MANAGING THE ENERGY TRANSITION IN EASTERN AND SOUTHERN AFRICAN COUNTRIES

Results of Executive Planning Workshop on Energy Training Needs
Livingstone, Zambia
(February 11-17, 1990)

in collaboration with

Household and Renewable Energy Unit
Industry and Energy Department
The World Bank
Washington, D.C.
U.S.A.

Corporate and Entrepreneurship
Development Division
Eastern and Southern Africa
Management Institute
Arusha, TANZANIA

October 1990

This paper may not be published or quoted as representing the views of the World Bank Group, nor does the Bank Group accept responsibility for its accuracy and completeness.
### ACRONYMS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOE</td>
<td>Department of Energy</td>
</tr>
<tr>
<td>ESAMI</td>
<td>Eastern and Southern Africa Management Institute</td>
</tr>
<tr>
<td>ESMAP</td>
<td>Energy Sector Management Assistance Program</td>
</tr>
<tr>
<td>PTA</td>
<td>Preferential Trade Area for Eastern and Southern Africa</td>
</tr>
<tr>
<td>SADCC</td>
<td>Southern Africa Development Coordination Conference</td>
</tr>
<tr>
<td>TNA</td>
<td>Training Needs Assessment</td>
</tr>
</tbody>
</table>

### CREDITS

*This activity was executed by a team which comprised: Messrs. Amarquaye Armah (Energy Planner, Household and Renewable Energy Unit, World Bank) as Team Leader; Talala Mbise (Institutional Development Consultant) the Facilitator for the Workshop; and Emmanuel Appiah Korang (Energy Management Consultant), the Principal Resource Person for the Workshop. Messrs. Chanza Simuyemba and Japhet Mlagala (Senior Consultants, Corporate and Entrepreneurship Development) of ESAMI were the Coordinators for the Workshop; and Mrs. Hidayah Fumo of ESAMI provided secretarial support at the Workshop. Mmes. Carol-Sue Castronuovo and Morrissa Young were responsible for wordprocessing, and Ms. Carol Hafey, for graphics and the publication of the report.*
This report synthesizes the results of an *Executive Planning Workshop* which was organized jointly by the Eastern and Southern Africa Management Institute (ESAMI) and the World Bank/UNDP/Bilateral Aid Energy Sector Management Assistance Program (ESMAP) and attended by senior energy officials and planners from countries of Eastern and Southern Africa. The aim of the Workshop was to draw on the experience, expertise, and perspectives of senior energy officials and professionals in the region to assess management development and training needs in the energy sector, with particular emphasis on building capacity in the region manage the transition from traditional systems of energy supply and use to modern and more energy efficient alternatives.

ESMAP, through this collaboration with ESAMI, is increasing its commitment to building capacity for energy strategy work at the country level in Sub-Saharan Africa. As the leading center for management development, training, and consultancy services in the region, ESAMI hopes to fulfill its mandate which is to improve the performance and management effectiveness of public and private institutions and enterprises, and non-governmental organizations (NGOs) in that region of Africa.

The contributions of each of the senior energy officials and planners who participated in the Workshop are gratefully acknowledged.
# TABLE OF CONTENTS

## I. OVERVIEW
- Introduction .............................................. 1
- Background ............................................. 2
- Scope of Training Design Activity ..................... 4

## II. THE WORKSHOP
- Overview .................................................. 7
- Workshop Objectives ................................... 9
- Conduct of Workshop ................................. 10
- Agenda of the Workshop ....................... 10

## III. WORKSHOP RESULTS
- Overview .................................................. 15
- Performance Gaps .................................... 15
- Competency Requirements .......................... 16
- Impediments to On-the-Job Performance .......... 19

## IV. AGENDA FOR FOLLOW-UP
- Goals for Proposed Training Program ............ 23
- The Proposed Workprogram ..................... 23

### FIGURES

1. Elements of Training Design Process .............. 5
2. Steps in Training Needs Assessment ............... 6
3. Organizational Environment of Performance Problems .... 13
4. Matrix for Trainability Assessment of Performance Problems ...... 16
5. Strategic Planning Model .......................... 25

### BOXES

1. Workshop Agenda ....................................... 11
2. Assessment of Trainability of Organizational Problems/Constraints .......... 17
4. Impediments to Post-Training Performance ........ 20

### ANNEXES

1. Framework for Design of Training Activity .......... 27
2. Designated Contact Persons in Region ............. 32
LIST OF PARTICIPANTS AND OBSERVERS

The Workshop was attended by seventeen (17) senior officials from eight (8) countries in the region: Angola, Botswana, Kenya, Swaziland, Tanzania, Uganda, Zambia, and Zimbabwe. Representatives of two regional organizations, the SADCC and the PTA attended the Workshop as observers. Hon. Brig. Gen. E. M. Haimbe, the Minister of Power, Transport, and Communications, Government of Zambia, gave the opening address for the Workshop. The full list of participants is presented below.
## ESAMI / ESMAP EXECUTIVE PLANNING WORKSHOP ON ENERGY
### LIVINGSTONE, ZAMBIA (FEBRUARY 11 - 17, 1990)

### PARTICIPANTS

<table>
<thead>
<tr>
<th>Name</th>
<th>Position and Organization</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Bariki Kaale</td>
<td>SADCC Regional Woodfuels Technical Advisor, SADCC Energy Sector</td>
<td>Angola</td>
</tr>
<tr>
<td>Mr. Felix Matias Neto</td>
<td>Head of NRSE Department, Ministry of Energy and Petroleum</td>
<td>Angola</td>
</tr>
<tr>
<td>Mr. Nazare Salvador</td>
<td>Head of NRSE/Woodfuel Department, SADCC Energy Technical and</td>
<td>Angola</td>
</tr>
<tr>
<td></td>
<td>Administrative Unit</td>
<td></td>
</tr>
<tr>
<td>Mr. F.O. Motlhatlhedi</td>
<td>Coordinator of Energy Affairs, Ministry of Mineral Resources</td>
<td>Botswana</td>
</tr>
<tr>
<td></td>
<td>and Water Affairs</td>
<td></td>
</tr>
<tr>
<td>Mr. Dominic Walubengo</td>
<td>Manager, Regional Wood Energy Programme for Africa (RWEPA)</td>
<td>Kenya</td>
</tr>
<tr>
<td>Mrs. Dumisile Shabangu</td>
<td>Senior Lecturer, Swaziland Institute of Public Administration</td>
<td>Swaziland</td>
</tr>
<tr>
<td>Mr. E.N. Sawe</td>
<td>Head, Renewable Energy Development Project Unit, Ministry of</td>
<td>Tanzania</td>
</tr>
<tr>
<td></td>
<td>Energy and Minerals</td>
<td></td>
</tr>
<tr>
<td>Professor M.J. Mwandosya</td>
<td>Commissioner of Energy and Petroleum Affairs, Ministry of</td>
<td>Tanzania</td>
</tr>
<tr>
<td></td>
<td>Energy and Minerals</td>
<td></td>
</tr>
<tr>
<td>Mrs. H.N. Gava</td>
<td>Principal Economist, Ministry of Energy</td>
<td>Uganda</td>
</tr>
<tr>
<td>Mr. Dominic Jacob Mbewe</td>
<td>Director, Department of Energy, Ministry of Power, Transport</td>
<td>Zambia</td>
</tr>
<tr>
<td></td>
<td>and Communications</td>
<td></td>
</tr>
<tr>
<td>Mrs. Edith Z. Nawakwi</td>
<td>Senior Energy Economist, Ministry of Power, Transport and</td>
<td>Zambia</td>
</tr>
<tr>
<td></td>
<td>Communications</td>
<td></td>
</tr>
<tr>
<td>Mr. R.C. Sampa</td>
<td>Head, Energy and Mining Unit/Senior Economist, National</td>
<td>Zambia</td>
</tr>
<tr>
<td></td>
<td>Commission for Development Planning</td>
<td></td>
</tr>
<tr>
<td>Mrs. D.Q. Chandiwana</td>
<td>Deputy Director, Planning and Research, Ministry of Community</td>
<td>Zimbabwe</td>
</tr>
<tr>
<td></td>
<td>and Cooperatives Development</td>
<td></td>
</tr>
<tr>
<td>Mrs. T. Madzonga</td>
<td>Senior Administrative Officer, Ministry of Energy, Water</td>
<td>Zimbabwe</td>
</tr>
<tr>
<td></td>
<td>Resources and Development</td>
<td></td>
</tr>
</tbody>
</table>

### OBSERVERS

<table>
<thead>
<tr>
<th>Name</th>
<th>Position and Organization</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. R.C. Mbala</td>
<td>Deputy Regional Coordinator, SADCC Energy Sector - TAU</td>
<td>Angola</td>
</tr>
<tr>
<td>Mr. J.A. Opio</td>
<td>Senior Industrial Expert, Industry and Energy Division</td>
<td>Zambia</td>
</tr>
<tr>
<td>Mr. Eldon G. Warner</td>
<td>Chief Technical Adviser, Industry and Energy Division</td>
<td>Zambia</td>
</tr>
</tbody>
</table>
I. OVERVIEW

Introduction

1.1 Woodfuels are the traditional source of energy for about four-fifths of the population (i.e., mainly households and small-scale commercial enterprises) of Sub-Saharan Africa. The rapid pace of urbanization on the continent has led to a concentration of woodfuel demand in the major towns and cities, and has aggravated environmental impacts due to uncontrolled exploitation of the natural woodlands. The environmental risks associated with current practices for the supply of woodfuels from the natural woodlands are a major factor in the decision by governments in the region to seriously consider launching a variety of new initiatives to encourage woodfuel consumers to switch from traditional to "modern" and efficient energy alternatives.

1.2 Several governments in the Eastern and Southern Africa region, with the support of regional organizations, especially the Southern Africa Development Coordination Conference (SADCC), recently have initiated programs which aim to address one or more of the following dimensions of the energy transition process: (i) improving the management of woodfuel demand at the level of households and small-scale enterprises; (ii) determining the least cost mix of alternative energy sources that would ensure that the basic energy needs of households can be met over the long-term; (iii) ensuring that small-scale enterprises, which increasingly play an important role in generating employment, have access to reliable energy supplies at reasonable cost; and (iv) improving the efficiency of woodfuel use, and/or promoting the substitution of woodfuels.

1.3 Due to lack of local expertise for energy strategy work, most of the governments concerned have had to rely extensively on expatriate advisors and consultants. There is a consensus in the region that donor agencies should place a greater emphasis on technical assistance programs that aim explicitly to build the in-house capacity of government agencies to perform effectively at energy strategy work. Training of local professionals is considered to be a vital component of any strategy to build capacity in the region. In a report on "Sub-Saharan Africa: From Crisis to Sustainable Growth" which was published in 1990, the World Bank recommends a shift in emphasis to technical assistance programs based on management development and training which would build local capacity "to formulate, monitor, evaluate, and adjust effective woodfuel strategies". Hence, the long term developmental objective this ESMAP activity is to develop a training program which would contribute to the building of the competency of professionals in the region to perform energy strategy work.

1 In the context of this activity, training refers to the process of developing specific competencies (knowledge, skills, attitudes) in a professional to be applied to improve his or her performance on the job. In-Service-Training (i.e., training provided to professionals who have already entered service in a DOE) is a particular focus of this activity.
Background

1.4 ESMAP was established in 1983 to assist governments to implement the key recommendations of the Energy Assessment Program. Since its inception, ESMAP has provided the majority of countries in Sub-Saharan Africa with technical assistance to develop strategies to manage technical, economic, financial, institutional, and socio-cultural issues that affect the ongoing transition from traditional to modern and efficient energy alternatives. As a means of sharing experiences and obtaining feedback from professionals in the Eastern and Southern Africa region, ESMAP in February, 1988, held its first "Regional Household Energy Planning Seminar" in Harare, Zimbabwe. The main objectives of the seminar were:

(a) to present a range of approaches for addressing certain key energy planning issues which pertain to the energy transition in the household and other small-scale consumer segments (i.e., methodologies for data collection, analysis of policy options, assessment of investment priorities, and institution building requirements);

(b) to obtain feedback from energy professionals from the region on the field experiences in addressing those types of issues in their respective country situations;

(c) to explore the issues involved in adopting a strategic planning approach to create the necessary framework for selecting among a range of policy and investment options; and

(d) to review the present state-of-the art in preparing energy strategies for household and other small-scale consumers.

1.5 An important outcome of the seminar was the request by participants for a special effort by ESMAP to support capacity building efforts of DOEs in the region by providing the necessary technical assistance and training. Participants recognized that there was a strong justification to adopt a strategic approach to identifying and selecting solutions to the problems and opportunities created by the process of energy transition in the region. Participants reached a consensus that by adopting such an approach, countries of the region would accelerate the "learning curve" associated with building the in-house capacity of DOEs, and also reinforce local initiatives to identify, develop, and implement cost-effective solutions. Participants noted however that, in order for each DOE to make substantive progress in the near term towards developing their capacity for energy strategy work, it was imperative for ESMAP to take a lead role in providing in-service training for counterpart energy planners in the region.

1.6 ESMAP currently is assisting the Government of Zimbabwe's Department of Energy Resources Development (DOERD) to prepare an "Energy Strategy" to address the needs of designated low-income groups among the household and small-scale enterprise sectors (i.e., cooperatives, non-farm enterprises, etc.) in the country. A major thrust of the ESMAP assistance is providing on-the-job training to develop competencies for energy strategy work among the counterpart staff which comprise also the staff of other government agencies such as the National
Planning Agency, the Department of Cooperatives and Community Development, and the Central Statistics Organisation. For example, during the first phase of the activity, ESMAP organised a Workshop to train the counterparts in the economic and financial analysis of energy options.  

1.7 To follow-up on the requests made at the seminar for training of counterpart energy planners, ESMAP approached the Eastern and Southern Africa Management Institute (ESAMI), to explore options for a regional initiative. ESAMI previously had worked successfully with the World Bank, and a network of training institutions in the Netherlands to develop and launch a training program for the region on planning and management of the transport sector. As a first step, ESMAP invited ESAMI to evaluate the Workshop in Zimbabwe, and to assess the feasibility of replicating such training activities in other countries of the region. ESAMI concluded that there was considerable scope to develop a unique and comprehensive training program on energy strategy for the benefit of counterpart energy planners in the region. ESAMI envisages that the core curriculum for such a training program could be developed by integrating elements of its existing curriculum for management training (i.e., on strategic planning, project preparation and evaluation, etc.), with the extensive materials that had been developed by ESMAP on energy strategies for household and small-scale enterprises in the region.

1.8 Recognizing the potential contribution such a program could make towards institution building efforts in the region, the Government of the Netherlands is funding this activity by ESMAP and ESAMI to explore as comprehensively as necessary the requirements to develop a training program on energy strategy for the region.

---

2 The Workshop was conducted by ESMAP in Harare, Zimbabwe during August 1988, and was attended by professionals from the DOERD and four other agencies of the Government of Zimbabwe. Under the second phase of the activity, ESMAP is assisting the DOERD to prepare a report on the proposed "Energy Strategy for Low-Income Groups in Zimbabwe," which in operational terms, will yield energy projects for the next Five Year Development Plan.

3 As a Regional Management Development Center, ESAMI provides a range of services to some 19 countries of Eastern and Southern Africa, including management training, consultancy, and operations research. ESAMI currently offers training programs in the areas of public enterprise management, human resources management, corporate and entrepreneurship development, etc., for managers and planners in both the public and private sectors of countries of the Preferential Trade Area (PTA) and SADCC.
Scope of Training Design Activity

1.9 ESMAP is collaborating with ESAMI to accomplish the following tasks:

(a) identifying critical performance gaps of the DOEs, focusing on key issues pertaining to their role in developing and implementing energy strategies for households and small-scale enterprises in the region;

(b) defining a core curriculum for training to develop competency in the application of energy planning procedures and techniques, based on the results of the training needs assessment;

(c) determining requirements (i.e., technical support, personnel, funding, etc.) to build ESAMI's in-house capability to eventually assume full responsibility for the training program on energy strategy for the region; and

(d) preparing a plan of action for further collaboration between ESMAP and ESAMI, especially a three-year work program to develop and launch some pilot training activities on energy strategy for households and small-scale enterprises.

Methodology for Training Needs Assessment

1.10 In attempting to provide energy professionals with training to augment their knowledge and skills in this field, the underlying assumption being made is that each of the DOEs in the region would also gain an in-house capacity to develop and implement energy strategies for households and small-scale enterprises. In order to comprehensively assess training needs, especially to ensure that the resulting curriculum would be relevant and cost-effective, a state-of-the-art approach, based in large part on the DATATRAIN Model, was adopted for this activity. Where necessary, specific analytical methods developed by the World Bank's Economic Development Institute (EDI) were also used in the assessment process. The main concepts and methodologies that are applied in the training design process of this activity, are represented schematically in Figures 1 and 2 below.

1.11 In the process of designing training programs (Figure 1), a key first step is to identify the critical problems/constraints that shape the working environment of the prospective trainees, and to isolate those ones which are perceived to undermine the performance in the target

---

4 DATATRAIN, an integrated system for assessing training needs, designing curricula, and preparing detailed lesson plans and instructional materials for training programs, is a software product of TrainingWorks, Inc. of Maryland, U.S.A.

organizations. The next step is to determine the extent to which training would improve the knowledge, skills, and attitudes (or mindset) of the staff, thereby upgrading the on-the-job performance of individual staff, and eventually the overall performance of the target organization. After specific performance gaps have been pinpointed through the Training Needs Assessment (TNA), and the competencies to address them have been identified, a basis is established for Curriculum Design.

1.12 The "Executive Planning Workshop" was designed to involve energy professionals from the region in the diagnostic exercises associated with the TNA. The main stages of a TNA are depicted in the schematic (Figure 2). The first stage was to define the organizational priority that is the primary context for the assessment of the training needs of the DOEs. As previously discussed, the priority in the context of this activity is building the capacity of the DOEs in the region to effectively manage the ongoing energy transition. On that basis, therefore the initial phase involved the following tasks: (i) identifying problems/constraints that currently affected the performance of the DOEs (i.e., from the viewpoint of managers and energy professionals on the staff); (ii) identifying the level and source of each of those problems/constraints, and isolating those that can be attributed to deficiencies in the performance of individuals and/or specific tasks/functions in the DOEs, and which therefore would appear to be amenable to resolution by training (i.e., the trainable ones). The second phase involves a preliminary analysis of performance gaps with the aim of determining the type and level of the range of competencies that would be needed to address those performance gaps/deficiencies that are considered to be trainable. The third phase of the TNA is to assess the nature and impact of a range of other impediments in the
existing organizational environment of the DOEs which nevertheless could undermine the ability of staff to perform better after training. These impediments, which usually are referred to in DATATRAIN as the impediments to "Training Transfer", need to be identified and addressed through specific measures within the framework of the training program, thereby alleviating some potential problems of motivation which may arise on the job.

1.13 The results of the Workshop represent the main building blocks for curriculum design. With DATATRAIN, the core curriculum (Figure 1) consists of: (i) a clear and concise definition of the goal for the training program in direct relation to well defined outcomes and/or desired impacts on performance at the organizational and individual task/function levels; (ii) specification of the main instructional methods to be used for the training program; (iii) the content of the instructional topics, and sequence for delivering the materials (i.e., knowledge, skills, attitudes) under the core curriculum; (iv) the main elements of the strategy to involve managers in formulating and following through with specific measures to support effective transfer of new learning by trainees to the on-the-job situation; and (v) an outline of the strategy and methods to be used to evaluate the results of the training program.

Figure 2
II. THE WORKSHOP

Overview

2.1 As previously indicated, the need for a comprehensive diagnosis of training needs and priorities was the critical first step which required the necessary data and information to be systematically obtained from the DOE's. It was necessary to plan for a significantly greater degree of flexibility to allow for each of the key actors in the region to contribute effectively to the diagnosis of energy training needs. Hence, rather than rely on conventional methods of gathering data for training needs assessment (e.g., interviews, analysis of documents, surveys, questionnaires), an Action Planning Workshop approach was adopted.  

2.2 Furthermore to ensure that the diagnosis of performance gaps, training needs, and impediments to effective transfer of new skills and knowledge to the on-the-job situation, etc., would proceed as a consensus building exercise which in turn would create the commitment required from the region for the program, the Workshop was structured to provide a forum in which ESMAP and ESAMI could draw on the experience, expertise, and perspectives of senior DOE officials and energy professionals from the region to:

(a) identify problems/constraints at the organizational (i.e., DOE) level which from the perspective of the energy professionals in the region undermine

---

the local capacity to manage issues of energy transition for the key target groups;

(b) isolate specific performance gaps in the DOEs that are attributed to the identified problems/constraints, but which could be alleviated by in-service training;

(c) identify a range of other factors in the organizational environment in the region which constitute major impediments to effective transfer to the on-the-job situation of the new skills and knowledge acquired by energy professionals from training programs; and

(d) develop a consensus about training needs and priorities for the region with respect to energy strategy work for households and small-scale enterprises, and to define the required next steps to launch the proposed training program at ESAMI.

2.3 In this section, the agenda for the Workshop and also an overview of how the objectives of the Workshop were achieved using the Action Planning approach is presented. Details are given on the design and conduct of the Workshop, and the agenda used to cover the key steps in assessing training needs.

**Workshop Objectives**

2.4 The primary objectives of the Workshop were to achieve the following five goals:

(i) identifying local perceptions of the problems and constraints in the organizational environment of the region that adversely affect the performance of energy professionals;
gaining consensus about the analytical and procedural framework for the design of a core curriculum for the proposed training program on energy;

(iii) gaining better insights about a range of contextual factors that could influence the design of the core curriculum, especially the selection of training (instructional) methods and measures to support the application of new learning on the job;

(iv) mobilizing support at the regional level for the ESMAP/ESAMI initiative as a whole, and in particular the training approach to capacity building in the DOEs;

(v) generating commitment and ownership of the proposed program among the key actors in the region, especially to facilitate and expedite the implementation of critical follow-up tasks which would eventually lead to the launching of the proposed training program on energy.

**Conduct of Workshop**

In order to ascertain the full range of perceptions about training needs and priorities at different levels of management and staff in the DOEs in the region, each participant was assigned to one of three *Working Groups*:

(i) Group One. Participants who had senior management responsibilities on the technical aspects of the energy sector (e.g., Director, Department of Energy, or Commissioner of Energy, etc.) were assigned to this group;

(ii) Group Two. Participants who were middle-level managers, and maintained specific responsibilities either as Project Managers and/or Heads of Project Implementation Units in the energy sector agencies were assigned to this group; and

(iii) Group Three. Participants who were senior professionals, and had some extensive experience in the role of a technical analyst in a national agency for economic planning or for a ministry with sector management responsibilities were assigned to this group.
2.6 The deliberations at the Workshop were handled by a Facilitator, an independent consultant from the region,\(^7\) who guided the participants through a step-by-step process involving group exercises and plenary review and discussion sessions. At the beginning and end of each step, the Facilitator, in plenary, explained the objectives of the exercise; provided instructional guidelines on how the exercise could be done, responded to issues raised by the participants, and where necessary, provided sample formats to the Working Groups as a guide for presenting their results during the plenary sessions. The principal Resource Person at the Workshop was an independent consultant who was selected on the basis of his prior extensive experience in directing energy policy and sector management initiatives in an African country.\(^8\) At the conclusion of each Working Group session, each of the three groups presented its conclusions/recommendations to the entire Workshop in plenary session. Each presentation at the plenary session was followed by further discussion and critique, the aim of which was to reach a consensus on the issue(s) at hand.

\textit{Agenda of the Workshop}

2.7 The first half of the Workshop (Box 1) was devoted to a "brainstorming" exercise by each of the Working Groups to identify and rank by level of importance, each of the critical problems/constraints facing DOEs in the region, with particular reference to performance in

---

\(^7\) The Facilitator was Mr. Talala Mbise, an independent consultant from Tanzania who specializes in institutional development issues. He has extensive experience in designing and conducting "Action Planning Workshops" for the ongoing World Bank/UNDP program to develop local consulting capacity in African countries.

\(^8\) The Principal Resource Person was Mr. E. Appiah Korang, an independent consultant from Ghana who previously served in the Government of Ghana as the Secretary for the National Committee on Energy Resources Development (1979), the Director of the Petroleum Department (1980-81), and the Minister for Energy (1982-87).
BOX 1: Workshop Agenda

Monday, February 12, 1990

A.M. Registration.

Introduction of Participants; Review of background, objectives, methodology and agenda for Workshop.

Official Opening by Minister of Power, Transport and Communications, Zambia.

P.M. Identification of problems/constraints and performance gaps in the planning, preparation, management, and implementation of energy policy and programs in the region.

Identification of strengths (existing and potential) which might be utilized to develop capacity for energy planning and management in the subregion.

Tuesday, February 13, 1990

A.M. Prioritization of problems/constraints and strengths; Categorization of problems/constraints by level and source (policy, institutional).

Analysis of Stakeholders for resolution of problems/constraints.

Wednesday, February 14, 1990

A.M. Identification of competency requirements to resolve problems/constraints by category of problems/constraints.

P.M. FREE

Thursday, February 15, 1990

A.M. Review of requirements at institutional and management levels to facilitate effective transfer of new learning to the job.

Identification of training transfer impediments in the region.

Assessment of specific measures to support training transfer under proposed ESAMI program.

P.M. Questions and Answers (re: additional information needs on next steps under ESMAP activity, future role of professionals in the region, etc.).

Identification of follow-on steps and responsibilities at national, regional, ESAMI, and ESMAP levels.

Friday, February 16, 1990

A.M. Identification of Contact Points in the subregion to monitor progress by ESMAP/ESAMI on activity.

P.M. Evaluation and Wrap-Up; Closure.
developing and managing energy initiatives associated with needs of low-income groups (i.e., households and other small-scale consumers) which primarily are for traditional fuels such as wood. The second half of the Workshop was devoted to further work by the participants (i.e., in the same Working Groups) to identify the common types of impediments that are encountered by energy professionals in the DOEs as they strive to apply new knowledge and skills acquired from training to improve their respective performance on the job.

Organizational Problems/Performance Constraints

2.8 A three-step process was used to identify a number of problems/constraints facing the DOEs, and also to assess two types of contextual factors: (i) the existing "strengths" of the organizational environment in the region which could be mobilized to help alleviate the problems; and (ii) institutional linkages and/or rivalries with other public sector organizations/agencies or "stakeholders" that could influence the eventual resolution of some of the problems/constraints affecting the performance of DOEs in managing the energy transition in the region. As shown in Figure 3 below and referring to Figure 2 on the TNA process, the data and information generated are key inputs for isolating target problems and performance gaps which would be amenable to resolution by training, and hence need to be addressed in subsequent steps in the training design.

2.9 The assessment process applied during the first part of the Workshop involved:

Step 1: Identification and Ranking of Organizational Problems/Performance Constraints at the level of energy sector organizations in the region, with emphasis on capacity to formulate and follow through with strategies and plans to manage the energy transition affecting households, and other small-scale consumers. The first session was to identify and specify the nature of constraints and problems from the viewpoint of DOEs, but without ranking them by degree of importance. The second session was to obtain participant perceptions on the relative importance of each of the constraints and problems, based on their own experiences. On their own initiative, each of the three Working Groups independently decided to prioritize the constraints and problems according to three categories representing different levels of organizational priorities for the energy planning agencies. Subsequently, the three categories were adopted as a basis and/or context for further specifying the target problem(s) for the next phase of analysis of the management development and training needs.

Step 2: Identification and Assessment of Contextual Factors, which from the viewpoint of the participants, are important in determining the performance of the DOEs. These factors include "strengths" which could be mobilized by the DOEs to address some of the previously identified problems and constraints (i.e., resources already committed for training and other forms of capacity building in energy sector management, etc.); and the role and interests of other "stakeholder" agencies, especially those with mandates that extend across the household and small-scale consumer segments of the economies in the region (e.g., small-scale industry development organizations, rural development agencies, etc.).

Step 3: Preliminary Identification of Competency Requirements which, based on the experience of participants, could provide the basis for improving the performance of management and energy professionals in the DOEs in the region, and thereby addressing in part some of the previously identified problems/constraints in managing the energy transition for the household and small-
scale consumers categories. Prospective targets for training interventions, in terms of the level of staff and management, were also to be specified.

Impediments to Post-Training Performance (Training Transfer)

2.10 A further three-step process was used for the second phase of the Workshop, the results of which yielded better insights on how particular types of contextual factors would impinge on the on-the-job performance of personnel, even after successful completion of the training. The results of the exercise are the basis for formulating a strategy to explicitly link the proposed training with institution building measures to support teamwork and individual/group performance improvements on the job (i.e., taking into account the practicalities of the working environment in the region). In effect, the aim is to establish an enabling environment within the DOE for application of the knowledge and skills acquired from the training (Figure 3).

![Figure 3](image)

2.11 The three-step process followed at the Workshop involved:

**Step 1: Identification of Impediments to Transfer of New Learning to the Job.** The purpose of this exercise was to introduce concepts about transfer of learning to the job, and also to draw on the experience of the participants to identify some of the more prevalent and potent impediments that undermine the ability of professionals in the region to transfer new knowledge and skills acquired from training programs to the on-the-job situation.
Step 2: Ranking of Specific Actions to Alleviate Organizational Impediments to Training Transfer. The participants reviewed and ranked a list of specific actions that address some of the common impediments to training transfer in organizations worldwide. A separate list of actions were presented for introduction before, during, and after training interventions.

Step 3: Review of Training Transfer Measures for Curriculum Design. After reviewing the list, the participants were given the opportunity to brainstorm to identify any other specific measures that could appropriately be introduced to improve the "working environment" for energy professionals in the region.

2.12 Closure (Defining Follow-Up Agenda): For closure, the Working Groups were requested: (i) to delineate steps which should be taken at the regional and national levels as an immediate follow-up to the Workshop; (ii) to make a number of specific recommendations as to steps that should be taken by ESMAP and/or ESAMI in addition to designing the proposed ESAMI training program; and (iii) to designate Contact Points among themselves (i.e., one per country) who would monitor progress by ESMAP and ESAMI to act on the recommendations of the participants. Finally, participants were requested to evaluate the Workshop, especially to give their reactions to the Action Planning approach of conducting such meetings.
III. WORKSHOP RESULTS

Overview

3.1 The main outcomes of the Workshop are presented in this section, reflecting the consensus reached by the participants. The outcomes are presented in this section in the form of: (i) a list of the 30 organizational problems/constraints which were identified by participants; (ii) a short list which isolates the 15 organizational problems/constraints that are associated with specific performance gaps, and hence appear to be amenable to resolution by training; and (iii) the consolidated list of three (3) broad areas of competencies which from the perspective of the participants could be developed to improve performance at the individual energy professional and DOE levels respectively.

3.2 This section also includes an overview of the outcome of the deliberations at the Workshop on: (i) impediments encountered in organizations in the region which may limit the effectiveness with which professionals are able to transfer knowledge and skills acquired from training to their respective jobs; and (ii) the types of actions that could alleviate those impediments and create an enabling environment for DOEs to obtain the maximum benefits from the proposed training program on energy.

Performance Gaps

3.3 As shown in Box 2, the participants attributed most performance gaps in DOEs to some thirty (30) problems/constraints. To ensure specificity in the assessment of competency requirements that may be a prerequisite to addressing the identified performance gaps, the original list was screened as follows. First, the source and level of each problem/constraint was determined. Second, a ranking procedure was then used to establish categories for each problem/constraint as depicted in Figure 4. Finally the list was reordered to isolate those problems/constraints that could be attributed to lack of skills at the individual or task/function level. Hence, only about a third of the original list of problems/constraints appear were considered to be amenable to resolution by training. A shortlist of six problems/constraints, as indicated in Box 2 were selected for further review.
In the plenary sessions, the participants reviewed the list of constraints/problems and concluded that most were in large part, the direct result of DOE shortcomings and lack of in-house capacity to:

(a) apply energy planning procedures and techniques to analyze policy options, prepare energy coherent strategies, and define and evaluate energy investment options for the household and small-scale enterprise sectors;

Competency Requirements
<table>
<thead>
<tr>
<th>ORGANIZATIONAL PROBLEMS/CONSTRAINTS</th>
<th>Source 1 (m)</th>
<th>Level 2 (n)</th>
<th>Trainability Index (n x m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Poor Analytical Skills for Energy Strategy Work</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2. Inadequate Project Management Skills</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3. Difficulties in Quantifying Woodfuel Shortages</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>4. Insufficient Data on Energy Supply and Demand</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>5. Inadequate Coverage of Woodfuels in Project Preparation</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>6. Lack of Awareness of Energy Efficient Technologies</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>7. Lack of Strategy to Meet Energy Needs of Specific Beneficiary Group</td>
<td>2</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>8. Lack of Recognition of Informal Sector Role in Energy Development</td>
<td>2</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>9. Inadequate Involvement of Beneficiaries in Project Implementation</td>
<td>2</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>10. Inadequate Involvement of Beneficiaries in Planning</td>
<td>2</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>11. Weak Coordination in Energy Strategy Implementation</td>
<td>2</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>12. Lack of Assessment of Environmental and Health Impacts</td>
<td>2</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>13. Lack of Long Term Energy Development Strategy</td>
<td>2</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>15. Lack of Adequate Training Opportunities in Energy Management</td>
<td>3</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>16. Lack of Adequate Manpower for Woodfuel Development</td>
<td>3</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>17. Lack of Facilities for Energy Development</td>
<td>3</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>18. Lack of Funds for Energy Operations and Investment</td>
<td>3</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>19. Inadequate Energy Research and Dissemination Efforts</td>
<td>3</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>20. Poor Intersectoral Coordination on Energy Project Implementation</td>
<td>3</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>21. Lack of In-Service Training Programs in Energy</td>
<td>3</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>22. High Cost of Fuels and End-Use Appliances</td>
<td>3</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>23. Low Priority of Woodfuels to Policy Makers</td>
<td>3</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>24. Poor Energy Distribution Network</td>
<td>3</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>25. Contradictory Legal Framework in Energy Sector</td>
<td>3</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>26. Lack of Credit Facilities for Beneficiaries</td>
<td>3</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>27. Socio-cultural Constraints on Beneficiaries</td>
<td>3</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>28. High Taxes and Duties of Alternative Energy Technologies</td>
<td>3</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>29. Inadequate Income Levels of Beneficiaries</td>
<td>3</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>30. Low Literacy Rate among Beneficiaries</td>
<td>3</td>
<td>4</td>
<td>12</td>
</tr>
</tbody>
</table>

1/ Source: Skill Gap (1); Lack of Motivation (2); Organizational Environment (3)

2/ Level: Individual (1); Task/Function (2); Institutional (3); Policy (4).
(b) design and execute energy surveys in order to establish and maintain reliable databases on energy supply and use, especially for households and small-scale enterprises; and

(c) formulate and execute realistic plans for implementing energy projects for the same target groups.

3.5 Some participants, based on their prior participation in management development programs, suggested that some or all of the instructional topics indicated in Box 3 should be incorporated as building blocks in the proposed training program on energy. In their view, the achievement of minimum levels of proficiency in particular skills would be critical to the eventual alleviation of most of the performance problems faced by energy professionals and the management of DOE.

Box 3

<table>
<thead>
<tr>
<th>SHORT LIST OF COMPETENCY REQUIREMENTS FOR ENERGY STRATEGY WORK</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Energy Planning Systems</strong></td>
</tr>
<tr>
<td>a) Energy Demand Analysis</td>
</tr>
<tr>
<td>b) Strategic Planning</td>
</tr>
<tr>
<td>c) Energy Database Development</td>
</tr>
<tr>
<td>d) Project Cycle Analysis</td>
</tr>
<tr>
<td><strong>Energy Assessment Tools</strong></td>
</tr>
<tr>
<td>a) Energy Economic Analysis</td>
</tr>
<tr>
<td>b) Financial/Commercial Analysis</td>
</tr>
<tr>
<td>c) Energy Survey Methods</td>
</tr>
<tr>
<td>d) Environmental Impact Assessment</td>
</tr>
<tr>
<td>e) Technology Assessment Methods</td>
</tr>
<tr>
<td><strong>Process (Task) Skills</strong></td>
</tr>
<tr>
<td>a) Teambuilding/Leadership Skills</td>
</tr>
<tr>
<td>b) Institutional Networking Skills</td>
</tr>
<tr>
<td>c) Negotiation Skills</td>
</tr>
<tr>
<td>d) Technical Report Writing Skills</td>
</tr>
<tr>
<td>e) Computer Proficiency Skills</td>
</tr>
<tr>
<td><strong>Management Tools</strong></td>
</tr>
<tr>
<td>a) Management Information Systems</td>
</tr>
<tr>
<td>b) Project Cost Control Systems</td>
</tr>
<tr>
<td>c) Work Programming and Documentation Systems (e.g., WBS, CPM, etc.)</td>
</tr>
</tbody>
</table>
3.6 There was a consensus that training to build the competence of local professionals for energy policy analyses and strategy work should be accorded the top priority. With reference to project cycle management skills, the participants indicated although there had in the recent past been some efforts to address the commonly perceived performance gaps, such efforts may not have been altogether effective because: (i) sponsorship for training had not been systematically applied by DOEs to address their core operational needs; (ii) most of the existing training programs have not addressed sufficiently the practical aspects of managing energy initiatives in the region; (ii) very poor use had to date been made of on-the-job training opportunities afforded by the use of arrangements involving expatriate specialist/national counterparts. It was recognised that since ESAMI had already some capabilities to provide training on project cycle management, the optimal approach would be for ESAMI to offer similar courses on the management of energy projects for households and small-scale enterprises.

Impediments to On-the-Job Performance

3.7 The Workshop defined three main categories of impediments that have tended to reduce the effectiveness with which local professionals have been able to apply new knowledge and skills acquired from training programs to the on-the-job situation. These were defined at the organizational, managerial, and peer group levels, as shown in Box 4.

3.8 In order to establish an enabling environment for improved performance by the DOEs, participants suggested that action was needed urgently at both the regional and national levels to:

(a) improve conditions of service at all levels in the energy sector, especially to take into account the differences in functions and performance requirements between energy planning staff and the other administrative staff in the DOEs;

(b) improve policies and procedures for recruitment, especially to take into account the qualifications, and skill requirements of DOEs to fulfill particular responsibilities associated with the planning and management of special energy initiatives for household and small-scale enterprises; and

(c) increase the allocation of resources to in-service training activities that would have a direct bearing on the building of competence of DOS staff to carry out energy policy analysis and strategy work.

3.9 Some action in respect of (c) above lines already is being taken by the regional organizations. For example, following extensive consultations with energy agencies in the region, the SADCC Energy Sector TAU formulated a five-year regional strategy for woodfuels which established a broader context for the assessment of training needs. The main thrust of the strategy was stated as being to provide support at the regional level to national efforts to build the in-house capacity of national energy agencies in the SADCC member countries to analyze policy options, and to formulate coherent strategies for managing the demand for woodfuels. The PTA Secretariat’s Sub-Committee on Energy also has issued an "Energy Plan of Action for PTA Countries" which places emphasis on training to build local capacity for energy strategy work.
### IMPEDIMENTS TO POST-TRAINING PERFORMANCE

<table>
<thead>
<tr>
<th>ORGANIZATIONAL LEVEL</th>
<th>MANAGEMENT LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Non-supportive climate, especially:</strong></td>
<td><strong>a)</strong> lack of professionalism in handling personnel management functions;</td>
</tr>
<tr>
<td>a) organizational rigidity which is aggravated by misallocation of technical personnel, lack of definition and linkage between training and career development strategies, and lack of information on training opportunities;</td>
<td>b) lack of management reinforcement of staff performance, especially to support trainees to apply newly acquired skills on-the-job;</td>
</tr>
<tr>
<td>b) poor identification and assessment of staff training needs, and lack of planning and/or regulation of in-service training opportunities;</td>
<td>c) unwillingness of managers/ supervisors to adopt improved methodologies and practices that result from staff participation in in-service training programs;</td>
</tr>
<tr>
<td>c) over-dependence on expatriate personnel, and inadequate attention to on-the-job transfer of skills from expatriate to countepart staff;</td>
<td>d) insecurity and negative attitude to training as practical avenue to improve staff performance—in some cases, managers/ supervisors perceive trainees as threats;</td>
</tr>
<tr>
<td>d) lack of incentives and motivation to apply newly acquired learning from in-service training programs; and</td>
<td>e) poor programming of assignments and work by managers/ supervisors;</td>
</tr>
<tr>
<td>e) lack of (or inadequate) facilities to support application of new skills, due in part to budgetary constraints.</td>
<td>f) selection by managers/ supervisors of impractical/ irrelevant training programs.</td>
</tr>
</tbody>
</table>

| **TRAINEE PEER GROUP** | |
| a) negative attitude or resistance to innovations proposed by trainees; | |
| b) trainees’ discomfort with change effected by new methods and approaches; | |
| c) lack of professionalism in handling teamwork assignments. | |
To conclude the deliberations on this aspect of the agenda, participants requested that ESAMI should make a special effort to assist DOE managers on a consultancy basis to develop action plans on matters of human resources planning in the energy sector. Specifically, ESAMI could assist DOEs to review their current organizational structures and management practices and procedures, and to provide specific recommendations on how to upgrade, streamline, and clarify them. In order to address more pervasive institutional constraints at the national level, participants suggested that contact persons from the countries represented at the Workshop should assist ESAMI to:

(a) obtain country specific information on the current structure and role of key units in DOEs that have been assigned the mandate and responsibility to plan for, manage, and coordinate special energy programs (e.g., wood energy, interfuel substitution, energy conservation, etc.). Also information on technical assistance requirements to enable each of the DOEs or associated agencies to begin to assess and define in-house training needs and priorities, and identify and prepare prospective candidates for training, using as the point of reference, the on-the-job performance requirements for ongoing and/or planned assignments on special energy projects for household and small-scale enterprises.

(b) identify specific areas which may require external support for strengthening existing institutions. The information required would cover technical assistance that would be required over the medium term (up to five years).

Similarly, participants requested ESMAP to intensify its efforts to:

(a) assist the regional organizations such as the SADCC TAU and the PTA Industry and Energy Division to identify and prepare technical assistance projects to support institution building and training efforts in all energy sub-sectors;

(b) assist in mobilizing external resources to implement regional activities; and in promoting greater use of expertise from the region in consultancy assignments associated with such activities;

(c) increase the dissemination in the region of documentation and information on energy planning procedures and techniques, especially by increasing the dissemination of reports and publications that are produced by ESMAP in particular, and the World Bank in general.9

---

IV. AGENDA FOR FOLLOW-UP

4.1 From the viewpoints of ESMAP and ESAMI respectively, a major outcome of the Workshop was the endorsement of the initiative on energy training by the senior officials and professionals. In this section, the follow-up actions that are necessary to realize the full benefits of this approach are outlined. The main components of the proposed workprogram for continued collaboration between ESMAP and ESAMI, that is the agenda for follow-up to the Workshop, is presented. An indication is also given of the likely nature and scope of each of the two pilot training activities that would form the basis for collaboration between ESMAP and ESAMI over the next two years from 1991.

Goals for Proposed Training Program on Energy

4.2 In general terms, the primary goal of the proposed training program on energy should be to build competency in the staff of DOEs in the region to adopt a strategic thinking approach to:

(a) preparing an "Energy Strategy" for specified target groups, such as households and small-scale enterprises. Government policy options would be systematically analyzed, and translated into well defined strategies in a structured process that is accepted by the senior management of DOEs and government policy makers;

(b) translating the main policy objectives into a well defined set of operational objectives which in turn would be implemented through financially and economically viable programs and projects to address specific goals in relation to the energy needs of clearly identified target groups; and

(c) update the operational objectives, and the associated action program and projects on a rolling annual basis to take into account new developments and/or constraints at the national level which would require strategic objectives to be modified (e.g., due to the planning and budget cycles of the government, etc.).

The Proposed Workprogram

4.3 The proposed workprogram for the next stage of ESMAP collaboration with ESAMI to further the aims of this initiative on training involves: (i) preparing a series of instructional material/training modules for the proposed energy training program; (ii) designing and executing pilot training activities to test the modules within the region; and (iii) establishing ESAMI's in-house capability to take over full responsibility for offering specialized courses on energy planning procedures and techniques, using professionals from the region. The first two components of the workprogram are described below.
Preparation of Instructional Modules for Training Program

4.4 It is envisaged that the training program on energy would have a modular structure to provide some flexibility to tailor the learning activities to the particular needs of participants from the region. There will be extensive use of case studies and exercises in each module to demonstrate the practical aspects of applying one or more of the energy planning techniques and methodologies to energy strategy work. Each module would consist of an overview or background paper describing key aspects of a given methodology and its role in energy strategy work; case studies and/or exercises to demonstrate the application of the methodology; and a set of guidelines to assist energy professionals to apply the particular methodology to developing a country-specific energy strategy.

4.5 The core curriculum would comprise the following modules which would both cover the methodological aspects and provide operational guidelines for energy policy and strategy work with respect to household and small-scale consumers include:

- Applying Strategic Planning Methods to Energy Strategy Work.
- Design and Execution of Survey for Energy Demand Assessments.

4.6 The modules would draw extensively on existing documentation and training materials including case studies that previously had been developed by ESMAP and ESAMI for their respective technical assistance activities in the region. ESMAP and ESAMI will draw extensively on the experiences and lessons gained from the initial training activity in Zimbabwe. The "Guidelines for Applying Strategic Planning Methods to Energy Strategy Work" would be based on the model depicted in Figure 5. An outline of the training activity to be designed based on this module in presented as Annex 1. The "Guidelines for Design and Execution of Surveys for Energy Demand Assessments" would be based on the experiences gained by ESMAP on executing household energy surveys in Zimbabwe and other countries of the SADCC region, as well as recent developments in the "state of the art" under the UN sponsored African Household Survey Capability Program, etc.; and the "Guidelines on Economic, Financial/Commercial Analyses of Energy Options" will draw on material that has already been prepared by ESMAP for the ongoing energy training program in Zimbabwe.

The Pilot Training Activities

4.7 Two prospective ESMAP training activities have been earmarked as the pilot activities. The first will be a SADCC regional activity which designed to provide training on "Household Energy Survey Applications". The pilot activity is being tailor-made to meet the objectives of the SADCC Five Year Regional Strategy for Woodfuel Demand Management; it is to be funded by contributions to ESMAP by the Swedish International Development Authority (SIDA) and the Netherlands Government. The main training event would be a four week workshop for professionals from DOEs and Central Statistics Organisations in the SADCC region. During the Workshop, comprehensive treatment would be given to the module on "Design and Execution of Surveys for Energy Demand Assessments". Case studies and exercises will be used at the Workshop as a means of helping each participant to acquire proficiency in applying the methods and techniques; in addition, to promote an inter-disciplinary approach, participants would be grouped
into country teams to work on field assignments which would require demonstration of skills in teamwork, and also the integration of the knowledge and skills acquired from the module to the assignment. Four to five months after the completion of the Workshop, a joint ESMAP/ESAMI team would visit the participants to review their progress in applying the knowledge and skills acquired from the Workshop to the agreed assignment.

Figure 5: Strategic Planning Model
4.8 The second will be a country-specific activity, designed along similar lines as the ongoing energy training activity in Zimbabwe. The most likely candidate for the pilot activity is the proposed Angola Energy Technical Assistance and Training project. ESMAP has been requested by the Ministry of Energy in Angola to assist in building its capacity to prepare an energy strategy and investment program for the household and rural sectors; funds have been earmarked for the project by SIDA and the UNDP IPF for Angola. It is envisaged that all the core modules will be applied for a series of training activities which would aim to assist the DNRFE to:

(a) to formulate a strategy to systematically incorporate woodfuels and other alternative energy sources into the national energy policy and programs of the government, with emphasis on addressing the need of the household and small-scale enterprise sectors of the economy;

(b) to translate the energy strategy for the household and small-scale enterprise sectors into a viable medium term investment program consisting of clearly defined and justified projects: and

(c) to identify, establish, and develop effective operational linkages with other government agencies at the regional (local government) level so as to facilitate the implementation of the energy programs for the household and small-scale enterprise sectors.

Evaluation of Pilot Training Activities

4.9 In order to develop the training program beyond the proposed pilot activities, there will be the need for ESMAP and ESAMI to secure long-term commitments from the donor community, and the client countries in the region. Accordingly, an evaluation of the results of the pilot program is from the viewpoint of the ESMAP/ESAMI team one of the necessary steps to be taken to conclude the pilot activities. It is envisaged that the principal audience for such an evaluation will comprise the Managements of ESMAP and ESAMI, the donor agencies that provide the funding, and representatives of regional organizations (e.g., SADCC TAU), and the countries that would participate in the pilot activities.

4.10 It is envisaged that the evaluation process could be initiated about six-months after completion of the two pilot training activities. The intended use of the evaluation would be to assess the effectiveness of the program in terms of on-the-job performance improvements in DOEs and other participating agencies, and also to assess the scope for further improving the training program. Hence two types of evaluation procedures may have to be designed and put in place at the beginning of the pilot activities to establish baselines for monitoring: (i) the impact of the training program on the on-the-job performance of participants; and (ii) the overall effectiveness of the training modules in achieving learning goals.
Annex 1

FRAMEWORK FOR DESIGN OF TRAINING ACTIVITY BASED ON ENERGY STRATEGY MODULE
TRAINING GOALS

* To develop competence of DOE managers and staff to apply systematically the procedures and techniques for energy planning to prepare an "Energy Strategy" which would translate broad policy directives issued by the government on energy and socio-economic development matters into a comprehensive and integrated strategy to achieve concrete results, over a specific time frame, through the implementation of well defined programs and projects.

ORGANIZATION IMPACT

* Without extensively relying on external technical assistance (i.e., expatriate advisers and resident experts), the DOE managers and staff would prepare an "Energy Strategy", and would update the Strategy on an annual basis to ensure that strategies, operational programs and projects are consistent and relevant to the achievement of government policy objectives.

JOB PERFORMANCE IMPACT

Within two years of start of training activities, the DOE would have established a core team of energy professionals who would be capable of applying energy planning procedures and techniques:

* to prepare an "Energy Strategy" which would systematically translate government policy objectives into well defined strategies in a framework that is accepted by government policy makers and the DOE senior management;
* to translate the main strategic objectives into a well defined set of operational objectives which would be implemented through financially and economically viable programs and projects to address specific goals in relation to the energy needs of clearly identified target groups; and
* to update the operational objectives and related action program and projects on a rolling annual basis to take into account new developments and/or constraints at the national level which would require strategic objectives to be modified (e.g., due to the planning and budget cycles of the government, etc.).

COMPETENCY GOALS

KNOWLEDGE...understand principles for applying energy planning procedures and techniques to analyse and translate/integrate government policy directives on energy and socio-economic development into a comprehensive energy strategy and operational programs and viable projects. Understand and appreciate the strengths and limitations of adopting a strategic planning approach in the national and regional settings.

SKILL.....demonstrate proficiency in applying energy planning procedures and techniques to perform individual and group exercises using live case studies which are based on specific types of government energy policy options that are under review in selected countries of the region.

ATTITUDE....develop a mindset that recognizes the potential of Strategic Planning (SP) methodology as a basis for accelerating the "learning curve" for capacity building on energy strategy work by DOE, especially to address their mandate to develop comprehensive strategies and corresponding operational programs and projects to translate energy policy objectives into concrete results.

TRAINING METHODS/CONTENT SEQUENCE

GENERAL METHOD(S)

Individual and group learning assignments including:

- Fieldwork in "Action Learning" format
- "Live Case Studies"
- On-the-Job Training
- Self Instruction
- Computer Based Training

CONTENT SEQUENCE (10 Modules over two-year program cycle)

1. Overview of Strategic Planning (SP) Models
2. Review and Demonstration of SP Applications to Energy Strategy
3. Review of Data and Informational Needs of Energy Strategy (Energy Survey, Demand Assessments, etc.)
4. Review and Demonstration of Methodologies for Assessment of Strategic Energy Options (Economic Analysis, Financial Analysis, etc.)
5. Computer Applications for Energy Strategy (Proficiency/Orientation)
6. Task Documentation Skills for Energy Strategy (e.g., Report Writing - Discussion Papers, Decision Memoranda)
7. Guidelines for Preparing an Energy Strategy
8. Fieldwork on "Live" Case Study on Energy Strategy
10. Debriefing on Country-Specific Assignment
TRAINING TRANSFER STRATEGY

LEARNER

Before. Review with other managers in DOE, existing government policy directives on energy, mandates of DOE, corresponding strategies if any, and existing and planned investment programs. Identify logical linkages and gaps.

During. Maintain an "ideas and applications" notebook to record key concepts and applications relevant to on-the-job situations; prepare individual action plan for transferring new learning on SP to the job situation; prepare draft outline of energy strategy document for finalization on return to the job.

After. Work with peers to finalize energy strategy document; obtain management of energy strategy. Assist in obtaining DOE management commitment to adopt energy planning procedures and techniques to prepare and update energy strategy and action program documents.

SUPERVISOR/PEERS

Before. Formal communication to all staff to the effect that DOE intends to energy planning procedures and techniques in a SP context as basis for improving in-house capabilities for preparing energy strategies and action programs; formal communication to all DOE staff to the effect that current policy directives will be systematically reviewed and action program formulated to implement them; work assignments of trainees to be reviewed and if necessary adjusted to emphasize formulation of strategies and action programs; introduce as specific assignment to trainee, the responsibility of coaching peers in the use of SP.

During. Senior officials will participate in orientation sessions to develop appreciation of SP along with DOE managers (subordinates) to ensure "common" language, support, and ease of delegation on the job; provide necessary data and information required by the trainee to formulate an outline strategy and action program for the DOE during "fieldwork" in the on-the-job situation; make arrangements to protect trainees from interruptions during the training event.

After. Assign trainee full-time to the completion of the strategy document initiated during the training activity; assist training to brief DOE staff; formally adopt SP as in-house process for preparing sector strategies and work programs on a regular basis; approve strategy and action program document prepared by trainee.

ORGANIZATION

Before. Review organizational practices and procedures as they relate to the formulation of strategies and operational programs and projects.

During. Develop Manual and/or Guidelines for operationalizing use of SP methodology for energy strategy work in DOE.

After. Prepare and institutionalize Manual on Guidelines for preparing strategies and action programs using energy planning procedures and techniques in the SP setting.
EVALUATION PLAN

PRINCIPAL AUDIENCE...will include:

* the Managements of DOE(s), ESMAP, the concerned Donor Agencies, the Board of ESAMI, and possibly the regional organizations (e.g., SADCC TAU).

THE INTENDED USE OF THE REPORT...is to:

* evaluate the effectiveness of the training program in terms of building DOE capacity for strategic planning (on-the-job performance aspects);

* evaluate scope for improving training program, especially on action learning aspects and cost-effectiveness of training delivery and follow-up activities.

THE FOCUS OF THE EVALUATION...is to be:

* the impact on overall DOE performance to prepare energy strategies and operational programs,

* the impact on performance of energy professionals,

* the overall effectiveness of Case Studies in achieving learning objectives.

THE METHOD OF EVALUATION...will be an:

* Effectiveness Study of On-The-Job Performance in DOE,

* Efficiency Study (Cost/Benefit Comparison) of the Training Methods.

THE EVALUATION REPORT(s)...will be:

* initiated six months after completion of pilot (demonstration) phase of training program,

* managed by a Task Force comprising representatives of ESMAP/ESAMI/Donor Agencies, and some representatives from region.
Annex 2

DESIGNATED CONTACT PERSONS IN REGION FOR
ESAMI TRAINING PROGRAM ON ENERGY
<table>
<thead>
<tr>
<th>Country/Organization</th>
<th>Contact Person and Address</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ANGOLA</strong></td>
<td>Mr. Felix Matias Neto</td>
</tr>
<tr>
<td></td>
<td>Head of NRSE Department</td>
</tr>
<tr>
<td></td>
<td>Ministry of Energy and Petroleum</td>
</tr>
<tr>
<td></td>
<td>Rua Rainha Ginga No. 210</td>
</tr>
<tr>
<td></td>
<td>1 Andar, Luanda</td>
</tr>
<tr>
<td></td>
<td>Telephone: 333890</td>
</tr>
<tr>
<td></td>
<td>Telex: 3300 MINPET AN</td>
</tr>
<tr>
<td><strong>BOTSWANA</strong></td>
<td>Mr. F.O. Motlhatlhedi</td>
</tr>
<tr>
<td></td>
<td>Coordinator of Energy Affairs</td>
</tr>
<tr>
<td></td>
<td>Ministry of Mineral Resources and Water Affairs</td>
</tr>
<tr>
<td></td>
<td>Private Bag 0018</td>
</tr>
<tr>
<td></td>
<td>Gaborone</td>
</tr>
<tr>
<td></td>
<td>Telephone: 352454</td>
</tr>
<tr>
<td></td>
<td>Telex: 2503 BD</td>
</tr>
<tr>
<td><strong>SWAZILAND</strong></td>
<td>Mrs. Dumisile Shabangu</td>
</tr>
<tr>
<td></td>
<td>Senior Lecturer</td>
</tr>
<tr>
<td></td>
<td>Swaziland Institute of Public Administration (SIMPA)</td>
</tr>
<tr>
<td></td>
<td>P.O. Box 495</td>
</tr>
<tr>
<td></td>
<td>Mbabane</td>
</tr>
<tr>
<td></td>
<td>Telephone: 42981/2; 44688</td>
</tr>
<tr>
<td></td>
<td>Telex: 3023 (formerly of the Ministry of Energy)</td>
</tr>
<tr>
<td><strong>TANZANIA</strong></td>
<td>Mr. E.N. Sawe</td>
</tr>
<tr>
<td></td>
<td>Head, Renewable Energy Project Unit</td>
</tr>
<tr>
<td></td>
<td>Ministry for Energy and Minerals</td>
</tr>
<tr>
<td></td>
<td>P.O. Box 2000</td>
</tr>
<tr>
<td></td>
<td>Dar-es-Salaam</td>
</tr>
<tr>
<td></td>
<td>Telephone: 21929 or 31433, ext. 220</td>
</tr>
<tr>
<td></td>
<td>Telex: 41698 ENERGY TZ</td>
</tr>
<tr>
<td><strong>UGANDA</strong></td>
<td>Mrs. H.N. Gava</td>
</tr>
<tr>
<td></td>
<td>Principal Economist</td>
</tr>
<tr>
<td></td>
<td>Ministry of Agriculture</td>
</tr>
<tr>
<td></td>
<td>P.O. Box 102</td>
</tr>
<tr>
<td></td>
<td>Entebbe</td>
</tr>
<tr>
<td></td>
<td>Telephone: 20981/9</td>
</tr>
<tr>
<td></td>
<td>Telex: 61287 NATURE UG</td>
</tr>
<tr>
<td></td>
<td>(formerly of the Ministry of Energy)</td>
</tr>
</tbody>
</table>
ZAMBIA
Mr. Dominic J. Mbewe
Director, Department of Energy
Ministry of Power, Transport and Communications
P.O. Box 50065
Lusaka
Telephone: 254686
Telex: ZA 40373 or 41680

ZIMBABWE
Mrs. T. Madzonga
Senior Administrative Officer
Ministry of Energy and Water Resources Development
P.O. Box 7758
Causeway, Harare
Telephone:
Telex:

ESAMI
Mr. C.H. Simuyemba
Senior Consultant
P.O. Box 3030
Arusha, Tanzania
Telephone: 2881
Telex: 42076 ESAMI TZ

RWEPA
Mr. Dominic Walubengo
Regional Wood Energy Program for Africa P.O. Box 48197
Nairobi
Telephone: 748281, 749747
Telex: 25222 KE

PTA
Mr. J.A. Opio
Senior Industrial Expert
Industry and Energy Division
PTA Secretariat
P.O. Box 30051
Lusaka, Zambia
Telephone: 229725/33
Telex: 40127 ZA

SADCC
Mr. Raimundo M'Bala
Deputy Regional Coordinator
SADCC Energy Technical and Administrative Unit (TAU)
P.O. Box 2876
Luanda, Angola
Telephone: 345288
Telex: 4090 TAU ANG