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**FINAL REPORT  
ON  
THE JOINT USAID-GIRM EFFORT  
TO INITIATE A MAURITANIAN PROJECT SYSTEM  
APRIL 10 TO JULY 5  
1979**

**PASA AG/MAU-0929-1-79**

**DEVELOPMENT PROJECT MANAGEMENT CENTER  
Office of International Cooperation &  
Development  
U. S. Department of Agriculture  
Washington, D. C. 20250**

**A technical assistance and resource center in  
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*Mugler #*

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**OUTLINE OF 30 HOUR WORKSHOP ON  
HOW TO UTILIZE THE PROJECT PROFILE**

**Annex VI**

- I. Introduction**
  - A. Definition of a project and its characteristics**
  - B. Project cycle and its management**
  - C. Relation of project to the National and Sectoral Plan**
  
- II. Criteria - Political, social, feasibility, financial and economic**
  
- III. Project As A Physical Input-Process-Output System**
  
- IV. Need For Cash Flows As A Means of Evaluation**
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- VI. The Project Profile and Accompanying Tables**
  - A. Purposes**
  - B. Advantages**
  - C. How it can be used as a tool for project management**
  - D. How It is filled out**
  - E. Instructions on constructing the financial tables**
  - F. Use of project profile for evaluating projects and coming up with the best possible project**
    - a. From the private point of view**
    - b. From the national point of view**

## SUMMARY

From April 10 to July 5, 1979, a base team of USAID consultants and GIRM officials worked up a project profile format to be used to propose and plan projects. The final proposed format emerged on the basis of seminar discussions with GIRM officials from various ministries and applying the format to projects in industry, agriculture, and health. In addition to periodic discussions on project management with representatives from the various ministries there were training sessions on financial and economic analysis.

Political developments that could not be foreseen prevented the planned participation of higher level GIRM officials. However, the Ministry of Planning has indicated that it will be holding at least one meeting with the Directors of the various ministries to take up the project profile and explore with them how the project profile can be used administratively so that detailed design, evaluation and implementation can be carried out along with suitable liaison with donors and lenders.

The resulting project profile represents a consensus of middle level officials of the Government of Mauritania. Once the consensus is widened to include higher level officials, it can form the basis for project management training at all levels of government.

## FINAL REPORT

The objective of the effort was "to help the GIRM develop a framework for the design, implementation and evaluation of development projects together with the framework for internal organization, communication and decision-making in this area based on Mauritania's situation and goals and including the top levels of administration."\*

The "base team" consisted of Mr. Morris J. Solomon of the U. S. Department of Agriculture, Mr. Robert E. Navin, Jr., and Mr. David Harman, Consultants, and Mr. Cisse, Mr. Ly, Mr. Ba Amadou of the Ministry of Plan and Mr. Lam Hamadi of the Ministry of Rural Development. Mr. Ly was not available the first few weeks, and Mr. Hamadi was out of the country from mid-May to June 11. Mr. Samir Kanoun, an IBRD consultant, provided instruction and other assistance that was very helpful. As will become apparent important assistance to the effort was rendered by Mr. Soumare of the Ministry of Agriculture, Mr. Mohamed Salem Mamoune from the Ministry of Industry and Dr. Hacen of the Ministry of Health.

The pattern of operations adopted was the creation of written material in French which was discussed during the week by the base team and then presented to a meeting of a wider group from the various ministries on Saturday. The topics selected for discussion were to lead to an understanding of the need for and usefulness of a project

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\*Project Agreement on "Planning, Management and Research (Mauritania)."

U. S. Project/Activity No. 625-0929, Agreement No. 682-78-0001, p. 4

proposal document and provide a basis for consideration of what kind of project proposal document would best meet Mauritanian needs and circumstances.

The following topics were covered by written material and discussed with Ministry representatives:

- o Orientation, Goals, Strategy and Objectives of the Mauritanian Government
- o The Project System - A Schema
- o The Identification and Evaluation of a Project and Its Relationship to National Goals, Strategy, Objectives and Policies
- o Structure of a Project
- o Projection of Demand or Need
- o Material Resource Flow and Cash Flow
- o Seminars on Evaluation of Projects

From May 2 - 5 Messrs. Solomon, Navin, Harmon and Ba took a trip to Kaedi by car. In addition to being able to observe the country and how people en route lived, the team visited several rice perimeters, a research station, a pilot banana project and the Gorgol project. These visits gave the team a good insight into the problems and opportunities that face Mauritanian agriculture in the southern half of Mauritania. Government officials and expatriate consultants provided excellent opportunities to observe the operations and answered questions about the operation with frankness and sincerity.

Some of the difficulties that became apparent on small rice perimeters were seriously inadequate marketing arrangements for harvested rice, water leakages in the pumping system causing substantial waste, poor spacing of plants, insufficient fertilization, and extremely long delays in getting spare parts for equipment.

In a pilot banana plantation run by the Research Station, the village workers complained that they had not been paid for one full year.

In the Gorgol Irrigation Project there were a number of serious difficulties. Tenure arrangements were uncertain or seriously challenged so that it was difficult to get farmers to assume responsibility for a plot. Construction appears defective as evidenced by serious erosion. The vane on the major lock was defective so that water pumped from the river flowed back at a rapid rate. In effect the Gorgol was able to supply irrigation water for only one growing season instead of two or three. The Gorgol Project management complained of four month delays on getting spare parts out of customs.

The visit to Kaedi early in the effort made it possible for the base team to introduce realism in its discussion of Mauritanian projects.

### The Project Profile

The base team considered a project profile that had been adopted in another country. It involved a series of questions about the project and a set of financial tables for an industrial type of project. The detailed questions of the profile fall under eight sections :

- I. Introduction: What is it that one proposes and why is it necessary?
- II. Why should the project be done?
- III. Why should the project be undertaken?
- IV. When will it be realized?
- V. What will be the costs and the benefits?
- VI. What will be the social, cultural, and ecological costs and benefits?
- VII. What will the financing arrangements be?
- VIII: Who will be responsible?

After detailed consideration by the base team, and the revisions made, there were consultations with Mr. Mamoune from the Ministers of Industry, Mr. Soumare of Agriculture, and Dr. Hacem from Health. With assistance from the base team these individuals worked out a project profile for a project from their sector. It became apparent that with the exception of financial tables, all the sectors could be covered by the same questions if these were worded appropriately. The financial tables, however, needed a different format for each sector.

The most exacting format was for agricultural projects since there were three entities that were involved, namely, the GIRM, the cooperative and the individual cultivators. Financial tables can be used to determine the impacts on the different participants of the projects. It is also the basis for determining economic impacts, from a societal point of view.

A tentative provisional project profile was worked out for a) proposed tire retreading project, b) for a small rice perimeter project and c) a health project. The project profile for the industrial project was presented to a wider group of ministry representatives and then discussed.

To provide a basis for understanding the data provided in the project profile and acquiring skill in analyzing the data. Mr. Samir Kanoun, an IBRD consultant, working with the Ministry of Planning conducted a two-day Seminar on techniques of financial analysis.

After about the fifth week of effort it was felt that the sample project profiles could be presented to the Directors of the major development ministries the following week. The proposed agenda for the Directors Meeting was:

1. Purpose of the Project Management Effort in Mauritania.
2. Presentation and Discussion of the Project Profile Format.
3. Discussion of Administrative Problems in Institutionalizing the Use of a Document Such as the Project Profile.
4. Director's suggestions for Pilot Projects that they would like to put into a Project Profile.
5. Discussion on whether and how donor and lending agencies can relate to a national project profile.

Unfortunately, the date for which a Directors' meeting was scheduled turned out to be inconvenient from the point of view of availability of key Directors. Therefore, the date for the Directors' meeting had to be set for a time after the first six weeks of the effort, the period designated as stage 1 in the project agreement. In summary at the

end of the first six weeks there were three model project profiles each in health, agriculture and industry. (See Annexes I, II, III). Each had been worked out with a Ministry representative. One of these had been presented and discussed to a wider group of about 20 officials under the Director level from various Ministries. (See Annex IV for the most recently revised project profile.)

### Second Six Weeks

Precisely at the end of the first six weeks, the catastrophic plane crash occurred, resulting in substantial change within the government. After a period of uncertainty following the crash the new Cabinet was formed. It became apparent that with new Ministers in place it would be difficult to have the Directors available to give full consideration to the project profile. The Ministry of Planning therefore decided to defer holding a Directors' meeting.

In the second six weeks, the Project Profile for the agricultural project and the health project were presented to a meeting of Ministry representatives. Training material in French for future courses was prepared and edited. The Project Profile format was revised, based on the previous discussions on the model projects.

Two additional seminars were lead by Mr. Samir Kanoun on economic evaluation, essentially using the financial tables from the Project Profile. The Guelb Iron One Project was used as an exercise.

A manual for preparing a project profile was prepared. (See Annex VI.) This manual is meant to be a short reference source for people who

are preparing a project profile in addition to the training material prepared during Stage 1. Both the manual and the project profile were revised to reflect criticism that social considerations were not given sufficient emphasis in earlier versions.

A meeting of the Directors of various technical services in GIRM was in the process of being called by the Ministry of Planning in a letter to go out to Directors on June 20. The purpose of the meeting was to introduce the Directors to the Project Management Program, outline what had been done, get them to review, modify and approve the project profile so that further work in the program could continue.

On June 15 news came from Washington that the funding of the future training program would be deferred due to budgetary reasons. This deferral led to a decision by the Ministry of Planning to wait for a more opportune time to have the Directors' meeting when it would be possible to have their full attention.

In the meantime the project profile has been given to the five IBRD consultants with the Ministry of Planning with a request for their comments.

## Appraisal of Effort

The effort has made a good start in establishing a project system. The project profile has been designed through a process of consultation, training, and orientation and trying on for size with projects from three key sectors. Participation in this process has been intense. There are about 25 GIRM officials who have participated in the process. These officials provide a base for the further development and use of the project profile in project work.

Although the effort generally accomplished the objectives set forth in the Project Agreement, there were a few areas where deviations from this agreement occurred.

First, it was hoped that the guidelines and criteria for project identification and evaluation could be obtained from the Cabinet or a group of ministers. This was not forthcoming due to their preoccupation with other matters.

Secondly, it was envisaged that a few pilot projects would be identified and used to test the training materials. Project profiles and accompanying financial tables were developed by the Health, Industrial and Agricultural Sectors. The industrial example was based on a real proposed project. The health and agricultural examples were based on hypothetical examples. It was not possible due to unforeseen events to do further work with real projects in the allocated time.

Thirdly, a Seminar of the GIRM directors was planned in which the Profile would be introduced with ample consideration so that the Directors modify it and accept it as their own. Due to unforeseen developments, it was not possible to have this meeting, although such a meeting is definitely planned for the future.

Another important set of individuals that interact with projects are the lenders and donors. While each donor and lender has its own institutional documentation requirements, the project profile prepared by Mauritians can serve as an excellent point of departure for their own institutions' documents. There are indications that lenders and donors would welcome being able to start from an indigenous project document. It would remedy a common complaint on both sides that outsiders are in a poor position to know the real needs of the country. But it will take some effective liaison work to introduce new patterns of relationship. An early step to achieve a new relationship is to solicit the views of the donors and lenders on the proposed project profile format and how it can be used more effectively. This process of consultation has started with IBRD but could be extended to other donors as well.

#### Future Developments:

The project profile will be an effective instrument of project development only if there is effective interface with the important actors and elements of projects. The project profile has resulted from the interaction with middle level Mauritanian officials. In the initial planning of the effort it was contemplated that it would also involve higher level officials. During the time the effort took place there were events and changes that prevented the necessary interactions .

and involvement of higher level Mauritanian officials. It will be important to consult with higher level officials in the immediate future not only on the form and content of the project profile but also how they propose to make administrative as well as programmatic use of the document.

There is recognition by the Ministry of Planning that full consideration of the Project Profile by the Directors is extremely important for the future of project management in Mauritania.

The Project Profile has been criticized for its simplicity as well as for its complexity. The project profile should be regarded as a flexible instrument that can be profitably used at various levels of complexity. There are about five levels of complexity at which the project profile can be used:

Level 1 - This is the simplest level of use of the Project Profile. Level 1 represents an ability to answer all the questions of the proposed Project Profile except the financial tables of Section V of the Profile. This level of skill and knowledge could enable Mauritanians to come up with ideas, put them down on paper so that they and to others can give the proposal serious consideration. The 30-hour seminar described in Annex VI should be sufficient to train Mauritanians to achieve this -- provided the training is skillfully designed and carried out. During such a Seminar

participants would start work on their project. They would complete the project profile for their project in a few weeks after the Seminar, in consultation with their organization and instructors. It should be recognized that Level 1 work can be extremely valuable for obtaining Mauritanian participation in the project development process, particularly for political, social, and organizational considerations.

Level 2 - This is more complex than level 1. In addition to the skill and understanding of Level 1, it requires the estimation of physical quantities of inputs and outputs and their costs, filling out the financial tables of Section V of the Profile. It requires a greater understanding of the technology and access to expert know-how of the particular technology or field. Level 2 provides a basis for financial and economic evaluation.

Level 3- At this level participants learn to utilize the financial tables for financial and economic evaluation. This analysis makes it possible to formulate and test alternatives to the project, making it more cost effective.

Level 4- At this level there is greater integration of the political, social, organizational, management, financial, and economic criteria. Greater use is made of creativity, techniques to stimulate consideration of alternatives, and testing of the promising ones. There is greater stress of implementation considerations.

Level 5 - At this level use is made of advanced techniques for risk analysis, organizational theory, team operation, management styles, and implementation techniques.

At all five levels, implementation elements are covered to some extent, since any plan that does not allow for implementation is missing important elements.

It is contemplated that workshops on implementation would also be required, but in Mauritania the immediate concern is project preparation and evaluation.

#### Considerations on Future Training

Mauritania needs training of active civil servants that leads to effective accomplishment of projects. For this reason it is suggested that future training be chosen to meet specific skill needs that are urgently required.

It would appear that two urgent skill needs to be filled at the earliest date are:

- 1) Ability of relatively unskilled and inexperienced Mauritians to achieve level 1 as part of an assignment to create a project based on project idea.
- 2) Training of relatively senior Mauritians so they can better

negotiate and deal with foreign donors and lenders. This would require level 4 or 5. But the training for level 1-3 could be telescoped with training given on a part-time basis.

It should also be noted that each level provides a base (experience, understanding, motivation and skill) for learning the next level of skill; therefore, after training and testing, those who took the training for level 1 are in a good position to proceed to level 2.

Future training should also encompass general management techniques based on specific organizational needs. Topics of possible interest are accounting, inventory control, contract procedures, and supervision. A cardinal rule for future training should be for the Mauritanian government to decide on priorities based on its goals and availability of personnel.

It is up to the Mauritanian Government to decide on its priorities for training based on its goals and objectives and availability of personnel.

Example of a Public Health Project Profile

Building of a Health Unit (village - Region 4)

1. Summary of the project

The project is a rural Health Unit established to insure basic health care and prevention of the most common diseases at the local level.

It will offer the inhabitants the following services:

- o Care of common illnesses
- o Childbirth care
- o Care of mother and child
- o Vaccinations
- o General hygiene
- o Sanitation education

2. History of the project

- o Request from the people
- o Opinion of regional officials
- o Decision of the State conform to plan and criteria (population - isolation - diseases - surrounding population - possible development: increase in population in relation to the Gorgol project, etc...)

3. Analysis of needs

a. Population

	Village	Surroundings (10 kilometers)
1979:	1197	1310
<hr/>		
1985	2960	1415

Rate of birth	- 4,3 %
Rate of death	- 2,7 %
Rate of growth	- 4,5 %
Rate of infant death	- 20 %

Population by age:

0 - 5	20,6
6 - 14	24,6
15 - 44	39,6
45 - 49	8,8
50+	6,4
	<hr/>
	100 %

b. General data

- o Transportation infrastructure
- o Schools
- o Economic activities
- o Ecological factors

c. Diseases (recorded in Kaédi)

	1970	71	72	73	74	75	76	77	78
Tuberculose	222	98	200	109	177	506	230	323	
Bilharzia	903	903	370	590	640	741	-	250	
Malaria	1969	7242	3118	7540	9778	8976	7924	3993	
Trachoma	1	5	11	9	-	35	-	-	
Measle	64	671	769	1942	1774	192	325	602	
Polio	1	1	3	1	1	7	-	-	
Leprosy	16	20	46	19	43	83	93	115	
Whooping cough	212	386	393	248	1080	449	1619	657	

Number of patients evacuated to to the nearest medical center  
in 1978:

	<u>1977</u>	<u>1978</u>	<u>1979</u> (4 months)
Kaédi	15	23	20

Pathology in 1979:

Malaria	550
Bilharzia	433
Measle	60
Disenteria	150

- Working days loss

#### 4. Outputs

##### a. Main goal (see introduction):

Priority - preventive medicine (fight against contagious diseases - vaccinations - sanitation education - PMI)  
Spread corrective measures of sanitation, general hygiene, and, particularly, open health units in all villages of more than 800 people which are more than 15 kilometers away from the main medical center.

##### b. Needs

Number of consultations - 60/days  
Number of vaccinations (D.T.P.R.T)/year  
Sanitary Education: Number of meetings each month - 3/month  
General Hygiene: Number of interventions per month - 3/month

##### c. Results

- o Decrease in number of patients care for in Health Center in Kaédi %.
- o Decrease in number of reported contagious diseases and deaths.
- o Improvement in water and food quality and in the personal hygiene.
- o Decrease in infant deaths

5. Methods and Technology

	A	B
Buildings - number of:		
rooms	3	4
homes	1	1
Personnel:		
IDE	0	1
IN	3	4
FS	4	5
Furnishing	xa	xa
Material	ya	ya

Criteria determining choice between variants A and B:

- 1) Conformity with objectives as of Chapter "Output" - 4
- 2) Material and furnishing simple and easy to maintain and repair.
- 3) Personnel with varied background
- 4) Adaptation to population growth

6. Implementation Schedule

Year 1980

<u>Months</u>	M	J	J	A	S	O	N	D	J	F	
Land preparation	_____										
Building construction	_____										
Delivery of equipment	_____										
Designation of personnel	_____										
Delivery of Medicines	_____										
Starting of Project	_____										

Pro-forma investment costs (1.000UM)

Investment/year	0	1	2	3	4	5
Land	50					
Building		450				
Equipment		100				
Working capital (transport.personnel)	150					
Starting costs	100					
<u>Total investment</u>	<u>850</u>					

PRO-FORMA OPERATING STATEMENT OF THE PROJECT

(1,000UM)

<u>Expenses</u>	0	1	2	3	4	5	..... 10
Personnel	200	240	260	280	300		.....400
Equipment	20	24	28	30	32		..... 42
Maintenance	30	36	42	46	48		..... 58
Medicine	100	120	140	160	180		.....280
Depreciation of basic infrastructure	55	55	55	55	55		..... 55
<b>Total without financial costs</b>	<b>405</b>	<b>475</b>	<b>525</b>	<b>569</b>	<b>593</b>		<b>.....845</b>
<b>Financial Costs</b>	<b>410</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>		<b>..... 10</b>
<b>Total Expenses</b>	<b>415</b>	<b>485</b>	<b>535</b>	<b>579</b>	<b>603</b>		<b>.....855</b>

Returns

Village	50	70	80	90	100		.....150
Region	150	120	110	110	110		.....110
State	200	240	260	260	260		.....260
Others (foreign included)	50	80	90	90	90		..... 90
<b>Total Returns</b>	<b>450</b>	<b>510</b>	<b>540</b>	<b>550</b>	<b>560</b>		<b>.....610</b>

<b>Balance (returns - expenses)</b>	<b>+35</b>	<b>+25</b>	<b>+5</b>	<b>-27</b>	<b>-43</b>		<b>.....+245</b>
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CASH FLOW

<u>year</u>	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>..... 10</u>
+ Operating Revenue	0	35	25	5	-27	-43	.....245
+ Financial costs	0	10	10	10	10	10	..... 10
+ Depreciation	0	55	55	55	55	55	..... 55
- Investment	850	0	0	0	0	0	..... 0
<b>Cash flow</b>	<b>-850</b>	<b>+100</b>	<b>+90</b>	<b>+70</b>	<b>+38</b>	<b>+22</b>	<b>.....-180</b>
<b>Cumulative Cash flow</b>	<b>-850</b>	<b>-750</b>	<b>-660</b>	<b>-590</b>	<b>-552</b>	<b>-530</b>	<b>.....</b>

See extent of negative symbols conform to  
Ministry's criteria

Pro forma of table of sources and uses  
of funds

<u>Financing/year (in thous. UM)</u>	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>..... 10</u>
<u>Source of Financing</u>							
Operating Revenue plus depreciation	0	90	80	60	20	12	.....-190
Village	200						
Region							
State	350						
Foreign donation	0						
Decrease of working capital		100					
Loans	100	0	0	0	0		.....
<b>Total</b>	<b>900</b>	<b>190</b>	<b>80</b>	<b>60</b>	<b>28</b>	<b>12</b>	<b>.....-190</b>
<u>Uses of investment funds</u>							
Investment	850						
capital							
Loans payments (principal)		10	10	10	10	10	..... 10
<b>Total</b>	<b>-850</b>	<b>-10</b>	<b>-10</b>	<b>-10</b>	<b>-10</b>	<b>-10</b>	<b>.....-10</b>
Financial capacity	+50	+180	+70	+50	+18	2	.....200
Cumulative financial capacity	+50	+230	+300	+350	+368	+370	.....

ANNEX II. Agriculture

TABLE I. Pro forma investment costs to the State

Inputs (thou. UM)	Year	0	1	2	3	4	5	6
Preparation of the project site		80	3					
Buildings		50	5					
Buildings supplies		10	2					
Fuel		5	1					
Machinery		10	3					
Spare parts		5	2					
Elements of production (fertilizer, seeds)		5	2					
Techniciens (local and expatriates)		8	3					
Supervisors		4	1					
Starting Costs <sup>1/</sup> (extension costs)		3	0					
Miscellaneous		1	1					
<b>A. Total</b>		<b>181</b>	<b>23</b>					
<b>Investment of the Cooperative</b>								
Pumps		150	0	0	0	0	0	150
Working Capital <sup>2/</sup>		2	0	0	0	0	0	0
<b>B. TOTAL</b>		<b>152</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>150</b>
<b>Total Investment of GIRM and of the Cooperative (A + B)</b>		<b>333</b>	<b>23</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>150</b>

<sup>1/</sup> Cost of establishment of the cooperative, preliminary studies, cost to the promoter.

<sup>2/</sup> Working capital is determined by the cost of fabrication during the period between buying of raw material, production and sale of finished product.

TABLE IIA. Pro forma operating statement for GIRM

Cost/Returns (thou. UM)	year 0	1	2	3	4	5
<u>Returns</u>		0	0			
<u>Total Return</u>						
<u>Expenses</u>						
<u>COST</u>						
Personnel		11	11			
Water, Electricity		5	5			
Maintenance of Building		3	3			
Training of Cadres		2	2			
Subsidy		5	5			
Depreciation of the infrastructures		5	5			
Miscellaneous		2	2			
<u>Total Cost</u>		33	33			
<u>Net Return (return-cost)</u>		-33	-33			

TABLE IIB. Pro forma operating statement for the cooperatives

Returns/Costs (thou. UM)	Year	0	1	2	3
<u>Returns</u>					
Revenue from sales to members of inputs (other than water)			60	60	
Revenue from use of water by members			100	100	
Other returns			5	5	
A. Total Returns			165	165	
<u>Costs</u>					
Costs of production inputs (seeds, fertilizer, pesticides)			45	45	
Fuel			20	20	
Mechanics			10	10	
Spare parts			30	30	
Depreciation of equipment			35	35	
Miscellaneous			5	5	
B. Total Costs			145	145	
Net return without accounting for financial costs			20	20	
Financial Costs (interest of the loan)			15	12	
Net Return			5	8	

TABLE IIC. Pro-forma Operating Statement for the Members of the Cooperative

Returns/Costs (thou. UM)	Year 0	1	2	3	...
<u>Returns</u>					
Members' returns from sales of outputs		350	350		
Value of products for own consumption		50	50		
<u>Costs</u>					
Expenditures of members for use of water		100	100		
Seeds		5	5		
Baskets		1	1		
Sacks for stocking		2	2		
Fertilizer		55	55		
Repairs and purchase of hand tools		2	2		
Miscellaneous		2	2		
Total Costs		167	167		
Net profit		233	233		
Earnings of the same members at market wages (110 UM/day)		143			
Net benefits to members compared to salaried individuals		90	90		

TABLE III. Projected Cash Flow of Project

Financing (thou. UM)	year 0	1	2	3	...
+ Net Returns		62	65		
+ Financial Costs		15	12		
+ Depreciation		40	40		
- Investment	-333	-23	0		
Cash Flow	-333	+94	+117		
Cumulative Cash Flow	-333	-239	-30		

TABLE IV. Pro forma of table of sources and uses of funds

Financing (thou. UM)	year	0	1	2	3	4	5	6
<u>Sources of financing</u>								
Net Benefits + Depreciation			102	105				
Equity		2	0	0				
Loans		+150						150
Decrease in working capital		0	0	0	0	0	0	0
+ Total inputs of capital		+152						150
<u>Uses of funds</u>								
Investment		-333	-23					
Payments of loans		0	-30	-30	-30	-30	-30	
- Increase of working capital		0	0					
- Total outputs of funds		-333	-53	-30				
Financing capacity (liquidity)		-181	+49	+75				
Capacity (liquidity) Cumulative (year 0+1+2)		-181	-132	-57				

1. The computation of sources and uses of funds helps determine whether the undertaking can face its current payment obligations, that is, if the undertaking is constantly in a position of liquidity or if it must look for other means of financing.

TABLE V. Schedule of a rice project activities and cost of labor required.

Months	Activities	Number of man/day (5 men/day)	Other activities	Salary man/day 110 UM
June	Preparation of the land	$5 \times 8 = 40$	fences, construction	4,400
Juillet	Sowing, replanting	$5 \times 5 = 25$	fish	2,750
August	first weeding	$4 \times 5 = 20$	_____	2,200
Sept.	second weeding	$2 \times 5 = 10$	_____	1,100
Oct.	Harvest	$8 \times 5 = 40$	_____	4,400
Nov.	Threshing, Filling out sacks	$8 \times 5 = 40$	_____	4,400
<b>TOTAL</b>				<b>19,250</b>

**TABLE VI.** Form of table of returns and expenses per hectare for a rice project for one year.

Hypothetical Items	Unit	Number of Units	Price per Unit	Total Cost or Total Value
1) Net Return				
a) Rice production	kilo	6,000	10	60,000
b) Corn production	kilo		8	
<b>Total</b>	-			60,000
2) Cash expenditures exclusive of depreciation and financial costs				
a) Seeds	kilo	88	15	1,320
b) Baskets	each	4	15	60
c) Sacks	each	5	70	350
d) Pesticide	liter	200	10	2,000
e) Fertilizer	kilo	200	10	2,000
f) Purchase of hand tools	each	10	100	1,000
g) Pumps maintenance cost	M <sup>3</sup>	1,000	10	10,000
h) Other expenses				5,000
<b>Total</b>				21,730
3) Net return (exclusive of labor and administrative costs)				38,720

ANNEX III Industry  
 TABLE I. Pro forma investment cost of the undertaking <sup>1/</sup>

Investment Total (thou. of UM)	Year 0	1	2	3	4	5
Land	565.5 <sup>1/</sup>					(565) <sup>2/</sup>
Building	9.200.					
Machines & Equipment	4.500.					
Coupling & Electrical Instalation	4.000.					
Office Supply	500.					
Vehicles	1.200.					
Starting Costs <sup>3/</sup>	2.000.					
Working Capital <sup>4/</sup>	4.770.		1.366.	1.040.		(7.176) <sup>2/</sup>
Residual Value						(10,000) <sup>2/</sup>
<b>Total Investment</b>	<b>26.735 UM</b>					<b>(17.841)<sup>2/</sup></b>

<sup>1/</sup> Figures from a tire retreading project.

<sup>2/</sup> Figures indicate residual values.

<sup>3/</sup> Cost to create the company, preliminary studies, cost to the promoter.

<sup>4/</sup> Working capital is determined by the cost of fabrication during the period between the acquisition of the material, the production and the sale of the finished product.

TABLE II. Pro forma operating statement <sup>1/</sup>

Reading (thou. of UM) / Years	1	2	3	4	5
<u>Returns</u>	42.835	51.573	66.661	66.661	66.661
<u>Expenses</u>					
Personnel	2.900	2.900	2.900	2.900	2.900
Raw Material	27.000	35.000	41.000	41.000	41.000
Subsidiary Material	900	1.200	1.700	1.700	1.700
Maintenance	437	437	437	437	437
Assurance	200	200	200	200	200
Depreciation	2.000	2.000	2.000	1.750	1.750
<u>Total Expenses</u>	33.437	41.737	48.237	47.987	47.987
<u>Gross Benefit before financial costs</u>	9.398	9.836	18.424	18.674	18.674
Financial Costs	1.700	1.200	700	400	200
<u>Gross Benefit</u>	7.698	8.636	17.724	18.274	18.474
Tax	-	-	-	-	-
<u>Net Return</u>	7.698	8.636	17.724	18.274	18.474

<sup>1/</sup> Figures from an industrial, tire retreading project.

TABLE III. Forecast Cash Flow

Financing (thou. of UM)	year	0	I	2	3	4	5
(+) Net Returns	-		7.698	8.636	17.724	18.274	18.474
(+) Financial Costs			1.700	1.200	700	400	200
(+) Depreciation	-		2.000	2.000	2.000	1.750	1.750
(-) Investment	26.735		-	1.366	1.040	-	(17.84) <sup>2/</sup>
Cash Flow	-26.735		11.398	10.470	19.384	20.424	30.265
Cumulative Cash Flow	-26.735		-15.337	-4.867	+14.517	+34.941	+73.206

1/ Figures from an industrial tire retreading project

TABLE IV, Pro forma of table of sources and uses of funds. <sup>1/</sup>

Financing (thou. of UM)	Year 0	1	2	3	4	5
<u>Source of Funds</u>						
Net Return plus Depreciation		9.698	10.636	19.724	20.024	20.224
Loans	17.735					
Capital	9.000					
Residual Value						10.100
Recuperation of Working Capital						7.176
<b>Total of sources of Funds</b>	<b>26.735</b>	<b>9.698</b>	<b>10.636</b>	<b>19.724</b>	<b>20.024</b>	<b>37.500</b>
<u>Use of Funds</u>						
Investments including increase in working capital	26.735		1.366	1.040		
Payment of debts (principal)		5.197	5.197	2.447	2.447	2.447
<b>Total Outputs of Funds</b>	<b>26.735</b>	<b>5.197</b>	<b>6.563</b>	<b>3.487</b>	<b>2.447</b>	<b>2.447</b>
Capacity of Financing (liquidity)	0	4.501	4.073	16.237	17.577	35.053
Capacity of Cumulative Financing (liquidity)	0	4.501	8.574	24.811	42.388	77.441

<sup>1/</sup> Figures from an industrial, tire retreading project.

Computation of sources and uses of funds helps determine if the forecasted undertaking can face its payment obligations, in other words, if the undertaking is in a constant position of liquidity or if it must look for added financing means.

PROJECT PROFILE

A. WHAT IS A PROJECT PROFILE ?

The Project Profile is a brief document prepared by the ministry or agency which sponsors a project idea. It represents the first step in planning a project and presents the appropriate preliminary information to permit an early appraisal of the merits of a project.

Project Profiles must be completed in the standard format which is outlined below:

- I - What is the project proposal? What is needed?
- II - Why should the project be done?
- III - How can it be accomplished ?
- IV - When will it be done?
- V - What will be the costs and benefits?
- VI - What will be the social, cultural and ecological costs and benefits?
- VII - How will it be financed?
- VIII - Who will do it?

B. PROJECT PROFILE FORMAT

I - INTRODUCTION: What is proposed and what is to be done?

- 1) Summary of the project: write a few paragraphs which will summarize the basic elements of the Project Profile and which will give the answers to questions II, III and IV above. State with precision the nature and quantity of the production as well as the project site.
- 2) History of the Project: mention the historical development of the project and itemize all connected data. Refer to related documents.

II - Why should the project be done?

- 1) Objectives:
  - a. Define broadly the objectives of the project. For example: improve public health.
  - b. Define, precisely, the objectives of the project; where useful, elaborate in a specific manner, all the objectives of the project.

- c. Identify the outputs of the project (quantity, quality, nature and price).
- 2) Define the basic data which justify the project: technic, social, economic and politic factors and natural resources.
- 3) Analysis of needs:
  - a. Study the market to identify goods and services needed for commercialization(define quantity, quality and prices of goods and services, describe impact of project and area where project will unfold).
  - b. Study needs and services for non commercialization.
  - c. Define all data referring to the future of the project (example: type of consumers, variations in needs, prices, etc...).

### III - How can the project be accomplished?

- 1) Description of technology:
  - a) Itemize all technology alternatives that could be used to accomplish the project.
  - b) Define briefly the preferred technology to be used to achieve the outputs projected. This technology must be appropriate to the economic objectives as well as to the social, cultural and political objectives.
- 2) Raw material:

Identify all raw materials and other natural resources needed, specify the source and quantity required. (Keep in mind conditions and costs of transportation, taxes, accessibility, stocking and storage).
- 3) Skills needed:
  - a) Define the level, qualifications and number of cadres available.
  - b) Define the level, qualifications and number of cadres to be trained.

4) Commercialization/Distribution:

Describe briefly the systems that will be used to commercialize or distribute the products or services.

IV - When will the project be done?

Proposed schedule: establish a schedule for the operation of the main phases of the project, starting with the investment and implementation period. (order of raw material, request for proposal, infrastructures necessary to set up the project, for example: site preparation, buildings, etc..., recruitment of needed personnel for the operation of the project).

V - What are the Project costs and benefits?

1) Estimates of capital requirements:

Establish a table for the investments required in the operation of the project. These investments will be either expenses, including working capital, necessary before the project execution, or expenses for raw materials during that same period (see table I for: Pro forma investment costs).

2) Estimates of operating costs:

Identify and qualify the costs and benefits for each phase. Make a table for each organization involved in the project. This table will point out the level of interest in the project from each organization. The operating statement must take the depreciation into consideration. (see table II for: Pro forma operating statement).

3) Estimates of cash flow:

Make a table of cash flow. The table is derived from the operating statement. It is the sum of the net return plus depreciation plus financial costs minus investment costs. (see table III: Forecasted cash flow).

VI - What are the project social, cultural and ecological costs and benefits?

1) Successive employment:

Define the number of positions that will be created to respond to the needs of the project as they become clear.

- 2) Describe briefly the advantages and the inconveniences encountered by those interested in an effective participation within the project framework. What can be expected of them? What proof is there of their expected participation?
- 3) Other advantages and inconveniences: Indicate all other advantages and inconveniences.

**VII - How will the project be financed?**

**Evaluate the "sources and uses of funds"**: Establish, in a given format, the sources and uses of funds in order to determine whether the undertaking can face its payment obligations. Is the undertaking constantly in a position of liquidity furnished by the outputs or should it look for other added means of financing (example: Banks, etc...). (see table IV: Pro forma of sources and uses of funds).

**VIII - Who will be responsible for the project?**

**Responsibilities**: Identify the organizations that will be responsible for the first investment and the financing of the starting of the project's operation. Indicate also other possibilities. Are there problems that can be predicted and which could be solved? Consider for example: customs, Ministry of \_\_\_\_\_, the Director of Technical services, members of the cooperatives, regional directors.

**PROJECT PROFILE PREPARATION MANUAL**

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**(Draft for limited circulation only)**

**July 3, 1979**

**Robert Navin, consultant  
USDA, OICD, FMDC.**

This manual is designed to assist both the public and private sectors in Mauritania as they identify projects for evaluation by the Government of Mauritania. It is designed to be used as a reference by middle management after they have had a thirty hour long workshop on how to use this Manual and the Project Profile. The workshop would consist of Mauritanian projects so that the various issues raised in the Manual can be examined and understood.

## WHAT IS THE PROJECT PROFILE ?

The Project Profile is a document which concisely describes a proposed project idea. The purpose of this document is to provide sufficient information to permit an appraisal of the merits of one project relative to other projects submitted for consideration within the overall development plan of the Mauritanian government. The Project Profile documentation is meant to precede feasibility studies which typically require funding which is supplemental to the operating budgets of the agencies concerned.

## WHO DESIGNS AND USES IT?

The Project Profile is prepared by any initiating agency, department or Ministry and is the formal introduction of a project for decision and action. The appraisal of these various projects is facilitated by the Project Profile, since the Project Profile presents the projects ideas in a standard format.

## HOW PRECISE IS THE PROJECT PROFILE?

Data for completing a Project Profile should be obtained only from readily available sources. This will facilitate consideration of the project for later investment priority and will minimize costs at this early planning stage. The entire document should be less than 15 pages in length, including all the annexes.

The Project Profile is meant to be only the first step in an iterative process of project preparation, evaluation, and implementation. The Project Profile should not attempt to answer all questions, but it should answer the important questions. It should identify the weakest links and possible difficulties, and it should avoid inconsistencies. It is the task of those who prepare the Project Profile to realize that a project generally requires cooperation from other areas of expertise. They should know when and from whom to get help on the various parts of the project. Where crucial data is not available, assumptions must be made, and so identified, during the preparation of the Project Profile.

## PURPOSES OF THE PROJECT PROFILE:

The various sections of the Project Profile answer the following questions: What is the Project? Why should it be done? How can it be accomplished? How much will it cost? Is it worth doing? When will it be done? Who will do it?

The primary purposes of the Project Profile are to:

-- get down on paper, for others to examine, what is in a person's head.

This is an important step toward making projects truly meet the needs of Mauritania.

- assist the cadre superieurs in making better use of the cadre moyens. The Project Profile is simple enough that with only a minimum amount of training, the cadre moyens can start using it and feeding the results to the cadre superieurs.
- provide a flexible format for project identification and evaluation which can become more elaborate and precise as the cadre moyens become more capable (via training and experience).
- provide sufficient information in a systematic way which will facilitate the preparation, evaluation, and selection of projects that merit further study. Further study might consist of either consultation with technicians from other ministries, or advice from foreign consultants that are funded by donor agencies.
- Provide a basis for requesting and negotiating assistance from foreign donors and lenders.
- act as a first step in an iterative process of project formulation and evaluation which will hopefully lead to the successful execution of the project.

#### PREPARATION PROCEDURES FOR PROJECT PROFILE

The format of the Project Profile is designed to help the cadre superieur to quickly understand the project. The order of presentation in the Project Profile, however, does not conform with the logical steps required to prepare the document. Therefore, this Manual presents a recommended sequence of ten steps to be followed in preparing the Project Profile. These steps are designed to act as guidelines so that the project planning process will be not only comprehensive, but also focused on the most important issues.

The use of these steps should be qualified by the following comments:

- a). The relative importance and the preferred ordering of the steps will vary from project to project.
- b). Since the planning process is really made up of simultaneous and iterative decision-making, the steps in the Project Profile might have to be followed in a similar manner to the extent possible.

Persons who prepare the Project Profile should draw information from all readily available sources. The preparer is not expected to be an expert on all areas or sections to be completed, but is expected to find sources of information and to use the advice and skills of other persons at relevant points in the completion of the document.

## SEPT ONE: HISTORY AND BACKGROUND

Step One is a record of the general background and development of the project idea. It may begin with a statement of the origin of the project idea, e. g., market study, sector study, individual or group initiation, political desirability, etc. Talk to individuals who have been involved in the project to get the benefit of their experience and views. Pay particular attention to their views on problems and opportunities.

Identify those groups who would support the project and describe all relevant history of the project idea, such as: How long has the idea been around? Has it been considered by government or other agencies before? Have any promises or statements been made concerning the project by any responsible authorities?

Identify also those groups or individuals who might oppose the project. Explain their reasons and what might be done to interest them in the project.

The purpose of the "History and Background" is to alert planners and appraisers to additional sources of information and data on the project. This information also clarifies the areas and sources of support and resistance for the project. In addition, this information calls attention to any commitments or announcements concerning the project so the preparers have a better understanding of the institutional setting and the desirability of the project in its social context.

The information gathered in this initial preparation step should be summarized in Section I 2°.

## STEP TWO: WHY SHOULD THE PROJECT BE DONE?

A. Define the overall goals of the project (like increasing the supply of food, raising income of farmers, improving health of target beneficiaries, earning foreign exchange, etc.) These goals should be related to national/sectoral goals and objectives. Projects which are consistent with broader national and sectoral priorities will be given more favorable attention in the review and appraisal processes.

B. Define the specific objectives of the project. A project generally will have many objectives. They might be economic, financial, social, cultural, environmental, political, etc. and they might be different for different clientele.

Objectives should also be specified for each different group of people that will be affected. For instance, the objectives of a slaughterhouse project will differ vis-a-vis the individual consumer, the private butcher, and the government. An objective for the government might be to save a

certain amount of foreign exchange per year. An objective for the consumer might be to increase the availability and the quality of beef, while maintaining the same per unit cost.

The project objectives should be specified as precisely as possible according to quality, quantity, time of availability, and location. This degree of specificity will permit the ranking of projects according to their desirability, and to provide benchmarks for evaluating the project once it has been undertaken.

This information should be summarized in Section II I° b and c.

- C. Specify the assumptions that form the basis for the project. These assumptions include natural, technical, social, economic, and political factors which should be made as explicit as possible. These assumptions can be used to identify areas where further research or study is needed. They also may help in identifying potential weaknesses in a project.

This information should be summarized in Section III 2°.

#### STEP THREE: ANALYSIS OF DEMAND

After identifying project outputs, the next step is to estimate the demand for the specific outputs. Demand estimates should be made from readily available sources, such as historical data on past and current demand, which can be projected as an indication of future demand.

Analysis of the demand for the project outputs (goods and/or services) will depend upon the type of product being generated by the project. Two general categories of products can be identified which determine the methodology used for demand analysis:

- a) Goods and services generated by projects which can be sold for prices determined by the market system;
- b) Goods and services generated by projects for which demand is determined through collective decision-making, such as by governments. This category includes such goods and services for which there is a collective need such as schools, health facilities, transportation facilities, etc.

The output of projects with marketable goods and services can be estimated through conventional forecasting methods. The output of projects with non-marketable goods or services are more difficult to forecast. Therefore, demand analysis differs, generally, between those projects falling in category (a) and those in category (b).

Projects in category (a), above, will have estimation of demand based upon data of quantities demanded on the past. Such data might be obtainable from import statistics, domestic producers, tax records, consumption studies, requirements of government or of industrial users, sector studies, etc.

If data are not readily available, appropriate estimates can be made from the experience or observations of individuals who are familiar with similar projects in other countries. All assumptions which must be made concerning the projection or estimation of demand must be explicitly identified. These assumptions should be summarized in Section II 3° c. of the Project Profile.

If the demand analysis is made for the total market, there must be an estimation of the extent to which the project will fill the demand. The project will generally attempt to fill, in part at least, the supply gap.

For projects in category (b), above, the quantity of goods and services to be supplied are based on an assessment of needs and demands with respect to social priorities. Such needs may be based upon population trends (e.g. education and health services) and the financial capabilities of appropriate authorities to provide the services. For non-marketable goods and services, it is very important to forecast the costs which will be recurring (operational costs) as well as the capital costs so that demand is consistently coordinated with financial realities.

The determination of the scale of a non-market oriented project is based on political and social considerations along with budgetary constraints. One has to define the "needs" that will be satisfied, determine the best way of meeting these needs, and then see if it can be afforded. If the budget is the overriding constraint, one should look for a cheaper way of satisfying a less rigorous definition of need. This is why, in non-market oriented projects, one should think in terms of a range of needs that can be met rather than one definition of need.

Information on the analysis of demand should be included in the Project Profile in Section II 3°.

#### STEP FOUR: HOW DOES ONE ACCOMPLISH THE PROJECT?

##### A. Technical Description of the Project

1. Enumerate all the promising alternatives which are able to accomplish the project. It is important to try to consider different ways of carrying out the project. Technical variables that should be considered include: scale of the project; time-phasing; location; raw materials; degree of mechanization; durability of the plant; provision for expansion; quality of output; etc.

This information should be included in the Project Profile in section III I° a).

2. Without going into extensive technological investigations, briefly identify the preferred configuration (technology, size, scope, location, etc.) and give the reasons for the choice. The choice should take into consideration not only the economic costs and benefits, but also those that are social, cultural, environmental, and political.

In some cases, available information may be insufficient to make a choice. This should be clearly stated. Mention what data or what actions would have to be taken to make a definite decision on the project.

Selection of the type and level of technology for a project (e.g. whether the project be labor intensive, capital intensive, centralized, decentralized, etc.) is the first step in determination of production and service processes. Project technology suggests the types of inputs required for projects (eg. labor and skill requirements, raw materials, process equipment).

#### B. Raw Materials:

Identify all the raw materials which are necessary, specifying the source and the quality. Take into consideration the cost of transport, the accessibility of supply, and the need for inventories.

If land must be acquired by the project, the question of land tenure should be addressed. Who is presently using the land? Who owns it or has traditional rights to it? What must be done to make the land available for the project?

#### C. Need for Personnel:

1. Identify the number of various personnel that are available for the project.
2. Identify and describe the specific type of involvement which will be required of each category of participant.
3. For those personnel that are required by the project, but are not readily available, specify the kind and duration of training that will be needed. Estimate the cost of such training. (See also STEP SEVEN section 2°.)
4. What will be the specific motivation for each category of participants to partake, abstain, encourage or detract from their proposed involvement?
5. What are the management requirements of the project? Identify the expatriate personnel that might be needed, specifying their skills and their length of stay.

This information should be included in the Project Profile section III 3°, a and b.

#### D. Commercialization and Distribution:

Describe briefly the system of commercialization or distribution for the expected goods or services that will result from the project.

Describe also the inventory and storage arrangements.

**STEP FIVE' WHEN WILL THE PROJECT BE STARTED AND FINISHED,**

**The Work Schedule!** Establish a calendar for the implementation of the main phases of the project. This calendar should be done for both the investment period and for the operating period of the project. During the investment period, the following steps, among others, should be considered: Ordering the raw materials; Sending out requests for bids on certain activities that are necessary to prepare the site of the project; Time necessary for construction and land preparation; Dates various personnel should arrive at the project site.

Projects that are labor intensive, especially those that require the participation of peasants, should be examined with special care in the phasing of activities. A rice production project, for example, can be very labor intensive. It requires specific activities at specific times, and this requires that the farmers be available to do the work. To see if the farmers are really available, some thought must be given to the timing of their traditional activities. These traditional activities will continue to be very important, especially if the proposed project alone does not provide enough income for the farmer and his family to live on.

In order to avoid conflicts in the allocation of a laborer's time, it is often necessary to make a weekly or monthly work schedule which includes both the traditional activities of the laborer and the activities required by the project.

This information should be included in the Project Profile in section IV.

**STEP SIX! WHAT ARE THE FINANCIAL BENEFITS AND COSTS OF THE PROJECT?**

**Introduction:** So far, most of the work that has gone into the Project Profile has been expressed in physical terms, ie. numbers of people, tons of grains, hectares of land, liters of medicine, etc. It is very difficult to compare and evaluate projects that do not have the same physical units. In order to facilitate such comparisons, these physical units should be translated into monetary units. This is essentially done by multiplying the physical inputs, outputs, and processes by their respective costs per unit.

There are four basic tables that summarize the important financial characteristics of a project. They are:

- a). The Pro-Forma Investment Statement.
- b). The Pro-Forma Operating Statement.
- c). The Pro-Forma Cash-Flow Statement.
- d). The Pro-Forma Sources and Uses of Funds Statement.

These tables should be filled in with numbers based on the best information that is readily available. At this point in project identification and design, it should not be necessary to do extensive calculation. Much of the information is available from "order-of-magnitude" estimates.

If commercial or other local firms cannot furnish these capital cost estimates, these data might be available from the experiences of neighboring countries. Any information taken from sources external to the local situation should be modified to reflect local conditions such as productivity, building and construction standards, material costs, the rate of inflation during the time period anticipated for implementation of the project, etc.

#### A. The Pro-Forma Investment Statement.

Based upon the selection of technology and estimation of the levels of production for the project, establish a table of investments that are required to implement the project. These investments will consist of:

- a). expenditures before production/operation begins;
- b). working capital, and
- c). the expenditures for primary materials during the operating period of the project.
- d). Interest during construction.

The investment period is the time in which resources are put into the project before any production is possible. This can be illustrated: These investments will consist of such requirements as land, buildings, equipment, machinery, construction costs, manhours of labor, etc.

In general, investment costs, excluding those for labor, have estimated lives of more than one year. The estimated life is based on the expected life of the item or on some conventional basis.

Table I, a Pro-Forma Summary of the Investment Costs, is an example of an investment statement, based on a tire recapping project proposed in Mauritania. The investment items that are listed are broad aggregates of investments, and each represents items that will be used by the project for more than one year.

Notice that the table provides the data for only five years. This was done only to simplify the presentation. In reality, the building is expected to have a life of 20 years, machines and equipment - 10 years, electric installations - 10 years, vehicles - 5 years, office equipment - 3 years, and land - infinitely. The cost of starting the project, which includes preliminary studies, promotional expenses, etc..., is often amortized in western countries over three years. This is an accounting convention that is set up for tax purposes, and thus is not important where taxation does not apply.

Normally, the financial tables should be carried out for each year of the expected life of the project. Since these costs and benefits are often discounted back to a present value for evaluation purposes, a projects life is seldom calculated beyond 25 years, especially in less developed countries.

The Pro-Forma Summary of the Investment Costs must also take into account the salvage, or residual value of the investments that have not been used up and are either available for other projects, or can be converted to money at the termination of the project. For the example presented in Table I, the residual value of land is taken to be the same as the original purchase price. The value of land could be less, but its value usually remains the same or goes up over time.

The working capital is easily convertible to cash, and thus its value, 7.176 mille UM, is the same as the local of funds placed into the working capital. The final entry in the Pro-Forma Summary of the Investment Costs is the Residual Value of all items other than land and working capital, and is based on a depreciation of the original cost of these items.

Working Capital is also included in the investment statement since funds are needed throughout the life of the project. The amount of money in Working Capital is based on the following components:

- a) Value of Raw Material Inventories.
- b) Value of In-Process Inventories.
- c) Value of Finished Product Inventories.
- d) Value of Accounts Receivable Minus Value of Accounts Payable.
- e) Reserve for Personnel Payments.

Each of the above components can be computed according to formulas.

- a) The "Value of Raw Material Inventories" is a measure of the amount of raw materials that should be on hand so that production can continue without interruption.

$$\text{Value of Raw Material Inventories} = \frac{\text{Annual Costs of Raw Materials} \times \text{No. Months Inventory required}}{12}$$

The "number of months inventory required" depends on the reliability of supply. The minimum size of shipment and the rate of utilization of the materials.

- b) The "Value of In-Process Inventory" is the value of those inputs that are in the process of being transformed into outputs, ie. They are now neither raw materials, nor finished products.

$$\text{Value of In-Process Inventory} = \frac{\text{Average Cost of One Day's Output} \times \text{No. of Days it Takes to produce product.}}{2}$$

- c) The "Average Value of Finished Product Inventory" is the average value of finished goods that are stocked until time of sale.

$$\begin{array}{l} \text{Average Value of Finished} \\ \text{Product Inventory at Cost} \end{array} = \begin{array}{l} \text{Value of Annual} \\ \text{sales excluding} \\ \text{Marketing and} \\ \text{Transportation Costs} \end{array} \times \begin{array}{l} \text{Average No. Months} \\ \text{supply of Finished} \\ \text{Inventory} \\ \hline 12 \end{array}$$

The "Average Number of Months Supply of Finished Inventory" will depend on the regularity of sales as well as the types, styles, sizes and colors of products which the enterprise must be able to give to its customers. Where sales are seasonal, one must make special provisions for value of finished inventory.

- d) When sales are on credit, the enterprise will need capital to carry on operations while waiting to be paid.

$$\begin{array}{l} \text{Average Value of} \\ \text{Account Receivable at} \\ \text{Cost} \end{array} = \begin{array}{l} \text{Value of Annual Sales} \\ \text{including Marketing} \\ \text{and Transport} \end{array} \times \begin{array}{l} \text{Average Number of Months} \\ \text{Accounts Receivable} \\ \hline 12 \end{array}$$

The "Average Number of Months Accounts Receivable" is the average length of time from sale of merchandise to receipt of payment from the customer.

"Accounts Payable" is money owed by the project. In effect Accounts Payable consists of short term loans to the project by suppliers and it is therefore a source of working capital.

$$\text{Accounts Payable} = \text{Annual Purchases} \times \begin{array}{l} \text{Average Number of Months to} \\ \text{Pay Bills} \\ \hline 12 \end{array}$$

- e) The "Reserve for Personnel Payments" is established to assure that payrolls can be met on time. The size of the reserve is dependent on the regularity of cash receipts from sales and the availability of credit to cover temporary shortages.

#### B. The Pro-Forma Operating Statement.

The operating period of a project, as distinct from the investment period, is the period of time during which the project is producing goods and/or delivering services. The purpose of the Pro-Forma Operating Statement is to record the expected money flows during the operating period of the project. As was mentioned in reference to the Investment Statement, the estimates of the money flows should be based on the best readily available data. Technicians from other services might be consulted, however, to advise on some specific

operating costs.

Table II is an example of a Pro-Forma Operating Statement, again based on a project in the industrial sector. Note that the investment period begins in year zero, and the expenses and receipts in the operating period begin in year one, the first year of operation. Most of the items that should be included in the Operating Statement are obvious. They include the cost of such inputs as raw materials, personnel (both management and laborers), intermediate materials, maintenance, insurance, transportation costs, etc. Other items may require some explanation.

Depreciation is a special kind of cost. As was mentioned in the section on investments, an item of investment is one which is used over a period of more than one year. In order to estimate the cost of using investment items on an annual basis, depreciation is used. Depreciation, then, could be defined as an estimate of the cost of equipment or other capital investment items that were "used up" in a particular year. The most widely used formula for calculating depreciation is the Straight Line Depreciation Method. According to this method,

$$\text{Depreciation of item Y} = \frac{\text{Original cost of item Y}}{\text{Expected life of item Y (Years)}}$$

Another way of estimating the depreciation of an item is to weight the early years of an item more heavily than the later years. This method is based on the assumption that the resale value of the item falls off quickly in the initial years, and then diminishes more gradually after that. Such a method was used in the example presented in Table II. The important thing to remember about depreciation is that it is a 'book' expense and not a cash expense.

Interest charges might arise if it is necessary to borrow money in order to begin a project. These interest charges should be included in the Pro-Forma Operating Statement. Note that in Table II, the interest charges are subtracted from the gross profit (loss). These charges are shown to be decreasing each year as the principal on the loan is paid back. As the amount borrowed diminishes, so too does the financial charge.

Notice that while the operating statement does account for interest expense, it is not concerned with payment on principal. Payment on principal is not an expense. It is purely a financial transaction.

Various kinds of taxes, such as a tax on profits, should then be subtracted from the gross profit, yielding the Net Profit. Care should be taken not to include the same tax twice. For instance, if there is an import tax which is already included in the cost of raw materials that are imported for the project, this tax should not be counted twice by including

it again as a separate item.

C. The Pro-Forma Cash Flow Statement.

The Pro-Forma Cash Flow Statement is essentially a consolidation of the Pro-Forma Investment Statement and the Pro-Forma Operating Statement. It projects the value of the resource flow during the life of the project so that one can determine whether the benefits are favorable in relation to the costs. Any enterprise that wants to exist and prosper should be concerned whether the benefits will exceed the costs by a sufficient margin to assure its survival and future growth.

The first item to be included in the Pro-Forma Cash-Flow Statement is the Net Profit which is taken from the bottom line of Table II, the Operating Statement. The bottom line from the Investment Statement is then subtracted from this. Notice that in Table III, an example of a Cash-Flow Statement, the investment in the fifth year shows a large amount of money that increases the cash flow of the project. This figure is the summation of the residual value of the working capital, the land, the building, and the equipment at the end of the project. In other words, it is expected that these items can be sold or exchanged for that amount at the end of the project.

The Pro-Forma Cash-Flow Statement then adds in the interest charges and depreciation. These additions can be thought of as 'correcting' the figures which came from the Operating Statement. Depreciation, as was discussed earlier, is a 'book' expense, not a cash expense. The sum of money charged to Depreciation is really available all year long to the enterprise. Therefore, the Cash-Flow Statement is corrected to reflect this availability of funds.

The cost of Interest is added to the Cash-Flow Statement because it is part of the return on capital, and that is precisely the purpose of the Cash-Flow Statement to enable us to compute the rate of return on capital in the project. Since Interest charges and Depreciation are subtracted from the Operating Statement in calculating the Net Benefit, and since interest charges and depreciation are added back into the Cash-Flow Statement, the net effect is that the two calculations cancel one-another. Therefore, one can think of the Cash-Flow Statement as not including either Interest charges or Depreciation.

The "Cumulative Cash-Flow" is calculated by adding together each cumulative year of cash flow. For instance, the sum of the cash flow year two equals the summation of the Cash-Flow for year two plus the Cumulative Cash-Flow for year one. The Cumulative Cash-Flow helps to locate the point in time when the original investment is recovered. In the example presented in Table III, the original investment is recovered in a little over two years.

D. The Pro-Forma Sources and Uses of Funds Statement.

This financial statement traces the availability and requirements for Cash and is an important test of the viability of a project. The Sources and Uses of Funds Statement allows an enterprise to see if it can meet its

current financial obligations. In other words, the Sources and Uses of Funds Statement can be used to evaluate the liquidity of the enterprise at any moment in time. If liquidity is insufficient to meet financial obligations such as salaries or bills for equipment, then the enterprise should seek out sources of supplementary finance. If the cumulative liquidity becomes increasingly positive throughout the lifetime of the project, then the enterprise should seek out ways of repaying the principal on outstanding loans, or better ways of using the available funds.

Table IV presents an example of a Pro-Forma Sources and Uses of Funds Statement for a tire recapping project, the same project upon which all of the other three tables were based. Listed first are "Sources of Funds" for the project. These sources include "Net Benefits Plus the Cost of Depreciation", "Capital Investment of Stockholders", "Borrowed Funds", and "Reduction of the Working Capital". Depreciation is added back to the net benefits because it is only a 'book' cost, and the funds associated with depreciation really are available. These net benefits might actually be negative, especially in the early years of the project.

When the funds in the 'Working Capital' are reduced, these funds become available for other uses. Thus, they become a Source of Funds during the year that they are made available.

The Uses of Funds are listed second in Table IV and they include "Investment and Replacement of Capital Goods", "Repayment of Principal", and "Increases in the Working Capital Fund." Notice that the other uses of funds during the operating period are incorporated in the item "Net Benefits" which is included under the Sources of Funds.

The "Financial Capacity (or liquidity)" of the proposed project is given by subtracting the total Uses of Funds from the total Sources of Funds. In the example given in Table IV, there are no negatives, which indicates that the project's proposed financing arrangements are sufficient to keep the project "liquid". (ie. able to meet all of its financial obligations).

The purpose of the Pro-Forma Sources and Uses of Funds Statement is to identify during the planning process, periods of time where financial needs cannot be met. The table, however, is designed on an annual basis. If there are major seasonal fluctuations in the Sources and Uses of Funds, these should be noted, and possibly even spelled out in a Pro-Forma Sources and Uses of Funds Statement that is divided up by months, not years.

The final line item in Table IV is the Cumulative Capacity for Financing. These can be useful figures if a surplus in one year is available to cover a deficit in a subsequent year.

**STEP SEVEN: IDENTIFY COSTS AND BENEFITS THAT ARE HARD TO QUANTIFY.**

In addition to the aforementioned financial measures of the costs and benefits of the project, there are many other costs and benefits that cannot

easily be quantified. The following three questions in the Project Profile attempt to identify those types of costs and benefits:

- 1). Employment creation: Identify the number of jobs that will eventually be created by the project.
- 2). Briefly describe the positive and negative incentives which exist for the various personnel who will be needed in the project. This social analysis should consider the following questions:
  - a). What work are the various groups of personnel being asked to do?
  - b). What investments in time and money must they take?
  - c). What life habits must they alter?
  - d). What new social arrangements will be called for by the Project?
  - e). Does the project consider possible personnel problems stemming from differing values and behavior associated with different ethnic groups, castes, classes, and occupations? For example, does the project take into consideration that certain groups of people refuse to do certain types of work?
  - f). What positive incentives are the personnel given? Discuss not only salary and wage levels, but also social factors such as upward mobility, changes in leisure, access to education and training, etc. These questions are particularly important when a project expects to have the participation of groups of unsalaried people such as villagers in a cooperative. Are the incentives in the project great enough to compensate the villagers for their time and effort in undertaking something new and different?
- 3). Other Advantages and Disadvantages: Indicate all other advantages and disadvantages of the project. Consider the project's effect on the country's: balance of payment situation; ecology; distribution of wealth political situation; rural - urban migration; etc. Consider also the long term effects that the project might have. Might the project become either a model of success or failure?

This information should be included in chapter V sections D, E, and F of the Project Profile.

#### STEP EIGHT: WHO WILL BE RESPONSIBLE FOR THE PROJECT?

Define the organizations that will be responsible for various phases of the project, from the pre-investment planning, to the financing, to the implementation, and finally to the evaluation of the project. Alternative organizational arrangements may be suggested as appropriate. If unusual organizational recommendations are made, they should be justified.

During the initial planning stage, it is important to identify those agencies that are responsible for the project throughout the project's duration so that there is a better linkage between planning and implementation. Further, early discussion of organizational responsibilities may result in the selection or the creation of organizational arrangements for planning and/or implementation which may be more appropriate than traditional arrangements.

Having identified the various organizations and the linkages between them that will be necessary for the project to succeed, spell out problems that might be foreseen and then solved. Consider, for example, the roles of and the linkages between the Customs Bureau, the ministry that is sponsoring the project, the Ministry of Finance, the heads of technical services where the project will take place, the Stockholders and/or the workers in the project, and the political representatives of the region in which the project will take place.

#### STEP NINE: REDEFINE THE OBJECTIVES

After having formulated the major components of the project, it is beneficial to review the project objectives and goals which were previously identified in chapter II of the Project Profile. The shaping of the project may now require a modification in the previous statement of objectives. It should also be possible now to identify specific, quantifiable targets for the project.

#### STEP TEN: THE PROJECT IN RESUME

The Project in Resume can only be comprehensively presented after the shaping of all the integrated components of the project. After the above steps, the project can be concisely and easily described. The Project in Resume is a one paragraph synthesis of the detail presented throughout the text of the Project Profile. It is primarily intended to provide an introduction of the project idea to the reader of the document. Any unusual features which may distinguish the project should be included along with the normal project description. This information should be presented in section II of the Project Profile.

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