthened at all levels throughout the road organization. The factors motivating different groups within the organization are likely to vary. For example, top management may be especially concerned about status and power; technically oriented personnel may place a high value on access to technology and the

professional reputation of the organization; work crews are likely to be more concerned about wages. Management at all levels must be concerned about the motivation of the staff they direct.

51. The basis of accountability is the establishment of clear and realistic objectives for both work units and individuals. This requires a definition of inputs and outputs and a specification of the procedures to be followed. The case studies indicate that road organizations in SSA generally lack a well structured set of objectives or performance indicators. An essential first step for road organizations may be the building of specificity into objectives, procedures, and position descriptions.

52. Road organizations offer employees various packages of incentives including financial payments and such other benefits as housing or medical care. Improved wages are undoubtedly a precondition for improving the motivation of staff in most road organizations in SSA, but they must be weighed against other factors and conditions in each country. The incentives provided by housing, health programs, and access to further education may be difficult to assess or directly relate to performance, but they may be the major incentive for employment. Road organizations should rely on fringe benefits as a supplemental means of motivating employees, but this should not be at the expense of performance linked incentives.

53. Well motivated workforces are generally well disciplined and require infrequent use of sanctions. Accountability requires, however, that management have both the means and the will to apply sanctions when workers need to be disciplined.

#### Manpower Utilization and Job Resources

54. Institutional performance can be significantly enhanced by improving the utilization of the existing staff, and manpower utilization is an issue that should be addressed well before the initiation of major training interventions. The ineffective use of manpower arises primarily as a result of:

- unclear roles, areas of responsibilities, or job objectives;
- incorrectly structured work units, tasks, and procedures;
- the mismatching of personnel and their skills to the positions they are assigned; and
- inadequate provision of material and equipment resources to carry out assigned tasks.

55. The interdependence of HRD and ID is readily visible in the promotion of manpower utilization. Interventions that road organizations initially take to promote ID must include improved manpower utilization as one of their objectives. Road organizations are often only generally aware that they have a manpower utilization problem, and it may be useful to conduct a resource utilization and availability audit to determine the extent of the problem and target specific issues for resolution. The effective use of manpower is a recurrent problem that needs to be systematically monitored on a periodic basis.

#### Develop Supervisory Skills

56. Most road organizations have given priority to technical training at the expense of the development of supervisory skills, based in part on the assumption that the development of technical competence in a functional area is adequate preparation for the supervision of that function. Project experience in the sub-sector has, in fact, shown that such is not the case and that inattention to the development of supervisory skills for foremen has often eroded the projected benefits of training offered to their work crews.

57. Most road organizations need to review the support given to the development of supervisory skills. They need to assess the skills needed, the skills available, and the extent to which the individuals holding supervisory positions can profit from training. Some individuals may

have little potential to develop supervisory skills and may need to be reassigned to other positions.

#### Develop Personnel Systems and Practices

58. The existence of well-functioning personnel systems and practices is essential to the coordination and implementation of HRD interventions. Personnel departments need to actively support human resource management and the development of a performance oriented work culture. Particular attention needs to be given to the availability of meaningful personnel data, the effective administration of personnel actions, and the integrity and objectivity of all personnel systems. This has been a particular problem, for example, in Tanzania. Consistent and impartial application of personnel systems is vital to the linkage of motivation and incentives to performance appraisal, the evaluation process, promotions/sanctions, and career development.

59. In many road organizations personnel functions are seen as extensions or even intrusions of external agencies into the technical and operational responsibilities of the organization. The civil service is often seen as a negative constraint by management. Management must take specific actions to ensure that the staff servicing the personnel function see themselves—and are seen by the organization itself—as part of the organization and come to participate in the work culture being promoted for the organization by management.

#### Management of Technical Assistance

60. The case studies indicate that road organizations in SSA have differed widely in their use of technical assistance. For some it has been limited to short-term assignments and focused on specific issues. For others it has been used as well to staff line positions on an extended basis. In many instances there has been no sustainable improvement in organizational performance.

61. Experience has suggested that the delivery of technical assistance is a complex process and requires careful and sustained management. The case studies, however, indicate low commitment by governments, road organizations, and donors to the management of TA for the road sub-sector in SSA. As a result, the impact of TA on organizational performance has often been weakened by deficiencies in: coordination; identification and design; selection of specialists; institutional support; monitoring, evaluation, and sanctions; and continuity.

62. Donors, governments, and road organizations should jointly share the responsibility for the management of TA. The use of TA by road organizations should be reviewed on an individual basis to ensure the support of national development policies and the management plans developed by road organizations. TA should be seen as an expensive alternative to the development of organizational or local expertise, and it should not be used to avoid the need for institutional reform.

63. Most donors have at least instituted reviews of their management of TA, and governments and road organizations in SSA may seek enhancement of their capacity to manage TA under road sector loans. It is likely that the management of TA in support of HRID will require supplemental resources. Continuity is a particular concern which may be met by an increased use of local consulting firms, local training institutions, twinning with more developed road authorities, and nongovernmental organizations.

#### Appropriateness of Training

64. The existence of a well-trained workforce is essential for effective road operations. Training alone, however, will not guarantee improved sub-sector performance. Training must be provided within an institutional setting that motivates trainers to train and trainees to both learn and apply what they have learned. Training cannot compensate for insufficient levels of equipment, fuel, or spare parts; for some road organizations increasing the availability of other resources may have a

greater short-run impact on institutional performance than investment in HRD. In the long-run, however, improved training seems essential to the sustained development of road organizations. An understanding of the importance of, and commitment to, the provision of training by top management is vital to the success of HRD. Training needs to be an integral aspect of the management plan developed by each road organization.

65. Most ministries responsible for road operations offer training for lower level staff and for specific road skills not provided at external educational institutions. This training is often provided at central or regional facilities. The case studies indicated that there were many problems constraining the effectiveness of such internal training programs. As in the case of Senegal, the operation of such programs is highly dependent upon external assistance. The primary targets for improving internal training include better training program design, improved curriculum development, and upgrading the skill of the trainers themselves.

66. Identifying the training needs of each road organization is the first step in designing an effective training program for road operations. The case studies indicate, however, that the training needs of most road organizations are poorly known. Many road organizations base the training they provide on past requirements. These estimates are only an approximation of actual needs, and they offer little defense against quotas or budget cuts. They do little to ensure the availability of the skills needed to support the functions for which the road organization is responsible.

67. The assessment of training needs for road organizations should be comprehensive and conducted in a systematic way. It should include both technical and managerial/supervisory skills. Particular attention should be given to changes in the type of skills required resulting from the introduction of new technology or management systems, processes and procedures.

68. Using the assessment of training needs as a base, road organizations can improve the effectiveness of the training program they provide by developing a comprehensive training plan. This plan must take into account the overall management plan for the road organization, including any changes in structure, size, or technology. In support of the management plan, the road organization should formulate training policies that address such issues as entry skill requirements, specialized training, remedial/refresher training, and career development. Using these policies as a guide, a training plan can be developed which defines such specifics as who is to be trained, in what, and when.

#### HRID: METHODOLOGICAL ISSUES

69. A framework of general methodological lessons for the implementation of HRID interventions has been drawn from the case studies and the existing methodological literature for the development of institutions, organizations, groups and individuals. Effective application of these methodological lessons to some of the interventions suggested for the road sub-sector will often require HRID specialists.

#### Internal Nature of HRID

70. The most fundamental methodological lesson in human resource and institutional development is the limited potential for induced HRID. External development assistance agents can promote the recognition of the need for change and can assist in setting the proper stage for the development process. They can influence, guide, direct and otherwise serve as catalysts to HRID, but they cannot force or impose it. The reform process itself takes place within the institutional context of a road organization, its environment, and the individuals making up that organization. Acceptance of the need for, commitment to, and the initiation of HRID interventions must come from within.

### Long Time-frame

71. The majority of HRID activities in SSA have been undertaken within the context of project-related objectives and limited to the typically relatively short time frame of the project cycle. Experience shows that HRID requires a longer period of time—perhaps ten years or more—in order to monitor and, if necessary, adjust the institutional changes made and ensure their permanence. This time-frame, extending over the lifetime of several projects, requires giving particular attention to continuity in the implementation process, including staff, objectives, and resources. Continuity can only be assured as a result of sustained commitment to HRID by governments, road organizations, and donors alike.

### HRID: Discrete Activity

72. Activities addressing HRID in the road sector have usually been designed as components set within larger projects. The primary objectives of such projects were implementation- (engineering and construction work) oriented and gave insufficient attention to institutional development requirements. HRID is perhaps best seen as a distinct process which should be conceptually separated from technically oriented activities. It has different kinds of goals, methods for implementation, and techniques for verification and monitoring.

### Facilitation, Collaboration, Participation

73. External agents should act in a facilitative manner to jointly evolve policies and solutions in the promotion of HRID. The organizations targeted for HRID should be actively involved in the design and implementation of interventions. Active participation should be sought from government planners, the managers and staff of the road organization, and external users and suppliers.

### Institutional Assessment

74. In order to formulate effective responses and specify developmental measures for a specific institution, it is important to conduct an institutional assessment of both the internal and external factors—i.e., factors arising from both the organization and its environment—affecting the HRID of that organization and the attainment of its mission and goals. Such an assessment is a primary prerequisite to the design of HRID programs. If an assessment is to be useful it must be thorough, allowing sufficient time and resources to examine the institution and its setting.

### Research, Analysis, Options

75. Development activities can draw on an extensive body of HRID literature including research findings from other HRID efforts and suggested options which can be considered as solutions to particular kinds of constraints. These can be useful, but in all cases they must be fitted to the realities of the specific organization and its institutional environment. The adaptation process frequently requires issue-oriented, in-country research and analysis before relevant options can be identified and evaluated.

### Conditionality

76. The case studies illustrated the hesitation of certain donors to enforce loan conditions. Conditionality should be linked to meeting specific, verifiable, and realistic conditions. Experience suggests that the collaborative participation of donors, governments, and road organizations in the definition of conditionality enhances the commitment to meeting the terms which have been mutually established. Donors should, however, be willing to put a hold on lending until they feel

commitment has been reached and the government and sub-sector organizations can support their commitments with actions.

### Process Nature of HRID

77. HRID cannot be approached mechanistically. There are no fixed blueprints for intervention, but rather there are only guidelines and general frameworks for HRID. They must be applied and adapted to each organization and the environment in which it exists. Management styles and work cultures are particularly vital elements to consider in promoting HRID processes. These are often iterative and require progressive adjustments and refinements.

### Change Management

78. At the very core of HRID is the process of change. Few institutions and individuals readily accept change. At the outset change is often either avoided or resisted. In such instances special management techniques which facilitate change are required. The management of change is also facilitated by an active organizational leadership which challenges the status quo and is open to modification of the institutional arrangements and the adoption of new management techniques.

## CONCLUSIONS

79. The four case studies have indicated five primary considerations relative to targets and methodology:

### Targets

- Before initiating interventions keyed to internal and organizational issues, the external and public sector constraints on the road sub-sector must be addressed. These include macro economic and civil service reforms as well as the need to ensure organizational autonomy and external accountability.
- In order to address constraints on HRID bold steps may need to be taken based on major institutional reform—including the restructuring of institutional arrangements and the introduction of forms of privatization—rather than on the improvement of the existing organization.
- Fundamental to the HRID process is the development of commitment and motivation. The generation of these attitudes is a prerequisite to the effective application of individual capabilities.

### Methodology

- The promotion of the reform process and introduction of change is facilitated by a process approach which uses collaboration of donors and governments as the means for evolving policies and actions.
- Interventions should be applied within the context of the institutional setting as a whole. They need to address issues on a comprehensive basis in keeping with the causal hierarchy discussed.

80. On the basis of these five primary considerations this report has suggested a framework for HRID interventions including their content, sequencing, and the methodological approach for their implementation. The application of the framework, however, will be complicated as a result of three issues which should be given careful consideration by donors, governments, and managers of road sub-sector organizations.

81. First, the generation of commitment to road sub-sector policy reform and institutional development may well be constrained by delays and complications arising from the larger economic and public sector reform process. Reform at this level has not been retarded by ignorance of what needs to be done but by multiple factors arising from deeply seated political, economic and social interests. If progress can be achieved in reform at the macro level, the expectation of success at the sub-sector level will be greatly enhanced.

82. Secondly, policy and institutional reforms cannot be managed in the same way traditionally used for project design and implementation. Extended timeframes of perhaps ten years or more will be required. Substantial investment in change process management mechanisms will be necessary to ensure the success of the reform process. The process will not be simple, and all participants in its management can expect difficulties and frustrations as they attempt to apply the frameworks suggested here to the realities of each national setting.

83. Finally, the methodology associated with process consultation is unfamiliar to most of the staff of donors' organizations, governments, and road sub-sector organizations. Application of the methodology will require not only process skills but also the adoption of new approaches and attitudes. Externally recruited HRID and process specialists initially may be needed to support the policy reform and institutional development process, and a resident in-country facilitator may be required.

#### THE STRUCTURE OF THE REPORT

The report first presents the HRID analytical framework used to study the external and internal factors that determine the institutional performance of the road organizations examined in the case studies. (See Section I). It then provides a broad perspective of institutional performance in the road sub-sector and a discussion of the key interacting causal factors that have constrained the performance of road organizations in SSA (See Section II).

The suggested intervention framework for the institutional development of road organizations is then developed in detail (See Section III). This is followed by the parallel suggested intervention framework for human resources development (See Section IV).

The report closes with a series of methodological lessons for HRID derived from the examination of the key constraining causal factors and suggested interventions (See Section V), and an overview of conclusions (See Section VI).



## I. INTRODUCTION

### SECTION SUMMARY:

This report is the modal summary for road operations prepared for the Human Resource and Institutional Development (HRID) Project of the Sub-Saharan Africa Transport Program (SSATP). Through a program of research, dissemination of findings, and institutional reforms the HRID Project aims, first, at understanding why HRID has not occurred more satisfactorily and, second, at identifying an approach and methodology to address the problems identified.

The report draws on the findings of four institutional case studies, each of which examined the administration of the road network <sup>1/</sup> in a different country in Sub-Saharan Africa. The countries studied are:

- Madagascar
- Malawi
- Senegal
- Tanzania

The report advocates openness on the part of development planners and road organization managers to more comprehensive and participative approaches for HRID intervention.

### A. Brief History of SSATP HRID Project

1.01 During the 1970s the inefficiency of the transport sector was increasingly recognized as a major constraint to economic growth and development in Africa. Government concerns over the wide array of problems associated with the transport sector culminated in the declaration of the United Nations Transport and Communications Decade for Africa (1978-88). The United Nations Development Programme (UNDP), The Economic Commission for Africa (ECA), and the World Bank subsequently established the Sub-Saharan Africa Transport Program (SSATP). The primary objective of the SSATP has been the improvement of transport efficiency and the promotion of sustainability through policy reform and institutional improvements; strengthening the capacity to formulate policy is an associated objective. Similar objectives are central to the forthcoming Second United Nations Transport Decade for Africa.

1.02 The activities of the SSATP have been designed around four major projects covering: improved road maintenance; railway restructuring; transport sector human resource and institutional development; and rural travel and transport. Other projects covering urban transport, trucking, and transport data, transport taxation and user charges, trade and transport facilitation, domestic construction industries, and civil aviation are also being implemented or are under consideration. Activities being undertaken have included workshops, operational reviews and studies, research, and case studies.

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<sup>1/</sup> The report limits its focus to the management of the physical infrastructure in the road sub-sector. Management of the road transport industry is the subject of another SSATP report.

1.03 The SSATP's Human Resource and Institutional Development (HRID) Project was established as a result of an inter-agency meeting of UN Specialized Agencies held in Debre Zeit, Ethiopia, in May 1988. The project is funded by the UNDP with additional financing for project management from Italy and Norway. It covers all transport sector modes—alternately referred to in this report as sub-sectors—as well as the telecommunications sector. The executing agencies for transport are: UNCTAD (Ports), IMO (Shipping), ICAO (Civil Aviation), ILO (Road Transport Organizations), and the World Bank (Highways and Railways). The ITU is responsible for Telecommunications. The UNDP chairs the Interagency Committee which oversees the development and implementation of the project. The ECA will be responsible for the dissemination of the findings.

## **B. Purpose and Rationale of the Project**

1.04 The HRID project started with a research phase to better understand the constraints to institutional and human resource performance in the transport sector and to identify approaches and measures to solve the problems identified. Subsequent phases are intended to undertake the dissemination of the findings and initiate discussions with Sub-Saharan Africa (SSA) governments and institutions as part of an on-going policy reform process.

1.05 For analytical purposes the transport sector was split into its respective modes; in this case the road sub-sector. The rationale for this division was that certain of the factors constraining or enhancing HRID—and their associated solutions—would be modally specific. Several case studies were conducted for each mode to provide a cross-national perspective of HRID in SSA. Each of the four studies for roads examined the factors promoting or constraining HRID for the administration of highway systems in a different country in SSA. Based on the findings provided by the four case studies, the modal summary for roads was prepared.

1.06 An extensive body of literature already exists, providing development concepts for institutional, organizational, and human resource development for planners and managers alike. <sup>2/</sup> It has not been the intention of the HRID Project to develop additional concepts or theories. The objective has been to determine why existing HRID concepts reflected in the literature have not been more effectively applied in the transport sector in SSA and, then, to develop guidelines, which if applied, will provide the basis for sustained HRID in the future. <sup>3/</sup>

1.07 The report is intended for a broad audience of development professionals and managers, and agencies concerned with increasing the performance of road operations: government ministries, road organizations, training institutes, donors, and consulting firms. The sustainability of HRID is dependent upon the openness and commitment of such groups to depart from current practices and adopt innovative approaches and methodologies. Following distribution of the report to the supporting agencies, it will be disseminated in SSA through regional and sub-regional workshops. The objective of these workshops will be to increase awareness of the need to address HRID in a comprehensive manner based on institutional reform rather than remedial approaches more commonly followed. This includes recognition of the fact that changes in the external environment may be essential before sustained improvement in the performance of the road sub-sector is possible. Workshops will stress the key issues of organizational autonomy, accountability, and incentives as prerequisites for effective management systems and controls. The workshops would serve as a first step in the creation of core management

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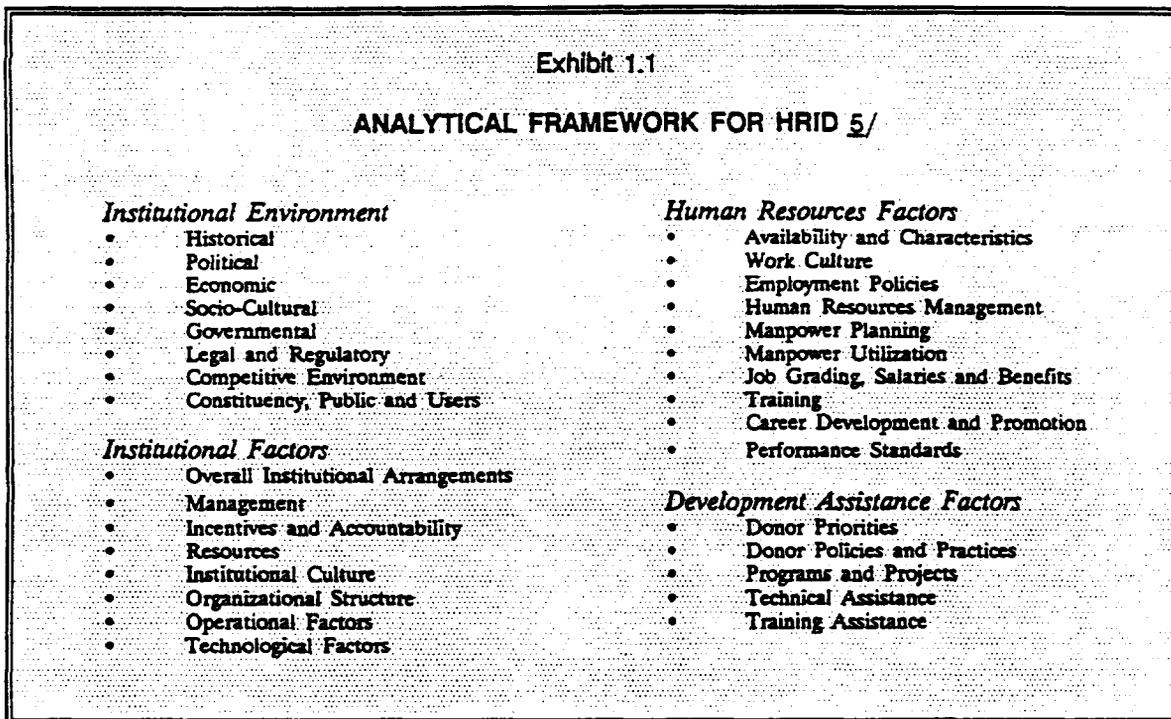
<sup>2/</sup> The distinction between institutional and organizational development is not uniformly observed in the existing literature, and the two terms are sometimes used interchangeably. In this report institutional development is defined broadly to include not only the development of the organization responsible for road network functions but also the relationship of the organization with the external environment in which it must operate. The external environment includes the political, economic, administrative, and social setting in which an organization operates. It includes relationships with multiple organizations, groups, and individuals—both public and private—that affect the performance of the functions the organization was established to serve.

<sup>3/</sup> A particularly useful review of the experience of the World Bank in institutional development is provided in Institutional Development in Africa: A Review of World Bank Project Experience, Vol I, The Report, Vol II, The Supplement: Selected Case Studies. Report 5085, The World Bank, Washington, D.C., May 17, 1984. A general HRID bibliography has been prepared for the reference of the reader and is attached at the end of the report.

teams which would strategically guide organizational restructuring and improved human resource management.

### C. Description of Case Studies and the Modal Summary

1.08 This modal summary has been prepared on the basis of case studies in Madagascar, Malawi, Senegal, and Tanzania. <sup>4/</sup> The case studies were conducted on the basis of field surveys and interviews. Their findings were similarly developed and structured on the basis of the analytical framework shown in Exhibit 1.1. This framework separates the factors influencing HRID into four primary categories: factors external to the institutions; factors internal to the institutions; human resource factors; and donor assistance. Each case study was designed to take a total of twenty-seven working days, of which ten days were spent in the field. Although within the time available the symptoms of HRID problems could be appreciated, a thorough analysis of the causes and the development of solutions and policy responses for HRID would require a longer timeframe. The findings of the case studies have, therefore, been supplemented by other road experience to provide a more comprehensive perspective.



1.09 The modal summary provides a structure for policy changes and interventions <sup>6/</sup> to improve institutional and human resource development in the road sub-sector. The analysis of the road case studies—supplemented by the sector and country expertise of World Bank staff—revealed a common range of problems and inter-related causes which were then classified and ranked. This analysis provided the basis for the formulation and logical sequencing of specific processes and interventions for both

<sup>4/</sup> The modal summary was prepared by Philip Moeller (HRID Specialist) on the basis of the four case studies and additional road studies and experience. Its topics and structure are based on HRID analytical and intervention approaches and methodological lessons developed by Max Iacono (HRID Specialist and Project Manager). The case studies were prepared by the following specialists using the HRID analytical framework above complemented by additional sub-topics: Madagascar: Mr. J. Baudoin (Roads Administration Specialist); Malawi: Mr. R. Robinson (Roads Administration & Institutional Development Specialist) and Mr. C. Relf (Transport and Human Resources Sector Specialist); Senegal: Mr. J. Baudoin (Roads Administration Specialist) and Ms. M. Dreyer (Human Resources Development Specialist); and Tanzania: Mr. R. Robinson (Roads Administration and Institutional Development Specialist). The detailed procedures followed in conducting the case studies and the modal summary are outlined in Appendix A.

<sup>5/</sup> This framework was used to analyze the effect of each category of causal factors on the institutional performance of the case roads agencies so as to identify the factors' relative importance and its constraining or enabling influence on institutional and human resources development.

<sup>6/</sup> Interventions include a broad range of actions deliberately undertaken by donors or governments—or on behalf of them—to promote institutional and human resource development.

institutional development and human resource development. A framework for interventions was developed which addresses both the content and methodology for HRID.

1.10 The report provides an overview of institutional performance in the road sub-sector and discusses the respective frameworks suggested for HRID interventions; it contains the following sections:

Section I	Introduction to the report;
Section II	Overview of the institutional performance of the road Sub-sector, including problems, their primary causal factors, and the implications for interventions;
Section III	Hierarchical <u>7/</u> framework for interventions to facilitate and stimulate institutional development
Section IV	Hierarchical framework of interventions for human resource development;
Section V	Recommended methodology for HRID interventions in the road sub-sector; and
Section VI	Conclusions

1.11 Synopses of each of the four case studies have been provided as a separate appendix to the report. (See the Table of Contents).

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7/ The proposed framework for HRID interventions is based on an ordering of the interventions according to what experience suggests should be the sequence in which they are considered.

## II. AN OVERVIEW: INSTITUTIONAL PERFORMANCE IN THE ROAD SUB-SECTOR

### SECTION SUMMARY:

After nearly two decades of major road construction, highway administrations in Sub-Saharan Africa find themselves faced with a massive backlog of maintenance and rehabilitation but lacking the institutional capacity to respond.

Despite substantial investment in institutional and human resource development, the institutional capacity of the transport infrastructure sector has not been substantially upgraded. The economic downturn in the region further heightens the need for effective management of resources. Management of road operations is complicated by operations in the public sector and specific aspects of the administration of road systems. Both external/environmental and internal/organizational constraints on HRID must be addressed. The nature of these constraints indicates the need for comprehensive reforms over an extended timeframe.

### A. Historical Perspective

2.01 The responsibility of governments in SSA for the provision and maintenance of road infrastructure began during the colonial period. The policies, priorities, and capacities of the administrative units established to supervise the respective colonial road networks varied widely. A common element of post-independence development policy in the region, however, was the expansion and upgrading of the inherited networks. The realization of this policy became a preoccupation of the administrators of the road networks.

2.02 Beginning in the mid-1960s, most of the region saw two decades of concentrated road construction. The result was the addition of thousands of kilometers of roads to the road network in SSA. Associated with this addition was an equivalent increase in the need for routine and periodic maintenance. The concern for construction and upgrading diverted attention from the need to provide for maintenance of the road networks. The impact of this neglect was not immediately apparent, especially for the newly constructed or upgraded roads. <sup>8/</sup> By the early 1980s, however, the deterioration of the road networks in the region had become both evident and a major policy issue. The situation has been worsened by the economic downturn in the region which has reduced the availability of resources. Most of the countries in the region are engaged in structural and sectoral adjustment programs which, while calling for increased capacity, are pruning budgets. <sup>9/</sup>

2.03 The most current data available in 1990 indicates that neglected maintenance has resulted in half of Sub-Saharan Africa's paved roads and 70 percent of the unpaved roads being in only poor to fair

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<sup>8/</sup> The economic life of a newly constructed road is about 20 years if the road is adequately maintained and axle loads are controlled. Initial maintenance needs are minimal. During a period that can last up to two-thirds of the life of a road there is little discernible deterioration. Beyond that point deterioration accelerates rapidly. Inadequate maintenance can lead to early road failure. For additional discussion see: Road Deterioration in Developing Countries: Causes and Remedies, A World Bank Policy Study. Washington, D.C.: The World Bank, 1987.

<sup>9/</sup> See "Sub-Saharan Africa, From Crisis to Sustainable Growth" A Long-Term Perspective Study, 1989.

condition. <sup>10/</sup> The condition of the main road networks—including paved and unpaved roads—for SSA as a region and for the countries examined in the case studies is compared in Exhibit 2.1.

Exhibit 2.1

**CURRENT CONDITION OF MAIN ROAD NETWORKS**  
For the SSA Region and for the Selected Case Studies

	Good	Fair	Poor
<u>Sub-Saharan Africa</u>			
Paved	48	28	23
Unpaved	30	31	39
<u>Madagascar</u>			
Paved	56	27	17
Unpaved	27	30	43
<u>Malawi</u>			
Paved	56	38	6
Unpaved	8	76	16
<u>Senegal</u>			
Paved	28	32	40
Unpaved	7	21	72
<u>Tanzania</u>			
Paved	25	30	45
Unpaved	10	30	60

2.04 The backlog in maintenance and rehabilitation which has led to this situation represents considerable costs for each national economy in SSA. Deferring road maintenance substantially reduces the life of a given road. This results in rehabilitation and reconstruction costs far in excess of what would have been required for on-going maintenance. <sup>11/</sup>

2.05 The deteriorated condition of a road network also results in greatly elevated vehicle operating costs (See Exhibit 2.2). These costs—for fuel, spare parts, and vehicle replacement—require foreign exchange which has alternative uses. A deteriorated road network adds increased transport costs to the production costs of other sectors. It is also an indirect constraint to economic activity in general because it adversely affects the availability and reliability of transport. These increased costs are especially significant since road transport is often the dominant mode, handling as much as 80 percent of all traffic in some countries in SSA.

<sup>10/</sup> See: Road Sub-Sector Working Group Strategy Paper, Second U.N. Africa Transport and Communications Decade, Appendix A. See also: Mason, Melody and Sydney Thruscott. Road Deterioration in Sub-Saharan Africa, Paper prepared for SSATP Road Maintenance Initiative. Washington, D.C.: The World Bank, 1989.

<sup>11/</sup> Estimates by Mason and Thruscott based on 1988 data indicated that over a five year period US\$5.0 billion would be required to restore the backlog of paved and unpaved main roads in poor condition to an adequate standard and an additional US\$6.0 billion would be required to ensure that roads in good and fair condition did not deteriorate further. Adjustment of these figures to mid-1990, providing for further deterioration and increased costs, indicates an additional requirement of US\$2 billion.

Exhibit 2.2

**ECONOMIC BENEFITS OF ROAD MAINTENANCE**

Saving in Reconstruction Costs

A Road in good condition can be kept in operation by a program of preventive maintenance estimated at net present cost of about US\$21,000 per km. If the road is allowed to deteriorate, however, it will require rebuilding at a later date at an average net present cost of about US\$54,000 per km. Preventative maintenance could, therefore, result in a savings of up to US\$33,000 per km.

Savings in Vehicle Operating Costs

At average traffic flows and composition for the region, a paved road which has been allowed to deteriorate from good to poor represents an annual increase in operating costs of about US\$5,000 per km. Most of this is in foreign exchange. For unpaved roads the increased cost is about US\$3,000 per km per year.

Source: Mason and Thircutt, *Road Maintenance Policy Seminar*, p. 19 (See Bibliography).

2.06 By the late 1960s, development planners recognized the need to build up the capacity for road maintenance. Initial efforts focussed on financial and technical solutions. Subsequent evaluation of project impact indicated that the major limits on the performance of maintenance arose from the need for institutional and human resource development. In response, the design of transport projects gave greater emphasis to technical assistance and training components. Despite substantial investment, however, the HRID objectives of road projects were often not met and institutional capacity was not substantially upgraded.

2.07 The promotion of HRID proved difficult and progress was not easy to maintain. In 1988, for example, in an internal review of the implementation of infrastructure projects, prepared by the World Bank, it was noted that consolidation of advances in road maintenance would require uninterrupted Bank commitment and financial support <sup>12/</sup>. Although the structural adjustment process had strengthened the policy framework for restructuring road organizations, policy improvements and institutional reforms to increase efficiency and accountability still remained the highest priority. Thus, one of the central concerns leading to the establishment of the SSATP was how to achieve more progress in HRID in the transport sector.

**B. Key Interacting Causal Factors**

2.08 The case studies examined the key causal factors which determine institutional performance for road operations. Although there were variations, the analysis indicated numerous common problems, the interaction of which seriously constrains HRID in the region.

**Operation in the Public Sector**

2.09 Road operations in SSA face the limits common to all public sector activities in the region. The central governments in SSA exercise considerable control over the direction and operation of their

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<sup>12/</sup> See: ARIS FY88 AFTIN Infrastructure Sector, internal paper prepared by the Africa Technical Infrastructure Division (AFTIN), World Bank, Washington, D.C., October 13, 1988.

national economies. Most national development plans have targeted the importance of transport for the overall economy. Often this has translated into political interference in technical decision-making for road operations. Pressure has continued for the construction of new roads at the expense of efforts to maintain the existing network. Such pressure generally fails to consider the added recurrent cost for the maintenance of the new roads. Most politicians do not clearly understand the requirements of roads maintenance and the implications of its neglect. User and supplier groups which might put pressure on politicians/governments for a rational maintenance policy, are not well organized.

2.10 The limited availability of adequate financing remains a common concern for road organizations. Major problems include both uncertainty over annual budgets and the availability of foreign exchange. The road organization may provide input for the development of annual budgets. The final allocation the organization receives, however, will vary in response to the availability of central funds rather than the actual needs for maintenance of the network. The control of disbursements, moreover, remains in the hands of a financial office of the government external to the road organization. The disbursement process can be cumbersome, and the release of funds may be partial or late. This often results in further deterioration of the network and increases total costs for maintenance and rehabilitation. Procurement and accounting systems are often complex and offer weak control mechanisms.

2.11 The civil service regulates the staffing of public sector agencies. As a result road organizations have only limited authority to hire and dismiss workers. Over the years the organizations have become overstaffed at the lower levels and understaffed at the senior level. Appointment and promotions are often not based on merit, and the possibility of disciplining employees is minimal. Pay scales have not matched inflation and are completely inadequate. Rotation policies periodically shifting common service personnel from one ministry to another dilute organizational continuity.

2.12 As a result of inadequate financing and the constraints imposed by the civil service, managerial autonomy, accountability and motivation are seriously eroded. This weakens the overall ability of management to lead and seriously constrains the institutional development of road organizations.

2.13 Low rates of availability and utilization for equipment and vehicles constitute another major constraint on the road maintenance capacity in the region. These low rates are largely the results of ineffective management and inefficient procurement procedures and prices. For most countries in SSA, however, shortages of foreign exchange severely restrict the purchase of spare parts, lubricants, and fuel. Such shortages seriously reduce the options available to management.

2.14 Macro-economic and transport sector reform are underway in SSA. It is within this context that the constraints on institutional performance imposed by public sector operation need to be addressed.

### **Organization and Management of Road Operations**

2.15 The management of road operations is often complicated because the overall mission of road operations is assumed to be obvious and is not well defined in relation to overall development objectives and priorities. The provision of the functions associated with road operations, moreover, is divided between several ministries or government agencies. The road organization itself is responsible for the functions associated with construction and maintenance. Planning and budgeting are responsibilities at least shared with—if not controlled by—the ministries of planning and finance. The control of individual, commercial, and public road transport—the users and potential abusers of the road network—usually falls under the ministry of transport. The need for inter-ministerial and agency coordination is high.

2.16 The specific nature of road operations complicates their management. For example, the administrative and operational units are widespread throughout the country. The relationship between road organizations and their constituency is indirect, weakening accountability. A wide range of technology is required in the performance of their mission, and work activities are dependent upon logistics support which is often complex. Annual work programs are subject to variations in weather and must be highly responsive and flexible to contingencies.

2.17 Administrative problems within the road organizations themselves include overlapping functions and tensions between the responsibilities accorded to headquarters and regional staff. Road

organizations have generally consolidated decision-making at the expense of delegation. This results in senior management being preoccupied with a wide range of control responsibilities at the expense of strategic management. Correspondingly it means that the technical officials responsible for the execution of the works do not have the authority to direct and control operations. Road organizations have experimented with restructuring and decentralization programs. The success of the programs has varied, but the most common result has been confusion over roles and responsibilities and a further erosion of accountability and motivation.

### Human Resource Constraints

2.18 Institutional and human resource performance have a special relationship. They are both influenced by external factors and are mutually interdependent. The human resources available to a road organization determine the basic level of institutional performance which can be expected. The availability of human resources is determined by the quantitative and qualitative characteristics of the output of the educational system and competition from other sources of employment, factors over which road organizations have little control. In turn, the external and internal managerial environment of the organization determines achievement of optimal levels of both manpower utilization and institutional performance.

2.19 Although the capability for technical training in SSA is evolving, most engineers in the region have gone abroad to earn their degrees. Such training is expensive and is not always appropriate to the requirements of road networks in SSA. The governments in SSA usually require returning graduates who received training under government fellowships to work in the public sector. The opportunities for staff development are often limited, and motivation is low. Engineers and technically trained personnel are often attracted elsewhere by the higher salaries in the private sector or overseas.

2.20 Road organizations usually operate their own training centers and have access to public sector training programs. These provide training at lower and intermediate technical levels. The capacity of these institutions is inadequate, and instruction is often too theoretical. Force account operations rely on casual laborers who lack even basic education.

2.21 The management of human resource development—for example, performance based incentive systems and career development—is an evolving skill in SSA. Training is poorly matched to realistic projections of manpower needs or accurate assessments of the actual skills required to perform the work. The potential impact of training is often counterbalanced by the fact that manpower is poorly supervised and poorly utilized.

### Development Assistance: Donor Policies and Practices

2.22 The development assistance provided by external donors in the past has been a mixed blessing. Projects have often been inadequately conceived, designed, or implemented, resulting in fewer benefits than expected and increased indebtedness. Donor policies and practices in the 1960s and 1970s have, in some cases, resulted in new difficulties, including:

- the introduction or perpetuation of mixed fleets of equipment and plants which have complicated maintenance and availability;
- the introduction of work methods which are inappropriate to the road network, the environment, or the technical capabilities of the local staff;
- the use of inappropriate design or maintenance standards; and
- the demand for human, material or financial counterpart support which has overloaded the capacity of the road organization, sometimes at the expense of the performance of other vital functions.

During the 1980s, donors were more sensitive to such issues.

2.23 The coordination of in-country operations by donor groups on a national basis has become relatively effective, but in the past this was not the case. The different policies and practices under which different donors operate continues to be confusing or complicating for host governments. There is a continued need for active monitoring of project implementation by the donors. Dependency on aid for contingency projects to keep key sections of the network open has reduced the sense of government ownership of responsibility for road maintenance. The direction and steering of policies and project objectives by donor representatives has often been at the expense of participation by government decision-makers and has reduced government commitment to such policies and objectives.

### **C. Reform Versus Remedies**

2.24 The improvement of institutional performance in the road sub-sector requires the resolution of many issues at different levels. The interaction of the above causal factors affecting HRID suggests the need to address these issues on an integrated basis. Thus, the extent and dynamics of HRID go beyond the application of remedies and require systematic, comprehensive reform.

2.25 Many HRID activities in Sub-Saharan Africa have sought to improve institutional performance by partial or remedial approaches. In certain cases these efforts enabled the achievement of immediate project objectives. Often, however, they did not result in a sustainable increase in institutional capacity. Sometimes they addressed surface symptoms rather than fundamental causes. Some remedies correctly sought to build on existing institutional strengths but selected too narrow a range of issues. Other remedies incorrectly sequenced the resolution of the issues selected, for example, installing preventative maintenance programs without assuring the timely availability of lubricants. In general, remedies neglected constraints arising from factors external to the road sub-sector, for example, a low salary schedule for civil service employees or recurrent shortages of foreign exchange. Such constraints need to be addressed within the context of macro-economic or sector-wide reform.

2.26 Remedial approaches offer the appeal of action being taken. They are less involved than comprehensive reform, and often provide immediate results. The results they provide, however, may not be sufficiently inclusive to solve fundamental problems or be sustainable over time. The more fundamental process of reform needed to promote HRID will be much harder to introduce. It will take longer to implement, and certain benefits will not be immediately visible. Reform frequently requires major policy decisions which are economically or politically difficult to make. HRID is not an easy or short-term process. It requires the long-term commitment of donors, government and road agency managers.

2.27 As a guide to the reform process a framework for HRID interventions has been developed. The report discusses the content of this framework in Section III and IV and the methodology in Section V.

### III. INSTITUTIONAL DEVELOPMENT: HIERARCHY OF INTERVENTION

#### SECTION SUMMARY:

Although there is no fixed plan or formula for the administration of road operations, the modal summary suggests a framework for the implementation of interventions supporting institutional development.

Improving the performance of road operations is dependent upon developing commitment to the need for change. The promotion of a core management group can provide the basis for strategic management, institutional restructuring, and the promotion of autonomy, responsibilities, and incentives.

#### A. Introduction

3.01 This modal summary does not provide a fixed plan or guaranteed formula for the administration of road operations. The management of each road network—and the road organization charged with this function—must be addressed within the context of the specific political, economic, and social environment. The modal summary does suggest, however, a framework for interventions in support of institutional development. The framework is based on the ranking of institutional issues and the order in which they should be addressed (See Exhibit 3.1).

#### **Exhibit 3.1**

##### **INTERVENTION FRAMEWORK FOR INSTITUTIONAL DEVELOPMENT**

- Review Mission and Performance of Road Operations
- Develop Commitment to the Need for Reform
- Develop and Refine Reform Policy Framework
- Implement Strategic Reform and Restructuring
- Strengthen Top Management Environment, Motivation and Incentives
- Improve Resource Availability
- Implement Reorganization and Management Control
- Strengthen Managerial Systems, Processes and Procedures

3.02 The framework builds upon examples of success and failure. It mirrors the realities of reform in that successful change at one level is generally dependent upon prior conditions having been met at a higher level. For example:

- strengthening systems and procedures alone will have a negligible impact unless an effective organizational structure with adequate management controls exists; but

- such structures and controls can only operate if the resources required for work performance are available; but
- improving the availability of resources may have only a marginal effect if top management is not improved; but
- improved management of road operations requires sector and institutional policy reform; but
- sector and institutional policy reform can only be achieved if there is a strong commitment on the part of the government to the need for change; but
- government commitment to change will develop only if there is the perception that institutional performance is not supporting the role defined for the road sub-sector.

3.03 The framework is a conceptual guide to action. HRID is an interaction process. Because many of the issues are interrelated, their solution may require simultaneous interventions at several levels. In such cases, the synchronization and coordination of interventions is crucial to effective implementation. <sup>13/</sup> As an interim strategy, moreover, interventions may be introduced at a lower level before a higher level is fully addressed. The sustainability of HRID project results, however, can be assured only when certain factors and their improvement are addressed first.

### **B. Review of the Sub-Sector Mission and Performance**

**"The main objective of the Ministry of Works is to have a viable network of roads to enable the transfer of goods both within and outside the country."**

**(Malawi Case Study)**

3.04 The starting point for successful reform of road network operations is the review of the mission defined for the sub-sector and an evaluation of the performance of the institutional systems supporting that mission. The mission of most road organizations throughout the region has often been assumed to be obvious and, as a result, has been imprecisely defined. The importance of road maintenance and alternate institutional arrangements for providing it must be central to the review process.

#### **Definition of the Sub-Sector Mission**

3.05 The sub-sector mission needs to be defined within the context of the overall mission for the transport sector. This requires an examination of the roles to be played by the respective transport modes in the movement of goods, services, and people both internationally and internally. The roles a government defines for road transport and railways, for example, will determine the requirements to be met by the road network itself.

3.06 The definition of a sub-sector mission will determine the very size and structure of the network and the relative requirements for primary and secondary systems. For example, what role will the network play in import and export traffic? The definition of the sub-sector mission must also consider the support

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<sup>13/</sup> The framework developed for the HRID component parallels the findings of the RMI component. A similar set of guidelines for ID action was presented in the issues paper prepared for the RMI Workshops. For comparative purposes, the RMI guidelines is provided in Appendix C.

to be provided to a particular economic sector, such as agriculture, as a whole. It must also consider the needs of specific industries or types of activity. The role of road transport in the movement of such inputs as seeds and fertilizer, for example, will determine the extent of the need for all weather roads. Finally, the extent of intermodal traffic and the location of rail lines will also determine the requirements of the road network.

3.07 These fundamental roles must be defined before subsequent policies and priorities can be developed. The impact of the definition, moreover, can be major, particularly in view of the high investment costs associated with the development of infrastructure. In Malawi, for example, a decision was made in the 1960s to develop a pulp wood industry. Major investment requirements for rail, lake, and road traffic were projected, and the plans for regional projects to develop the infrastructure began. A subsequent evaluation of the environmental impact of the industry on Lake Malawi put a hold on development of the pulp wood industry and invalidated the priorities assigned to investment in transport infrastructure.

3.08 The definition of the mission for the sub-sector must also consider the specific missions assigned to respective organizations. Policy-making, for example is a function the government reserves for itself on a centralized basis, usually at the ministerial level. Is this role to be held by one ministry or agency or will it be split? If it is to be split what mechanisms will be used for policy coordination? How is the provision and maintenance of the network itself to be managed? Will the government reserve both of these roles for itself or include the private sector? What organizations are responsible for which levels of the network? Will district roads, for example, be the responsibility of the Ministry of Local Government or the central roads organization?

3.09 Transport sector studies and reports examining specific road network issues are useful sources which can assist the government in its review of the mission of the sub-sector. Often the product of consultants provided by technical assistance agreements, they are not substitutes for the definition of the mission by the government itself. The recommendations of such studies, moreover, have often been set aside by governments because they did not result from inter-ministerial consultation and collaboration or have failed to take into account political, economic or social costs. The national political process must endorse the definition and periodic review of the sub-sector mission in order for it to be a meaningful guide for decision-making.

3.10 The process of definition should result in the drafting of a written mission statement at the highest levels of government. It may evolve in conjunction with the preparation of the national development plan. Such plans, however, are often prepared by a single government agency such as the Ministry of Planning or a Planning Office under the executive branch. In order to realistically take into account national needs—as well as the capabilities of the institutional system to support these needs—the definition process must involve high-level inter-ministerial representation. It must draw input not only from the different modes of transport, but also the users of transport services and such core government agencies as the Ministry of Finance. Experience shows that the exclusion of such representatives results in a definition which is incomplete and often cannot be supported. The mechanisms of the national planning process may not adequately provide for such input. It may be necessary to establish a special inter-ministerial task force to ensure the desired range of representation.

3.11 The political systems of many countries in SSA are not receptive to such an open and participating definition of mission. In part, policy often evolves on the basis of presidential speeches or "decree". Commitment to reform must include government willingness to adopt more pluralistic approaches.

### Review of Institutional Performance

3.12 An assessment of the extent to which institutional performance supports the mission defined for the sub-sector indicates the degree to which reform is required. Such an assessment can also identify issues which need to be considered in further reviewing the definition of the sub-sector mission itself.

3.13 Experience shows that the time period normally allocated for conducting an institutional assessment is usually too short to enable a comprehensive and detailed examination of all the relevant

issues. The use of workshops, questionnaires, and surveys can only partially compensate for limitations of time. The Analytical framework provided in Section I can be used as a check-list of factors to consider, but other analytical guidelines are readily available. <sup>14/</sup> It is important that the assessment produce an index of performance that relates to the mission defined for a road organization. It is equally important that the results of the assessment are reviewed by high-level government officials in their consideration of the need for reform. Consideration of the assessment would be an appropriate task for the task force mentioned above.

3.14 An assessment of institutional performance can be used to identify the main issues which need to be considered in the development of reform policy. Experience has shown that reform is most successful when limited to a few issues at a time, perhaps three but not more than five. Relevant issues for the road sub-sector might include:

- establishment of a separate road fund;
- reduction of overstaffing;
- revision of career and pay structures;
- roles for the private sector in the provision of road maintenance; and
- increased use of labor-intensive methods.

The participants in the RMI Workshops, for example, developed a number of key maintenance issues within three broad topic groupings (See Exhibit 3.2). These issues are generally relevant to all countries in SSA but must be specifically reviewed in country-specific assessments.

**Exhibit 3.2**  
**THE KEY RMI WORKSHOP MAINTENANCE ISSUES**

**PLANNING, FINANCING AND BUDGETING**

- Network-based Planning and Programming
- Collecting and Disbursing Funds
- Performance Budgeting

**OPERATIONS AND MANAGEMENT**

- Reducing Force Account Work and Increasing Contracting
- Increasing Use of Labor-based Operations
- Reducing Publicly Owned Equipment Fleets

**INSTITUTIONAL REFORM AND HUMAN DEVELOPMENT**

- Institutional Reform
- Improving Staff Motivation and Utilization

Source: The Road Maintenance Initiative - Building Capacity for Policy Reform

### **Openness to the Need for Reform**

3.15 Set within the context of the broad public sector reforms currently being initiated or already underway in the region, the advocacy of sub-sector reform is less startling to senior government officials and management than it would have been a decade ago. The case studies document that the predisposition already exists to consider the merits of institutional reform for the management of the road network in Sub-Saharan Africa. This openness is a precondition for the development of reform policy for the sub-sector and the generation of commitment to the reform process.

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<sup>14/</sup> As an example see Demissie, Shiferaw, A Systematic Approach to Assessing Highway Organizations. Preparation assisted by Roy Jorgensen Associates, Gaithersburg, 1987.

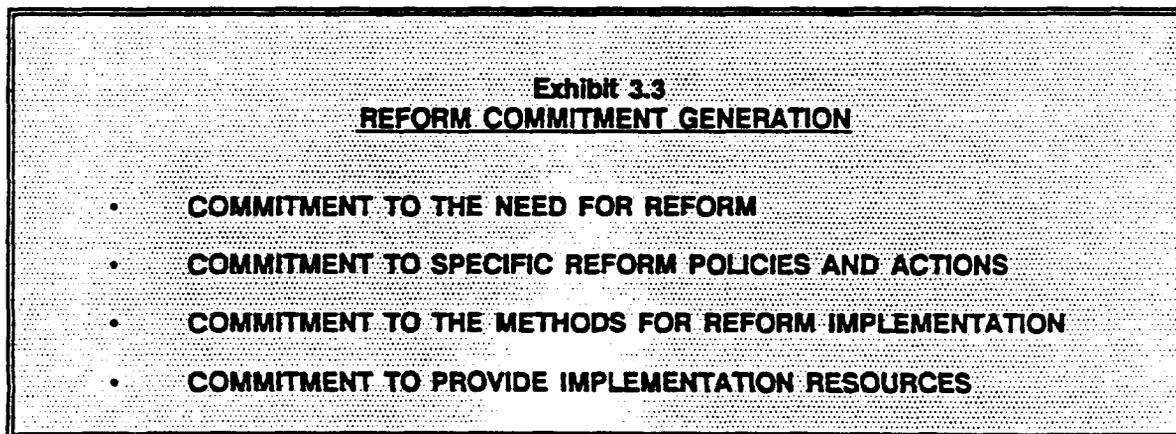
### C. Develop Commitment to the Need for Reform

"...the Party has had supreme power and influenced decision-making at all levels...the concept of maintenance appears not to have been well understood by those with political power with the result that many political(ly defined) objectives have been inappropriate."  
(Tanzania Case Study)

"...deriving from the strength and stability of its leadership, the development of transport infrastructure, particularly roads, has been a consistent priority in national policies and plans for the past 25 years...all middle and senior level staff are aware of the President's stipulation that 'there should be no potholes in my roads'.  
(Malawi Case Study)

3.16 Experience indicates that successful reform in the road sub-sector requires the firm commitment of governments and the acceptance of change by the management of road organizations. Where a government has not understood the requirements of road operations, policy objectives have often been inappropriate. Where management has not supported change, the results of ID efforts have been disappointing. The facilitation and funding of the reform process also requires the support of the donor community. Thus, commitment to the reform process is required by a tripartite group composed of government, management, and donors.

3.17 The generation of commitment is a complex process which requires the participation of the tripartite group in several phases of activities. It begins with a commitment to the need for reform in conjunction with the review of the sub-section mission and performance. Commitment to the need for reform is facilitated by the initial identification of the issues to be considered for reform in conjunction with the institutional assessment. Commitment is necessary for the subsequent refinement of specific reform policies and methods and is also essential throughout the implementation of the reform process (See Exhibit 3.3).



3.18 Policy action planning workshops have proved to be useful mechanisms for both the development of government ownership of the reform process and the specification of the general terms of the reform policies and options for the management of road operations. The success of these

workshops is based on pre-workshop inputs, participatory sessions during the workshop, and follow-up actions. <sup>15/</sup> Initial workshops address the overall range of reform issues such as the need for a separate road fund. Subsequent workshops may address a particular function—such as planning, design, construction, or maintenance—or an issue in greater detail.

### Government Commitment

3.19 All of the case studies accorded high priority to the need for government commitment in order to achieve HRID in the road sub-sector. The government as the source of funding for the sub-sector plays a client role for road organizations. Equally important, however, is the access the government provides to the resolution of the broad range of HRID constraints external to the road organization itself.

3.20 The Malawi case study attributed the success of HRID for the MOW to the constant priority accorded to transport, particularly roads, in national policies and plans for the past twenty-five years. In the other case studies such factors as political philosophies, concern for employment generation, or bureaucratic rigidity have been cited as factors eroding government commitment to the performance of the road sub-sector.

3.21 Obtaining the commitment of the government to the need for reform requires recognition of poor performance or non-performance in the road sector as demonstrated by the deteriorating condition of the road network and the spiraling projections of the costs needed to rehabilitate highways. It requires being willing to recognize the distortions of road sub-sector functions which result from external constraints. It requires the willingness and ability to provide the human, physical, and financial resources necessary to promote HRID.

3.22 Evidence indicates that although the need for reform can be readily documented, governments in SSA have been slow to address the constraints on road operations in a comprehensive manner which has a significant impact. In part this is a result of the range of issues involved and the limited resources available. In part it is the result of inadequate technical understanding of the sub-sector and the economic implications of deferred maintenance. Most simply, however, it seems that support for reform requires the perception that the economic returns of road reform outweigh any political costs and risks.

3.23 Dialogue on the need for HRID in the road sector has been initiated in conjunction with overall discussions and negotiations in support of SAL and SECAL activities. <sup>16/</sup> A new openness to the need for reform of road operations is evident. Acceptance of the breadth and depth of reform requirements and how to go about actually implementing specific policy and institutional reforms in specific countries, however, remains to be firmly and widely established. The promotion of such acceptance and improved implementation has been one of the central objectives of the Road Maintenance Initiative (RMI) of the SSATP. <sup>17/</sup>

3.24 In certain cases pressure from associations of road users or other public groups can assist the identification of and commitment to the need for reform. The evolution of such pressure groups in the road sub-sector in SSA is recent, but they offer considerable potential. The establishment of an Association of Highway Administrations, that could lobby for improved maintenance policies and practices, has been suggested for support under the Second U.N. Africa Transport and Communications Decade. The press is another potential source of pressure. Recently, for example, the press in Tanzania has become a forum for public discontent over deteriorating road conditions. Associations of transport operators may have limited opportunities for direct lobbying but may still have considerable influence through informal political connections and channels.

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<sup>15/</sup> For a discussion of Policy Action Planning See Silverman, Jerry M. et. al. Action-Planning Workshops for Development Management. World Bank Technical Paper No. 56, Washington, D.C.:IBRD, 1986.

<sup>16/</sup> Structural Adjustment Loans (SAL) and Sector Adjustment Loans (SECAL).

<sup>17/</sup> The promotion and generation of commitment has been a key concern of several recent initiatives supported by the World Bank in association with other donors. These include a range of public sector management programs and the African Capacity Building Initiative (ACBI). The skills of HRID specialists are a vital resource for such initiatives.

### Organizational Commitment

3.25 The top management of the road organization itself, another member of the tripartite group, must also be willing to commit itself to the concept of reform. The case studies illustrate this requirement. Recent progress in Tanzania, for example, has been attributed to increased managerial commitment. Reform policy may include a revised mission for the road sub-sector and the road organization itself, the adoption of alternate institutional arrangements including expanded reliance on the private sector, the restructuring of the road organization, and new managerial and operational systems/procedures. Top management has vested interests in all of these areas and is likely to be wary of the reform process before it even begins.

3.26 Experience has shown that road organizations have been quick to blame weak performance on external constraints and are less responsive to support internal changes. Managers in general, however, tend to be more comfortable with what exists than they are with change. They may be dissatisfied with low salaries, but they have often found means of obtaining alternate rewards which might be threatened by change. They may feel that the removal of certain functions from their department or the road organization entirely will limit their opportunities for career advancement. They may feel that their status will be reduced by the loss of these functions. The openness of management to change clearly depends on their perception of how it will affect them.

3.27 The most effective way to avoid the development of resistance is to ensure that the top management of the road organization participates in the evolution of the reform process. Top management should not see itself as being forced to accept reform by government decree. It needs to participate in the decision that there is a need for reform as well as the evolution of reform policy. Top management should be involved in the review of the organizational mission and assessment of institutional performance. The inclusion of top management in other preparation measures—including formal and informal contacts with the government and donors and the preparation and distribution of reports and relevant policy papers—is also a base for participation.

3.28 The participation of top management in workshops and meetings and the monitoring of implementations is time consuming. The introduction of new management styles and the learning of the skills required for the management of change also represent tasks for managers in addition to the work they already have. Management should be assured that their normal work load will be lightened during the reform process, and the reform process should be presented to management as a positive development which will ultimately make their life easier as well as more effectively enable the provision of road sub-sector functions.

3.29 The success of reform also requires sustained commitment of the top management of the road organization over a prolonged period of time. The establishment of an Organizational Core Management Team can be a useful mechanism to promote and renew commitment as well as assist coordination and management of change within the road organization itself. Such a team should include both central or regional managers in its membership.

### Donor Commitment

3.30 Donor agencies, representing the third member of the tripartite group, have become increasingly frustrated as they have sought to promote policy reform in the transport sector in SSA. The experience of the World Bank, for example, has shown limited results in reforming transport sector policies which have involved significant political and organizational issues. <sup>18/</sup> The greatest success has come when a single agency could make the decision necessary for reform. When several agencies have been involved, the objectives of reform could not be achieved within the timeframe established for them. The economic and sector staff of the Bank have been good at developing broad policy advice

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<sup>18/</sup> Heggie, Ian G. A Methodology for Designing Major Policy reforms: Transport Sector Experience. An Internal Discussion Paper, Infrastructure and Urban Development Department, the World Bank, Washington, D.C., October 1989.

but have been less able to provide practical programs for the implementation of policy reform. In general Bank staff appear to have underestimated both the strain reform programs place on the administrative capacity of governments and road organizations and the time required for the reform process.

3.31 The need for external assistance in the road sub-sector continues to be important in SSA. Donors can facilitate HRID by promoting the consideration of policy reform in conjunction with assistance programs, but the reform process will not be successful if it is donor-driven. Donor commitment to the reform process needs to include a review of the lessons which can be learned from the past experience of reform initiatives (see also Section IV).

3.32 Long-term Commitment: Institutional development does not happen quickly. The single project cycle is unlikely to be long enough to ensure sustainable success. Donors must be prepared for the long-term timeframe. Special attention may be required to ensure continuity over several project cycles. Expectations may not be met, and achievements may be eroded. Donor staff may be rotated or assigned additional responsibilities. Maintaining long-term commitment may be difficult for donors under such circumstances, but is essential to the success of reform.

3.33 Identification of Costs and Benefits: Donors can greatly facilitate reform by assisting in the identification of the social and economic benefits of policy issues and options. These benefits should be expressed in quantitative terms. What, for example, is the cost to the government of deferring maintenance in order to construct new roads? What price increases will the average family face if roads are allowed to deteriorate? To what extent are agricultural products less competitive internationally because of high transport costs? Such analyses can assist the recognition of the need for reform, the comparison of policy options, and the establishment of priorities for interventions.

3.34 Strengthen Design: The design of assistance programs promoting policy reform in the road sub-sector appear to require strengthening:

- building policy reform on the basis of detailed country-specific analysis of macro-economic, sector, and sub-sector issues;
- establishing clear targets and systematic monitoring;
- ensuring adequate administrative capacity of the road organization and government to implement and monitor interventions supporting reform; and
- identifying and building strategies to deal with political constraints.
- recognizing that the interventions supporting reform require special handling.

3.35 Aid Conditionality: Donors have frequently attached conditions to loans in order to maximize the effectiveness of assistance. The case studies indicated that in many cases these conditions have not been met but funding has proceeded. This, in turn, implies that donor conditionality as currently structured and applied does not seem to be meeting the objectives it was established to serve. The case studies suggest that several issues may need to be considered by donors:

- Aid should be directed to countries where real commitment exists. Such commitment should be demonstrated by government/road organization action.
- Where fundamental macro-economic or public sector reforms such as civil service reform are required, they may need to be prerequisites for donor assistance in the road sub-sector itself.
- Project design should provide for the release of funds when certain conditions are met; reaching preliminary objectives should be the incentive and trigger for moving on to the next stage. This would allow greater flexibility in the application of conditionality than is offered by the suspension of all project funds.

- Monitoring of project implementation should involve frequent and close review of performance and conditionality in order to provide an early warning of potential difficulties and problems.

3.36 Coordination of Aid: The coordination of donor programs and activities in policy reform is especially important. It assures that donor actions have common objectives and reduces the waste of scarce management resources. The lack of coordination may enable a government to side-step the need for reform and unnecessarily add to the overall indebtedness of the country. Because donors have divergent interests and approaches, consensus building sessions may be required for the donors active in a country. The establishment of in-country donor committees appears to have greatly improved donor coordination for road projects. The designation of a lead donor has been successful for technically oriented road projects and may facilitate HRID. Round table conferences—including the government, road organization, and donors—should form an integral part of the coordination process. Participatory interaction should be encouraged at conference sessions.

3.37 Reform as a Process: In the past donors have relied on economists and engineers to design road projects. These professionals are best qualified to deal with technical, economic, and financial issues. In order to effectively promote policy reform, however, the donors need to become more familiar with what is needed to introduce change. Many lessons can be learned from past projects, including better methods for designing and implementing reform. This may require consensus building sessions within the donor organizations themselves. Increased use of HRID specialists could enable donors to enlarge their expertise and maximize their impact on promotion of the reform process.

#### D. Develop and Refine Reform Policy

**"The new policy of the government is often resented as imposed from outside, and privatization is poorly understood at all levels of society."  
(Senegal Case Study)**

**"....(the objective of institutional change should be) progressive autonomy for the maximum of services."  
(Madagascar Case Study)**

**"...the total immersion of road administration in the heart of the state administrative system constitutes and will continue to constitute for a long time the principal obstacle to the implementation of reforms seeking to revitalize this institution."  
(Senegal Case Study)**

3.38 The development of commitment to reform road operations requires the specification of the issues and options involved. This has been discussed already. Acceptance of the subsequently developed specifics of the reform policy requires the participation of government, the road organization, donors, and other stakeholders in the definition process. Mechanisms to enable this participation can build on the workshops and other interventions initially used to generate commitment.

#### Elements of the Reform Policy

3.39 The elements of the reform policy will vary from country to country but in all cases should represent a response to the evaluation of institutional performance in support of the sub-sector mission. Road maintenance will be a central issue. The centrality of road maintenance, however, should not result

in the neglect of the planning, design, and construction functions. Human resource development and human resources management must also be addressed.

3.40 The reform policy must focus on the need to reduce external constraints, including political interference in decision-making, funding requirements, and reform of the civil service. It may require the modification of institutional arrangements and the shifting of certain functions such as maintenance to the private sector. The road organization itself may need enhanced management, restructuring, additional resources, or management systems.

3.41 The case studies indicated concern that the need to address key structural or sectoral constraints could seriously delay the reform of road operations. In most cases it may be necessary to recast the links between the road organization and the existing government bureaucracy and civil service. The options include:

- decentralizing the execution of operations (if accompanied by adequate financing arrangements, this has the potential to sufficiently reduce the intensity of bureaucratic constraints to serve as a permanent solution; or it may be used as an interim approach);
- contracting of selected road network functions to the private sector;
  - shifting selected components of road functions to the private sector on a contract basis; the government retains responsibility for the policy, planning, and management/supervision of the contracted functions.
  - shifting management functions to the private sector as well, including supervision of subcontracted road functions; the government retains only policy, planning and monitoring functions; or
- establishment of an Independent Road Authority responsible for all road network functions ranging from managerial to operational as specified in a memorandum of understanding between the government and the road authority.

3.42 The tripartite group must be willing to explore and support such possibilities. Key factors to consider in deciding whether or not to de-link include:

- Autonomy - The management of the road network must be based on the possession of authority and responsibility for institutional resources set within a regularized legal, administrative, and reporting framework. This requires that decision-making within the institution be independent of external interference and be based on objective criteria linked to working towards the objectives the institution was established to serve.
- Accountability - Road sector management must be based equally on accountability. This implies not only that the institution and its top management be externally answerable for overall institutional performance but also that management has the capability of internally monitoring and evaluating specific functional performance.
- Resource Availability - In order for accountability to make sense, the institution must have access to and control over an adequate balance of financial, material, and human resources. Funding not only needs to be adequate for actual needs but must also be available when needed. Road maintenance equipment availability seems best ensured when controlled by the users within the organization as opposed to relying on a government-wide equipment pool. Moving common service personnel without consideration of institutional need seriously erodes morale, institutional performance, and the effectiveness of training activities.
- Incentives - There must be the possibility of rewarding good performance with monetary payments, benefits, and promotional opportunities. The constraint imposed by civil service regulations and salary/remuneration schedules often make it impossible to attract or retain qualified personnel. Similarly, the option to dismiss ineffective personnel must also be retained.

3.43 Implementation of the reform policy will require a comprehensive action plan which integrates the identified interventions needed to meet reform policy objectives, provides an implementation/transition schedule, and identifies support requirements. The action plan also needs to provide concurrence on methodology and detail the reporting, monitoring, and evaluation mechanisms for the implementation of reform interventions. The more comprehensive the reform envisioned, the more detailed will be the action plan. 19/

#### Policy Coordination: Inter-Ministerial Steering Committee

3.44 The development and implementation of the reform policy is likely to be complex and continue over an extended period of time. It needs to be set in the same inter-ministerial, participatory context as were the review of the mission for the sub-sector and the generation of commitment to the need for reform.

3.45 An Inter-Ministerial Steering Committee could be an effective mechanism to continue development of the reform policy and coordinate the implementation of the supporting Policy Action Plan. 20/ The steering committee should include senior officials from the government ministries providing planning, financing or other support to the road sub-sector and the road organization. It should also include representatives of supplier/user groups. At least ex-officio representation should be considered for a lead donor who would represent the donor community at large.

3.46 The definition of specific policy issues might be facilitated by the use of issue-oriented workshops following the model of the Policy Action Planning Workshop. These might be sequentially structured or reconstituted into task forces. Technical, managerial, and HRID specialists as well as a secretariat should be provided. Supplemental studies and assessments might be required. Technical assistance should be considered as a means of funding these requirements.

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19/ Key considerations for a reform policy supporting privatization might include:

- Socio-economic and planning considerations;
  - Identification of the impact and costs resulting from the reform process
  - Identification of special programs including training needed to offset the negative impacts
  - Development of implementation work plan and transition schedule
  - Specification of resource requirements, estimated costs, and project frameworks
- Private sector considerations;
  - Identification of capability
  - Identification of special training and other interventions needed to develop private enterprises
  - Development of implementation work plan and schedule
  - Specification of resource requirements, estimated costs, and project frameworks; and
- Identification of most likely constraints to reform implementation process and development of compensatory mechanisms.

Discussion of these general considerations as they relate to local contractors is provided in Lantran, J.-M. Developing Domestic Contractors in Road Maintenance in Africa. Internal Paper of the World Bank, March 1990.

20/ The coordination needs to be structured to fit the realities of each situation. Implementation of the Policy Action Plan could be assigned to a special task force.

## E. Implement Strategic Reform and Restructuring

"Task forces were set up within the Ministry staff to address specific issues of interest. These were assisted (by consultants) using a process consultancy approach....Staff in the Ministry found the work of these task forces very demanding and time consuming, but all felt the effort was worthwhile."

"The fact that the staff were responsible for the decision-making process results in a sense of ownership of the decision finally reached."  
(Malawi Case Study)

3.47 Experience indicates that the implementation of reform policy requires strategic management of the reform actions. This requires the teaming of top management and the use of task forces to lead the reform process.

### Strategic Management

3.48 Strategic management involves developing approaches and taking actions to reach organizational objectives within relatively fixed but adjustable timeframes. <sup>21/</sup> It means taking an organization where it wants to go. The concept was developed initially within the private sector. It would appear equally relevant to reform in the public sector and the implementation of Policy Action Plans.

3.49 The introduction of change into either the institutional setting or within the road organization itself requires a dynamic leadership group which:

- identifies with and has a sense of ownership of the reform process;
- sees advancing the reform process as one of its primary functions;
- is focussed on the requirements of increased road sub-sector performance;
- understands the practical realities necessary for implementation of policy reform;
- is flexible and creative;
- is open to participatory and collaborative interaction.

3.50 Experience has shown that strategic management is often constrained by heavy work loads such as those being carried by top management in road organizations. In order for top management to fully participate in strategic management—and possibly in earlier policy formulation workshops—they may need to be freed of operational responsibilities and administrative responsibilities which can be delegated to subordinates. Subordinates can assist with scheduling meetings, gathering data, and drafting documents, but top management needs to be free to handle the additional planning, coordinating and monitoring functions as well as to consider more creative and flexible approaches. Technical assistance should be considered as a means of diverting some of the responsibilities of top management.

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<sup>21/</sup> For additional discussion see Hanna, Nagy. Strategic Planning and Management: A Review of Recent Experience. World Bank Staff Working Paper, No. 751. Washington, D.C.: World Bank, 1985.

Strategic management should not, however, be assigned to external advisors or specialists. Special management workshops may be used to facilitate strategic management.

3.51 Each of the case studies indicates areas where institutional development has been attempted, but the Malawi case study provides the best example of using strategic management to introduce change. First came the recognition of the need for improved maintenance. The MOW was willing to examine changes in policies and management styles, and it had the authority to take the steps necessary to implement management and operation systems. A team of key managers was made responsible for reviewing managerial performance, and an organizational management study was instituted. Special workshops and task forces were established to identify issues and options and to facilitate organizational change. Strategic planning and management activities covered a period of several years. The mechanisms were sufficiently viable to bridge project cycles and provided significant input in the design of subsequent donor support for on-going management programs.

3.52 The implementation of reform will require a series of actions to prepare for change and enable accommodation to the reform process. This requires a prolonged period of ensuring that action takes place. If a newly constituted road authority is envisioned, for example, numerous steps must be taken to facilitate the transfer of functions and resources to the authority. Drafting a memorandum of understanding for the authority would be but one of the tasks. In the case of redundancy programs compensation plans and retraining programs for road organization personnel would be required. In the case of privatization the road organization would have to be restructured and special training and orientation programs would probably be needed. In each case managers must plan what needs to be done and ensure that it is implemented.

#### **Task Forces and Management Teaming**

3.53 Experience with reform indicates the advisability of establishing special mechanisms to assist the implementation of changes required by the Policy Action Plan. The experience with management initiatives in Malawi, for example, strongly supports the value of task forces and teaming. Task forces—drawing from government ministries, the road organization and stakeholders—may be established to deal with such specific issues as the modification of institutional arrangements or privatization schemes. The application of reform policy to the road organization itself would seem best assisted by the teaming of a core of key managers. While reform issues and options are being reviewed, informal teaming may be adequate. During implementation a formally constituted Management Team may be preferable. Managers participating in such a team might, in turn, be designated as responsible for specific tasks or to head internal task forces.

3.54 Task forces and core management teams represent the operational arm of the reform process. They should be responsible to the Inter-Ministerial Steering Committee. They should facilitate participation by management in the adjustment of reform policy to the realities of implementation and provide the means of monitoring and controlling the implementation of interventions in support of reform. If something is not working, it should be adjusted or discarded.

3.55 Membership in such groups should be selected on the basis of the structural, functional, and technical issues relevant to policy reform and institutional development. In the case of task forces, it is often useful to include managers who are not on the Core Management Team or to draw membership from outside the road organization. HRID specialists may be useful in the establishment of the Core Management Team and in facilitating the acceptance of roles, responsibilities and interaction styles by its members.

## **F. Strengthen Top Management Environment, Motivation and Incentives**

**"...a management ethic with strong leadership, and delegated authority and accountability , is virtually absent from Comworks, despite staff attending management training courses."  
(Tanzania Case Study)**

**"...(the organization) lacks the means of management and motivation of personnel."  
(Madagascar Case Study)**

**"Annual confidential reports exist for staff appraisal...These reports, however, do not appear to play a part in the promotion process...; promotions within Comworks are mainly dependent on qualifications and seniority...over performance..."  
(Tanzania Case Study)**

3.56 High levels of institutional performance are dependent upon competent top management. Managerial competence needs to be nurtured by a conducive external and internal organizational environment. Management needs to be motivated and given incentives to perform. Road organizations in SSA are often deficient in these areas. In most of the region managerial issues represent greater constraints on institutional development than do technical factors.

3.57 The extent to which top management in road organizations in SSA have received training in management—as well as the substance and content of that training—varies widely throughout the region. Senegal has a long administrative history going well back to the pre-independence period; the case study found elements of this background, however, to be rigid and restrictive to the introduction of change or reform. In Tanzania many managers have received management training, increasingly through programs offered in-country at the Eastern and Southern Africa Management Institute (ESAMI). Some countries, such as Malawi, have recently tried to balance the technical backgrounds of senior staff with in-house management workshops.

3.58 In most road organizations, however, engineers have risen rapidly up the managerial ladder without the benefit of either managerial training or on-the-job experience. In their roles as managers they face:

- political interference in decision-making;
- uncertain budgets and dependence upon external financial support from donors;
- imprecise or conflicting objectives;
- limited communication and reporting mechanisms;
- inadequate financial rewards and incentives;
- restricted career mobility; and
- uncertain and limited supplies of resources.

3.59 Within such an environment it may be difficult for top management to be motivated and accountable. Certain of these issues arise from external constraints. The restructuring of institutional arrangements and the initiation of strategic reform would seem to be preconditions to increased performance by managers.

3.60 The participation of top management in the early phases of the reform policy definition and subsequent roles for management in the identification of organization problems and selection of interventions for the resolution of these problems may be a starting point for building motivation. The failure to resolve the problems identified, however, will only further demoralize top management.

### External Management Environment

3.61 The relationship between road organizations in SSA and the external environment is generally characterized by limited autonomy and accountability. Political interference in decision-making is common and can result in decisions concerning either construction or maintenance which are unsound. In Tanzania political interference in decision-making was cited as a major restriction on the application of management skills by road personnel. In Malawi the maintenance function of the MOW is directly supported by the President. The President even holds the ministerial portfolio for the MOW. This shields the organization from certain external pressures but does not represent true autonomy.

3.62 Clearly, one of the central preconditions to reform is government commitment to ensuring the autonomy and accountability of the road organization. Political interference is difficult to control. It must be addressed at the highest levels. Assurance should be matched with observable, positive actions on the part of government.

3.63 In concept road organizations are financially dependent upon the legislative branch of the government. Legally it is this branch of the government which must vote on the budget allocations for the road organization. In most cases, however, it is the Ministry of Finance which determines the size and structure of the budget and controls its disbursements. Under any circumstances this dual responsibility is not easily managed, and accountability is often vague. In most of SSA the link between budgeting and accountability is cumbersome, not well coordinated, and complicated by unclear performance objectives and expectations.

3.64 Matters are further complicated because road operations may be the responsibility of more than one ministry. The regulation of road users is usually the responsibility of the Ministry of Transport and not under the control of the road organization. The enforcement of road regulations is often weak; vehicles are often overloaded. This seriously deteriorates road conditions and increases maintenance requirements. District roads are usually not the responsibility of the road organization. They may be administered by district officials or even by a non-public works organization such as the Ministry of Agriculture. These organizations may not be allocated the necessary resources. The resources of the road organization may thus be diverted to the support of these roads on an ad-hoc basis. Reporting channels for organization personnel assigned to district offices may involve multiple authorities.

3.65 There is no single solution to these problems. If an autonomous road authority is established both accountability and autonomy can be facilitated by the drafting of a memorandum of understanding which specifies the responsibilities, roles, and expectations for both the government and the authority. Without such a mechanism, the management of the road organization should pressure for the consolidation of functions, establishment of clear communication and reporting channels and the development of clear mission statements for each organization supporting road operations. In some cases improved coordination and liaison—both formal and informal— may be the only options open to the road organization for improving relations with the external environment.

### Internal Management Environment

3.66 The existence of a strong internal management environment is important not only for top management but also provides the basis for the spread of sound management throughout the entire road organization. The management style and roles of those at the top of the road organization need to be adjusted:

- increased emphasis should be given to strategic planning;
- communication and reporting channels should be improved;

- subordinates should be encouraged to:
  - participate in key decisions
  - make delegated decisions and take actions on their own; and
- objectives and performance indicators need to be established for the entire road organization.

3.67 The road organization also needs to prepare a Management Plan which outlines the specific responsibilities, objectives and expectations for each of its departments. The mission statement for the road organization provides a general guide to functional responsibility of the road organization as a whole, and the Policy Action Plan specifies the reform policy needed to better perform those functions. The Management Plan should be more detailed and provide indicators by which to judge performance and the realization of objectives. The Management Plan should become a permanent tool of the road organization, being annually reviewed and prepared. It should provide the basis for the subsequent implementation of more comprehensive performance oriented operational systems, the application of management by objectives, and the institution of performance evaluations for all of the staff of the road organization.

#### **Management Motivation and Incentives**

3.68 It is far easier to specify what issues need to be resolved to increase the motivation of top management than it is to resolve these issues. Increased motivation for top management, however, is an essential determinant of institutional performance.

##### **(a) Financial Rewards and Incentives**

3.69 All of the case studies reported differentials in salary and benefit levels offered by civil service appointment compared to the private sector and saw the need for major civil service reforms. The differentials varied from country to country, but in Tanzania, for example, wages were not adequate for basic subsistence. Government officials throughout the region augment their government remuneration with second jobs or through the operation of their own businesses. Absenteeism is high and other abuses abound.

3.70 One can hardly expect to develop an accountable, skilled, and motivated work-force within such a setting. Various solutions have been proposed:

- Reducing the total number of civil service employees and increasing salary levels across the board;
- Providing special bonus or stipend payments for particular categories of qualifications or skills;
- Establishing recruitment and salary administration systems and policies outside the framework of the civil service.

The end product of any solution must be the provision of competitive salaries which attract and facilitate retention of top managers; financial incentives should be included based on meeting financial or operational targets, and poor performance should be subject to sanctions or dismissal.

3.71 Resolution of this issue is complicated because it affects employment throughout the government and may involve thousands of individuals within one ministry alone. In many countries civil service employment is valued for the social security it provides, making reforms and redundancy programs politically difficult to propose much less implement. Civil service reviews and reforms are underway in many countries in the region. The ability of the road sub-sector to either facilitate or link to such reforms is difficult to ascertain. The time-frame which may be required to solve civil service

reform on a national basis may be too long, and road organizations may need to seek either temporary solutions or permanently select such options as the establishment of road authorities independent of the civil service. Civil service reform may represent the single most difficult issue to resolve and the most enduring constraint on sub-sector policy reform and institutional development.

**(b) Clear Management Objectives**

3.72 The objectives expected of management at every level must be clearly stated. The Management Plan provides the initial statement of departmental objectives. Objectives need to be developed for each manager in the road organization, extending down to the supervisors of road crews. Managers should know that these objectives will be used to conduct individual performance evaluations and will be basis on which promotions will be given.

**(c) Career Development**

3.73 At the heart of career development is the use of performance as the guide to promotion. This requires that:

- initial appointments must be based on the matching of the qualifications of candidates to the requirements of the position;
- the performance requirements of each position must be clearly stated and communicated to the holder of that position;
- management and supervisory personnel actively play a day-to-day role in monitoring performance;
- mechanisms must be in place to ensure periodic review of individual performance;
- the evaluation process must be free from external distortions;
- the evaluation process must include the participation of the employee in his review and offer appeal options;
- promotions should be based not on seniority or even experience but rather on performance; and
- the right of dismissal must be open to management;

3.74 Career tracks must be developed which meet the needs of young graduate engineers to gain the experience necessary for professional registration as well as to become effective managers. Efforts to provide a unified track in road organizations is complicated when they are part of a larger public works organization; in some cases, for example, architects have become responsible for road operations. Separate tracks may be necessary for technical and managerial skill development. Technical and managerial training, which facilitates career progression, must be provided.

**(d) Resource Availability**

3.75 The performance of many road organizations in SSA is constrained by the limited availability of resources. Management should play an active role in ensuring greater access to resources for the road organization. Limits imposed by qualitative or quantitative deficiencies in resources should be taken into account in structuring objectives and designing incentive systems for both top management and the staff as a whole. Such mechanisms must be credible to be effective means of motivation.

### G. Improve Resource Availability

**"...budgetary resources are insufficient and ...tied to the availability of funds of the general treasury...No serious highway policy can be undertaken under such conditions."**

**(Madagascar Case Study)**

**"We propose the institution of an autonomous Road Fund having guaranteed resources and free from government financial management regulation."**

**(Senegal Case Study)**

**"Even though there is some local budget to purchase raw materials, in the past there has been no foreign exchange to enable items such as bitumen and spare parts to be procured."**

**(Tanzania Case Study)**

**"PVHO is responsible for the Government fleet of vehicles...in the past it has suffered a poor reputation...and the organization became very apathetic, providing a poor level of service. Little training of staff was carried out,...no replacement policy for vehicles,...lack of financial control..."**

**(Malawi Case Study)**

### Financial Resources

3.76 The availability of financial and material resources represents a major constraint throughout the region. At issue are the size of budgets, the proportion of the budget allocated to maintenance, the flow of disbursements, and the availability of foreign currency.

3.77 In conjunction with SAL and SECAL negotiations the budgets for road maintenance have often been absolutely and relatively increased. In Malawi, for example, at the urging of the World Bank in 1982, the revenue budget was doubled to provide adequate funding for road maintenance, and this amount has been increasing steadily. IMF restrictions on the National Development Budget have limited the amount of upgrading and rehabilitation that can be carried out each year. This might ultimately increase the budget required for road maintenance.

3.78 In Tanzania the case study found that operational budgets for road maintenance have been chronically underfunded. The resulting lack of maintenance has led to a seriously deteriorated road network. Seen as a serious constraint on the recovery of all other sectors, transport has now been given priority just after agriculture, and a substantially increased budget for the road sub-sector has been provided.

3.79 Where roads have been financed as line items in national budgets, the funding level has often been based on a percentage of allocations in prior years rather than keyed to actual requirements. Road organizations throughout SSA should consider introducing performance based budgeting as a means of:

- evaluating the adequacy of annual allocations to perform a specific amount and quality of work,
- enabling the most efficient use of resources,

- judging the benefits of road maintenance options,
- setting maintenance priorities, and
- assessing the extent of the road network which realistically can be maintained.

3.80 Maintenance operations have been frequently deferred because allocations for roads were diverted to other uses. The most commonly advocated funding solution is the creation of an autonomous road fund financed by taxes or charges on road users and specifically earmarked for the road fund. Examples of such taxes include:

- Vehicle Registration Fees and Licenses
- Fuel Tax
- Vehicle, Spares and Tire Tax
- Distance or Toll Taxes

When the revenue from such sources significantly exceeds funding requirements the surplus can be shifted to the central treasury, but the fund is considered inviolate from administrative and legislative whims.

3.81 The primary difficulties encountered in establishing a dedicated road fund include:

- gaining commitment to the concept;
- defining the tax base and collection mechanisms;
- implementing the above within the existing in-country fiscal system.

3.82 Donor experience with road funds indicates that administrative systems have been highly resistant to their introduction, and even when established they have not been inviolable. They have worked best in conjunction with the funding of road maintenance. <sup>22/</sup> In both Madagascar and Senegal, for example, efforts have been taken to ensure adequate road funding through the creation of a separate road fund, but both have encountered major problems in the establishment, regulation, maintenance, and disbursement of this fund. In Senegal, for example, only a portion of the fuel taxes, have been channeled into this fund, and the government has had to rely on external assistance in order to assure minimum maintenance of the road system. The road funds in use, therefore, represent incomplete, experimental adaptations rather than autonomous funds, and road maintenance remains tied to the irregularities and limitations of the external political and economic environment.

3.83 Financial resources are also required for the implementation of redundancy programs. The need to reduce manning levels is common to most road organizations in SSA. Attrition is often advocated as the least painful approach to meeting this need. In many cases, however, the extent of the problem requires additional planning to provide balanced reductions within acceptable time-frames. This may require a government fund to assist and retrain terminated staff (See Section IV).

### **Equipment and Material Resources**

3.84 Throughout SSA plant and equipment availability and utilization are consistent constraints on road operations, especially maintenance. In Tanzania, for example, average availability for road equipment is about 20 percent, reducing effective utilization to a very low level. The key issue is the lack of spare parts, in turn restricted by procurement policies and procedures and the limited availability of foreign currency. Options under consideration include making funds available to the private sector to organize the supply of spare parts and provide repair and maintenance functions. Shortages of vehicles were cited

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<sup>22/</sup> See Faiz, Asif. Planning, Programming, and Budgeting for Road Maintenance. Paper Prepared for RMI Workshop, World Bank, 1989.

as constraining management and operational activities including research, planning, supervision, monitoring, and training.

3.85 In Malawi a major effort has been undertaken to upgrade the Plant and Vehicle Hire Organization (PVHO) the central pool which supplies all of the government. Most road organizations would prefer to directly control and own their equipment; they cite the inefficiency of central pools as a constraint on their own performance. Central pools may be more cost effective, but there is no technical or economic advantage assured by either approach. The major issue is the adequate costing of rates. Calculating fixed and variables costs, including charges for standing time, and accounting for depreciation require specific attention in costing the use of equipment.

3.86 All international donors have extensive experience with efforts to increase the availability and utilization of plant and equipment in road sector projects, and road organizations have become dependent upon external assistance for the provision of the majority of heavy road equipment. Projects have focussed on both equipment purchases and training, but unless supplemented by investment in maintenance systems and management skills these activities have not significantly increased availability or utilization rates on a long-run basis. Donor policies and procedures have often complicated availability and utilization:

- road organizations have not fully participated in the choice of equipment and donors have failed to select technically or operationally appropriate equipment;
- financial packages have often limited the national origin of equipment or included other restrictions which have resulted in fleets with mixed makes of equipment;
- requirements for bid selection have encouraged the selection of the initially least expensive rather than the most cost effective or appropriate equipment.

3.87 Experience has shown that most road organizations need to first address preventive maintenance programs. Subsequent actions may need to address the establishment of parts inventory systems—including the cross indexing of interchangeable parts—the elimination of seldom used parts from initial supplier packages, the elimination of dead spares from stores, and the creation of foreign currency reserves for the purchase of spares. Special training and simple management systems can be obtained from equipment suppliers to increase equipment utilization.

3.88 Because of the expensive investment required and difficulties in costing depreciation in departmental budgets, many road organizations have considered shifting to privatization for one or more equipment functions or levels of service. These range from the contracting of preventative maintenance or even procurement services for equipment to the contracting for the provision of the equipment itself on a lease basis. Such shifts can prove cost effective, but they are dependent upon the existence of private sector capability, the development of which may require interim investment.

3.89 Institutional performance was also limited by the availability of road materials ranging from gravel to bitumen. In many cases the availability of materials was constrained by a shortage of foreign exchange. Equally significant were logistics problems—some of which were, in turn, partially the result of foreign exchange shortages—and ineffective procurement and inventory control mechanisms. Delays in payment by the government—cited in Senegal and Madagascar—have resulted in a reluctance by local or international suppliers to even deal with the ministries or to accord the servicing of ministry orders a priority. Increased consideration of these needs would seem an essential aspect of strategic planning by top-level management.

### Human Resources

3.90 Throughout SSA, human resources are a qualitative and quantitative constraint on institutional development and performance in the road sub-sector. Human resource constraints are often more difficult to resolve than are the improved availability of financial or material resources. Investment in human resource development requires a longer time-frame than does the procurement of equipment

and road materials; its impact may be less immediately felt than the provision of adequate finances. The significance of human resource development for institutional development is sufficient to warrant expanded discussion in Section IV.

(a) The National Human Resource Environment

3.91 Road organizations are dependent upon limitations arising from the national human resource environment itself. The adequacy and suitability of the qualifications provided school leavers in basic education and technical areas varies throughout the region. Consideration of the output of local education and training systems is fundamental to the development of both road network and personnel management systems. Road organizations lack the capacity to effectively lobby for the upgrading of the quality of basic education. In Tanzania it would seem, however, that the establishment of informal links between Comworks and the technical colleges and University has enabled adjustment of the curricula to provide a more practical content suitable to the needs of Comworks. Road organizations should be encouraged to develop similar linkage with training institutions and the agencies responsible for the establishment of training policies:

(b) Human Resource Management

3.92 Limited control over the output of the educational system and the time delay required for adjustment of educational output, place added responsibility on road organizations to effectively manage and develop the human resources available to them. Assessments of manpower requirements—including the types and levels of skill necessary for specific job performance—can provide the basis for building internal supplemental training programs. Special consideration must be given to providing staff training for the implementation of new systems and procedures; expectations concerning staff performance may need to be limited.

**H. Implement Organizational Restructuring and Management Control**

**"...the structure of the organization dealing with roads has changed several times since independence. Some of these changes have produced moves towards a more logical structure, but others have been counterproductive... From the roads perspective, Comworks appears to have an inappropriate organizational structure...The recent reorganization...will place considerably greater demands on supervisory staff...(and there is) little evidence that the implications of this have been fully appreciated within the organization."  
(Tanzania Case Study)**

**"...decentralization failed in 1975 and then was undertaken again ten years later;  
(Madagascar Case Study)**

**"Senior managers now all operate to 'Log-Frames'....similar to Management by Objectives documents ...used to set targets and provide a monitoring tool within the Ministry."  
(Malawi Case Study)**

## Introduction

3.93 In the past, institutional development activities in the region have focussed, only too often, on the restructuring of a road organization as the key to the resolution of management problems. Often conducted without the resolution of more strategic issues, such restructuring was seldom an effective means of increasing institutional performance. In fact, the result was often an erosion of performance. The case studies provide examples of such activities which lacked adequate provision for preparation, follow-up, monitoring, evaluation, and adjustment.

3.94 In Tanzania, for example, since independence organizational restructuring has been a recurrent event. None of the reorganizations seem to have ever been totally implemented, and they all generally left confusion about the new roles and responsibilities associated with the new structure. In Madagascar major decentralization efforts were initiated in 1973. They were largely a failure, and re-centralization was undertaken in 1976. Decentralization efforts were resumed in 1985 and recently have again been the subject of government decrees. Throughout these efforts coordination and the adjustment of overlapping functions have been major problems.

## Organizational Restructuring

3.95 The restructuring of a road organization should respond to the review of the mission of the sub-sector and the functions the road organization is intended to provide. It may be a direct response to the restructuring of the institutional arrangements themselves. Organizational restructuring can include:

- the introduction of new functions;
- the redefinition of existing functions;
- the reorganization of existing functions; or
- the removal of existing functions to another organization.

All organizational restructuring is potentially disruptive to performance. The reorganization of existing functions is potentially the least disruptive. It is often based on an organizational audit which draws upon generalized experience of what has worked best for most road organizations. Such recommendations need to be carefully considered by the management of a road organization before they are implemented. A general guide to assist organizational restructuring is provided in Exhibit 3.4.

**Exhibit 3.4**

**CONSIDERATIONS FOR ORGANIZATIONAL RESTRUCTURING**

- organizational restructuring needs to be carefully planned and managed;
- restructuring initiatives need to provide for the participation of operational personnel in all phases of the process;
- the roles and functions required for the restructured organization must be carefully defined and well understood by the affected staff;
- restructuring is often resisted, and compensatory mechanisms need to be adopted;
- organizational restructuring inevitably leads to temporary disruption of performance,
  - interim adjustment actions must be planned
  - frequent reorganizations should be avoided;
- restructuring needs to take into account the impact of existing vacancies and the ability of the organization to recruit personnel for any new positions;
- particular attention should be given to the completeness of any restructuring undertaken;
- pyramidal structures are the most effective in dealing with operational assignments, and the natural tendency to over-staff at headquarters needs to be carefully reviewed;
- clear distinctions and definitions should be made between centralized and decentralized functions;
- shifts of personnel are not readily accomplished even within an organization and often do not occur as scheduled; and
- reorganization must be set within the context of reasonable and acceptable time-frames.
- restructuring an organization is not likely to increase organizational capacity unless accomplished within context of improving such other organizational needs as:
  - delegation and responsibility
  - autonomy
  - accountability
  - coordination
  - decision-making

**3.96 Considerations more specific to the operation of road organizations include:**

- dissimilar functions should not be mixed:
  - road functions should be separated from general public works functions,
  - road planning and design functions should be separated,
  - road construction and road maintenance functions should be separated,
  - mechanical functions should be separated from civil works functions;
- responsibilities for technical road functions may be kept centralized but operational responsibility is best decentralized;
- responsibility for rural roads is best linked to those who use such roads and financing arrangements must be adequate;
- authority needs to be clear in order to ensure control over resources needed for work, including equipment;

- audit and monitoring functions are often neglected in structuring road organizations or inappropriately linked to the entities they are to control.

3.97 If sub-sector reform calls for the establishment of an independent road authority, the structure of the existing organization may have to be substantially modified in order to accommodate such a transformation. The use of a detailed memorandum of understanding, discussed earlier in this section, would provide the mission statement and designation of the functions for such an authority.

3.98 If reform policy directs shifting certain functions to the private sector, consideration must be given to the development of both contracting instruments and control mechanisms. Contracting may be implemented through existing tender boards but a contract management unit will have to be established in conjunction with organization restructuring. The staffing and structure of this unit would depend upon the extent of privatization envisioned. Consideration must be given to each step in the contracting process, including the specification of the scope of work and terms of reference, the invitation to bid, and the monitoring and evaluation of contract performance.

### **Management Control**

3.99 The need for clear specification of objectives and the linkage of objectives to the realities of both road organizations and their environments is clearly supported in the case studies. The Senegal Case study, for example, found that motivation in the road sub-sector was seriously eroded by the lack of clear objectives for the organization as well as by the lack of mechanisms to supervise and monitor the reaching of such objectives. Performance indicators were also designated as issues needing improvement in both the Madagascar and Tanzania Case Studies.

3.100 The setting of objectives for an organization cannot be addressed until there is a clear image of the mission of the institution. Within the context of the reform process advocated here, it also requires the definition of reform policy and the implementation of institutional and organizational restructuring. The objectives should be linked to the Management Plan developed by the Core Management Team and consistent with the terms of the Policy Action Plan. Once objectives have been established they can provide the basis for management and supervision through the road organization.

3.101 Management by objectives is used by many government agencies and firms in the private sector. Experience has shown that the approach works best when all managerial and supervisory staff in an organization are involved in the objective-setting process. Where top level management has independently undertaken to develop institutional objectives, the lack of participation in the objective-setting process has produced a lack of ownership and understanding of the objectives by the staff. The lack of participation also can foster resentment against top-level management.

3.102 The mechanisms enabling participation vary but center on systematic specification of objectives for respective levels of the road organization. Usually one begins at the top with participation of subordinate levels, in a descending process so that the objectives of one level guide those of the next lower administrative unit, but adjustment must be made in both directions.

3.103 The basic components included in the process can be alternately arranged or defined but basically include:

- definition of general objectives or mission;
- specification of goals and conditions necessary to fulfill general objectives or mission;
- statement of assumptions essential to performance or achievement of goals;
- identification of constraints upon performance;
- identification of outputs;
- identification of inputs; and
- identification of indicators of performance.

3.104 Different formats can be used to present these components. <sup>23/</sup> The Logical Framework (LOG FRAME) developed for the United States Agency for International Development (USAID) uses a matrix structure. This form of management by objectives has been widely applied to the analysis of both specific projects, individual organizations, and institutional settings. It includes the identification of goals, purposes, outputs, inputs, narrative descriptions, means of verification, and assumptions. Application of this approach can be used as a simple tool or as the basis for more complex planning. It can include varying levels of specificity including the time-frame for actions. An especially useful discussion of the approach and its application has been prepared by the Norwegian Agency for Development Cooperation (NORAD). <sup>24/</sup>

3.105 The Log Frame was used in Malawi to introduce and establish the concept of management by objectives. The process began with the introduction of the Log Frame at a series of objective setting workshops held for managers at different levels. These workshops established objectives and targets to be used for the direction and monitoring of MOW activities. These were subsequently passed up and down throughout the organization before being put into final form. This was to ensure that they both met the needs of the ministry and were realistically achievable. Mechanisms were established for quarterly reviews and the monitoring of performance at all levels.

3.106 The use of objective matrices for a road organization should also be linked to performance requirements in the job descriptions designed for personnel and the technical requirements of the road maintenance and other operational systems. This is particularly important when organizational objectives specify performance in terms of specific levels of service.

### I. Managerial Systems, Processes, and Procedures

**"The basis for any resource management system must be basic actual information about the organization...; Attempts are now being made to introduce a personnel management information system within the Manpower and Administration Department."  
(Tanzania Case Study)**

**"The coordination of managerial actions...is either nonexistent, or inoperative, or is informal and unorganized."  
(Senegal Case Study)**

**"...a maintenance and rehabilitation management system has been developed and is being implemented...its emphasis is based on managing resources at the operational level..."  
(Malawi Case Study)**

3.107 The case studies indicate a widespread deficiency in the managerial systems, processes and procedures (MSPP) <sup>25/</sup> used by the road organizations in SSA. It is not that MSPP do not exist; rather,

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<sup>23/</sup> Mechanisms can use linear chains, decision trees, matrices or combinations of these analytical structures.

<sup>24/</sup> See The Logical Framework Approach (LFA): Handbook for Objectives-oriented Project Planning. Oslo: Norwegian Agency for Development Cooperation, 1982.

<sup>25/</sup> Management systems range from comprehensive management information systems to specific operational systems for such activities as road maintenance or equipment management. Processes and procedures range from the administrative steps required to requisition resources to the steps required for patching potholes.

it is that they are often inappropriate, incomplete, ineffective, or even inoperative. The primary impact of the MSPP deficiencies is inadequate management control. In turn, resources are used ineffectively, performance is impaired, and hazards to safety may increase.

3.108 A central issue is the availability and handling of management data. Data needs to be accurately collected in a timely manner. This requires the support of field personnel in the data collection process; field support appears to be greatly enhanced when time is taken to explain the value of data and how it will be used. In order for the data to be useful for management, it should indicate conditions and levels of performance. Time must also be spent in gaining the confidence of management personnel in the utility of systems and consolidated reports.

3.109 In Tanzania, for example, the lack of the management data necessary for a management information system has been a serious restriction on planning and monitoring road maintenance. The data which does reach headquarters is inaccurate and dated, and the format of the reports in which the data is presented is not designed so that management information can be readily extracted and consolidated.

### Design, Installation and Maintenance of MSPP

3.110 Many road sector projects in SSA have included MSPP components. These have sought to either build upon existing MSPP elements or introduce new ones. Various factors complicate the design, installation and maintenance of MSPP:

Design faults: Although MSPP can be drawn from generic models, they should fit the needs of the specific road organization. Particular consideration should be given to the use of appropriate technology. Input from the road organization staff in the design of MSPP is vital.

Installation: The installation of MSPP is often resisted by management and staff. They may be perceived as unnecessary or an attempt at centralized control. They are often implemented by outside consultants who are not sensitive to the impact of the implementation process. It is important to take the time to train personnel to use and adjust the MSPP.

Maintenance: Maintenance of MSPP requires that they be reviewed and adjusted over time. If local staff have not been trained to provide this service, the MSPP quickly becomes irrelevant to organizational needs. The maintenance of the MSPP depends on continued commitment of management and staff as well as the availability of the resources required by the MSPP. A system requiring visual inspections might be impossible to maintain due, for example, to the lack of inspectors, vehicles, fuel, equipment, or spare parts.

3.111 Over time the results of investment in MSPP can be easily eroded. Road organizations may find it useful to establish a unit responsible for auditing the use and maintenance of MSPP. The rotation of personnel often erodes MSPP and may require special training for staff replacements. Cross training of personnel may be useful so that more than one person in a unit understands the MSPP.

3.112 Investment in the design and installation of MSPP will not guarantee increased institutional performance. Their operation is dependent upon an accountable management and staff and operable incentives. Only within such a context can they enable management control.

### Operational Management Systems

3.113 The installation of operational management systems is essential to the effective operation of road organizations. The systems need to be structured to support the primary management functions of: planning (including budgeting), organizing (including staffing), directing, and controlling. Operational systems supporting road management can be designed to support different activity categories including:

- Construction management
- Maintenance management

- Pavement management
- Bridge/structure management
- Roadside management
- Traffic Systems management
- Equipment management (including spare parts)
- Materials management

These categories are sometimes combined. Maintenance management systems, for example, often are structured to include either pavement or roadside management. Supporting systems are also required, including personnel and financial management systems. <sup>26/</sup> Road organizations can obtain generically designed systems at marginal cost or have custom systems designed at considerable cost. Experience shows that while a balanced approach is preferable, the cost of implementing any system should be viewed in terms of the long-term costs and returns.

3.114 The installation of operational management systems depends upon the collection of basic inventory and condition assessment data on the physical infrastructure, equipment or materials being managed. The accuracy of this data is essential to the validity of the information produced by the system. The case studies demonstrate that this consideration is a major limit on the implementation and development of information systems in the region.

3.115 Because of their operational focus, individual systems addressing one or a few of the above categories have often been installed independently. In Madagascar, for example, there are five technical management systems and four administrative management systems—some of which date back to the colonial period—all of which need to be reviewed and integrated. In such an instance a road organization faces the tasks of:

- consolidation of individual operational systems into a common management information system or developing data interface programs;
- linking multiple systems to structural/functional divisions in the organization;
- collecting and consolidating data into management reports suitable for regional and centralized management control and decision-making; and
- establishing a linkage between operational management systems and accounting control, and other financial management systems.

### Road Maintenance

3.116 The most effective operational management systems—especially in regard to road maintenance—are based on performance budgeting. This enables the organization to prepare an annual work program and budget based on predetermined costs and estimates of resources required for each type of activity per specific unit of work. Thus the organization can present a case for how much it can do at what level of service and at what cost. This enables the organization to participate more meaningfully in inter-ministerial discussions with planning and budgeting authorities and facilitates integration of the planning, programming, and budgeting process, as well as to organize, control, and direct its operations.

3.117 The Maintenance and Rehabilitation Management System (MARMS) installed in Malawi for the Ministry of Works is a good example of a performance oriented road maintenance management system. It facilitates resource management at the operational level and performance based budgeting. The system uses micro-computers and provides management information at headquarters, at the regions, and in the districts. MARMS has facilitated a broad range of management requirements including negotiations for

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<sup>26/</sup> Financial management systems based on modern cost accounting concepts are often theoretically in place but because of poor levels of staffing or incomplete data collection may be ineffectively maintained.

increases in budget, the identification of equipment requirements, and reductions in the number of casual workers. Correspondingly, it has resulted in an increase in the performance of road maintenance.

### **Equipment Management**

3.118 Equipment management can range from the use of simple cards and check-lists to more comprehensive systems. Commitment by supervisors is needed to ensure consistent and widespread use of these mechanisms. Primary focus should be directed to equipment operation and maintenance. More complicated systems can suggest the best mix of equipment to do a particular job or evaluate the savings from repair versus replacement of a piece of equipment. The suppliers of equipment can readily provide assistance with equipment management at little or no cost.

### **Computer Applications**

3.119 Tanzania is implementing a computerized personnel management system, and considerable progress has been made in the development of a personnel database. In Malawi, in addition to MARMS, micro-computer based management systems have been applied to road planning (HDM III) and equipment management. Management systems do not need to be computer-based systems, but the need to process data and provide meaningful management reports for the direction and control of road operations can be greatly facilitated by the use of micro-computers. Micro-computers are far easier to install and use than mainframe systems, but many road organizations have been hesitant to try them. Software applicable to road networks is readily available.

3.120 The central problem in computer applications is the need for an accurate database. Road organizations in SSA may lack the means of assuring such data either for the initial installation of a computer system or on a continuing basis. Computer systems may offer little utility in such cases. Computers, moreover, can only provide reports, they cannot make decisions.

### **Processes and Procedures**

3.121 Simple processes and procedures should not be overlooked as effective means of controlling or enhancing performance. Operating check-lists, equipment use and maintenance cards, diagrams, and even posters can assist quality control and the standardization of operations. These need to be reviewed periodically to ensure that they are correct, clear, and being used.

## **K. Institutional Development Management: Summary**

3.122 The framework for interventions provided in this section reviews the need for extensive change in road organizations and the external environments in which they operate in order to promote institutional development in the road sub-sector in SSA. The reform process necessary to institute this change must begin with the generation of high-level commitment on the part of the government, the respective organizations in the road sub-sector, and donors. In order that it be sufficiently "owned" and fully supported, the content, direction, and schedule of the reform policy must be country-specific and evolve on the basis of collaborative participation. It must also be linked to the general public sector and specific transport sector reforms.

3.123 The implementation of the interventions supporting reform will involve multiple agencies and be spread over a protracted period of time. There is no rigid blueprint for the reform process. The outcome of change is not assured and requires periodic adjustment. Interventions may need to be recast and commitment regenerated. Coordination, monitoring, and evaluation will require heightened emphasis for both individual interventions and the reform process itself.

3.124 Clearly management of the reform process will be a demanding and crucial requirement for the success of HRID. External assistance can assist the management of change but should not displace indigenous ownership of the reform process itself. The management mechanisms suggested in this section to enable local participation and direction of the reform process include:

- **Inter-Ministerial Task Force:** to review the mission of the sub-sector and assess institutional performance in support of that mission;
- **Policy Action Planning Workshop:** to generate consensus on the need for sector policy and institutional reform and review the basic issues and options for reform policy;
- **Inter-Ministerial Steering Committee:** to coordinate the subsequent development of specific reform policy and options, develop a Policy Action Plan, and oversee the implementation of reform;
- **Ministry or Road Organization Management Team:** to assist reform within the road organization and the promotion of performance-oriented management;
- **Task Forces/Workshops:** to address specific issues or requirements for the implementation of reform; and
- **Donor Liaison and Coordination Committees:** to coordinate donor activities and ensure a unified approach suggestive of reform policies.

3.125 External assistance can play a major role in support of the reform process by providing assistance for technical reviews, institutional assessments, the analysis of policy issues or options, and management workshops. Technical assistance may also be required to free line management from existing duties in order to be actively involved in strategic planning associated with the reform process. Because of the importance of change management to the success of reforms, a broader range of expertise will be required, including HRID specialists and process consultants. External assistance can facilitate the recruitment of such expertise and guide the eventual transfer of this expertise to sub-sector managers and local consultants.

## IV. HUMAN RESOURCE DEVELOPMENT: HIERARCHY OF INTERVENTION

### **SECTION SUMMARY:**

Although there is no fixed plan or formula, the modal summary suggests a framework to be considered in the design and implementation of interventions supporting human resource development.

### **A. Introduction**

#### **A Framework for Interventions**

4.01 Human resource development (HRD) cannot be guaranteed by any fixed plan or formula. It must be addressed within the context of each individual road organization and its specific institutional environment. The comparison and contrast of successful and unsuccessful cases does, however, suggest a general sequence for interventions in support of HRD. (See Exhibit 4.1).

#### **Exhibit 4.1**

#### **INTERVENTION FRAMEWORK FOR HUMAN RESOURCE DEVELOPMENT**

- improve human resource policies and management
- adjust employment to needs
- strengthen accountability, incentives and sanctions
- improve manpower utilization and job resources
- develop managerial and supervisory skills
- improve personnel systems
- increase the effectiveness of technical assistance
- improve the appropriateness of training

4.02 As in the case of institutional development (ID), the framework mirrors the realities of reform in that successful change at one level is generally dependent upon prior conditions having been met at other levels. For example:

- an active human resource development policy will be necessary to firmly support human resource management and manpower planning;
- most road organizations will need to reduce or adjust their current levels of manpower to implement human resource development programs;

- for such programs to have effect, staff will have to be motivated; their motivation will depend upon the strengthening of accountability, incentives, and sanctions;
- the utilization of manpower must be improved in order to support motivation;
- accountability cannot be achieved unless manpower utilization is improved and the resources required for the performance of work are available;
- the skills of managers and supervisors will need to be upgraded to enable a more effective utilization of manpower;
- personnel systems and practices will be necessary to support manpower planning, utilization, and performance evaluation;
- technical assistance will need to be better managed in order to increase its impact on human resource development; and
- when reforms to the management of human resources and manpower motivation have been made, training will have greater impact; more attention must then be given to the planning and programming of training.

4.03 The framework is a conceptual guide to action. Because many of the needs are interrelated, their solution may require simultaneous interventions. The sustainability of HRD appears assured, however, only by addressing these needs in a comprehensive manner.

#### **Institutional Context**

4.04 The case studies illustrate the interdependence of institutional development and human resource development; they suggest the importance of a supportive institutional context as a precondition for HRD. The institutional context necessary for human resource development would seem to require both an enabling institutional environment and the internal organizational conditions in which people wish to stay, can perform, and can develop their practical skills, knowledge, and professional careers. Road organizations may wish to address ID and HRD concurrently, but without consideration of the institutional requirements discussed in Section III the impact of HRD on the performance of road organizations is likely to be marginal and difficult to sustain.

4.05 The case study for Malawi, for example, indicated that the MOW has a basically sound institutional context; there is government commitment to the mission of the institution, the organization's top management is competent, there is a critical mass of capable, accountable staff, and there are functioning management and performance monitoring systems and procedures. In such a context HRD interventions—including manpower planning, performance evaluations, and career development—have taken root.

4.06 Conversely, attempts to support and promote HRD in Tanzania's Comworks before addressing the fundamental environmental and organizational issues have resulted in a marginal impact on the level of Comworks performance. In an attempt to improve the management process, for example, most mid-level managers have taken short and medium length courses in management training. The organization remains unmotivated as a result of weak accountability, low salaries, and recurrent reorganizations which have eroded the definition of organizational objectives and designation of responsibilities. Until these issues are resolved, staff will lack a hospitable environment in which to absorb and apply the management training that they have received.

## **B. Improve Human Resource Policies and Management**

**"In order for (human) resource management to flourish, it must develop within a wider (improved) management culture."  
(Tanzania Case study)**

**"(until recently there has been) little evidence of rigorous or detailed manpower planning by or for the MOW. This is not a field in which MOW itself has had any experience or mandate. At the same time, the responsible agency, the Department of Personnel, Management, and Training (DPMT) seems more concerned with broad, civil service-wide manpower issues than with sector-specific planning for MOW."  
(Malawi Case Study)**

**"A Manpower Development Policy Paper has been recently drafted and, if this is adopted, will provide an excellent framework for manpower planning and staff development in the future."  
(Tanzania Case Study)**

4.07 Human resource management—ranging from recruitment and motivation to personnel administration and training—is a vital determinant of institutional performance. Many road organizations in SSA have neglected the importance of human resources and concentrated on the more tangible aspects of budgets and material resources. Strategic management of human resources is constrained by:

- deficient mandate over manpower and personnel decisions;
- weak planning and forecasting mechanisms for overall road programs and maintenance needs;
- failure of top management to appreciate the importance of HRD;
- political interference in decisions affecting personnel and promotions;
- inadequate human resource management policies or plans;
- inadequate manpower and personnel data; and
- low prestige accorded to personnel and training functions.

4.08 In Malawi, for example, the Department of Personnel, Management, and Training (DPMT) of the Office of the President and Cabinet is responsible for manpower planning. DPMT does carry out manpower surveys which are used as the basis for setting recruitment and promotion targets. These surveys are conducted only every ten years, however, and the results are not adequately detailed to provide sectoral manpower planning relative to the needs of the MOW. Until recently the personnel department of the MOW saw itself primarily as an extension of the DPMT. In conjunction with technical assistance under the last IBRD Highway Sector Loan, a manpower assessment for the MOW was conducted and the ministry was exposed to human resource management concepts. In recognition of the need for an internal capacity in human resource management, the MOW has requested the establishment of a Chief Staff Development Officer, who in close coordination with DPMT would carry out manpower planning and staff development for the MOW. The ministry has been able to use the manpower assessment and specialized HRD studies as the basis for dialogue and negotiation with DPMT.

4.09 In both Madagascar and Senegal human resource management is greatly constrained by linkage to the civil service and existing bureaucratic management styles. The intrusion of subjective factors on performance considerations as the basis for appointments and promotions makes the concept of staff development hardly relevant, if possible. In Tanzania efforts to introduce a personnel management information system, including the development of a basic personnel inventory, and the drafting of a Manpower Development Policy Paper would appear to reflect increasing commitment to the importance of human resource management.

#### **Development of Commitment**

4.10 The importance of human resource management makes it a central concern for the strategic management of road organizations. It may be necessary to cultivate both an understanding of human resource concepts and commitment to their development. This requires gaining an understanding at all levels of management that it is just as important to manage human capital as it is to manage the other resources of the road organization. The generation of support may be directed first at top management but then must filter down to all other levels of management and supervision in the road organization.

4.11 Mechanisms similar to those discussed in Section III should be considered to identify HRD issues and generate commitment. For example, it might be useful to hold an initial HRD workshop for top management, including personnel and training managers, and follow it up with interactive seminars for lower managerial and supervisory levels.

#### **Rationalization of Manpower Policies**

4.12 Concurrent with the development of commitment is the need to establish manpower policies which reflect the performance needs of the road organization and not the demands of special interest groups. Top management will undoubtedly have to make a strong case for enlarging the mandate given to the road organization over personnel issues. Unfortunately cost savings and increased performance may not be strong enough justifications to counter pressures distorting current manpower policies.

##### **(a) Restrictions Imposed by the Government**

4.13 The central government itself is a primary constraint on the implementation of rational manpower policies. Linkage to the civil service is repeatedly cited as a problem for the performance of road organizations. Civil service rules and regulations tend to be rigid and not necessarily in the best interest of individual sector ministries or agencies. The central issue is the need to free road organizations from public sector wage and employment policies in order to attract, retain and motivate qualified and productive personnel.

4.14 Although there may be possibilities for reducing linkage with the civil service, it is unlikely that road organizations can be fully exempted from the application of public sector policies and regulations. The establishment of an independent road authority is one way to bring about autonomy from civil service regulations. Adjustment of current civil service wage scales or the introduction of supplemental pay schemes are options for road organizations that remain embedded in the civil service. Reviews and comprehensive reforms of the civil service are also currently underway in several SSA countries.

4.15 In most SSA countries, there are regional and ethnic divisions. Often formal or informal quotas may be used for recruitment and hiring. Road organizations that have to operate within such restrictions can try to seek out the best candidates from the preferred groups and, once employees are hired, ensure that performance is used as an objective basis for promotion.

##### **(b) Interference by Political Parties and Labor Unions**

4.16 The role of political parties and labor groups varies widely from one political system to another in SSA. The involvement of unions on behalf of workers is more acceptable, but the interference of political parties is less justifiable. In some cases political parties or labor groups have decisive control over personnel matters, with clearly counterproductive effects.

4.17 Political parties can be represented in governments' policy decision-making but once policies have been formulated and the mission of national institutions is defined, political parties should allow autonomous organizations to make manpower decisions that are technically and administratively valid. Similarly, labor unions must allow the management of road organization to pursue the organization's performance objectives. Labor's participation in the development of management plans or in the formulation of policy reforms is legitimate, but not the imposition of manpower policies that weaken organizational performance. Unions can play useful roles in identifying training needs and defining career development tracks. The formal definition of mutual relations and roles can enable better cooperation between unions and management.

(c) Internal Interest Groups

4.18 Internal interest groups that benefit from the manipulation of personnel policies may be found within road organizations. Departmental rivalries between different functions or desire for personal aggrandizement may result in pressures for recruitment, training, and promotion which are not based on the interests of institutional performance. The development of effective personnel files and manpower planning systems can provide some measure of control over such pressures.

Manpower Planning

4.19 Human resource management requires a capacity for long-term manpower planning. In turn, manpower planning requires the possession of accurate manpower data that can be matched to management plans developed in conjunction with strategic planning exercises. It may be necessary to conduct a manpower assessment which includes an inventory of the organizations' current and future manpower requirements—numbers and skills—to determine the extent to which these are currently being met or will be met. Such an assessment should also analyze the reasons for current staff strengths and shortcomings and assess the implications of envisioned changes or ongoing trends. The data generated are especially relevant to the subsequent development of training plans and the conduct of redundancy programs, should they be necessary.

4.20 On the basis of the assessment a manpower plan for the road organization can be prepared. Ideally this should be a rolling plan which is updated annually. Where possible the time-frame for the plan should be matched to the planning cycles used for the management plan or national planning documents, but a cycle of five years is generally preferable.

4.21 A survey of the supply of human resources available to the road organization is also advisable. This should include a quantitative and qualitative review of the output of in-house and external programs providing professional and technical training. Projected shortages can be identified for further consideration.

C. Adjust Workforce to Employment Needs

**"A major redundancy program is needed...estimates from within Comworks suggest that there are probably five times as many (auxiliary staff) as are necessary to carry out the work required."  
(Tanzania Case Study)**

4.22 Nearly all of the road organizations in SSA will need to adjust their existing workforce as a result of one of the following:

- overstaffing at lower levels;
- inappropriate mixes or levels of skills; or
- shifts from force account to contracting for maintenance services.

4.23 Most road organizations have had some experience with reductions in their levels of staffing. For higher levels of staff these reductions have generally been achieved by placing a freeze on hiring and the use of natural attrition. A few road organizations have used early retirement programs to reduce forces. At lower levels reductions have been easier because of the reliance on substantial numbers of casual or temporary workers.

4.24 The implementation of such reductions usually has been in response to externally imposed manpower and personnel policies. Road organizations often have not participated in the decision-making process for manpower policies and have had a limited role in the implementation of redundancy programs. Although only small numbers may have been lost and the losses may have been spread over an extended period of time, such reductions in personnel often have not been matched to the actual skill requirements of road organizations. This has resulted in a distortion of the skill profile of those staffing road organizations and impaired organizational performance.

4.25 Road organizations may be faced by redundancy programs involving larger numbers and more compressed timeframes than in the past. This suggests an increased need for the involvement of road organizations in redundancy programs and an upgrading of redundancy management. Comworks, for example, is directly responsible for a workforce of over 16,000; the economic and social implications of declaring a quarter or a half of the workforce redundant would undoubtedly require management skills beyond the current capacity of the organization. Road organizations are also likely to experience compressed timeframes for redundancy programs. The President of Senegal, for example, has recently called for the privatization of all road maintenance within a period of twelve months. Adjusting the manning levels of the road organization and upgrading the manpower capacity of private sector contractors will be possible only with concerted management efforts.

4.26 The ability of road organizations to strategically manage redundancy programs will be directly affected by the extent to which human resource management is supported by top management. It will be correspondingly limited by the absence of manpower planning mechanisms and deficiencies in the personnel systems in place. Management of the redundancy process will have to account for the following:

- assessment of manpower and skill requirements for functional performance;
- designation of target levels and priorities for staffing;
- assessment of skill profiles and performance evaluation of existing personnel;
- selection of personnel to be retained;
- designation of the terms, process, and schedule for redundancy; and
- development of redeployment and retraining programs.

4.27 The designation of personnel as redundant is a sensitive and potentially volatile issue. It may be subject to considerable pressure from labor unions or political parties. Agencies outside the road organization may need to be included in the decision-making process. In view of the need to balance interests, ensure objectivity, and *laissez-faire*, a task force might be established to oversee both the definition and implementation of the redundancy program.

4.28 Most road organizations will need assistance in the development and implementation of redundancy programs. Useful lessons may be drawn from redundancy campaigns already underway in such SSA countries as Ghana, and it might be useful to prepare case studies of such efforts. The application of such lessons to each road organization, however, must take into account local economic, political and social conditions. Techniques for the assessment of skills and the development of criteria for the selection of personnel may be provided through technical assistance.

#### D. Strengthen Accountability, Incentives, and Sanctions

**"In order to evaluate performance it is necessary to compare the results achieved and the results anticipated; it is necessary to establish performance standards..."**  
(Senegal Case Study)

**"Disciplinary procedures exist but are slow and cumbersome. They are rarely used and staff transfer is the normal method of dealing with poor performance."**  
(Tanzania Case Study)

**"Salaries being insufficient, 70 percent of the staff do little at the Ministry which employs them because they are occupied with outside activities."**  
(Madagascar Case Study)

4.29 The importance of accountability, incentives, and sanctions in motivating top management has already been discussed in Section III. Motivation is required, however, at all levels throughout the road organization. The factors motivating different groups within the organization are likely to vary. For example, top management may be especially concerned about status and power; technically oriented personnel may place a high value on access to technology and the professional reputation of the organization; work crews are likely to be more concerned about wages. Management at all levels must be concerned about the motivation of the staff they direct.

#### Accountability

4.30 The basis of accountability is the establishment of clear and realistic objectives for both work units and individuals. This requires a definition of inputs and outputs and a specification of the procedures to be followed. The case studies indicate that road organizations in SSA generally lack a well-structured set of objectives or performance indicators. Where procedures are defined, the definition is often too general or assumes conditions which do not exist. Position descriptions are often quite dated or based on generic models. An essential first step for road organizations may be building specificity into objectives, procedures, and position descriptions. Some road organizations have found it useful to include staff in the redefinition of their own position descriptions and to use this participation as the basis for viewing the position as an individual "work contract".

4.31 As a means of controlling institutional performance, the performance of work units and individuals can be checked against specific expectations. Performance evaluations should be a two-way process, involving the supervisor and the respective work unit or individual. Although it may be the basis for the subsequent imposition of sanctions, more can be achieved by using the evaluation process as a means of reinforcing good performance and motivating and encouraging improved performance when necessary. Performance evaluations should be conducted on a regular basis. They should not be relegated to routine and should be given adequate time and attention by both supervisors and employees.

4.32 Institutional performance can only be ensured when performance and competence are the criteria for promotion. The case studies indicate that seniority, external pressure or favoritism, and the need to fill empty slots have often been the actual criteria used for advancing personnel. An effective system of performance evaluation may greatly assist the objectivity of promotions within road organizations.

## Incentives

4.33 Road organizations offer employees various packages of incentives including financial payments and such other benefits as housing or medical care. Wages may be a central issue for many workers, but they must be weighed against other factors and conditions in each country.

4.34 Improved wages are undoubtedly a precondition for improving the motivation of staff in most road organizations in SSA. In such countries as Tanzania the wages are actually below the subsistence level. Workers must supplement their income with outside employment or resort to irregular practices; as a result the level of performance and cost of services are distorted. Increased wages may be the only option to ensure the full attention of top managers. At all levels, but especially for lower levels, linking pay to performance may provide a greater incentive to performance. For example, ditch cleaning and grass cutting are often performed by farmers who live nearby and split their day between road and farm work. Linking their pay to the kilometers cleaned or cut might be a better means of increasing performance than a minor increase in pay.

4.35 In some road organizations work discipline has eroded to the point that workers expect to augment their poor wages through irregular payments. The wages of ghost workers may be split among crew members, fuel may be siphoned for personal use, and spares and tools carried off for sale at local markets. Workers have generally shown themselves to be ingenious in dealing with controls instituted to control such irregular practices unless they were accompanied by increases in wages and effective sanctions.

4.36 The incentives provided by housing, health programs, and access to further education may be difficult to access or directly relate to performance, but they may be the major incentives for employment. Road organizations can rely on fringe benefits as a supplemental means of motivating employees, but this should not be at the expense of performance-linked incentives.

4.37 In some cases access to a telephone or travel may provide the opportunity to conduct business or engage in irregular practices. Field trips, for example, are often popular means of collecting per diem in addition to wages or presenting padded expense accounts. Travel to international conferences may allow the purchase of items not available in local markets or opportunities to avoid restrictions on foreign exchange transactions. Road organizations should review their operational practices to minimize the opportunity for abuse.

## Sanctions and the Work Culture

4.38 Well motivated workforces are generally well disciplined and require infrequent use of sanctions. Accountability requires, however, that management have both the means and the will to apply sanctions when workers need to be disciplined. In many road organizations the work culture has been substantially eroded, and workers know that there will be no sanctions whether they perform or not. Instituting performance values will be difficult in such an environment and certainly requires that:

- workers understand the policies, procedures, and rules to be followed;
- policies, procedures, and rules are reasonable and workers have the means of complying with them;
- supervisors have the authority, means, and incentives to apply sanctions; and
- the sanction process must be objective and free from external interference.

## Strategy

4.39 The approach management takes in developing accountability and incentive systems to motivate the staff and encourage the development of a performance oriented work culture will be specific to each road organization. For some organizations this will be a difficult task; for all it will be important.

Experience suggests that there are several needs which managers should consider in developing strategies to motivate personnel:

- if major redundancy or restructuring programs are required these should be undertaken as quickly as possible;
- management should initiate communication with staff to: explain the need for change or new directions, discuss the impact of such change, learn the interests of the staff, assure the staff that they have access to the decision-making process, enable participation in the recasting of the organization;
- staff must feel that the objectives specified for their unit and their own positions are realistic;
- staff must have confidence in the objectivity of performance evaluation and promotion systems;
- incentive systems need to be positively linked to performance;
- effective sanctions may require review and strengthening of personnel systems;
- the redirection of staff attitudes towards performance requires an extended time-frame and an active education program; the time-frame can be shortened by management workshops and working-group sessions at crew or unit levels, but recurrent attention must be given to reinforcement of a performance-oriented work culture.

### **E. Manpower Utilization and Job Resources**

**"Manpower utilization within Comworks at the moment appears to be a haphazard ad hoc process, rather than something that is planned and monitored. The introduction of the personnel management information system...(may) enable manpower utilization to be managed effectively. However, the current management environment suggests that, even with good information, political and socio-cultural issues...(are) likely to drive the allocation and utilization of manpower, rather than the needs of the organization in meeting its objectives."  
(Tanzania Case Study)**

4.40 Institutional performance can be significantly enhanced by improving the utilization of the existing staff, and manpower utilization is an issue that should be addressed well before the initiation of major training interventions. The ineffective use of manpower arises primarily as a result of:

- unclear roles, areas of responsibilities, or job objectives;
- incorrectly structured work units, tasks, and procedures;
- the mismatching of personnel and the skills they hold to the positions they are assigned;  
and
- inadequate provision of material and equipment resources.

4.41 The interdependence of HRD and ID is readily visible in the promotion of manpower utilization. Interventions road organizations initially take to promote ID must include improved manpower utilization as one of their objectives. Road organizations are often only generally aware that they have a manpower utilization problem, and it may be useful to conduct a resource utilization and availability audit to determine the extent of the problem and to target specific issues for resolution. The effective use of manpower is a recurrent problem that needs to be systematically monitored on a periodic basis.

#### **Material and Equipment Resources**

4.42 All of the cases studies indicated that the provision of material and equipment resources represents a constraint on manpower utilization that is difficult to resolve. Various examples were cited:

- lack of vehicles to transport work crews and inspection or survey teams;
- lack of equipment or facilities for the testing of materials and pavement;
- low availability of road equipment fleets because:
  - they are over-aged,
  - they are incorrectly operated,
  - they are incorrectly maintained,
  - spare parts are scarce, and
  - maintenance and repair facilities are inadequate;
- fleets with inappropriate types of road equipment;
- lack of fuel and lubricants;
- lack of hand tools for work crews;
- lack of basic road maintenance materials;
- cumbersome procurement or requisition systems; and
- poor logistics planning and scheduling.

4.43 The efforts to increase the availability of material and equipment resources have already been discussed in Section III. Causal factors may, in fact, be the availability of funding and foreign currency which need to be addressed at the macro economic level. Within the road organization, the establishment of operational systems for work performance, logistics, and inventory control has already been suggested; one of the key elements of road maintenance management systems is the assurance of the availability of resource requirements on a task-specific basis. Such systems can also helpfully identify and document bottlenecks constraining the efficient flow of resources. Increased performance will be dependent upon the understanding and effective use of these systems by senior management at the policy level and by supervisors at the operational level.

4.44 At least initially, road organizations may need to improve the availability of resources within the relative confines of existing budgets. Redundancy programs reducing the proportion of the recurrent road budget allocated to salaries could increase the funds available for the supply of material and equipment resources. Some road organizations have found leasing plant and equipment from the private sector to be more cost effective than maintaining their own fleets. Even when road organizations maintain their own fleets, similar savings can be obtained through the use of preventive maintenance programs available from equipment suppliers.

### The Structuring of Work Units and Procedures

4.45 Many road organizations have undertaken internal restructuring of their departments and divisions. If such restructurings have focussed on the redistribution of the primary functions of the organization, they may not have addressed effective design of individual work units and procedures. Road crews, for example, may have too many—or too few—workers trying to patch a pothole; the result may be workers with nothing to do or workers having to wait until someone else has finished a step before they can commence their own task. Changes in technology or materials may require new procedures. The procedures for road resealing, for example, may involve steps no longer applicable to the materials being used. Foremen can often make useful suggestions for improved work unit structure; they may need to be given greater flexibility in the structuring of work crews to fit varying conditions, including seasonal cycles and the availability of material and equipment resources.

### Effective Manpower Placement

4.46 In most road organizations the recruitment, placement, and promotion of manpower within the organization has been inadequately supported by internal personnel systems and distorted by external factors ranging from the available supply of skills to political pressure. As a result, staff may fill positions for which they are not qualified.

4.47 The importance of matching personnel to the requirements of specific positions has already been emphasized. Adjusting mismatches by shifting personnel to another position or work unit should be considered first, but this option may be constrained by civil service restrictions or the lack of vacancies. In such cases on-the-job training may be useful to upgrade the level of skills. Some staff, however, may have skills more applicable to other work units. The use of innovative or temporary work assignments may enable the organization to draw upon such skills.

4.48 In some road organizations young professionals have been rapidly promoted on the basis of the need to fill posts rather than on the basis of their having gained experience on the job. Concentrated training sessions, internships, and overseas study tours are means sometimes used to compensate for a lack of experience; they are questionable substitutes.

## F. Develop Supervisory Skills

**"There appear to be very few attempts to supervise activities in order to guide, monitor or control functions that are taking place. Such supervision is fundamental to resource management in general, and applies equally well to human resource management."  
(Tanzania Case Study)**

**"Sanctions are lost in the convolutions of the administration. Management hesitates to take sanctions...and...prefers verbal remonstrations."  
(Senegal Case Study)**

**"... MOW policy and procedures for employment and employment supervision are already quite well developed...(but) there is a tendency among supervisors not to bring problems into the open..."  
(Malawi Case Study)**

4.49 Most road organizations have given priority to technical training at the expense of the development of supervisory skills, based in part on the assumption that the development of technical competence in a functional area is adequate preparation for the supervision of that function. Project

experience in the sub-sector has, in fact, shown that such is not the case and that inattention to the development of supervisory skills for foremen has often eroded the projected benefits of training offered to their work crews.

4.50 Central requirements for effective supervision are the clear delegation of authority, accountability, and incentives. In Malawi, for example, specialized courses for supervisors were developed as part of the curriculum offered by the MOW training center in Lilongwe. The "directive" management style of the organization, however, has led supervisors to think largely in terms of accountability and to neglect positive motivation. Individual discretion has not been encouraged, and the staff has generally been overly concerned about making the wrong decision. Supervisors have also been concerned about bringing examples of improper performance to light for fear that the existence of such would reflect badly on them.

4.51 To counterbalance these attitudes supervisory training sessions were recently designed which have sought to introduce a more participatory management style at the top, which hopefully would filter down throughout the entire organization. Mid level supervisors have been encouraged to accept the position that confronting problems—and being perceived as an organization which confronts problems—is a positive development both in terms of management and external public relations.

4.52 Supervision in Tanzania has been restricted by the lack of clearly delegated authority for decision-making and a lack of work experience. Recent graduates have often been thrust immediately into relatively senior positions for which they have not had sufficient experience. In Madagascar and Senegal a series of more general obstacles are seen to have restricted supervision. These include: inadequate planning and coordination, the lack of defined roles, the lack of clear procedures, and the lack of the delegation of authority and responsibility.

4.53 The case studies indicate the need for supervision with particular emphasis on the development of employees, the improvement of work unit discipline, the promotion of a performance-oriented work climate, and the introduction of team building. These are tasks with which supervisors and managers in most road organizations are not familiar. They are quite different, for example, from the verification of the adequacy of pothole repairs.

4.54 The establishment of effective supervision includes:

- providing clear and specific direction;
- linking performance to time, quantity, and quality standards;
- understanding and being able to explain the technical aspects of work performance in terms of a specific work situation;
- supporting and reinforcing the use of management systems, processes, and procedures;
- using incentives and concepts drawn from a performance oriented work culture to motivate personnel;
- using performance-oriented monitoring, feedback, and evaluation mechanisms; and
- breaking down barriers to communication and being available for questions and consultations.

4.55 Most road organizations need to review the support given to the development of supervisory skills. They need to assess the skills needed, the skills available, and the extent to which the individuals holding supervisory positions can profit from training. Some individuals may have little potential to develop supervisory skills and may need to be reassigned to other positions.

4.56 Road organizations should specifically provide for the training of supervisors in their training curriculum. The development of supervisory skills is most effectively achieved within the context of the working environment. The basic concepts of supervision can be presented in a classroom setting, but

the transference of these concepts to supervisory personnel requires their application in real-life situations. Workshops and simulations can be effective training interventions for supervisors, but on-the-job training and good example by their supervisors is a primary requirement.

4.57 Monitoring and evaluation mechanisms are necessary to determine the impact of training and identify the need for supplemental training. Refresher courses in technical areas may also be necessary. Advance orientation and training of supervisors can also facilitate the introduction of new management systems and work procedures.

### G. Develop Personnel Systems and Practices

**"Taking into account the recent reorganizations and changes in personnel...(the organization lacks) the procedures, means, and tools for managing personnel shifts –hiring, relocation, promotion, departure, vacation, retirement..."**

**(Madagascar Case Study)**

**"Attempts are now being made to introduce a personnel management information system within the manpower and administration division....the information system, if it can be developed and kept up-to-date, will provide the basis of all manpower planning and development that will be carried out in the future by Comworks."**

**(Tanzania Case Study)**

**"The MOW personnel department also operates a computerized staff inventory system with information on each individual's educational background, training history, career experience and present posting."**

**(Malawi Case Study)**

4.58 The existence of well-functioning personnel systems and practices is essential to the coordination and implementation of HRD interventions. Personnel departments need to actively support human resource management and the development of a performance-oriented work culture. Particular attention needs to be given to:

- the availability of meaningful personnel data;
- effective administration of personnel actions;
- the integrity and objectivity of all personnel systems, including consistent and impartial applications;
- the linkage between personnel functions and manpower planning and training; and
- the linkage of motivation and incentives to performance appraisal, the evaluation process, promotions/sanctions, and career development.

### Personnel Systems and Information Retrieval

4.59 The personnel systems established for road organizations have usually been structured to respond to the requirements specified by civil service regulations. They sometimes degenerate into being little more than the processing of forms and documents which are then kept in bulky file folders for individual employees. Such files are difficult to review, are inadequate guides to action, and complicate the generation of data about the work-force as a whole.

4.60 Several road organizations in SSA are in the process of improving the quality of their personnel data base. This may begin, for example, with the introduction of individual personnel data sheets for each employee. These sheets provide the name of the employee, the position presently held, and a summary of the qualifications and experience of each employee. They may also provide check lists of such pending actions as salary reviews or training needs. These summaries provide a useful cover sheet for each individual's personnel file and also enable the generation of the personnel data base needed for human resource management.

4.61 The maintenance and analysis of such a database may be done by hand. Hand systems are difficult to update, tend to be inaccurate, and can effectively process only a limited number of factors or a small workforce. Most road organizations would profit from the application of micro-computers to personnel record keeping. The development of the data system can be easily designed to fit the interests of manpower planning, training needs, and career development.

4.62 A primary administrative requirement of personnel management systems is the identification, sequencing, and monitoring of personnel actions. This is an area in which many road organizations in SSA are weak. Road supervisors often complain, for example, that they have made recommendations about a member of their road crew and used the correct personnel form but, that "nothing has ever happened" or, if it did, "it took too long." Micro-computer systems can assist personnel officers in tracking personnel actions as well as performing data analysis. Whether a paper or computer system is established, however, effective utilization of the system will be dependent upon the commitment of personnel officers to playing a supportive organizational role.

#### Supportive Personnel Practices

4.63 In many road organizations personnel functions are seen as extensions or even intrusions of external agencies in the technical and operational responsibilities of the organization. The civil service is often seen as a negative constraint by management and as a safety net by workers. Personnel departments are seen as necessary evils, and personnel officers are accorded little status.

4.64 In most cases the staff assigned to the personnel function are drawn from a common service pool and do not well understand the objectives and needs of road organizations. Personnel sections are often understaffed, making it difficult for the staff to take the time to learn about organizational needs, and they are often de-motivated by their being viewed as not a real part of the organization. All this may be compounded by frequent rotation of personnel staff to other organizations.

4.65 Management must take specific actions to ensure that the staff servicing the personnel function see themselves--and are seen by the organization itself--as part of the organization and come to participate in the work culture being promoted for the organization by management. It may be useful to develop orientation sessions on the functions and basic techniques of road operations for personnel staff. The performance objectives of the personnel department should be jointly reviewed by top management and personnel managers. Top management must indicate an appreciation of the importance of the personnel department and integrate personnel managers into the concerns of strategic management. This requires the sharing of information, the establishment of communication channels, and participation in the decision-making process by personnel managers. These, in turn, are dependent upon increasing regularized interaction between the operational, technical, and personnel functions.

4.66 The personnel staff must come to see themselves--and again be seen by others--as actively supporting both the interests of the individual employee and management rather than being exclusively the representative of an external personnel or civil service agency. In this capacity the personnel department must play dual roles as administrators and developers of human resources. As administrators they are accountable for the objective application of policies and procedures--ranging from the administration of salaries and benefits to the application of sanctions--and the maintenance of personnel records. This is the role with which most personnel officers are most familiar.

4.67 The case studies indicate that the developmental role of the personnel department in supporting the human resource management of road organizations is not well understood by either managers or personnel officers. The developmental role of personnel should support increasing the ability, accountability, and motivation of employees to perform. It covers a broad range of activities:

- assisting management in the conduct of manpower assessments and planning activities;
- assisting the training department in the identification and scheduling of training needs;
- assisting management in the design of positions and clear definition of performance standards;
- assuring that positions and individuals are correctly matched;
- assisting managers and supervisors in the conduct of performance evaluations and in upgrading their supervisory skills;
- developing technical and professional career tracks which support career development; and
- supporting organizational development activities.

4.68 The introduction of the skills and attitudes necessary to support these activities may require the provision of special training and orientation for personnel officers. The periodic rotation of personnel officers to other organizations would require that a recurrent program be established.

### H. Management of Technical Assistance

**"...with the departure at the end of contract of the technical assistance (team)...who had been there for ten years...road maintenance was no longer assured... and the organization functioned only on paper."  
(Madagascar Case Study)**

**"Project lending procedures differ from one (donor) agency to another and are often complicated and demanding."  
(Senegal Case Study)**

**"There is good co-ordination at Ambassadorial level for aid policy overall, and there is informal co-ordination of aid in the road sub-sector....The general conclusion has been that technical assistance is generally working well..."  
(Malawi Case Study)**

4.69 Technical assistance (TA) is the mechanism donors commonly use to promote HRID. The TA provided road organizations has included a broad spectrum of activities:

- highway engineering ranging from design to construction supervision;
- road feasibility analysis and technical studies;
- internal training programs and external study; and
- specialists and consultants with expertise ranging from computer applications to financial and operational management, to work methods. <sup>27/</sup>

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<sup>27/</sup> The Operations Policy Unit of the Central Operations Department has prepared a discussion of TA within the context of the World Bank. See World Bank Technical Assistance Activities and Issues (FY82-88). Internal paper, CODOP/IBRD, September 1987.

The promotion of HRID is most commonly associated with the last two of these four broad categories but can fit any of them.

4.70 Donors sometimes provide TA to meet a short-term need related to a project, for example, a feasibility study comparing the costs of different design options. Most generally, however, the underlying assumption of most donors has been that TA is a short-term mechanism for the provision, building, and transfer of skills essential to the improved performance of an organization.

4.71 The case studies indicate that road organizations in SSA have differed widely in their use of technical assistance. For some it has been limited to short-term assignments and focussed on specific issues. For others, in Malawi for example, it has also been used to staff line positions on an extended basis. In many instances it is difficult to demonstrate that TA has resulted in a sustainable improvement in organizational performance. 28/

4.72 Experience has suggested that the delivery of technical assistance is a complex process and requires careful and sustained management. The case studies, however, indicate low commitment by governments, road organizations, and donors to the management of TA for the road sub-sector in SSA. As a result, the impact of TA on organizational performance has often been weakened by deficiencies in:

- coordination;
- identification and design;
- selection of specialists;
- institutional support;
- monitoring, evaluation, and sanctions; and
- continuity.

4.73 Donors, governments, and road organizations should jointly share the responsibility for the management of TA. The use of TA by road organizations should be reviewed on an individual basis to ensure the support of national development policies and the management plans developed by road organizations. TA should be seen as an expensive alternative to the development of organizational or local expertise, and it should not be used to avoid the need for institutional reform.

### Coordination of Technical Assistance

4.74 Most road organizations in SSA receive TA from multiple sources. Individual donors have divergent policies and priorities for investment in road operations. Unless technical assistance for the sub-sector is coordinated, projects may support objectives which duplicate or compete with one another. Most commonly donors have taken the initiative in SSA for coordinating TA at the country level. They have established local donor committees which meet periodically and sometimes have designated a lead donor for the coordination of donor participation in a particular sector. Over time these mechanisms have evolved, particularly on the country level, to a point that generally ensures the complementarity of programs and projects.

4.75 In Malawi, for example, the case study indicates that there is good high-level, in-country donor coordination of TA at the policy level. This includes an annual review between the government and donors to identify, select, and review projects; for the road sub-sector informal coordination has worked fairly well. In Senegal, Tanzania, and Malawi, the World Bank has been serving as the lead donor in coordinating road projects, and this has greatly facilitated the coordination of donor assistance to the sub-sector.

4.76 The participation of governments and road organizations in the coordination process varies from country to country. In many cases their participation is minimal. Responding to differences in the lending procedures of various donors often is a time-consuming process which local institutions may not

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28/ This suggests the need to review the assumptions concerning the use of TA as a delivery system for HRID. For additional comments see Buyck, Beatrice. Technical Assistance as a Delivery Mechanism for Institutional Development: A Review of Issues and Lessons of Bank Experience. Paper prepared for the World Bank's Conference on Institutional Development, December 14-15, 1989, Washington, D.C.

be able to meet. The coordination of TA is often delegated to a central planning ministry which may not appreciate either the technical needs of road operations or the methodological requirements of HRID. In most road organizations in SSA top management is too involved in operational decisions to play a meaningful role in the coordination of TA. Thus, by default, donors may come to play a dominant role in the programming of TA.

4.77 The case studies indicated that the coordination of donor activities relative to structural adjustment, however, has proved less satisfactory. They also suggest that the coordination of TA for HRID has been less effective than for technical and operational areas. Thus, the coordination of TA in support of sub-sector reform and HRID is likely to require even more attention than it is currently being given.

#### **Identification and Design of Technical Assistance**

4.78 The impact of technical assistance has often been weakened as a result of such deficiencies as:

- insufficient involvement of the target organizations and agencies in the identification and design process;
- inadequate assessment of institutional needs;
- inadequate assessment of institutional capacity to support technical assistance programs;
- vaguely defined or overly ambitious objectives;
- incomplete terms of reference;
- absence of performance indicators;
- overly compressed implementation schedules.

4.79 The case studies indicate that most road organizations in SSA have weak planning capabilities. As a result many road organizations rely on the staff of donors and consultants to identify institutional needs and design projects. In many cases road organizations lack the expertise to evaluate the end-product of such planning. Their role in the implementation and evaluation process may be similarly limited.

4.80 This report has emphasized the importance of high-level commitment for effective management. Commitment to the management of TA would seem best generated when top management jointly participates with donors and governmental planning agencies in the identification of needs, the structuring of solutions, and the specification of approaches to be taken in the implementation of technical assistance. Top management can provide essential input into what may be technically appropriate and realistically feasible. Without the commitment of top management, TA becomes donor driven, and the local resources necessary to support TA simply may not be allocated.

4.81 As discussed previously in conjunction with strategic management, it may be necessary to provide technical assistance to free the top management of road organizations from operational responsibilities so that they can participate more fully in the identification and design of technical assistance. Workshops in project identification and design may be necessary to provide skills and confidence to top management.

4.82 Experience would indicate the need to consider separating the design and implementation of TA targeting HRID from TA supporting general road engineering either as a separate component or project:

- HRID is a process distinct from technically oriented TA and requires different skills and approaches (See Section V);
- technically oriented specialists will often neglect HRID roles in preference to the operational and technical tasks with which they are most familiar; and

- the inclusion of TA supporting HRID may be superficially accepted—and minimally supported—by road organizations in order to obtain other benefits included in the project, ranging from road construction to vehicles or equipment.

4.83 The design of TA supporting HRID can be substantially improved by upgrading the quality of the Terms of Reference (TOR) for contract performance and consulting services. Project design should include a separate TOR for each specialist providing TA. The TOR should specify essential background and experience, responsibilities, and specific objectives and expectations for the performance of TA. Road projects have often relied upon the use of a standard TOR. These should be used only as general models, however, and additional specifications keyed to the individual needs of the road organization should be included. Performance targets should be indicated for individual specialists and linked to monitoring and evaluation mechanisms.

4.84 HRID projects for road organizations have commonly suffered from overly ambitious objectives. The separating of objectives individually or in small sets of related objectives can enhance the design of HRID projects. These sets can be addressed sequentially or concurrently, depending on the TA resources available and the interdependence of objectives. Meeting a limited set of objectives before proceeding with the next set may provide better control and monitoring of interventions. Each set must be seen, however, within the context of the overall package of HRID interventions envisioned for the road organization.

#### **Selection of Technical Specialists**

4.85 The implementation of technical assistance is dependent upon the selection of specialists who have appropriate technical expertise and can either apply or pass on their expertise to others. Matching the TOR for a specific position and the credentials or resume of a particular specialist may not adequately address these criteria.

##### **(a) Technical Expertise**

4.86 The technical specialists recruited for road projects are usually expatriates with a mix of domestic and international experience. They are often recruited by consulting firms and their resumes may be rewritten in the interest of winning a particular contract. Specialists may be technically proficient, but their technical expertise may not be appropriate to the needs of a specific road organization. The compatibility of their background to the needs of the road organization should be reviewed in detail in terms of:

- complexity and size of road systems;
- design and performance standards;
- pavement and surface technologies;
- environmental factors including climate and topography;
- mixes of labor-intensive and equipment-intensive methodologies;
- operational management systems and procedures;
- field and administrative background; and
- experience with developing countries.

##### **(b) Application and Transfer of Skills**

4.87 Specialists differ, first, in the degree to which they can apply their expertise to a particular organization. Approaches used in maintenance management for one road organization may fail if not adjusted before they are applied to another institutional setting. Not all individuals can easily make such adjustments. Secondly, the transfer of a particular skill—and the associated values and attitudes required for performance of that skill—is not guaranteed simply by the possession of that skill. Technical assistance commonly involves one-on-one situations in which the interaction between technical specialists and counterparts is essential to the transfer of skills. The transfer process requires coaching individuals so that they understand why a skill is important, can perform the skill, have confidence in their ability, and are motivated to use the skill. The specialist must be able to adjust to both the realities of the institutional setting and the personalities of counterparts.

4.88 Specialists must be innovative, flexible, and creative as they coach the transfer of skills. The total individual profile of experience, attitudes, values, and motivation of candidates for a technical assistance position is just as important a consideration as is their technical competence. Personal interviews may be useful in judging these qualities. Specialists are usually required to provide references for previously performed work; the ability of specialists to meet the specific needs of road organizations in previous assignments should be included in the verification of these references.

### **Institutional Support**

4.89 The success of TA depends on the ability of road organizations to provide the financial, material, and human resources necessary for the transfer of expertise to the organization:

- financial resources: special funds may be needed for fuel, per diem for local staff, or labor;
- material resources: vehicles, equipment, and testing materials; and
- human resources: ranging from counterparts and support by top managers of the road organization to drivers and accountants.

In many cases the provision of such resources is specified as a local responsibility under the terms of individual loan agreements. The expectation that the road organization could provide these resources may have been unrealistic or may have been eroded over time because of the reduced availability of resources or shifts in development priorities. The ability and commitment of the road organization to provide such resources must be realistically addressed in conjunction with project design.

4.90 Ideally TA draws its strength from the transfer of expertise from specialists to counterparts within a working environment. In the final analysis, however, the dependence of TA on the use of counterparts may be the most enduring constraint on TA as a mechanism for the transfer of expertise. Experience has shown vulnerability because:

- counterparts may not be provided, or are provided only after considerable delay;
- counterparts may lack the experience or training necessary to profit from the expertise of the specialist;
- counterparts may hold multiple assignments and be diverted to other activities;
- the respective roles and responsibilities of specialists and counterparts may be poorly defined;
- personality factors or resentment over expatriate status and salaries may inhibit interpersonal relations between the counterparts and specialists;
- counterparts may have little interest or incentive to learn or to assume responsibilities;
- counterparts may be shifted to other positions without the skills they have learned being transferred to replacements.

4.91 The crucial role of counterparts in the transfer of expertise underlines the importance of consistent management of TA <sup>29/</sup>. Counterparts should be identified well in advance of the arrival of the specialist. They should be freed from any conflicting responsibilities and provided advance training if necessary. The roles and responsibilities of the specialists and counterparts should be well defined and related to performance objectives. Performance should be periodically monitored and evaluated.

4.92 Most fundamental to the effective management of TA would seem to be the ability of top management to create a management environment in the road organization in which counterparts are

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<sup>29/</sup> In view of the scarce managerial resources at the disposal of road organizations in SSA, the results of counterparting are likely to be disappointing.

motivated to perform. Linking successful transfer and performance of skills to career development for counterparts, for example, will have little impact unless the incentives and sanctions previously discussed have been established within the road organization.

### Monitoring, Evaluation, and Sanctions

4.93 The monitoring and evaluation of technical assistance is the responsibility of all parties involved in TA, but it is one that is commonly neglected. Experience indicates that these needs are even more necessary and demanding in implementing TA supporting HRID than in the case of road design or feasibility studies. Host governments, road organizations, and donors should review their practices and performance relative to these requirements of quality control.

4.94 Feedback mechanisms must be designed and utilized regularly to quickly identify whether or not the transfer of skills and attitudes is taking place and to indicate the need for taking corrective action. The effectiveness of training in pothole patching, for example, can quickly be assessed by a visual spot check of the output of recently trained roads crews; such performance can also be assessed by reviewing the monthly reports provided by work management systems. The effectiveness of transfer of professional or managerial skills will be harder to assess, but nonetheless suitable performance indicators will need to be developed and used. Failure to meet targets should be flagged promptly so that all parties can respond quickly. A balance of monthly, quarterly, and annual indicators would enable the most flexible management of TA.

4.95 The application of sanctions to HRID needs to be seriously considered. Road construction projects, for example, generally require the completion and acceptance of specified deliverables before the release of progressive payments to contractors. The overall contract is often broken into segments. The failure of a particular road segment to meet design standards, for example, may block the issuance of progress payments to the contractor. The use of such sanctions may not be directly applicable to consulting firms and individual specialists providing TA, but at least linking payments to the conduct of scheduled monitoring and evaluations should be considered. The use of bonus systems may be a better incentive for effective performance by HRID contractors than penalties, but both should be considered.

### Supplemental Managerial Resources

4.96 Most donors have at least instituted reviews of their management of TA, and governments and road organizations in SSA may seek enhancement of their capacity to manage TA under road sector loans. It is likely, however, that the management of TA in support of HRID will require supplemental resources.

4.97 The nature of HRID implies that road organizations may need TA over an extended period of time, perhaps bridging several project cycles. The interventions supporting HRID may be interspaced over time and require the periodic use of short-term consultants. The importance of continuous management of TA has already been discussed from several perspectives. Continuity in the management provided by governments, road organizations and donors is subject to erosion over time particularly as a result of turn-overs in staff. Replacements who have not participated in project design may not be committed to overall HRID objectives, may not understand the rationale and priorities of project design, or may be preoccupied with learning the skills and procedures required for their new roles.

4.98 Maintaining the commitment of governments, road organizations, and donors to their respective managerial roles is essential to sustaining the impact of TA supporting HRID. Such coordination and implementation mechanisms as inter-ministerial steering committees and task forces have already been suggested. Additional mechanisms, however, supplementing the current approach to TA may be required to provide continuity over time. Examples of such options range from the use of local consulting firms to the use of non-governmental organizations. Experience would indicate that if such mechanisms are used, their effectiveness is increased by their participation in the design as well as the implementation of TA. Roles and relationships need to be carefully defined and contracted. Such mechanisms are supplements to and not substitutes for TA.

(a) Local Consulting Firms

4.99 The development of local consulting firms has been slow, in part because of the preference often given to expatriate specialists. Local firms can assist with the design of HRID components as well as provide monitoring and evaluation services. Local firms are often staffed by young professionals who have had experience working for road organizations and who understand many of the HRID issues which need to be addressed. International consulting firms should be required to associate with local firms, and the transfer of expertise to local firms should be considered a supportive objective of assistance funding.

(b) Local Training Institutions

4.100 Local training institutions often have management specialists who could assist in the design, monitoring and evaluation of TA. They might also provide useful forums for policy reviews. Most are already over-utilized and would need assistance to increase their capacity. Diverting routine administrative responsibilities from managerial professionals in such institutions to subordinates may enable them to more actively assist in the design and implementation of HRID interventions.

(c) Twinning

4.101 The twinning of road organizations in SSA with more developed road authorities could assist the management of TA as well as provide access to technical inputs. <sup>30/</sup> Exchanges of staff, for example, could enable the developing organization to observe management and operations in practice and provide the developed organization specific insight into the problems of the local organization. Continuity can be assisted by the loan of senior managers or periodic visitations, perhaps matched with the periodic services of short-term specialists. These specialists may be drawn from the more developed organization or externally recruited. The more developed organization may have training programs, operations systems, and procedures in place which can be adapted by its sister organization.

4.102 The selection of the more developed twin needs to be considered as carefully as the selection of individual specialists. To be effective, moreover, the developed twin needs to be committed to the responsibilities of the relationship and able to flexibly provide resources on a long-term basis. <sup>31/</sup>

(d) Nongovernmental Organizations

4.103 The use of Nongovernmental Organizations (NGOs) to support project design and implementation is increasingly being utilized in World Bank Projects. <sup>32/</sup> Such organizations may be especially effective in the generation of support for the reform of road policy as well as in monitoring and evaluation at the grass-roots level.

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<sup>30/</sup> Cooper, Lauren. The Twinning of Institutions: Its use as a Technical Assistance Delivery System. World Bank Technical Paper, No. 23. Washington, D.C.: The World Bank, 1984.

<sup>31/</sup> The twinning of road organizations within SSA might also be considered on the basis of special strengths, skills, or experience held by one organization which might be applicable to the needs of another organization. The lessons of experience might be so transferred without the need for an intermediary agency or donor. In such a case, the scope of the twinning arrangement would be best limited to a particular function or issue.

<sup>32/</sup> Sec. The World Bank and Nongovernmental Organizations (NGOs): A Review of Operational Experience. An internal paper prepared by the Strategic Planning and Review Department, IBRD, January 25, 1990.

## I. Appropriateness of Training

**"Considerable efforts have been made in recent years to increase both the quality and the appropriateness of training...Given some of the pervasive problems of Comworks, it is not clear whether the institutional capacity exists to allow the outputs from a massively increased training programme to be utilized effectively."**

**(Tanzania Case Study)**

**"(in terms of) the quality of training...it is more a question of the failure to adapt the content to the level of the (staff)...being trained than of poor content;...performance measures of training...have not been clearly defined..."**

**(Senegal Case Study)**

**"As in some similar training centers elsewhere, training staff tend to feel that they are somewhat isolated and under-valued by the ministry."**

**(Malawi Case Study)**

4.104 The existence of a well-trained workforce is essential to effective road operations. Training alone, however, will not guarantee improved sub-sector performance. Training must be provided within an institutional setting that motivates both the trainers to train and the trainees to learn and to apply what they have learned. Training cannot compensate for insufficient levels of equipment, fuel, or spare parts; for some road organizations increasing the availability of other resources may have a greater short-run impact on institutional performance than investment in HRD. In the long-run, however, improved training is essential to the sustained development of road organizations. An understanding of the importance of and commitment to the provision of training by top management is vital to the success of HRD. Training needs to be an integral aspect of the management plan developed by each road organization.

### Current Training Systems for Road Organizations

4.105 The training systems used by road organizations in SSA rely on a mix of in-house and external—including domestic and foreign—programs. Higher level technical education is often obtained off-continent, but is also supplied by in-country or regional African training facilities. Training received overseas is expensive and often may not be compatible with either in-country road systems or the practical needs of work performance. Some sources feel, for example, that the engineering degrees obtained by Tanzanian students in India have been only marginally appropriate to Comworks needs, and there is considerable interest in expanding the capacity of in-country training facilities in Tanzania.

4.106 The provision of training at the intermediate skill level varies widely in SSA, depending upon the structure of the educational system in each country. In general road organizations rely on domestic training facilities external to themselves to provide training at this level. Road organizations are vulnerable to the quality and supply of education, especially in regard to mechanical skills. Their interests may not be given priority in the development of the training policies guiding these facilities; and the curriculum offered may not reflect their needs, since they are often not competitive with the private sector in attracting the most qualified graduates. Common service personnel staffing a road organization, for example, usually receive either pre-service or in-service training in accounting, administration, and clerical skills; such training may not consider—or even be inconsistent with—the systems, procedures and processes in use within the road organization. It is likely that road organizations will remain vulnerable unless they can establish more effective liaisons with policy makers and directors of external training facilities.

4.107 Most ministries responsible for road operations offer training for lower level staff and for specific road skills not provided at external educational institutions. Training is often provided at central or regional facilities. The Comworks Training Institute at Morogoro, for example, provides technical

training for roads personnel; the MOW in Malawi has training centers in Zomba and Lilongwe, the later of which currently specializes in training for road operations. The case studies indicated that there were many problems constraining the effectiveness of such internal training programs:

- insufficient funding;
- poor planning and programming;
- inadequate facilities and equipment;
- deficient quality and quantity of trainers;
- inappropriate curriculum;
- ineffective training methodology; and
- inadequate monitoring and evaluation mechanisms.

4.108 Efforts to upgrade or supplement in-house training programs have been highly dependent upon donor assistance in conjunction with specific road projects. This assistance has ranged from the provision of resident training specialists to overseas training in technical fields. Road organizations have often not been able to sustain the benefits derived from such assistance.

4.109 The cost of providing specialized training in road operations may be too great for road organizations to support on an individual basis, and cooperative regional programs may be more cost-effective. For example, a limited number of road management courses have been developed for instruction at ESAMI in Arusha, Tanzania. Such regional programs could be supplemented by rotating teams of specialists from country to country.

### Training Needs Assessment

4.110 Identifying the training needs of each road organization is the first step in designing an effective training program for road operations. The case studies indicate, however, that the training needs of most road organizations are poorly known:

- projections of manpower and skill requirements are not available;
- personnel records of current levels of skills and training needs are not maintained or are inaccessible; and
- the identification of training needs is not well coordinated.

Assessing the specific training needs of a road organization is essential to designing the structure and content of a training program and to determining the most cost-effective means of providing the training.

4.111 Many road organizations base the training they provide on past requirements. These estimates are only an approximation of actual needs, and they offer little defense against quotas or budget cuts. They do little to ensure the availability of the skills needed to support the functions for which the road organization is responsible.

4.112 The assessment of training needs must be conducted in a systematic way. It begins with an identification of projected manpower requirements and the designation of the skills required for the performance of respective types of tasks. These requirements must be compared to the skills of the existing staff and those of projected recruits. The training needed to upgrade skills, compensate for attrition, and support career development can then be specified. The assessment must be updated periodically in order to reflect changes in the skills needed and the skills available.

4.113 The assessment of training needs for road organizations should be comprehensive. It should include both technical and managerial/supervisory skills. Particular attention should be given to changes in skill requirements resulting from the introduction of new technology or management systems, processes and procedures.

## **Training Program Development**

4.114 Using the assessment of training needs as a base, road organizations can improve the effectiveness of the training program they provide by developing a comprehensive training plan. This plan must take into account the overall management plan for the road organization, including any changes in structure, size, or technology. In support of the management plan, the road organization should formulate training policies that address such issues as entry skill requirements, specialized training, remedial/refresher training, and career development. Using these policies as a guide, a training plan can be developed which defines:

- who is to be trained;
- in what they are to be trained;
- where they are to be trained;
- when they are to be trained;
- how they are to be trained; and
- how they are to be evaluated.

4.115 Deciding where training should take place requires careful consideration of the alternatives available. In-house programs may be cost-effective for large numbers of trainees for training lower levels of skills. They may be necessary for certain specialized skills common only to road operations. Such other areas as management training may be more effectively provided by external sources if road-specific content is not required. Most road organizations need to better appraise existing external training programs. Liaison with external programs can also increase the relevance of general courses and enable the development of road-specific courses.

4.116 The training plan must cover all levels of training required by the road organization. The level of detail and requirements for advance planning will vary according to level. Training for higher level personnel, for example, must be carefully fit to their existing education, experience, and future career development. Such training may also require extended periods away from post and careful scheduling to ensure that the responsibilities of trainees are covered during the period of training. Training in supervision may be intermittent and based on performance evaluation. Remedial or refresher training may be considered necessary for all work crews on a continuous, rotating basis.

4.117 The training plan needs to be periodically updated, preferably on an annual basis. To assist long-term planning, a rolling plan of five years—or a cycle fit to other planning mechanisms in use—may prove useful. Commitment of top level management to the training plan is essential to the provision of the resources required for implementing the training plan and enables the use of the training plan as a tool in support of human resource management. Liaison between top management, personnel and training functions will be required to integrate the training plan with the overall management plan.

4.118 Many road organizations have been reluctant to provide specialized or advanced training for mid-level and senior staff overseas because of the difficulties of retaining returnees. Retention clearly requires the resolution of salary and career development issues, again stressing the need to consider a hierarchy of interventions in which civil service reform is an early priority for HRID. Additional consideration, however, needs to be given to the management of the re-entry process so that returnees feel they have an opportunity to apply what they have learned and see the training they have obtained as linked to career development for themselves within the context of the organization.

4.119 In order to ensure that the needs indicated in the initial assessment have been met by the training program, the training staff serving a road organization must not only specify training objectives but must also determine the indicators to be used to monitor and evaluate achievement of the objectives. The majority of indicators in use are quantitative and do not provide the qualitative index of what has been learned or, more significantly, the impact of learning upon the performance of the organization. The development of qualitative monitoring and evaluation mechanisms is a specialized skill and may well require the services of training consultants.

### Improving Training Effectiveness

4.120 The case studies indicated the need to improve the performance of in-house training by road organizations in SSA. The primary targets included the curriculum development and the trainers themselves.

#### (a) Curriculum

4.121 Road organizations need to assess their training curriculum in terms of content and structure. In most cases the capacity of in-house training cannot meet the numerical demands for instruction. Courses are often too long and overly general or theoretical. Reducing the length of courses and focusing on key, practical issues would increase the number of staff trained and relevance of instruction to work-related situations. Increased use of on-the-job training should also be considered. Courses in management and supervision need to be included.

#### (b) Trainers

4.122 The number and quality of trainers available was cited in the case studies as a constraint on in-house training programs. Most trainers had not received pedagogic training, and were insensitive to the special learning needs of adults. Recurrent seminars for training trainers on an in-house basis, perhaps with the use of specialists provided under technical assistance programs, could introduce appropriate methods and assist the development and use of cost effective training manuals and audio-visual materials.

4.123 Equally important is the fact that many trainers feel cut-off from the organization and are both inadequately rewarded and motivated. Efforts to increase the motivation of trainees include:

- promoting the recognition of the importance of training throughout the organization;
- providing special incentives to attract qualified personnel into training, including supplemental pay or bonuses linked to performance;
- integrating training assignments into career tracks for technical personnel;
- providing pedagogic training for those assigned to training roles;
- providing trainers periodic upgrading of technical skills and access to professional organizations and conferences; and
- assuring the adequacy of training resources including materials and facilities.

### Training Through Production

4.124 Several road organizations in SSA have experimented with the use of Training Production Units (TPUs) for the training of road maintenance crews, especially:

- road supervisors and foremen, and
- equipment operators and drivers.

Using this approach trainees are organized with laborers and equipment as a typical operating unit in a field location. They are guided in the performance of tasks by a core group of trainers. The TPU undertakes productive maintenance work while training objectives are being met.

4.125 Some theoretical training may be provided to the trainees in advance of the organization of the TPU, and both programmed and ad hoc instruction is also provided at the work site in temporary classrooms or tents. Trainees are taught how to perform daily work tasks and such support services as:

- material ordering and storage for road supervisors;
- scheduling and crew assignment for road foremen and superintendents; and
- preventive maintenance for equipment operators and drivers.

At the end of the training cycle the trainees are ready for assignment to regular operating units.

4.126 The approach can be varied in several ways. It can be used with new recruits or to upgrade the skills of personnel already serving in supervisory positions. The trainees and laborers can also continue as a crew in which case the core team of trainers can move on to another location. Since there are minimal set-up costs and production is an output. TPUs have proved to be a cost-effective means of upgrading the performance of road maintenance.

### **J. Human Resource Development Management: Summary**

4.127 The introduction of human resource development as a management responsibility will be a relatively new concept for most road organizations in SSA. Within such organizations, HRD has been limited largely to routine personnel administration and training. Key decisions on grading, salaries, and incentives have been made outside the organization. HRD has not been undertaken on a comprehensive, coordinated basis. HRD interventions, the most frequent of which involved training, often have been counterbalanced by the failure to address organizational or external issues.

4.128 The impact of training in the sub-sector has not substantially improved institutional performance. In part this arises from deficiencies in training methodologies and the dependence of road organizations on external sources for training. In general, however, the design of training programs has not been well linked to the actual needs of road organizations for specific skills. This underlines the need for integrated planning in support of HRD.

4.129 The case studies have suggested that the sustainability of HRD interventions can only be assured when they are viewed in a framework which links them not only to one another but also to the overall needs of institutional development. Human resource development must be managed as an integral policy supporting the broader issues and steps of institutional reform.

4.130 Commitment to HRD needs to be developed within the road organization. The importance of human resource development must be cultivated so that management comes to understand and support the importance of managing the human capital of the organization. This suggests the need for an initial HRD Workshop to identify issues and options and the establishment of an HRD Management Task Force to further define HRD policy and implement an HRD program. Primary areas should include:

- manpower planning and management;
- redundancy planning and implementation;
- performance evaluation and promotion;
- adjustment of salary and incentive systems; and
- development of a training plan and program.

4.131 The task force should include the senior managers of technical departments as well as personnel and training managers. In order to promote internal liaison, road organizations may wish to consider creating a permanent working committee or an HRD unit within the road organization in lieu of a task force.

## V. HRID: METHODOLOGICAL ISSUES

### SECTION SUMMARY:

This section discusses a framework of methodological lessons drawn from the case studies for consideration by task managers and development planners in the design and implementation of HRID interventions.

### A. Introduction

5.01 This section provides a framework of general methodological lessons for the implementation of HRID policy (See Exhibit 5.1). The framework has been drawn from the case studies and their analysis. <sup>33/</sup> It also draws upon existing methodological literature for the development of institutions, organizations, groups and individuals. <sup>34/</sup> The discussion does not provide an exhaustive treatment of HRID methodology (Supplemental discussion is provided in Appendix B). Its purpose is to highlight the key issues task managers and development planners should consider in project design, implementation, and monitoring in order to facilitate HRID. Effective application of these methodological lessons to some of the interventions suggested for the road sub-sector will require HRID specialists.

#### Exhibit 5.1

### METHODOLOGICAL FRAMEWORK FOR HRID

#### HRID:

- is an internal process: building local ownership and commitment is critical;
- requires a long timeframe and flexibility: the speed of reforms and results will vary;
- is conceptually distinct from technical components; it has different goals, methods, outputs;
- is founded on active involvement: it requires facilitation, collaboration, and participation;
- programs and responses require a thorough institutional assessment of problems and causes;
- requires in-country, issue-oriented research and analysis to develop specific options;
- requires linking disbursements of aid to performance and conditionality;
- has a process nature; and
- requires systematic management of change.

<sup>33/</sup> Particularly relevant to this discussion are approaches used in the provision of management assistance to the Ministry of Works of Malawi under the IBRD Fifth Highway Sector Loan.

<sup>34/</sup> Selected references are included in the bibliography at the end of the report.

## **B. Internal Nature of HRID**

5.02 The most fundamental methodological lesson in human resource and institutional development is the limited potential for induced HRID. External development assistance agents can promote the recognition of the need for change and can assist in setting the proper stage for the development process. They can influence, guide, direct and otherwise serve as catalysts to HRID, but they cannot force or impose it or build the process themselves. The reform process takes place within institutions and their institutional contexts. Therefore, acceptance of the need for, commitment to, and the initiation of HRID interventions must come from within.

5.03 The case studies provide numerous examples of problems encountered in the road sub-sector because HRID was attempted without a balancing of external pressure and the development of internal support. In some instances the pressure came from donors trying to introduce a change, but it also resulted from decisions made at headquarters and forced upon subordinate administrative units. The result of such an imbalance is usually resistance. Staff at the regional level, for example, will look for ways to avoid having to conform to centrally imposed changes or even sabotage their implementation. Change resulting from pressure is often marginal and difficult to sustain.

5.04 The case studies also showed that not only is institutional development a complex process—involving the adjustment or re-shaping of administrative, organizational, managerial, political, economic, socio-cultural, and technological factors—but also that the external environment exerts a powerful influence on the ability of institutions to develop. There are clear limits to the extent to which the road organization itself can induce changes in external factors. Donors may be able to assist promotion of the external changes road organizations need—for example, the civil service reform or foreign exchange allocations—but the commitment to reform must come from within the country itself.

5.05 The same holds true for human resource development. Training can provide the opportunity for improving the level of skills, but unless individuals are motivated the results of such training are likely to be marginal. Motivation and incentives are the keys to learning and to the application of what has been learned to the on-the-job situation. Motivation is an internal attitudinal response but it is strongly influenced by the characteristics of the internal institutional environment and specific work context.

## **C. Long Timeframe**

5.06 The majority of HRID activities in SSA have been undertaken within the context of project-related objectives and limited to the typically relatively short timeframe of the project cycle. Experience shows that HRID requires a longer period of time—perhaps ten years or more—in order to monitor and, if necessary, adjust the institutional changes made and ensure their permanence. This time-frame, extending over the lifetime of several projects, requires giving particular attention to continuity in the implementation process, including staff, objectives, and resources.

5.07 Continuity can only be assured as a result of sustained commitment to HRID by governments, road organizations, and donors alike. Political change in SSA has been frequent and can readily result in the erosion of commitment. Donors can serve as facilitators over time and between projects. Continuity can also be supported by internal national planning agencies and the mechanisms previously suggested for coordinating reform. Even so progress may be slow and seem to falter so that at times it may be necessary to review the policies guiding the HRID process and rebuild commitment and programs.

## **D. HRID: Discrete Activity**

5.08 Activities addressing HRID in the road sector have usually been designed as components set within projects. The primary objectives of such projects were implementation- (engineering and construction works) oriented and gave insufficient attention to institutional development requirements. The majority of personnel provided under technical assistance had economic, engineering, or other technical backgrounds. The provision of technical training increasingly became an associated objective of these

projects, but the design of the training packages often received low priority and did not address the existence of a conducive institutional environment as a precondition for the impact of training.

5.09 HRID is perhaps best seen as a distinct process which should be conceptually separated from technically oriented activities:

- Different Kinds of Goals: The goals of HRID are very different from the technical or implementation objectives of a project. Implementation-oriented personnel may be uncomfortable with such goals and give them reduced or only tacit emphasis in the implementation process. This may be a particular problem when the Project Team Leader does not have an interest or a solid background in HRID.
- Different Kinds of Methods: The participatory and interactive methods needed for HRID are often unfamiliar to the technical personnel staffing a project and are also unfamiliar to many technical trainers and managers. Short-term specialists may be called in to facilitate HRID activities, but the sustainability of their efforts is threatened by the lack of a continuous presence.
- Different Measurement, Verification and Monitoring Techniques: HRID cannot be readily measured by the quantitative indices appropriate to project execution with which most technical personnel are familiar. It requires a different monitoring and reinforcement process which is keyed to qualitative changes in enabling environment, organization, management attitudes and skills.
- Different Timeframe: As discussed above, HRID has a longer time-frame than the life cycle of most projects. Meeting HRID objectives often gets lost between projects, resulting at least in a loss of momentum and frequently also in the erosion of results achieved under previous project activities.

5.10 The situation of the road sector in Sub-Saharan Africa is complicated by the overall shortage of competent, motivated managers and also of qualified staff to serve in the personnel and training functions. This results in a lack of counterparts and limits the institutional capacity to coordinate and manage HRID activities.

5.11 HRID needs to be handled as a discrete process that is viewed separately from technical project objectives. It must either be given the attention and resources required for effective implementation or it will have to be separately constituted as a project on its own. HRID specialists should participate in all phases of the project cycle regardless of which approach is used.

### **E. Facilitation, Collaboration, Participation**

5.12 HRID should be structured on the basis of the involvement of the target policy-makers organizations and individuals. This assumes that:

- external agents act in a facilitative manner and do not attempt to impose policies and solutions;
- there is collaboration between various parties involved including donors and other external agents, policy-makers, managers and staff of the organization, and external users and suppliers; and
- the organization and individuals involved in change and responsible for developing capacities are active participants in the design and implementation of HRID interventions at all levels.

## **F. Institutional Assessment**

5.13 In order to formulate effective responses and specify developmental measures for a specific institution it is important to conduct an institutional assessment of both the internal and external factors—for example, factors arising from both the organization and its environment—affecting the HRID of that organization and the attainment of its mission and goals. Such an assessment is a primary prerequisite for the design of HRID programs. Many HRID efforts in the past have failed because they did not conduct such an assessment or undertook an assessment which neglected to examine all the key factors. The participation and collaboration of the local staff and consultants in such an assessment strengthens both the ownership and validity of the exercise.

5.14 If an assessment is to be useful it must be thorough, allowing sufficient time and resources to examine the institution and its setting. The experience of this project suggests that it is unrealistic to expect that short visits by individuals unfamiliar with a country and its institutions can provide the depth of investigation and analysis required to formulate HRID programs.

## **G. Research, Analysis, Options**

5.15 Institutional and human resource development activities can draw on an extensive body of both general methodology and specific regional and country research findings that suggest approaches and options which can be considered as preliminary strategies to particular kinds of constraints. These can be useful, but in all cases they must be fitted to the realities of the specific organization and its institutional environment. The adaptation process frequently requires issue-oriented, in-country collaborative research and analysis before relevant specific options can be identified and evaluated. Such research is often a vital follow-up to the initial institutional assessment. It may also be required in support of the implementation, monitoring, and evaluation of subsequent HRID activities.

## **H. Conditionality**

5.16 The case studies illustrated the hesitation of certain donors to enforce loan conditions. Within the participatory approach supported by this report, conditions would be mutually agreed and thoroughly accepted rather than externally imposed. Within such a context all parties would be able to take the concept of conditionality seriously.

5.17 Conditionality should be linked to meeting specific, verifiable and realistic conditions before a project begins or during the course of its implementation. Experience suggests that the collaborative participation of donors, governments, and road organizations in the definition of conditionality enhances the commitment to meeting the terms which have been mutually established. Moreover, once the tripartite group has become committed to an institutional development process, conditionality becomes not a penalty but a facilitative mechanism. Donors should, however, be willing to put a hold on lending until they feel commitment has been reached and the government and sub-sector organizations can support their commitments with actions.

## **I. Process Nature of HRID**

5.18 HRID cannot be approached mechanistically. Institutional development is a process by which institutional capacity is built-up over time by a range of strategies and interventions. The same is true for the development of the competence and motivation of individual employees or the capacity of an overall workforce. There are no fixed blueprints for intervention, but rather there are only guidelines and general frameworks for HRID. They must be focussed, applied and adapted to each organization and the specific environment in which it exists. Management styles and work cultures are particularly vital elements to consider in promoting effective HRID processes. HRID processes are often interactive and require progressive mutual re-alignments and adjustments.

## **J. Change Management**

5.19 At the very core of HRID is the process of change. Few institutions and individuals may readily accept change. At the outset change is often either avoided or resisted. In such instances special management techniques which facilitate change are required. <sup>35/</sup> The management of change is facilitated by an active organizational leadership which challenges the status quo and is open to modification of the institutional arrangements and the adoption of new management approaches and techniques.

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<sup>35/</sup> For additional discussion See Juran, J.M., Managerial Breakthrough. New York: McGraw-Hill, 1965.

## VI. CONCLUSIONS

6.01 The basic research problem leading to the initiation of the HRID component of the SSATP was that thirty years of technical assistance and training for the road sub-sector in the region had resulted in neither adequate institutional performance nor significant institutional development. As a corollary little progress had been achieved in the sub-sector in the promotion of human resource development, and the build-up and retention of a competent, motivated complement of managerial, professional, and technical personnel.

6.02 The basic research question has been, "Why has there been such limited institutional and human resource development despite various development efforts?" The initial review of project evaluation literature indicated that there were two classes of reasons:

- First, the real determinants that promote or constrain HRID may not have been known and development efforts may have, therefore, aimed at the wrong targets; and
- Secondly, where the right targets for HRID interventions had been identified, the wrong methods and approaches may have been used.

6.03 The four road sub-sector case studies subsequently undertaken in conjunction with the HRID component have indicated five primary considerations relative to targets and methodology:

### Targets

External/Public Sector Context  
Vs.  
Internal/Organizational

- Before initiating interventions keyed to internal and organizational issues, the external and public sector constraints on the road sub-sector must be addressed. These include macro economic and civil service reforms as well as the need to ensure organizational autonomy and external accountability.

Reform/Restructuring  
Vs.  
Improve/Development

- In order to address constraints on HRID bold steps may need to be taken based on major institutional reform—including the restructuring of institutional arrangements and the introduction of forms of privatization—rather than on the improvement of the existing organization. Improvement and development of road sub-sector organizations should be seen as interventions undertaken after reform and restructuring.

Commitment/Motivation  
Vs.  
Skills/Techniques

- Fundamental to the HRID process is the development of commitment and motivation. The generation of these attitudes is a prerequisite to the effective application of individual capabilities. The success of interventions keyed to the transfer of skills and techniques is dependent upon the existence of an enabling institutional and organizational context and the willingness of actors to apply their skills.

## Methodology

### Process/Collaborative Vs. Designed/Prescriptive

- The promotion of reform and introduction of change is facilitated by a process approach which uses collaboration of donors and governments as the means for evolving policies and actions. Prescriptive, externally designed "solutions" have little chance of success. Participation in the process of identifying problems, issues, and solutions builds a sense of ownership and reinforces commitment to the reform process.

### Comprehensive/Sequential Vs. Partial/Simultaneous

- Interventions should be applied within the external and internal institutional context as a whole. They need to address issues on a comprehensive basis and introduce interventions sequentially in keeping with the causal hierarchy discussed.

6.04 On the basis of these five primary considerations this report has suggested a framework for HRID interventions including their content, sequencing, and the methodological approach for their implementation. The application of the framework, however, will be complicated as a result of three issues which should be given careful consideration by donors, governments, and managers of road sub-sector organizations.

## Issue 1: Overall Reform Process

6.05 The original mandate for this study was confined to the road sub-sector. The case studies, however, have shown the need to address larger macro-economic and public sector and civil service issues. Reforms are often underway or being considered relative to these larger issues, but in most cases they are being managed separately from road sub-sector initiatives. This requires the adoption of communication and coordination mechanisms on the part of donors, governments and organizations to ensure linkage between macro and sub-sector reform management.

6.06 The generation of commitment to road sub-sector policy reform and institutional development may well be constrained by delays and complications arising from the larger reform process. Reform at this level has not been retarded by ignorance of what needs to be done but by multiple factors arising from deeply seated political, economic and social interests. If progress can be achieved in reform at the macro level, the expectation of success at the sub-sector level will be greatly enhanced.

## Issue 2: Management of the Reform Process

6.07 Policy and institutional reforms cannot be managed in the same way traditionally used for used for project design and intervention. They require the establishment of in-country policy and institutional reform mechanisms including elements like: an inter-Ministerial Steering Committee, a core management team, workshops, task forces, and HRID monitoring and evaluation systems. These mechanisms will need to operate over an extended time-frame of perhaps ten years or more. Substantial investment in change process management mechanisms will be necessary to ensure the success of the reform process. The process will not be simple, and all participants in this management can expect difficulties and frustrations as they attempt to apply the frameworks suggested here to the realities of each national setting.

**Issue 3: Adoption of Process Consultation Methodology**

6.08 The methodology associated with in-country process consultation is unfamiliar to most of the staff of donors' organizations, governments, and road sub-sector organizations. Application of the methodology will require not only process skills but also the adoption of new approaches and attitudes. Externally recruited HRID and process specialists initially may be needed to support the policy reform and institutional development process, and a resident in-country facilitator may be required. The overall objective of such specialists should be the development of national ownership and support for the reform of road operations.



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## METHODOLOGY

### CASE STUDIES

The procedures followed in conducting the **case studies** were developed to promote comparability of the findings from the individual case studies and facilitate the final synthesis required for the modal summary. The procedures required approximately 65 mandays per case<sup>1/</sup> and included:

- **Document Review** - The country consultants designated to prepare the four case studies conducted reviews of existing studies, project reports, and evaluations which analyzed HRID problems and constraints in developing countries, in general, and in the countries included in the project, in particular.
- **Interviews** - The country consultants interviewed World Bank Staff responsible for sector analysis and project implementation in the selected institutions to provide additional background information and perspective on both the institutions and the external environment in which they function.
- **Refinement of Study Design** - In consultation with the HRID task manager the consultants refined the study design and diagnostic list of factors to be included in the case study analysis.
- **Development of Interview Guidelines** - In consultation with the HRID task manager the consultants developed interview guidelines for each institution to be studied. These guidelines facilitated parallel approaches so that the findings of the case studies could be compared, discussed, and, in turn, be synthesized into the modal report.
- **Conduct of Field Study** - Two country consultants assisted by one local consultant conducted the field study of each institution. The studies included interviews with senior government officials, managers of supervisory staff of road organizations, and representatives of the main users.
- **Analysis of Findings** - Each country consultant team analyzed the data and information collected from the field visits and desk studies.
- **Preparation of Case Study** - The country consultants then prepared the final case study document. A synopsis of each case study is available as a separate appendix to this report.

### MODAL SUMMARY

The preparation of the modal summary was undertaken over approximately eighty working days and involved close collaboration between the modal consultant and the HRID task manager at all stages of the process. The summary was prepared on the basis of the following activities:

- **Review of the Case Studies:** each case study was read and carefully reviewed to identify both common and country-specific factors.
- **Review of Major HRID Constraints:** the major constraints and their approximate importance in each case study were compared.

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<sup>1/</sup> Two international consultants worked approximately 27 days each per case. Local consultants spent an additional 10 days.

- **Review of Solutions Proposed or Discussed:** the range of solutions identified, discussed and proposed in the case studies was reviewed and compared.
- **Introduction of Supplementary Experience:** the findings of the case studies were supplemented by the experience of HRID in the road sub-sector from elsewhere in SSA and from international experience in the restructuring of road organizations.<sup>2/</sup>
- **Formulation of General Lessons:** the findings of the case studies and the supplementary information were compared and assessed to develop lessons of general applicability that were supported by country-specific examples.
- **Development of Approach and Methodology for Intervention:** based on the general lessons drawn from the analysis, an approach and methodology for solution-oriented interventions was developed.<sup>3/</sup>
- **Review of Preliminary Findings:** a review committee, composed of Bank staff, met and reviewed the preliminary findings for the road sector. Members of this group and other staff members assisted in the preparation of the modal summary by reviewing and commenting on the case studies.
- **Preparation of the Final Report:** following the completion of this process, the modal consultant prepared the draft final report. The report was then reviewed by the HRID task manager, commented on by the review committee, and finalized.

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<sup>2/</sup> Conclusions based essentially on a sample of four case studies would have to be considered tentative if they were not generally similar to the experience of other work undertaken in the SSA road sub-sector. The reform process in the sector is in its initial stages, and consequently many of the conclusions and proposed responses must be treated as preliminary and subject to verification through the experience of the results of reforms. Careful monitoring of those institutions embarking on HRID reform is essential to improve the understanding of the relative importance of particular constraints to HRID and appropriate policy measures and reforms required.

<sup>3/</sup> The report is, perhaps, most relevant within the context of structural adjustments programs. The extent and kind of changes introduced by such programs provides the opportunities for the comprehensive approach advanced in this summary report. In fact, discussion of structural adjustment may indeed provide the answer to the crucial question of whether a government is committed to fundamental changes in the road sub-sector. Specific interventions linked to HRID are offered in the report. More generally applicable may be the processes by which reforms and policy interventions should be identified, prepared and implemented.

## PROCESS CONSULTATION AND POLICY ACTION PLANNING

### Introduction

1. The findings of the case studies and the evaluation of successful implementation of HRID projects suggest the usefulness of process consultation both in conjunction with the mobilization of initial reform programs and in subsequent HRID interventions. One source defines process consultation as:

"a set of activities on the part of a consultant that help the client to perceive, understand, and act upon the process events that occur in the client's environment." <sup>1/</sup>

2. Simply put this means helping others to figure out solutions for themselves, facilitating their own problem-solving, as opposed to prescribing for them what they must do. This stands in contrast to the role of an expert who specifies for others what, when, and how things must be done. The emphasis on enabling others to solve problems for themselves is at the core of contemporary management techniques; the approach is based on the premise that adults learn best by doing.

3. Since the early 1980s the application of process consulting to IBRD projects—first to project design and later to the implementation process—has shown itself to be especially useful. The Modal Summary Report seeks to move the application of the concept from the confines of the project cycle to the broader range of sector-wide reform. Examples of such an approach began to be advocated, in principle, for IBRD supported activities during the late 1980s. The report sees donors playing an important promotional role in the adoption of a process approach.

### The Process Nature of HRID

4. HRID is a process phenomenon. The organization and its individual employees are the focus of development activities, not only as targets of the development being sought, but also as participants in all phases of the development activities to be undertaken. Secondly, the role of external agents—ranging from donors to consultants—addressing HRID is best defined as facilitative. This extends even to the management of the change process itself.

5. Finally, it must be stressed that HRID cannot be approached mechanistically. There are no fixed blueprints; rather there are only guidelines and frameworks for HRID. They must be applied and adapted to each organization and the environment in which it exists. Management styles and work cultures are particularly vital elements to consider in designing HRID interventions. The interventions are often iterative and require progressive adjustments and refinements.

6. Set within the context of the broad public sector reforms currently being initiated or already underway in the region, the advocacy of sub-sector reform is less startling to senior government officials and management than it would have been a decade ago. The case studies document that the predisposition already exists to consider the merits of institutional reform for the management of the road network in Sub-Saharan Africa.

7. The willingness to consider reform, however, does not assure either final acceptance of the need for or firm commitment to a reform process. Thus, the introduction of these reform-oriented interventions assumes the active participation of process oriented management specialists—

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<sup>1/</sup> Schein, E.H. Process Consultation, Vol. II. Reading: Addison-Wesley, 1987, page 34.

usually consultants but in some cases task managers themselves--to assist the management of the change process, including planning, coordination, facilitation, monitoring, evaluation, and adjustment.

8. These specialists are intended to guide the process, ensure integration and continuity, and maintain momentum. It is their function to involve the organization and its individuals in both the diagnosis of the problem as well as in the subsequent design and implementation of HRID interventions. They also bring with them the specialized skills prerequisite to the methodology discussed in Section V. Different sets of skills will be required for:

- facilitating the overall reform process;
- managing the implementation of organizational development interventions;
- introducing team building and group session techniques; and
- designing and conducting interactive participatory workshops.

The role to be played by such specialists will clearly vary as a function of the specific breadth, depth, and duration of the changes required for each organization.

9. Until process skills become established within the region, it will be necessary to use external process consultants. Short-term consultants can be used to advise the donors and governments on change management, the design of process oriented activities, and to conduct such interventions as management workshops. Because of the long-term and comprehensive nature of the reform envisioned for the road sub-sector, resident consultants may be required to facilitate and assist the overall implementation process. Selection of these facilitators should emphasize expertise in process and management techniques over technical or sub-sector background.

10. The use of process consulting in group sessions supporting HRID interventions must itself be fit to the institution and its culture. The existence of hierarchical management systems and non-participatory work cultures may restrict the efficacy of process consulting for certain group sessions. In Malawi, for example, participatory monthly staff meetings worked well at the level of senior management but broke down when used with junior staff members. In such cases, modification of the work culture may be a prerequisite, and preliminary training or workshops may be required before participatory mechanisms can be effectively utilized.

11. The stepped sequence of interventions suggested in the frameworks represents an idealized guideline. In actuality, several of the countries in the region have already begun policy reform affecting road network management. In such cases the frameworks are guides to action and will need to be modified to fit on-going activities.

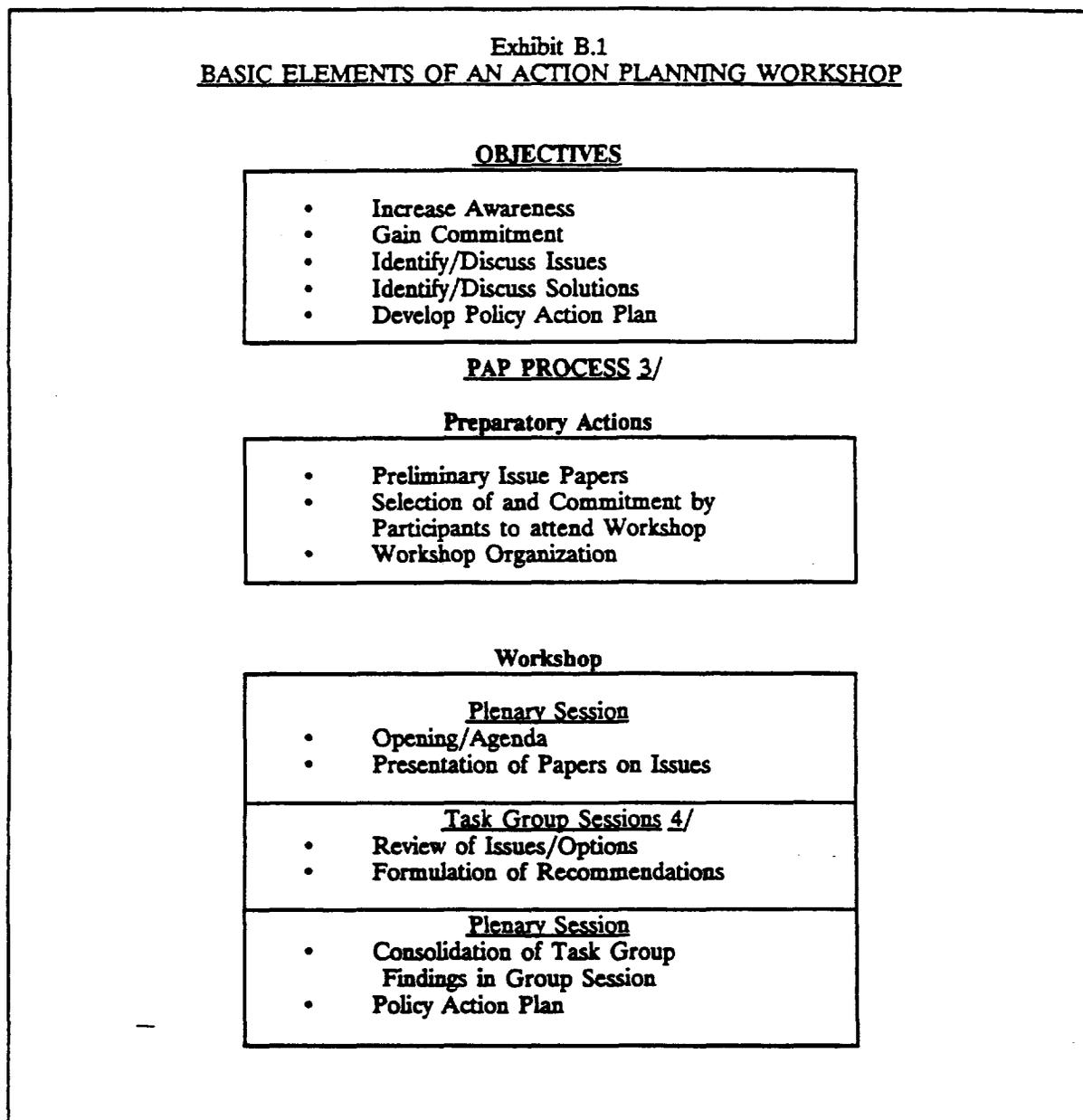
### Policy Action Planning

12. An important intervention to be utilized for HRID is the action-planning workshop. <sup>2/</sup> The purpose of such workshops is not to teach the participants a specific content, but rather to enable them to evolve consensus about policy and the resolution of issues. Participation in the workshop sessions increases identification with and commitment to follow-up actions intended to resolve HRID issues. In some cases resource specialists, providing technical and/or managerial expertise, may be required to provide initial input. The success of the workshops, however, is based on the ability of the process specialists who serve as facilitators of group dynamics and not as technical specialists (See Exhibit B.1).

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<sup>2/</sup> Silverman, Jerry M. et al. Action-Planning Workshops for Development Management. World Bank Technical Paper No. 56., Washington, D.C.:IBRD, 1986.

13. The success of an action planning workshop is dependent upon both preparatory and follow-up activities. Within the context of the reform process, such workshops are most effective when they are recurrently scheduled throughout the reform process. In such cases they take on the appearance of--but should not be mistaken for--the follow-up activities which they, in fact, should generate.



3/ Policy Action Planning seeks to move from externally generated reforms to internally generated reforms. Workshop participants are selected to include diverse representatives from the road sub-sector including the government, the road organization and associated agencies as well as from other stakeholders in road sub-sector reform.

4/ Assisted by a process facilitator, Task Groups meet to discuss the issues and options raised in the issue papers. To facilitate the discussion, participants are provided issue/option charts and forms keyed to the issue papers. They are also encouraged to draw upon their individual expertise. The end product of their discussion is suggested solutions and follow-up actions for the issues examined. These are reported back to the plenary session.

## Change Management

14. At the very core of HRID is the process of change. The majority of institutions and individuals are initially reluctant to accept change and, at the outset, will often either avoid or resist activities supporting change. In such instances conventional management techniques are inadequate and change-oriented techniques are required. This need is based on the different perspectives of the two approaches in terms of attitudes, objectives and plans (See Exhibit B.2).

15. Conventional management seeks the maintenance of an equilibrium. It assumes that any variations against acceptable norms or patterns are temporary disruptions. After adjustment through the use of control mechanisms, one returns to what had been before the disruption. Change management, however, seeks to permanently modify the institution and the structures, systems and individuals of which it is composed. It requires additional steps not included in conventional managerial techniques, beginning with the acceptance of the need for change itself.

16. To emphasize the difference between conventional management and change management the concept of "breakthrough" can be used. <sup>5/</sup> This means moving on to a new level or type of performance with a different set of objectives. Once it has been decided that change is needed and the objectives associated with the change established, one needs to prepare the institution for the desired breakthrough, i.e., the change itself. This involves changing attitudes and what is sometimes referred to as "unfreezing." Targets need to be selected on the basis of designated priorities and mechanisms need to be established for managing, verifying and consolidating the results of the change process. Management of the change process requires special process-oriented skills.

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<sup>5/</sup> See Juran, J. M., Managerial Breakthrough: A New Concept of the Manager's Job. New York: McGraw-Hill, 1964.

Exhibit B.2

CONVENTIONAL CONTROL-ORIENTED VS. CHANGE-ORIENTED MANAGEMENT

**CONVENTIONAL  
PERFORMANCE- OR CONTROL-ORIENTED  
MANAGEMENT**

(Using the existing organizational design, procedures,  
and resources to achieve results)

- Managerial Attitude:** The present situation or level of performance is adequate or acceptable
- Managerial Objective:** Maintaining the current situation or level of performance  
(Determinants of HRID left unchanged)
- Managerial Plan:** Identifying and eliminating variations from current situation or level of performance

**CHANGE-ORIENTED MANAGEMENT**

(Changing the existing organizational design, processes,  
and resources to achieve improved performance)

- Managerial Attitude:** The present situation or level of performance is not acceptable
- Managerial Objective:** Improving the situation by the introduction of change and the use of change supporting mechanisms (Determinants of HRID changed)
- Managerial Plan:** Identifying and eliminating obstacles and constraints on the introduction of the required change

## INSTITUTIONAL DEVELOPMENT IN ROAD MAINTENANCE ORGANIZATIONS <sup>1/</sup>

The issues papers prepared for the workshops sponsored by the Road Maintenance Initiative (RMI) component of the SSATP suggest that African Governments consider the following steps to address the problems of institutional development:

**Obtaining government commitment:** there is a need for strong political leadership, and there is also a need to develop interest groups and to internalize their effects within government.

**Obtaining a full understanding of the problem:** this should be done by carrying out an institutional assessment that takes socio-cultural issues into account.

**Addressing the problem:** this requires the development and implementation of action plans that address specific policy issues and recognize external and internal factors; priority tasks should be identified, drawing from such areas as:

- **Economic issues:** better utilization of existing facilities, cost-effective resource utilization, identification of a priority network, and development of transport sector plans;
- **Socio-political issues:** resistance to change, employment policy, cultural constraints, the need for an objective staff assessment;
- **Road organization structure:** organizational restructuring, centralized or decentralized organization, separating functions for design, equipment management, and maintenance management;
- **Procedural factors:** establishing mechanisms, setting policy objectives, and determining criteria for decision-making;
- **Physical resources:** foreign exchange effects, shortages of transport, equipment and materials;
- **Formulating projects:** in terms of institutional development rather than physical execution of works; and
- **Monitoring achievement:** in terms of policy objectives and performance-based criteria.

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<sup>1/</sup> See *Institutional Development in Road Maintenance Operations*, paper prepared by Richard Robinson for the Road Maintenance Policy Seminars (Harare, Zimbabwe, May 30 - June 2, 1989) under the Road Maintenance Initiative (RMI) component of the SSATP.