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**NATHAN ASSOCIATES** INC.  
ECONOMIC AND MANAGEMENT CONSULTANTS

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# Oman: Capital Projects Development Fund (CPDF) Project Paper

September 1990

submitted to  
Omani American Joint Commission

Under the  
Macro and International Economics Analysis IQC  
PDC-0095-I-00-9096-00  
Delivery Order No. 7

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Project Paper  
Capital Projects Development Fund (CPDF)

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## I. Project Summary and Recommendations

### A. Facesheet

### B. Recommendations

This Project Paper recommends that:

-AID and the Government of Oman jointly participate in the funding of studies designed to strengthen and accelerate the process of economic and regional development in Oman:

-Assistance be administered over a three-year period (FY 1990-FY 1993), focusing on the following priority activities:

1. Private and public sector investment in agriculture and fishery, manufacturing and mining, and the service sectors, including trade, finance, hotels and construction;

2. Government productive investment in port infrastructure, electricity, water, and communications;

3. Government social infrastructure investment in education and health.

-AID recruit a Project Officer who can oversee the rapid implementation of the studies, technical assistance, and training components of the project.

### C. Summary Project Description

A grant of \$5,000,000 in grant funds is being requested to initiate investment studies in Oman over a three year period from the date of authorization, subject to the availability of funds. The project is designed to assist the Government of Oman to develop a pipeline of viable projects in high priority productive and social sectors. The project also is designed to promote investment in areas emphasized in the Fourth Five Year Development Plan, scheduled for publication in late 1990. The CPDF project will study how best to achieve sustained, national economic growth; and to help provide a "Shopping List" of implementable projects from which private investors, U.S. Government and other donors, can choose for down-stream financing. Solely American-based firms will be invited to perform the studies. A modest amount of technical assistance and training will be provided.

### D. Summary Findings

Oman has achieved great progress in social and economic development during the past two decades due to substantial oil export earnings and the prudent governance of His Excellency Sultan Qaboos bin Said. Starting from an extremely under-developed base in 1970, most of the early investment decisions

have been relatively straight-forward: roads and airports, electric power, telecommunications, schools and hospitals and the physical infrastructure for Muscat, a modern commercial capital.

Today, however, Oman is at a development crossroads. There is no longer a large backlog of obvious, high-return investment projects awaiting implementation. Modern Muscat contrasts starkly with backward interior and coastal regions, highlighting regional imbalance. Apart from the oil sector, Oman is in the early stages of evaluation of its natural resources and regional economic potentials. Although some projects in the Third Five Year Development Plan (1986-1990) have been delayed owing to reduced oil revenues, the fact remains that development options have become more complex. Consequently, there are major bottlenecks in the sectoral planning process, in defining Omani comparative advantage, and in "proving" the feasibility of project ideas in the pipeline.

The Government of Oman is aware of these problems and recognizes that technical assistance will be needed for many years. There is implicit recognition that programs need to be devised for development to be meaningful throughout the country. In order to expedite this process, the Government of Oman very much wants immediate pipelines of mature and implementable projects in the productive sectors of agriculture, fisheries, mining and manufacturing. CPDF is an initial Omani-American response to the analytical and project development bottlenecks.

Rapid approval of the Project Paper [January 1991] and completion of a Grant Agreement in February 1991 would allow resource flow to begin by mid-1991. This is important so as to take advantage of the momentum of the current 5-year planning cycle of the Government of Oman, and because projections for the next planning cycle are based on the assumption of marketable project development "shopping lists".

The proposed project meets all applicable statutory criteria and is ready for immediate implementation.

#### E. Project Issues

The Project Paper has identified three issues during appraisal and preparation:

1. Private sector participation - The PID and the telegram approving the PID [State ] together stress private sector participation especially in follow-on capital projects. One of the important purposes of the project is the stimulation of U.S. private sector involvement in follow-on capital projects resulting from project studies. Equally stressed in both documents is Omani private sector participation, the PID specifically stating that the Government of Oman supports the use of funds to support private sector capital projects.

During the course of design work, the PP team learned that there is little, if any, direct American investment in Oman. Except for oil industry and defense establishment service sectors, the modest U.S. presence in Oman takes the form of agencies and franchises, owned by Omani entrepreneurs staffed primarily by third country expatriate managers. Moreover, the private sector in Oman, while indeed controlling over 50% of capital assets in the priority productive sectors, seems not particularly adept at becoming heavily involved in the development process at this time.

While the goal and purpose of the PP remain broadly unchanged from the PID, the means of implementation in the short-run has been changed to an emphasis on public rather than private sector studies. This is in recognition of the fact that the Government of Oman is the principal agent of economic development activities in the country. More detail concerning these matters is set forth in the Detailed Project Background, Rationale and Description [Part II].

2. Cost Sharing and Cost Recovery - An ancillary issue concerns another PID finding, namely the recommendation that CPFID financing of studies not exceed 50% so as to ensure that only serious proposals are put forward for financing. While such a goal is laudable, the PP design team feels that the policy is premature in the Omani context. There is a serious lack of identifiable investment opportunities in the pipeline; local investors show a definite preference for investing their money abroad; and policies in neighboring Gulf states heavily subsidize their investors. Apart from the oil sector, the absence of U.S. direct investment in Oman would dictate that a vigorous promotion program be launched and that would-be investors be provided with generous terms for cost sharing and recovery. This issue will require further study and certainly a dialogue with potential American investors. The team recommends a flexible ad-hoc approach to these issues along the lines spelled out in detail in Part III.B of this Project Paper.

3. Staffing of the Project Unit - Finally, a third issue, not mentioned in the PID, but of vital importance to the Project concerns the establishment of the project unit. Whether the project office be located in the Ministry of Finance and Economy or as a separate office free of Ministry administrative control is an issue which will need study and analysis before any lasting decision can be made. What is not at issue, however, is the importance of staffing the project unit with full-time personnel, including the counterpart Project Manager (Omani), who will complement the Project Officer (US) in carrying out the project. No counterpart personnel should be accepted if they will be "wearing two hats", i.e. are assigned to the project unit while having simultaneous duties at the Ministry.

F. 611 (a) Determination

Inasmuch as no construction activities are planned during the life of the proposed project, no 611 (a) determination for engineering and other plans has been made nor is one required. However, the necessary financial plans are included together with reasonably firm cost estimates to the United States for carrying out the assistance proposed.

## Part II - Project Background, Rationale and Description

### A. Background

Oman has made great progress since 1970, the point of departure of modern economic and social development when His Excellency Sultan Qaboos bin Said began his rule. The Sultan personally takes great interest in development issues and reportedly makes all important policy decisions. Despite remarkable social, economic and political development since 1970, however, Oman is a rich but underdeveloped country. Most development has been concentrated in the Muscat capital area; the interior and coastal towns are generally backward and lack basic infrastructure. Despite remarkable strides in education and health, Oman depends heavily on expatriates who make up more than half of the total labor force and 90% of the skilled positions in the private sector. Consequently, technical assistance will be needed for many years over a wide spectrum of activities.

For purposes of the Capital Project Development Fund [CPDF] project, Oman approached the Joint Commission for Technical Assistance in early 1990 stating that it recognized that programs were needed for long-term regional and industrial development. It has been recognized that apart from the oil sector, Oman is in the early stages of evaluation of its natural resources and regional economic potential. The Government of Oman very much wants immediate pipelines of mature and implementable projects in the productive sectors of agriculture, fisheries, mining and manufacturing. The CPDF project has been designed to begin this process.

Fueled by limited oil revenues, the basic economic and social infrastructure of modern Oman has been created from scratch. Table II 1 shows a profile of Oman and the phenomenal growth which has occurred. Growth factors in many sectors have been staggering. But growth has been unevenly distributed and economic development in some of the least-developed areas has been non-existent. As stated, the CPDF project will study how best to achieve lasting, sustained and national growth and then donors can begin to work with the Government of Oman on how best to design a strategy meeting its aims and objectives.

### B. Project Rationale

Oman today is at a crossroads. The Fourth Five Year Development Plan (1990-1995) is in preparation and will be published by the end of 1990. In addition to launching new priorities, some projects held over from the Third Five Year Development Plan will undoubtedly be included as these were not funded due to limited revenues. However, many objectives are in

Table II 1

QUANTITATIVE INDICATORS OF DEVELOPMENT

	Units	1970	1975	1980	1988
Oil Production	000 bpd	332	341	282	619
Electricity (Muscat)	M. KWH	8	122	642	2,582
Water (Muscat)	M. Gallons	14	359	2,459	8,759
Asphalted Roads	Kilometers	10	708	2,142	4,247
Telephone Lines Installed	No.	557	3,701	15,044	83,032
Bank Branches	No.	4	42	144	237
Registered Companies	No.	NA	2,415	12,555	35,347
Post Offices	No.	2	27	43	70
Civil Servahts	No.	1,750	19,000	38,359	75,109
Schools	No.	3	176	363	735
Students	No.	909	49,229	94,823	303,989
(Female Students)	No.	(0)	(12,378)	(30,088)	(136,360)
Teachers/Administrators	No.	30	2,115	4,325	15,896
Hospital Beds	No.	12	1,000	1,784	3,316

Source: Sultanate of Oman Statistical Year Books  
 Reproduced from Project Identification Document

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conflict. These need to be resolved by decision-makers based on sound pre-feasibility studies before there is an action plan.

A case in point is the fishery development program. Previous studies have proposed very different solutions to a key infrastructure bottleneck - the lack of ports and jetties along the 1,700 kilometer coastline - as well as to a major social question -how to develop a modern fishery while supporting the traditional fishermen. A completed Draft Master Plan incorporates the findings of Pre-Feasibility analysis of the complex issues and choices involved: A few large ports? Many small ports and upgraded fishing villages? A mixture of large and small ports? The timing of a port construction program? What kinds of boats are required? Who will own and operate the boats? What financial and other support mechanisms are needed? The pre-feasibility phase in fishery development is largely complete. What is needed now are feasibility studies for each sub-project including: market studies to define the scale of facilities, financial and economic analyses, delineation of social support programs, and preliminary engineering design.

In the mining sector, there is no lack of "Natural Resource Evaluations", but these are essentially "desk research studies." What is needed now is extensive geological work in the field: namely the identification, exploration and development of viable deposits which can be economically exploited.

In the industrial sector, there is no clear identification of comparative advantage; therefore, a coherent development strategy needs to be hammered out. For example, most projects and project profiles of the Rusail Industrial Park are based on import substitution for the small domestic market. Because these are small-scale and have little potential for expansion, and are in competition with subsidized GCC projects, they may not be able to survive without continuing trade barriers and subsidies. What is needed in this sector is the identification of long-term export-driven strategies consistent with Oman's location and rich trading tradition. This may result in a pipeline of investment projects which can be readily implemented and can meet the goals and objectives established by the Government. It is to this end that this Project Paper proposes a course of action.

### C. Project Description

1. Project Objectives - The goal of the project is to contribute to broadly based sustainable economic growth outside of the oil sector in Oman. This will be done through studies involving the public and private sectors. The purpose of the project is to assist Oman in developing and implementing high-priority development projects, with emphasis, whenever possible, on the least-developed regions of the country. These projects, when implemented, will provide increased economic and employment opportunities for Omanis. Further, these projects will provide basic infrastructural or other incentives to encourage private

investment, including foreign investment from the United States where American technology and knowhow may have comparative advantage. Finally the project is designed to assist the Government of Oman to establish the mechanisms needed to coordinate donor assistance and facilitate project implementation in the high-priority areas delineated by the forthcoming fourth Five Year Development Plan of the Government of Oman.

2. Expected Accomplishments and Beneficiaries - Given the nature of this project, the level of outputs can only be estimated. Expected accomplishments include:

-Pre-feasibility, feasibility or engineering design studies for major nationwide infrastructure investments as identified during the course of the project;

-Studies on development issues related to investments in particular geographical areas or sectors;

-Detailed development plans, supported by pre-feasibility, feasibility, or detailed engineering studies, and associated analyses, leading to down-stream financing for projects in those areas identified by the Five Year Development Plan of the Government of Oman; and,

-Pre-investment studies for private investments in designated areas of development.

The direct beneficiaries of the project will be sub-project sponsors, who will reduce pre-investment risks as a result of studies financed by the project, and U.S. consultants who perform the studies. Policy makers and staff of the Ministry of Finance and Economy will benefit from the knowhow transferred to the Project Unit and from training in the United States. Indirect beneficiaries will be the people of Oman who will benefit from increased employment and economic activity generated by investments resulting from studies financed by the project. Finally, the Government and Oman as a whole will be helped in monitoring other donor activities in order to avoid costly duplication of effort in either the public or private sector.

While the status of women will not be affected directly as a result of activities under this project, women can be expected to benefit indirectly as individuals and family members due to the studies and the possibility of future financing for development activities. Further, scopes of work for studies and analyses under the project, when appropriate, will require the collection and analysis of gender-disaggregated data to determine constraints to and opportunities for women's participation and benefits in down-stream project activities, and to assure that there is no gender-bias.

3. Project Components - The major components of the project include the following: investment studies; short-term technical assistance; training and evaluation.

a. Investment Studies - The investment studies component of the project is the largest, budgeted at \$7.45 million. This component will be directed at providing the necessary analytical information for the government to implement development programs in a more effective manner throughout the country. These funds will be administered by the OAJC. While the focus of this component will primarily be on the public-sector oriented investments such as infrastructure, the linking and coordination of these activities is critical to the realization of project objectives. Prior to committing funds for any engineering design activities, OAJC will consult with AID/W and obtain necessary concurrences and approvals for AID funding.

#### Types of Investment Studies

The studies to be conducted under this component include projects awaiting study under the Five Year Development Plan, engineering design plans, pre-feasibility and feasibility studies, together with accompanying environmental and social soundness analyses. The objective of these studies is to lead to project proposals for discrete project activities. Priority sectors are outlined in Table II 2. These include: the productive sectors - agriculture and fishery, mining, manufacturing, and service industries, including trade, finance, hotels, and construction; government infrastructure sectors - ports, electricity, water, and communications; and the social sectors - education and health. The priority sectors taken as a whole account for 40% of Capital Accumulation over the ten year period 1980-1989. Other sectors will receive a lower priority, but, except for statutory exclusions, may be included in the study program.

A list of Project Profiles prepared by the management of the Rusail Industrial Estate is presented in Table II 3. Most of these projects are small, import substitution projects, which are unlikely to attract foreign investor interest. Nevertheless, these projects should be looked at carefully and some will merit pre-feasibility or feasibility study under CPDF.

In the absence of mature project pipelines it is likely that the major portion of the studies budget will be used to carry out sector studies, pre-feasibility and feasibility studies. Logically, engineering design studies would follow once these have been completed. Finally, broad planning assistance, sectoral analyses and studies dealing with macro, sectoral or geographic issues will also be considered for financing as sub-projects. Illustrative studies for determining either pre-feasibility or feasibility may include the following-after screening criteria have been applied:

Table II 2

**CAPITAL ACCUMULATION – 1980/1989 DISTRIBUTION**  
(RIAL OMANI 000)

<u>CPDF PRIORITY SECTORS</u>	<u>% OF TOTAL</u>		<u>% OF PRIORITY</u>		<u>SHARE PUBLIC VS. PRIVATE</u>			
					<u>PUBLIC</u>	<u>%</u>	<u>PRIVATE</u>	<u>%</u>
<u>PRODUCTIVE</u>								
AGRICULTURE & FISHERY	137		5%		82		55	
MINING	80		3%		80		-	
MANUFACTURING	384		14%		105		279	
TRADE, FINANCE, HOTELS, CONSTRUCTION	<u>1,168</u>		44%		<u>511</u>		<u>656</u>	
	1,769	26%			779	44%	990	56%
<u>GOVERNMENT</u>								
PORT INFRASTRUCTURE	25		1%		25			
ELECTRICITY, WATER, COMMUNICATIONS	447		17%		447			
EDUCATION, HEALTH	<u>440</u>		16%		<u>440</u>			
	911	13%			911			
<u>TOTAL CPDF PRIORITY SECTORS</u>	<u>2,681</u>	<u>40%</u>	<u>100%</u>		<u>1,691</u>	63%	<u>990</u>	37%
<u>OTHER SECTORS</u>								
OIL AND GAS	2,079	31%			1,051	51%	1,028	49%
GOVERNMENT SERVICES	1,174	17%			1,174			
ROADS, AIRPORTS, MUNICIPAL SERVICES	694	10%			694			
OTHER SOCIAL INVESTMENT	148	2%			148			
TOTAL OTHER SECTORS	4,095	60%			3,067	75%	1,028	25%
<u>TOTAL CAPITAL ACCUMULATION</u>	<u>6,776</u>	<u>100%</u>			<u>4,758</u>	70%	<u>2,018</u>	30%

Note: Totals may not add due to rounding.

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Table II 3

Rusail Industrial Estate  
Reserved Project Profiles  
Seeking Joint Venture or Technical Cooperation

<u>Project</u>	<u>Product Description</u>	<u>Capacity</u>	<u>Market Size</u>		<u>Imported Raw Material</u>	<u>Local Raw Material</u>	<u>Investment (US\$000)</u>	<u>IRR</u>	
			<u>Oman</u>	<u>Export</u>					
<u>CHEMICAL</u>									
Adhesive Tapes	Kraft Adhesive Tapes	1MM Rolls	1MM Rolls		Paper, Adhesive	Limited	1,069	13.6%	
Building Sealants	Acrylics, etc.	208K Ltrs.	350-400K Ltrs.	-	Compounds, Etc.	-	620	17.0%	
Dry Cell Batteries	H20 & R6 Types	13 Million	18 Million	140 Million	All	-	5,130	29.0%	
Industrial Gas	Oxygen, Nitrogen	1.0 MM Cu M.	1.3 MM Cu M.	-	Chemicals	-	728	30.5%	
Sulphuric Acid	Sulphuric Acid	4,500 Tons	2,500 Tons	-	Sulphur	Limited	1,144	16.8%	
<u>FOOD PRODUCTS</u>									
Breakfast Cereals	Cornflakes, etc.	360 Tons	600 Tons	2,500 Tons	Corn Grits	Limited	1,802	19.0%	
Fish Processing	Fish Processing								
Mineral Water	Mineral Water	24 MM Lts.	35 MM Lts.	Some	PVC Granules	Water	3,744	43.9%	
Agrobased Industry	Ketchup, Jam, etc.	430 Tons	1,200 Tons	15,000 Tons	Packaging	Tomato	416	25.5%	
<u>METALLURGY</u>									
Brass Door Handles	Brass Door Handles	58,000 Sets	33,000	433,000	Steel, Brass	-	1,160	19.0%	
Electric Elements	Water Heater El.	100,000	100,000	1,320,000	Tubing, Etc.	Packing	520	14.0%	
ERW Steel Pipes	Black Steel Pipes	50,000 T	45,000 T	600,000	Coil, Zinc, Acid	-	12,170	20.0%	
Ferrous Castings	Cast & Ductile Iron	2,857 T	4,000 T	N/A	Pig Iron, Add.	Scrap	2,129	16.5%	
Hand Tools	Spanners, Pliers, Etc.	530,000 Units	\$3.7 MM	\$39.3 MM	Pre-Forged Blanks	-	810	19.0%	
Locks & Hinges	Mortice Locks, Etc.	180,000 Units	350,000 Units	1.9 MM Units	Components	Packing	820	19.0%	
Metal Cans	3 Piece Tin (Bev.)	150 MM	55 MM	80 MM	Tin Plate	Limited	3,947	53.8%	
Precision Toolroom	Jigs, Dies, Moulds	\$1.1 MM	\$1.4 MM	-	Special Steels	Limited	2,570	15.0%	
Solar Panels	Solar Panels	17,000 Units	Limited	56,000	Solar Cells, Etc.	Limited	1,066	41.0%	
Steel Billets & Bars	Steel Bars	18,000 Tons	75,000 Tons	-	Steel Pellets	Scrap	1,362	26.8%	
Steel/Alum. Ceilings	Decorative Ceilings	1,600 Tons	3,000 Tons	-	Coiled Metal	Limited	949	37.4%	
Storage Systems	Pallet Racks, Angles	1,300 Tons	2,900 Tons	-	Steel, Components	Packing	2,000	39.0%	
Water & Elec. Meters	Meters	75,000 Units	33,000 Units	345,000 Units	Components	Packing	910	22.0%	
<u>PHARMACEUT./COSMETICS</u>									
Perfumes	Eau de Cologne, Etc.	360,000 Lts.	900,000 Lts.	-	Raw Mtl & Packg	Limited	1,336	25.1%	
Perfumes & Cosmetics	Eau de Cologne, Etc.	1,106 Tons	RO 8 MM	-	Raw Mtls	Limited	832	23.9%	
Pharmaceuticals	Standard & Generic	4 MM Units	RO 12.5 MM	RO 151 MM	All Raw Mtls.	Limited	17,680	20.9%	
<u>PLASTICS</u>									
Polystyrene Cups	Cups (Yogh./Ice Cr.)	28.5 MM Cups	62.5 MM Cups	-	Polystyrene Gran.	Limited	1,100	22.2%	
PVC Pipe Fittings	PVC Pipe Fittings	150,000 Units	107,000 Units	-	PVC Granules	Limited	910	17.0%	
<u>Total Projected Investment:</u>							<u>\$66,924</u>		
<u>Number of Projects:</u>	<u>27</u>						<u>Averages: Investment &amp; IRR</u>	<u>\$2,479</u>	<u>24.9%</u>

-Pre-feasibility studies: Pre-feasibility studies which analyze a variety of technical alternatives for investments under the Five Year Development Plan of the Government of Oman may be financed. Pre-feasibility studies are particularly important whenever decision-makers are faced with unresolved choices or alternative actions relating to timing, technology, location and scale. Additional unresolved issues of choice may include statutory requirements, the presence of local resources, and the determination whether a project with identifiable financing should be given greater priority for study.

-Feasibility Studies:- Feasibility studies for some of the elements of the Five Year Development Plan of the Government of Oman may be financed. The studies can be carried out under appraisal guidelines established in the Scopes of Work for a particular project. These will include preliminary designs for proposed investments as well as requisite technical, financial, economic, administrative, social soundness and environmental issues. Other technical analyses can also be undertaken depending on the type of project. Financial analyses will provide a basis for determining the financial viability and profitability of projects. Economic analyses will provide the basis for the efficient allocation of resources. Environmental analyses will identify potential negative environmental effects and propose alternative approaches or mitigating measures when appropriate. Social soundness analyses will provide information on the social and cultural appropriateness of activities, potential beneficiaries and participation of target groups in project development. Finally, administrative analyses which are included as a part of a feasibility study, will assess the capacity and alternatives for implementing proposed projects effectively.

-Detailed Engineering Design Studies: This type of study would involve the review of previous studies, site investigations, analyses of alternative approach to design, and schematic drawings which can lead to final engineering designs. Other items might include design calculations, technical specifications, drawings, plans, cost estimates and bid documents for a project or project component.

-Other Studies:-Other more generalized studies may be undertaken, including investment surveys to determine potential investment activity and constraints, general physical master plans to identify and address land-use issues and environmental concerns, resource inventories to assess availability and quantity related to industrial plans, assessment to determine present and future skill needs for the implementation of economic development programs, transportation requirements to determine adequacy and constraints, and utilities requirements which may be a part of other economic development activities.

#### 4. Screening and Funding Criteria

CPDF defines a process for project review and selection from conceptualization of project ideas through Project Identification, Preliminary Feasibility Study, Final Feasibility Study, and Engineering Design. Thus, CPDF will help the Government of Oman address sectoral policy issues in a systematic way and contribute to the development of a pipeline of bankable projects.

##### Screening Criteria

Project screening, to determine if study proposals merit further analysis or should be abandoned, is applicable at the early stages of conceptualization up to the development of Project Profiles or "shopping lists" in the Identification stage. Some conditionalities and criteria will apply to all types of projects, e.g., sectoral priority, U.S. procurement and U.S. investment potential, pre-screening to identify issues of environmental impact, social soundness, and duplication of other donor efforts, and statutory requirements. Projects with potential U.S. direct investment will have priority. Separate screening criteria are necessary for projects in each of the broad sectors of CPDF focus: productive and infrastructure.

Sectoral Priority - Table \_\_\_ sets forth priority sectors in the Productive Economy: Agriculture and Fishery, Manufacturing and Mining, and most of the service economy: trade, finance, hotels, transportation and construction; and in the Government Sector: port infrastructure (an apparent major bottleneck), electricity, water resources, and communications.

The Productive Sectors - Agriculture and Fisheries, Manufacturing and Mining, and Service Industries (including trade, finance, hotels and tourism and construction).

Quality of sponsors - What experience, capital and management resources do the sponsors bring to the project?

Marketing Plan - What is the estimated demand? What is the timing and extent of market entry?

Market Structure - Levels of competition, supply and service at what price? Is there need for another entrant?

Infrastructure Availability - What facilities are needed and available? Roads, ports, electric power, water, telephone?

Factors of Production - Verify needs and availability of skilled and unskilled labor; raw materials; and sources of capital.

Technology - What is the state of the art? What is the proposed technology? Is it appropriate?

Public Sector Infrastructure - Port Infrastructure, Electricity, Water, Communications.

Policy Framework - Is the project consistent with the goals and objectives of the Fourth Five Year Plan? Is it included in the Five Year Plan?

Existence of Long Term Demand - What is the service area? Is the scale of proposed investment consistent with expected population requirements? With projected demand from industrial or other development?

Complementarities - Level and timing of availability of related infrastructure, e.g., roads, power, water, and other utilities to service new port proposals.

Regional Balance Considerations - Where is the proposed facility on the scale of priorities of regional development?

Funding Criteria - All project studies, regardless of stage, will satisfy the following quantitative and qualitative tests (See Annex\_\_\_ for definitions):

Financial Rate of Return  
Economic Rate of Return  
Capital Intensity (Capital/Labor Ratio)  
Foreign Exchange Impact (Bruno Ratio)  
Income Distribution and Social Impact

Ranking of Projects - Preliminary weighting is recommended as follows:

Commercial Projects:

35% Financial Rate of Return  
20% Economic Rate of Return  
15% Capital Intensity (Capital/Labor Ratio)  
10% Foreign Exchange Impact (Bruno Ratio)  
20% Income Distribution and Social Impact

Infrastructure Projects:

30% Financial Rate of Return (Cost Recovery)  
40% Economic Rate of Return  
10% Capital Intensity (Capital/Labor Ratio)  
- Foreign Exchange Impact (Bruno Ratio)  
20% Income Distribution and Social Impact

These weights may be revised after a reasonable period of implementation.

#### D. Required Analyses

1. Technical - The technical analysis of a sub-project area of study will establish the technical feasibility of the project--i.e.determine that the means selected to achieve project purpose(s) are technically the most suitable and cost effective. The choice of technology must be consistent with the environment in which it will be used--social, institutional, environmental, etc. Therefore the technical analysis must take into consideration from various points of view before arriving at a recommendation for the most appropriate technology for the project. The technical analysis should establish whether the design of a particular project is consistent with the body of knowledge about possible solutions to the development problems to which the sub-project is directed.

The approach and content of technical analyses for a specific project will vary significantly depending on the type of project--infrastructure, education, agriculture, etc. However, the bottom-line question to be answered is whether the technology proposed is the most cost-effective to implement, operation and sustain the project intervention. In some areas, analysis methods will be standardized. AID has a statutory requirement that projects to be financed must have adequate planning to establish reasonable cost estimates. This requirement is directly related to the technical design selected and the establish of that design's feasibility. Accordingly, any studies for projects which AID might finance, must include a requirement for good technical analysis.

2. Economic - Economic analysis of projects has as its primary purpose to maximize the use of scarce resources in society through the identification of economically desirable and worthwhile projects.

Therefore economic analysis in the studies should include the following:

-Macroeconomic appraisal of the project's relevance to the national, regional and sectoral goals and priorities of Oman and of the project's expected economic impact on output, prices, employment, etc.

-Quantitative economic analysis to determine whether the project is a worthwhile investment for the country as a whole. This can be done by assessing its economic benefits and costs through the use of appropriate border prices and opportunity costs. In cases where benefits cannot be measured, the least-cost approach and/or cost-efficient approach can be utilized.

3. Financial - The purpose of financial analysis is to determine that a project is financially viable and sustainable in the legal, regulatory and economic environments in which it is

supposed to operate. Physical planning and accurate market prices are the basis of all meaningful financial planning. Therefore, projects will be expected to present financial projections based on projections of physical inputs and outputs (e.g., labor, raw materials and volumes of production). Assumptions should be stated clearly.

Industrial, commercial and public utility projects should present financial projections including a standard package of integrated pro-forma balance sheets, profit and loss, and cash flow statements. Indicative analytical ratios should be calculated for appropriate comparison with industry specific standards in other economies. Indicative ratios would include : Net Profit/Total Assets; Net Profit/Capital; Debt/Equity; Working Capital Ratios (Current Assets/Current Liabilities); Debt Service ratios, and the like. Standard measures of profitability for comparative purposes will include the usual techniques of measuring the time value of money: Net present value and discounted cash flows to calculate the Financial Rate of Return.

Projects in the social sector, e.g., education and health, should conform, insofar as possible, to the corporate format for projecting revenues and expenses and return on capital invested. This format is useful for calculating breakeven levels of operation and the amount of subsidy which may be necessary to sustain operations on a full-cost basis, with ample allowance for maintenance, depreciation and replacement of facilities. Criteria for evaluation of social sector projects will be developed by the Project Officer with assistance from short-term consultants.

4. Social Soundness - The objective of a social soundness analysis is to determine whether a project is socially and culturally feasible within the values, practices and social organization of the targeted beneficiaries. Further, such analysis should identify alternative actions to sustain positive effects on the target social group(s) and to avoid any negative effects.

The extent and depth of a social soundness feasibility analysis will depend on the complexity, location and type of the project proposed. In order to expedite implementation, the social soundness analysis might be undertaken in conjunction with economic, financial and technical analyses. There should be identification of principal beneficiaries and the extent which the project addresses their needs, analysis of the social and political forces that could constrain project implementation, level and type of beneficiary participation in project identification and development, and the likelihood that the targeted beneficiaries will sustain any organizations and practices generated during the course of the project.

5. Environmental - Environmental concerns are sensitive matters in both the United States and Oman. AID places a high priority on this aspect of its technical assistance program, thus AID procedures must be followed for determining the type and extent of environmental analysis required for projects to be financed by either AID or Oman. In the case of Oman, the Ministry of Environment carefully follows all types of project interventions so as to assure that there are no negative environmental effects or at least the effects are mitigated or minimized.

It is expected that the bulk of pre-feasibility, feasibility and engineering design studies will be for infrastructure and thus will require at least an IEE. For the private sector pre-investment activities, the implementing organization will be responsible for ensuring that activities are screened for potential environmental effects and that appropriate surveys are undertaken by sponsors. A more complete listing of Environmental criteria is included in Annex E.

The level of effort required for environmental studies and analysis depends on the nature of the proposed activities. For any infrastructural types of projects, environmental studies are expected to be about 15% of the detailed design costs. These costs should be calculated when preparing a budget for the sub-project.

6. Operations Support - Under the project an office (the Project Unit) will be established within the Ministry of Finance and Economy to monitor and oversee the operation of the project and selection of studies. The Unit will be headed by a full-time Project Officer (US) and a full-time Project Manager (Omani) and staffed with minimum support personnel, including an executive secretary and an administrative assistant. Adequate office space, and equipment would be provided to the Project Unit by the Government of Oman, as well as funds to meet the modest operating budget set forth in the Project Cash Flow Statement at Table III. The equipment list includes data processing equipment, copying equipment, telephones and a telefax machine, desks and furnishings for a staff of four and visiting consultants, a conference room/training facility, and a utility vehicle. Funding for the equipment list is estimated at \$89,000 (including a 20% contingency). The annual operating budget is estimated at \$112,000 including \$52,000 in salaries, \$24,000 in rent and \$36,000 in utilities, communication costs, supplies, and equipment depreciation and maintenance.

Institutional support activities, the joint responsibility of the Project Officer and Manager, will include in-country on the job training, implementation and monitoring. Key personnel, the Project Officer and Project Manager, should have the skills necessary to screen project proposals, identify feasibility and other studies which meet project criteria, develop scopes of work, bidding procedures and management of study teams. These

activities, for the most part, will be undertaken in conjunction with the on-going studies for proposed sub-projects.

7. Training - The Project Budget includes \$120,000 for training of Omanis. The training budget is sufficient to fund 10 to 12 eight-week courses of specialized training at institutions indicated by AID/W. The budget allows \$6,000 of per diems (60 days at \$100) plus \$4,000 in travel expenses per course unit. Candidates for specialized courses in project planning and evaluation would be nominated by the Ministries and selected by an appropriate committee appointed by the Ministry of Finance and Economy. It is anticipated that trainees, upon completion of their studies, will contribute to the development of project analysis skills in their respective ministries.

8. Evaluation and Audit - Good project management requires evaluations to determine what corrections needs to be made during the course of project implementation. Therefore an evaluation at the eighteenth month of project implementation is needed. A final audit is mandated to verify that funds have been spent for the purposes obligated.

## Part III-Project Analyses

### A. Technical Analysis

#### 1. Economic Development in Oman

As stated elsewhere in this Project Paper, Oman currently is at a crossroads in its economic development strategy. Oman, having initiated its modernization and development processes only in the early seventies, has spectacular progress in 19 years in the establishment of basic public infrastructure and the provision of basic social services. In 1970, Oman could be classified as a closed, almost medieval country lacking the basic amenities of the 20th century. With less than ten miles of paved roads, virtually no health or education systems, in terms of quality of life, Oman ranked below most of the poorest countries of the world.

Fueled by oil revenues, the basic infrastructure of a nation state has been created from scratch. The growth factors for both economic and social infrastructure were staggering during the years 1970-1975. Almost all of the social and economic indicators doubled in value. While growth has been sustained since 1980, but there are still large areas of the country untouched by the amenities and "fruits" of twentieth century economic development.

Given the uneven development which has occurred, it seems probable that the Government of Oman, under existing and future constraints of resource scarcity, has chosen the most feasible broad strategy for bringing twentieth century life to its far-flung population. The proposed project will provide financing for pre-feasibility, feasibility and engineering design work for capital projects in both public and private investment. These sub-projects which will be studied and analyzed will, if the resulting technical, social and economic analysis proves favorable can, when implemented, promote economic development and diversification.

Alongside this seriousness of purpose by the Government of Oman, one has to place a high value on the almost two decades of experience in bringing the "fruits" of twentieth century life to an admittedly limited geographical area, i.e. the capital area of Muscat. During the next five years and beyond, Oman plans to expand its infrastructure network to support an increasingly diversified economy and extend services to the least developed areas of the country. This "second generation" of capital project formation will admittedly be less rapid than that of the past two decades, both because of the progress made to date and because of more modest oil revenues.

However, an important difference between the situation in Oman and other Gulf states lies in the fact that the Government of Oman has already carried out the underlying policy and administrative reform that is a prerequisite to the effective development of an infrastructure in other least developed areas of the country.

There are admittedly serious manpower constraints at all levels in the economic development scenario. In order to meet some of the constraints imposed by this fact, a modest training budget for ten to twelve Omanis has been proposed in this Project Paper. Other constraints will be the identification of good projects which can indeed bring the "fruits" of twentieth century life to those living outside the capital area. American presence today is practically non-existent but there exists a good opportunity for American technology transfer, commercial and investment linkages.

Nothing in this regard can be guaranteed. But within the Gulf Region, Oman is assuming an increasingly important position both strategically as well as economically and geographically. The Government of Oman wants to deliver twentieth century economic development to areas beyond the Muscat capital area. Villages in the interior with no water or electricity; towns with lack of schools and hospitals; areas with no accessible roads; and even the nomadic Bedouins, all display an acute interest in obtaining the "fruits" twentieth century life. Fresh water may be limited, but desalinated water projects may offer just the type of infrastructural development which may be needed. But until the necessary preliminary analyses and studies have been made there is no magic "shopping" list which can realistically be presented to the government of Oman for addressing their desire to move beyond the capital area.

There is evidence of some decentralization beginning to take hold. Hopefully when this decentralization factor is combined with the fact that the project locale will be in the Ministry of Finance and Economics dictates the wisdom of going this particular way. The Government is beginning to show a tendency to be self-evaluative, searching and to change tactics when experience dictates the wisdom of doing so. The mere fact that the Government of Oman has opted for going along the lines recommended by this Project Paper instead of merely trying to replicate the strategy used in the capital area supports their penchant for self-evaluation and resultant change.

At the sub-project level, there will admittedly be a challenge to seek out those capital projects which have potential to break the bottlenecks to economic development. There is particular interest in utilizing American firms for this purpose as the United States has a comparative advantage in many areas.

## 2. Constraints

A first order of constraint consists of the sheer magnitude of the economic development problems in the least-developed areas of Oman. The Government of Oman, however, is trying to come to grips with this problem and, according to the briefings given the design team by the Government of Oman, is trying to hammer out a strategy for dealing with a problem of this magnitude. However, this is an effort to form a realistic strategy consistent with resource availability combined with a delivery mode which reflects societal

norms and customs.

Other constraints are noted in the Social Soundness Analysis. While economic development is new to certain areas of the country, it appears from a glance at the existing literature that if projects are designed with social issues in mind up front, such projects are thoroughly compatible with the socio-cultural milieu of the population. Special constraints, however, do arise in the application of the system to the nomadic populations. But reaching these people is not expected to be addressed in any detail during the life of the proposed project.

Financial constraints are likewise discussed in detail in other parts of the Project Paper. The proposed project activities are all in areas which represent no significant recurrent cost burden for the Government of Oman. Rather the design team has been told that a number of financial and management issues will be delegated from the Sultan's Palace to the Ministry of Finance and Economics level. There has been a desire not to add to the recurrent cost problem and this strategy has played an important part in the design of this project.

The design team has been impressed with the competence and seriousness of the staff at the Ministry of Finance and Economics. However, we believe that there are both quantitative and qualitative constraints at the Ministry level. Skilled project design and middle management personnel are in short supply, as are lower level personnel needed to carry out routine administrative tasks. The training component will, in a limited way, try to address some of these problems by providing ten to twelve training slots for Omanis in the United States.

### 3. Summary of Strengths and Constraints

This Project Paper has attempted to list the constraints and weaknesses existant in Oman. This listing has been done with a fair degree of simplicity, allowing the reader an opportunity for an informed opinion. As viewed by the team, the major strength of the situation in Oman is the administrative reform which is avidly seeking ways to bring economic development to the least developed areas of the country. While such a reform is a national strength, it can be viewed direct policy/program influence through the placement of expatriate technical personnel. Strategies existing in other Gulf countries, as well as in many other less developed countries, are based on the classical concept of pyramidal organization structures in which responsibilities, decision making and action rest with the top and not the bottom of the pyramid, thus causing a phenomenon of concentration and centralization. This tendency in fact is diminishing little in most countries. A tendency towards decentralization through such things as using the family council {Tahmail} implies that the perceived needs of the population and their priorities are determined as a function of services and personnel having technical and theoretical expertise. Yet the team feels that this type of decetralization is

what makes the situation in Oman somewhat different from other countries. AID can play a signal role as a donor by supporting the application of this system.

AID is in a good position to accomplish this. Some potential activities will be directly supportive of OJAC strategic interests, such as the development of the fisheries sub-sector, or human resources development, or the extension of potable water to other least developed areas of the country. The end result of these linkages will be an enhanced quality of life for more of Oman's citizens.

### III B. Financial Analysis and Plan

The Capital Projects Development Fund defines a process for selecting and funding capital investment studies. There are no projected direct revenues; thus, as pointed out in the PID, the project does not lend itself to usual norms of financial analysis. Indirect project benefits are the long-term outputs of capital investment resulting from the project. These are estimated in III C. Economic Analysis, which shows a range of possible economic rates of return. The following financial analysis discusses the issue of cost sharing and cost recovery, the financial plan, and the impact of project costs on Government finances.

1. Cost Sharing and Cost Recovery - The project's principal activity will be to finance investment studies. Three kinds of initiatives are foreseen: studies sponsored by agencies of the Government of Oman, studies sponsored by private investors, and studies initiated by the Project Unit without formal sponsorship. It is anticipated that the CPFDF will finance 100% of the cost of Government studies and 100% of unsponsored studies undertaken at the initiative of the Project Unit.

For private sector initiatives the PID has recommended that CPFDF financing not exceed 50% in order to ensure that only serious proposals are put forward for financing. While this objective is laudable, this Project Paper suggests that such a policy is premature in the Omani context. There is a lack of identifiable investment opportunities in the pipeline; local investors show a strong preference for investing their money in foreign financial markets; and policies in competing Gulf countries heavily subsidize their investors. Given the absence of U.S. direct investment in Oman, it will be necessary to launch a vigorous investment promotion program and provide investors with generous terms for cost sharing and cost recovery. This issue cannot be resolved sensibly without further study and dialogue with potential investors. For these reasons the Project Paper recommends a flexible, ad hoc approach to the issues of cost sharing and recovery. For start-up policy we recommend financing up to 80% of studies sponsored by private sector investors and a flexible approach to the issue of cost recovery. For purposes of this analysis, no cost recovery has been assumed for the life of project.

#### 2. Financial Plan

a. Cost Estimates - The Project Cash Flow Statement at Table III B-1 and the Projection of Expenditures by Fiscal Year, Table III B-2, show estimated quarterly and yearly cash flows for the four year Life of Project. The total LOP cost of \$10 million includes a 10% contingency allowance, equivalent to an inflation rate of 4-5% annually. AID and the Government of Oman will share equally in project costs. The AID contribution is estimated at \$5.0 million to be sub-obligated in Fiscal Years 1991, 1992, and

1993. Equal contributions from AID and the Government of Oman are called for at the beginning of each of the first three project years in amounts of \$2.0 million in year one, \$2.0 million in year two, and \$1.0 million in year three.

The Life of Project Budget in Table III B-3 shows the allocation of costs. AID is expected to contribute 77% of its funds to the Studies Budget, 18% to Technical Assistance, 2% to Training, and 3% to Evaluation and Audit. The Omani contribution varies somewhat as it will contribute the entire Operating Expense Budget and the modest Equipment (Commodities) package. The latter totalling \$89,000 is detailed in Annex D. The contingency allowance is utilized to iron out the different allocations and equate the contributions of the participations in the 50-50 spirit of the project.

b. Funding Mechanisms - Table III B-4 sets forth the anticipated methods of implementation and financing under the CPDF. To ensure the orderly flow of funds to meet expected needs the participants will be asked to obligate and advance funds in Month One of each of the first three years of the Life of Project of \$2.0 in 1991, \$2.0 million in 1992, and \$1.0 million in 1993. OAJC will act as financial manager of the project on behalf of AID and the Government of Oman.

Based on these cash advances payments for the entire Studies Budget (\$7.45 million) will be made. These may be implemented in the form of AID-Direct contracts, locally contracted Indefinite Quantity Contracts (IQCs), and possible host country contracts. Likewise, the purchase of Equipment (Commodities) and the payment of operating expenses will be made from cash advance balances. It is envisaged that 100% of the Commodities (Equipment) list and 100% of Operations Support (Operating Expense) will be allocated to the Omani contribution.

AID's share of Technical Assistance, all of the Training budget, and the full cost of Evaluations and Audits will be funded exclusively by AID and paid for by Direct Payment as indicated in Table III B-4. Likewise, the Omani share of Technical Assistance, covering the full-time personnel seconded to the Project would be covered by the Direct Payment method.

This methodology and these mechanisms should be clarified and agreed in principle during formal project negotiations.

c. Implementation and Payment Methods - Pursuant to the request of the Government of Oman payments under AID-direct and/or host country contracts will be made by OAJC as implementing agent in US dollars or Rial Omani. Disbursements may also be made directly to contractors or suppliers by OAJC via such other means as the Government of Oman or the supplier or contractor may agree in writing.

d. Audits - Responsibility for the internal audit of all AID-funded projects and programs in Oman lies with OAJC's Office of Finance and Administration (OFA). OFA in collaboration with the Office of the Controller (AID/W) will perform routine audits related to this project. Additional audits can, of course, be performed by the Regional Inspector General (RIG) which follows its own procedures. A budget of \$25,000 is set aside to finance non-federal audits which may be required under this project.

### 3. Impact on Host Country Finances

The impact of the project on host country finances is modest as befits a "pilot project" of this nature. The \$10 million project will require a commitment of \$5 million each from AID and the Government of Oman over the four year Life of Project, about \$1.25 million per year. The Government's share of the Studies Budget, \$3.7 million, is about \$930 thousand annually, or two tenths of one percent of the 1989 development expenditure (RO 174 million (\$452 million), as reported in the Statistical Yearbook of the Sultanate, 1989.

The annual operating expense of the project, which is a recurrent cost, is estimated at \$112,000. This amount is less than one percent of the Ministry of Finance and Economy recurrent expenditure in 1989 (RO4.7 million or \$12.2 million) and an infinitesimal share of total current Government expenditures in 1989 (RO 589 million or (US\$1,530 million). These amounts are well within the financial capacity of Government. Furthermore, the Project Paper preparation mission has received assurance that the Government of Oman has regularly met its financial commitments in economic development projects.

Table III B-1

**PROJECT CASH FLOW STATEMENT**  
(US\$000)

<u>A. USES OF FUNDS</u>	<u>MONTH:</u>	<u>YEAR ONE</u>				<u>YEAR TWO</u>				<u>YEAR THREE</u>				<u>YEAR FOUR</u>				<u>TOTAL</u>
		<u>3</u>	<u>6</u>	<u>9</u>	<u>12</u>	<u>15</u>	<u>18</u>	<u>21</u>	<u>24</u>	<u>27</u>	<u>30</u>	<u>33</u>	<u>36</u>	<u>39</u>	<u>42</u>	<u>45</u>	<u>48</u>	
<u>OPERATING BUDGET</u>																		
ADVISOR (PSC)	70	50	45	45	45	45	60	45	45	45	55	45	45	45	45	70	800	
SHORT TERM T.A.	-	20	20	20	-	-	-	-	-	-	-	-	-	-	-	-	60	
<u>USA CONTRIBUTION</u>	<u>70</u>	<u>70</u>	<u>65</u>	<u>65</u>	<u>45</u>	<u>45</u>	<u>60</u>	<u>45</u>	<u>45</u>	<u>45</u>	<u>55</u>	<u>45</u>	<u>45</u>	<u>45</u>	<u>45</u>	<u>70</u>	<u>860</u>	
PROJECT MANAGER	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	112	
EXEC. SECRETARY	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	60	
ADMIN.ASST./DRIVER	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	37	
RENT	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	94	
UTILITIES	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	
COMMUNICATION	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	26	
SUPPLIES	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	31	
EQPT.MAINT.& DEPN (20%)	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	70	
PROJECT EQUIPMENT	26	28	28	28	28	28	28	28	28	28	28	28	28	28	28	29	446	
<u>OMAN CONTRIBUTION</u>	<u>45</u>	<u>45</u>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	89	
	<u>70</u>	<u>73</u>	<u>28</u>	<u>28</u>	<u>28</u>	<u>28</u>	<u>28</u>	<u>28</u>	<u>28</u>	<u>28</u>	<u>28</u>	<u>28</u>	<u>28</u>	<u>28</u>	<u>28</u>	<u>29</u>	<u>535</u>	
<u>TRAINING (US PROGRAM)</u>	-	<u>20</u>	<u>20</u>	<u>20</u>	<u>20</u>	<u>20</u>	<u>20</u>	-	-	-	-	-	-	-	-	-	<u>120</u>	
<u>STUDIES BUDGET</u>	-	<u>200</u>	<u>300</u>	<u>500</u>	<u>500</u>	<u>600</u>	<u>700</u>	<u>700</u>	<u>700</u>	<u>750</u>	<u>700</u>	<u>600</u>	<u>600</u>	<u>400</u>	<u>200</u>	-	<u>7,450</u>	
<u>EVALUATION &amp; AUDIT</u>	-	-	-	-	-	-	<u>50</u>	-	-	-	-	-	-	-	-	<u>75</u>	<u>125</u>	
<u>TOTAL (BEFORE CONTINGENCY)</u>	<u>140</u>	<u>363</u>	<u>413</u>	<u>613</u>	<u>593</u>	<u>693</u>	<u>858</u>	<u>773</u>	<u>773</u>	<u>823</u>	<u>783</u>	<u>673</u>	<u>673</u>	<u>473</u>	<u>273</u>	<u>174</u>	<u>9,090</u>	
CONTINGENCY (10%)	14	36	41	61	59	69	86	77	77	82	78	67	67	47	27	17	910	
<u>TOTAL (WITH CONTINGENCY)</u>	<u>154</u>	<u>399</u>	<u>454</u>	<u>674</u>	<u>652</u>	<u>762</u>	<u>944</u>	<u>850</u>	<u>850</u>	<u>905</u>	<u>861</u>	<u>740</u>	<u>740</u>	<u>520</u>	<u>300</u>	<u>191</u>	<u>10,000</u>	
<u>CUMULATIVE</u>	<u>154</u>	<u>553</u>	<u>1,007</u>	<u>1,682</u>	<u>2,334</u>	<u>3,096</u>	<u>4,040</u>	<u>4,890</u>	<u>5,740</u>	<u>6,646</u>	<u>7,507</u>	<u>8,247</u>	<u>8,988</u>	<u>9,508</u>	<u>9,808</u>	<u>10,000</u>	<u>10,000</u>	
<u>B. SOURCES OF FUNDS</u>																		
<u>GOV/OMAN CONTRIBUTION</u>	<u>2,000</u>	-	-	-	<u>2,000</u>	-	-	-	<u>1,000</u>	-	-	-	-	-	-	-	<u>5,000</u>	
<u>AID/WASH CONTRIBUTION</u>	<u>2,000</u>	-	-	-	<u>2,000</u>	-	-	-	<u>1,000</u>	-	-	-	-	-	-	-	<u>5,000</u>	
	<u>4,000</u>	-	-	-	<u>4,000</u>	-	-	-	<u>2,000</u>	-	-	-	-	-	-	-	<u>10,000</u>	

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Table III B-2

PROJECTION OF EXPENDITURES BY FISCAL YEAR  
(\$000)

	<u>FY '91</u>		<u>FY '92</u>		<u>FY '93</u>		<u>FY '94</u>		<u>TOTAL LOP</u>		<u>PROJECT</u>
	<u>AID</u>	<u>GOV</u>	<u>AID</u>	<u>GOV</u>	<u>AID</u>	<u>GOV</u>	<u>AID</u>	<u>GOV</u>	<u>AID</u>	<u>GOV</u>	<u>TOTAL</u>
STUDIES	500	500	1,250	1,250	1,375	1,375	600	600	3,725	3,725	7,450
TECHNICAL ASSISTANCE	270	53	195	53	190	53	205	53	860	210	1,070
TRAINING	60	-	60	-	-	-	-	-	120	-	120
COMMODITIES (EQUIPMENT)	-	89	-	-	-	-	-	-	-	89	89
OPERATIONS SUPPORT	-	59	-	59	-	59	-	59	-	236	236
EVALUATION & AUDIT	-	-	50	-	-	-	75	-	125	-	125
<u>SUB-TOTAL</u>	<u>830</u>	<u>701</u>	<u>1,555</u>	<u>1,362</u>	<u>1,565</u>	<u>1,487</u>	<u>880</u>	<u>712</u>	<u>4,830</u>	<u>4,260</u>	<u>9,090</u>
CONTINGENCY (10%)							170	740	170	740	910
<u>TOTAL (CUMULATIVE)</u>	<u>830</u>	<u>701</u>	<u>2,385</u>	<u>2,062</u>	<u>3,950</u>	<u>3,549</u>	<u>5,000</u>	<u>5,000</u>	<u>5,000</u>	<u>5,000</u>	<u>10,000</u>

CAPITAL PROJECTS DEVELOPMENT FUND

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Table III B-3

LIFE OF PROJECT BUDGET  
(US\$000)

	<u>U.S.A.</u>		<u>O M A N</u>		<u>TOTAL</u>
STUDIES BUDGET	\$3,725	75%	\$3,725	75%	\$7,450
TECHNICAL ASSISTANCE (PERSONNEL)	\$860	17%	\$210	4%	\$1,070
TRAINING	\$120	2%			\$120
COMMODITIES (EQUIPMENT)			\$89	2%	\$89
OPERATING EXPENSE			\$237	5%	\$237
EVALUATION & AUDIT	\$125	3%			\$125
TOTAL (BEFORE CONTINGENCY)	<u>\$4,830</u>	97%	<u>\$4,260</u>	85%	<u>\$9,090</u>
CONTINGENCY (10%)	\$170	3%	\$740	15%	\$910
	<u>\$5,000</u>	<u>100%</u>	<u>\$5,000</u>	<u>100%</u>	<u>\$10,000</u>

CAPITAL PROJECTS DEVELOPMENT FUND

Table III B-4

METHODS OF IMPLEMENTATION AND FINANCING  
(\$000)

<u>Activity</u>	<u>Method of Implementation</u>	<u>Method of Financing</u>	<u>Estimated Amount</u>	
			<u>AID</u>	<u>OMAN</u>
Studies	AID-Direct	Cash Advance	\$3,725	
	Host Country	Cash Advance		\$3,725
Technical Assistance	AID-Direct	Direct Payment	\$860	
	Host Country	Direct Payment		\$210
Training	AID-Direct	Direct Payment	\$120	
Commodities (Equipment)	Host Country	Cash Advance		\$89
Operations Support	Host Country	Cash Advance		\$236
Evaluation & Audit	AID-Direct	Direct Payment	\$125	
	<u>Sub-Totals</u>		<u>\$4,830</u>	<u>\$4,260</u>
Contingency	AID-Direct	Cash Advance	\$170	
	Host Country	Cash Advance		\$740
	<u>Totals</u>		<u>\$5,000</u>	<u>\$5,000</u>

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Project Paper  
Capital Projects Development Fund (CPDF)

Part I      Summary and Recommendations

- A. Face Sheet
- B. Recommendations
- C. Summary Project Description
- D. Summary Findings
- E. Project Issues
- F. 611(a) Determination

Part II      Project Background Rationale and Description

- A. Background
- B. Project Rationale
- C. Project Description
- D. Required Analyses

Part III      Project Analyses

- A. Technical Analysis
- B. Financial Analysis and Plan
- C. Economic Analysis
- D. Social Soundness Analysis

Part IV      Implementation Plan

- A. Implementing Agencies
- B. USAID
- C. Implementation Arrangements
- D. Procurement Plan
- E. Gray Amendment
- F. Implementation Schedule
- G. Monitoring Plan

Part V      Conditions Precedent and Special Covenants

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## C. ECONOMIC ANALYSIS

### 1. Macro-Economic Framework

The point of departure of modern economic and social development in Oman is 1970, when His Excellency Sultan Qaboos bin Said became the ruler of Oman. The Sultan reportedly takes great personal interest in matters of economic development and makes all important policy decisions.

a. Oman's Position in the Region - Among the six members of the Gulf Cooperation Council (GCC) (Table 1), Oman has approximately the same population size as the United Arab Emirates, and about 10% that of Saudi Arabia. Oman, Bahrain, and U.A.E. have almost the same proportion of ex-patriates 25% to 29%, mostly single males on sponsored short-term contract. Per capita income of Oman is around one-third that of Kuwait, Qatar and U.A.E. The main difference lies in the amount of proven oil reserves. Oman has only 2% of Saudi Arabia's reserves, 4% the reserves of U.A.E. and 4% those of Kuwait. Oman's small size of oil reserves and volumes of annual production are similar to those of Qatar.

b. Major Clients - Oman as oil exporter has links to six leading buyers (Table 2): Japan (39%), Korea (32%), Taiwan (10%), Singapore (6%), U.S.A.(3%), and Netherlands (0%). These six countries buy 80%-89% of oil exports of Oman. The U.S. share has declined from 8% in 1981 to 3% in 1989. Oman as exporter of non-oil commodities is very small. Its major client in the GCC is the U.A.E. which buys 19% to 22% of non-oil exports. Non oil exports are scattered throughout the world.

c. Major Suppliers - Seven countries rank high in the structure of imports: U.A.E. (24%), Japan (16%), U.K. (12%), U.S.A. (8%), German (5%), France (3%), and Netherlands (3%) (Table 4). These seven countries supply around 78% to 71% of Oman's total imports.

#### d. Export and Import Linkage to GDP

	Export Linkage (Table 5 & 6)	Import Linkage (Table 7 )
Japan	16%	4%
U.S.A.	1%	2%
U.A.E.	0%	6%
U.K	0%	3%
Ger.	0%	1%
France	0%	1%
Netherlands	0%	1%
Korea	13%	
Singapore	2%	
Taiwan	4%	

Export-Import linkages are important in the case of Japan (16% and 4%) and Korea (13% and 0%). U.S. linkage is small (1% and 2%) and distant from Japan. Other significant trading partners are: Taiwan (4%), and Singapore (2%), net buyers from Oman, and U.A.E. (6%), U.K. (4%), Germany (1%), France (1%) and The Netherlands (1%), net suppliers. The ratios indicate that Oman's economic structure has limited linkages except for Japan. The linkages are generated entirely by the exports of oil. At this stage the non-oil exports gives poor linkages except for U.A.E.

e. Developments: 1979-1989 - The estimate of macro economic indicators shows that:

	Constant Prices		Current Prices	
	Growth	R squared	Growth	R squared
Gross Domestic Product	9 %	.93	9%	.65
Oil Sector	9 %	.92	6 %	.34
Primary Sector	10 %	.94	13 %	.93
Other non Oil	10 %	.79	11 %	.76
Prod. Government Serv.	7 %	.84	14 %	.89

During the period 1978-1989 Oman experienced solid rates of economic growth. Figures shows that GDP in real terms has been growing at annual rates of 9% (nominal and compound). This implies an insignificant decline in the level of prices. The oil sector has experienced a growth rate in real terms of 9% while the nominal growth was 6%, which means that the level of oil prices dropped at the rate of 3%.

The primary sector (Agriculture and Fishing) has been growing at the rate of 10% in real terms, as against 13% in nominal. This means that nominal prices in the domestic market are increasing at the rate of 3%. The non-oil sector which comprises manufacturing, banking, trade, and construction is growing at the rate of 10% in constant prices.

These results show that the Government of Oman is stressing the primary sector and non-oil sector to attain its goals of diversification, Omanization, and self-sufficiency. On the other hand, the oil sector, the main propeller of the economic system, is growing at a satisfactory rate.

#### AGGREGATED DEMAND

The National Accounts of Oman do not have estimates of the Gross Domestic Product on the expenditure side at constant prices. Therefore the following estimates are based on nominal prices:

	Current Prices	
	Rate Growth	R squared
Gross Domestic Product	11 %	0.778
Net Factor Income	10 %	0.834

Profit remittance	9 %	0.571	
Workers remittance	14 %	0.888	
Gross National Product	11 %	0.760	
Private Consumption	14 %	0.885	(Residual)
Government Expenditure	12 %	0.871	
Gross Saving	5 %	0.238	
Exports	8 %	0.556	
Imports	8 %	0.888	

These results were obtained from time series for 1976-1989. Private Consumption shows the highest annual growth rate at 14%. Government expenditure is growing at a solid trend at the rate of 12%, higher than the GDP rate of 11%. The most important thing to notice here is that Government expenditure plus public investment represents 43% of the effective demand of the economy.

The categories that are performing with weaker trends are: Gross Saving with compound growth rate of 5.%, exports with rate of growth 8 %, and Imports with rate of 8%.

#### BALANCE OF PAYMENTS

The main categories of the Balance of Payments Accounts for the period 1976/1989 are summarized in Table 11. Oman's balance of trade has been strong throughout the period, except in 1986 which showed a deficit of R.O. 47 million (\$ 122 millions). If one takes into consideration the net factor income payments to the rest of the world, the surpluses (ex-post gap) are still positive in most of the years under observation. However, four years were deficitary: 1976 (R.O. 3 million or \$7.8 million), 1978 (R.O. 20 Millions or \$52 Millions), 1986 (R.O. 383 Millions or \$996 millions), and 1988 (R.O. 127 millions or \$330 millions).

The fact that surpluses predominate during the years of deficit leads to the conclusion that Oman, in normal circumstances, is a net exporter of capital. In fact, in table 11 the capital movements of Official Loans generally compensate with Errors and Omissions. It therefore becomes clear that pressures on the level of reserves comes from unregistered capital flows.

Net capital inflow (Grants + Official Capital + Official Loans + Oil + Private) did not have a direct pressure on the import side of the trade balance. Capital movements primarily compensate the swing of export revenues due to the instability of oil prices. The inflow of private foreign capital is insignificant compared to inflow of foreign capital in the oil sector. This means that the economic structure, despite freedom of movement, does not attract autonomous foreign capital inflows. In other words, identification of investment projects with a foreign capital linkage in non-oil sectors will require intensive research on issues of comparative advantage and market size.

## PUBLIC FINANCE

The Government of Oman depends heavily on the oil sector which generates approximately 82% of its revenues (Table 12). The other sources of revenue, duties on trade and corporate taxes are relatively insignificant.

On the expenditure side defense and security absorb 44.2% of revenues. Current expenditure for government services represents 45%, leaving a minimal amount for transfer payments (social security and the like).

The deterioration of public finance started in 1986 due mainly to the decline in oil prices. From 1978 to 1986 current surpluses were sufficient to finance Development Expenditure (capital accumulation) in the public sector. During this period the Government had a sustained Development Expenditure, declining from R.O. 434 millions (\$1,128 millions) in 1985 to R.O. 174 millions (\$452 millions) in 1989. However, all this is likely to change due to the current crisis in the Gulf.

Oman has financed previous deficits by long-term borrowing abroad and/or withdrawals from the General Reserve Fund.

## MONEY SUPPLY

Money supply, M1 (Money in circulation and Demand Deposits), is growing at the rate of 9.8% which is very close to the growth rate of nominal GDP (See Table 13). The banking and monetary system of Oman is at an early stage of development. Money in circulation is nearly at the same level as demand deposits. This means that most transactions in the economy are paid in cash. The money multiplier is low reflecting low lending activity. Time deposits are high but banks invest in foreign markets rather than in the domestic economy.

The Government plays a very special role in the monetary system because it is the major client of the commercial banking system. In fact, government bank deposits balances constitute about 50% of deposits both in the Central Bank and the commercial banking network.

### 2. Demand Analysis for Pre-Investment Activities

To help establish need for the Capital Project Development Fund this Project Paper estimates the effective demand for investment and pre-investment expenditure. Two procedures were followed: interviews were conducted with members of the business community and public officials; and information on capital accumulation for the period 1980 to 1989 has been analyzed.

Limited interviews with officials and businessmen to understand their expectations and future investment plans were

not conducive to a quantitative assessment of the market. The information received was important, however, to assess the limits of the domestic market, and the difficulties that Omani enterprises face with more "efficient" competitors in the region. Listing of identified projects is insufficient to measure market size and the time dimension of possible implementation.

The second approach, analysis of statistical data was more appropriate to sense the real dimension and complexion of the process of capital accumulation. In this report the market assessment is a product of analysis of Capital Accumulation during the period 1980-1989.

a. Capital Accumulation in Resource Base Industries - Oman is a dual economy with a modern oil sector and small traditional sectors of agriculture and fishing. The oil-resource based industry is the cornerstone of Oman's economic and social development of Oman. The oil industry is the only important propeller of public and private investment in the country.

Oil and Gas are the two basic commodities upon which the economic structure of Oman depends. The world oil market situation, substantial additions to Oman's proven reserves, and the intensity of current exploration programs (Oman drilled more wells in 1989 than any other country in the region), all indicate that change and growth of Oman's economic and social development will depend largely upon surpluses in this strategic sector for at least the next 25 years.

There are three strategies on the use of oil as the base industry:

First, maximize the value added of oil exports. At this stage the oil reserves of Oman are relatively small compared to its neighbours in the Gulf region (Table 1), therefore it appears that Oman has no comparative advantage in following the patterns of industrialization of Saudi Arabia or the United Arab Emirates.

Second, construct natural gas resource-based industries. Although Oman has substantial amount of proven "unassociated gas" reserves (10 trillion cubic feet), it appears at this stage that the potential uses of gas for industrial purposes are still of low economic rate of return compared to other Gulf countries where most of the gas feeding their industrial processes is a by product of cheaper oil field "associated gas".

Third, develop an oil resource-based industry, based on imported and domestic oil and gas for transformation and re-export. In the event that Oman's proven oil reserves do not increase substantially the import-export industrialization path followed by Bahrain may be the alternative for Oman to follow. Qatar and Saudi Arabia, with huge excesses of gas and oil are candidates for cooperation in this suggested strategy. Oman's

location, free of Gulf and Red Sea encumbrances, may be a compelling reason for this kind of regional cooperation.

From the natural factor endowment point of view, few other primary resources will compete with oil and gas. Fisheries appears to be the next natural resource base capable of generating down-stream activities. According to the draft "Ten Year Fisheries Sector Development Plan," this sector may generate a yearly product valued at R.O. 29.5 million (\$76.7 million) which may represent up to 6% of oil-generated revenue. Evaluation of fisheries as a renewable natural resource is in process and will support the intensive work that has been done in the last ten years. Implementation will require substantial investment in new and improved port facilities, estimated at R.O. 72 million (\$187 million).

Mineral resources are at a less developed stage. In fact it appears that construction of the copper milling, smelting and refining facilities was somewhat premature. In the short and medium term Oman's copper mining industry will be lagging due to the non identification of suitable ore deposits. The discovery and evaluation of new deposits of reasonable size, and good quality, is critical to the profitability of existing milling, smelting and refining facilities. Substantial pre-production development expenditures are needed for mining activities, such as geological survey studies, exploration, evaluation, and mine development.

#### b. Traditional Primary Sectors

The agricultural sector depends on one of the oldest capital infrastructure irrigation systems (falaj) in the world. At least 51% of Oman's working population, and 4.8% of the expatriate labor force are engaged in agriculture and related activities.

Three factors, soil, water and climate, narrow the limits of agricultural development. Consequently agro-industrial activities can only develop within a small part of the agricultural sector and its small domestic market. Commodities based on agricultural products for export are therefore marginal.

The growth rate of the agricultural and fisheries sector during the period 1978-1989 was 9.81% , which is faster than the growth rate of the oil sector and GDP. But long-term prospects for Omani agriculture are diminished by serious bottlenecks and limiting factors such as the availability of water and good soil.

c. The Non-Oil Production Sector - The development of the oil sector and the public infrastructure have created a strong and solid demand on the Service Sector (Trade, Banking, Hotels, Insurance, Construction). It is clear and evident that Omani

entrepreneurs have a tendency to concentrate on those activities where they have a long-term tradition and comparative advantage. It is probable that this trend will continue.

d. Capital Accumulation in the Productive Sectors - During the period 1980-1989 total capital accumulation in Oman was:

Gross Capital Accumulation 1980-1989  
(R.O. Millions)

	Public	%	Private	%	Total	%
OIL SECTOR	942.0	51	1028.0	51	1970.0	51
GAS IN THE OIL SECTOR	109.0	6	-.		109.4	3
AGRICULTURE & FISHERIES	82.4	5	54.6	3	137.0	4
MANUFACT. & MINING	185.4	10	279.2	14	464.6	12
NON OIL (Service Sect.)	511.4	28	656.4	32	1167.8	30
TOTAL PRODUCTIVE SECTOR	1830.2	100	2018.2	100	3848.4	100

Oman's capital accumulation in the productive sectors, heavily favors the oil (51%) and the services (30%). Agriculture and fisheries have a tiny share (3 %); manufacturing is only 12%.

In the structure of capital accumulation there is an important characteristic. The Government of Oman is engaged in all activities and its share is very important. In fact the Government's investment represents R.O. 1,830 millions (\$4,758 millions) which is 48% of total investment in productive sectors. During the same period the private sector invested R.O. 2,018 millions (\$5,247 millions), representing a share of 52%.

e. Capital Accumulation in the Public Sector - During the period 1980-1989, the Government invested in the indirect productive sectors as follows:

Public Investment	Millions R.O
UTILITIES	976.3
Water	457.6
Electricity	256.0
Comunication	195.5
Irrigation	67.2
INFRASTRUCTURE	718.7
Roads	457.6
Airports	29.0
Ports	25.0
Municipal Services	206.6

SOCIAL		1761.6
Education	267.2	
Health	172.3	
Other	148.1	
Government	1174.0	
	-----	-----
TOTAL INVESTMENT		3456.6
		=====

The public investment in infrastructure amounted to R.O. 3,457 millions (\$ 9,265 millions):

Utilities - R.O. 976 millions (\$2,538 millions)  
Economic Infrastruct. - R.O. 719 millions (\$1,869 millions)  
Social investment - R.O. 588 millions (\$1,529 millions)  
Government - R.O. 1,174 millions (\$3,052 millions)

f. Determination of Potential Demand for Pre-Investment

In order to determine the potential demand for pre-investment activities the following assumptions were made:

- i. At least 75% of investment requires financial, economic and technical justification before its implementation.
- ii. The cost of pre-investment activities as a ratio to the total investment is in the range 5% to 10%.

**Estimates of Expenditure in Pre-Investment  
For Investment Projects in the Priority Sectors**

	Year Average 1980-1989 Investment	(.75% investment) Estimates at:	
		5%	10%
MANUFACTURING & MINING	46.5	1.7	3.5
AGRICULTURE AND FISHERIES	13.7	0.5	1.0
SERVICE SECTOR	116.8	4.4	8.8
UTILITIES	97.6	3.7	7.3
PORTS	2.5	0.1	0.2
	-----	-----	-----
TOTAL PRIORITY SECTORS	277.1	10.4	20.8

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The estimates shows a yearly effective demand for pre-investment activities in the range of R.O. 10.4 million to R.O. 20.8 millions (\$27 millions to \$54 millions).

There are two major findings: First, demand for pre-investment activities in Manufacturing & Mining and Agriculture and Fisheries amounts to a modest range of R.O 2.2 million to R.O. 4.5 million (\$5.7 millions to \$11.7 millions). Second, in the last ten years appears that ports have been a low priority. Therefore the structural bottleneck for small and large fishing industries is likely to need substantial investment in the next five years.

For the same period the probable expenditure on pre-investment activities in the priority sectors is likely to be in the range of \$108 millions to \$216 millions. In summary, the pilot project funding, \$2.5 million yearly for four years, represents only a modest 5% to 10% of the probable pre-investment expenditures of Oman in the priority sectors.

3. Economic Justification of CPDF - The macro economic analysis and the demand analysis, C1 and C2, show that Oman is a rich but still underdeveloped country. Capital accumulation in recent years has been rapid because oil has generated large cash flows and investment decisions have been relatively easy, e.g. the roads to Dubai and Salalah, airport facilities, schools and hospitals, and the hotels, banks, and trading company investments to service the oil industry.

The main problem at this stage is that Oman has not identified clear investment opportunities for its next stage of development. The economic structures at sectoral and regional levels are unbalanced. In the last 20 years development has been concentrated in the Muscat capital area; interior and coastal towns are backward and lack basic infrastructure. Manufacturing has a narrow base and is focused on the small domestic market. The agriculture sector has limited possibilities because of the scarcity of land and water. The mining sector is in its early stage of evaluation and identification of economic and viable sources. Oman has no clear strategy for industrial development and lacks proper identification of comparative advantage.

The Government is demanding mature and implementable projects, preferably in the productive sectors, which however have a narrow base, e.g. manufacturing, mining, agriculture, fisheries. Oman needs a pipeline of investment projects big enough to absorb its considerable capital formation capacity which in the last 10 years amounted to R.O. 7,305 million (\$18,993 million), a yearly average of R.O. 730 million (\$1,899 million).

Building a pipeline of implementable investment projects is a sizeable task. Both the public and private sectors face difficult problems of marketing, scale, technology, and availability of resources. The industrial and commercial experience of Saudi Arabia, UAE, Bahrain, and Qatar are highly relevant. In order to find appropriate regional and world market niches Oman must study neighboring models closely. Where should Oman cooperate, complement, and compete with its neighbors?

The CPDF project is intended to help Oman find practical ways to achieve sustained long-term growth and development. To this end CPDF's will fund research studies, pre-feasibility and feasibility studies, and engineering design of specific investment projects. For this purpose the first phase of CPDF is a \$10 million pilot project, to be implemented over four years (and funded in three). This amount is small compared to Omani pre-investment requirements. These are estimated over the same four year span at R.O. 576 million (\$1,497 million), including R.O. 265 millions (\$689 millions) for the priority sectors.

The CPDF is not an investment project per se. It is an instrument which will point out where, when and how resources are best and most efficiently used. CPDF helps in the process of formulation and appraisal of investment projects by financing the costs of pre-investment. Under the terms proposed in the Project Paper, CPDF requires a rigorous screening and evaluation process to eliminate bad or ill-conceived projects, and to encourage the implementation of solid and sound projects. Therefore the benefits of CPDF project will only materialize if investment projects are implemented. At project level, this means that the cost of pre-investment activities, pre-feasibility and feasibility studies, is an integral part of the total cost of investment. In economic terms the sunk costs of unsuccessful projects are absorbed in the investment costs of successful ones.

4. Economic Impact of CPDF - To measure the impact of the project on the Omani economy we have built a simple simulation model, in Lotus, based on the following assumptions:

a. Oman is a country endowed with capital, but with constraints to investment imposed by absence of: know-how, market identification, and an appropriate measure of its comparative advantage.

b. Estimates of aggregated capital-output ratios of Oman range from 1/1 to 3/1. These are high because of predominance of the oil sector, which generates income at the rate of nearly 1/1, and which accounts for about half of the GDP. This CPDF analysis assumes a more conservative Capital/Output ratio of 4/1.

c. Pre-investment activities are a pre-condition for the implementation of investment projects.

d. All investments mature in three years with no time lag between pre-investment and investment; all investments are equally productive from beginning to end; economic life is uniformly taken at twelve years.

e. The cost of feasibility studies and engineering design is assumed at 10% of the cost of investment.

Based on the above assumptions the negative flows of capital investment, and flows of value-added were determined, to generate cash flows for 12 years. Operating costs of CPDF were estimated under two hypotheses:

Phase I - the time horizon of the pilot project (four years, Alternative B) reflects Project Cash Flows set forth in Financial Analysis, Table III B 1.

Phase II, beyond the time horizon of the pilot project, assumes funding in part by the Government and in part by the private sector. (Alternative A comprises Phase I and Phase II).

The model generates additional capital formation of \$306 million over a 12 year period (Alternative A) and \$ 31.2 million over 6 years (Alternative B) from CPDF-funded feasibility studies. The contribution to value added (Increment of Gross Domestic Product) of new investments, less pre-investment and operating costs, yields an Economic Rate of Return of 17.94% for Alternative A and 9.41% for Alternative B. A second iteration of Alternative B (Pilot Phase) with a capital-output ratio of 3/1 shows an ERR of 14.39%.

These simulations show it is crucial that pre-investment activities generate implementing investment decisions for CPDF to be successful. At the indicated ERRs capital-output ratios of less than 4/1 seem desirable and right.

## 5. Economic Justification of Project Interventions

The specific interventions recommended are studies, technical assistance, financed in part by AID, and training, evaluation and audit, financed entirely by AID.

a. Studies - As stated throughout this Project Paper, little sustained economic development can be expected to occur in the absence of good pre-investment studies. Serious investors in both the private and public sector require solid evidence of financial and economic benefit in order to invest in new ventures. The CPDF is a vehicle for general and sector-specific investment studies which can make a significant contribution to the goals and objectives of the Five Year Development Plan. Studies funded by CPDF will contribute to the quality of

CAPITAL PROJECT DEVELOPMENT FUND  
 AVERAGE RATE OF RETURN TO INVESMENT  
 (Alternative A - With phase two funding)

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=====
!Pre-Inv.  Capital  Increm      Benef-  !
! Cost    FormationValue Add.    Costs  !
!-----!
!
!      1.5      0.0      0.0      -1.5  !
!      2.9      1.2      0.3      -3.8  !
!      3.1      5.4      1.7      -6.8  !
!      4.2     10.4      4.2     -10.3  !
!      5.0     16.6      8.4     -13.2  !
!      5.6     24.8     14.6     -15.8  !
!      5.7     33.1     22.9     -15.9  !
!      5.7     39.3     32.7     -12.3  !
!      6.6     40.3     42.7      -4.1  !
!      6.3     42.9     53.5       4.3  !
!      6.4     45.2     64.8     13.2  !
!      6.5     47.5     76.4     22.3  !
!              -242.1      242.1  !
!
!
!Econ. Rate of Return      17.94%!
!
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```

Assumptions: Capital Output Ratio 4  
 Residual Value of Capital assumes  
 20 years of economic life  
 of Capital Assets



investment decisions and the development of sectoral pipelines of mature investment projects.

In the case of foreign investment, American companies, especially, are not likely to invest in far-away Oman until issues of sectoral opportunity, comparative advantage, access to resources and regional markets, scale, and equity have been conclusively resolved. The "investment climate" and issues relating to the treatment of foreign capital may require special studies. These studies could provide policy makers with the information needed to create appropriate incentives to attract foreign investment. Projects and ideas to create a Business Development Center, a Regional Trade and Banking Center, a Business School with U.S. technical assistance, and to promote the Muscat Stock Exchange, are some of the possible studies CPDF might finance. Surveys of investor attitudes may also be indicated. Meaningful long-term business relationships with Oman will evolve only if investors perceive a willingness to address their interests and concerns.

b. Technical Assistance - Each participating government is expected to contribute technical assistance to the project in accordance with the Financial Plan. For AID this includes a Project Officer who will collaborate in the management and direction of the project over a long-term basis. In economic terms his role can be assessed as providing on-the-job training for counterpart personnel in order that they can assume direction of project efforts once AID's intervention has ended. In other words, technical assistance can primarily be justified on the grounds of sustainability and continuity, i.e. that the goals and objectives of the project can and will continue after conclusion of the project.

c. Training - During the course of designing this project, the team has been struck by the lack of understanding of the process of economic development at all levels of Omani society. Training of qualified Omanis, nominated by the Ministries, can have immeasurable economic benefits because the trainees will provide the means to sustain the project effort.

d. Evaluation and Audit - Both evaluation and audit are widely recognized tools of good management. All projects reap economic benefits from evaluation and audit activities which help define the most efficient uses of financial resources in other interventions and related areas.

## D. SOCIAL SOUNDNESS ANALYSIS

### INTRODDUCTION

Like most less-developed countries, Oman comfronts the problem of establishing relatively uniform bureaucratic systems among widely-dispersed and differing peoples. Oman is an Arab state in which traditional Arab tribal organization serves as the basis of society. The population is divided into hundreds of tribes of varying size and cohesiveness, with such factors nomatic and pastoral peoples constantly interplaying with each other. Generally speaking the system of control "fits" better among the sedentary population than among the nomads despite some adaptations which the Government of Oman has made in the system. What follows in this section are two seperate analyses which describe these adaptations and which show, despite differing ecological contexts, how the Government of Oman is trying to extend the "benefits" of bureaucracy to all its peoples in a just and uniform fashion. However, there are unique problems involved in the extension of any system of control to the nomads, as well as the other non-coastal people who live in the interior of the Sultanate..

Therefore the second section on the nomads will depart from the usual format for social soundness analysis (i.e. treatment of the socio-cultural fit between the project and the beneficiaries, the spread of any interventions made by the project, and how the beneficiaries) will make sucessful use of the interventions described in the |Project Paper.) Instead it will attempt to identify and describe these problems, which in the case of the nomads who roam over such a large area, are formidable. It will also indicate how the "benefits" derived from the project must be especially adapted to the nomads who do occupy such a large proportion of Oman's population, as well as delineate how economic development activities can be spread throughout the country instead of merely to the coastal areas and the sedentary population.

As a part of the general introduction, it should be noted that Oman's peoples are widely dispersed. Centers of population are almost non-existent with the exception of Thumrait. A number of villages are based at various strategic water places. These particular watering places have been established as a result of the Civil Aid P{rogram initiated by the Government of Oman in 1984.

As with all countries the settlement of the population of Oman has been affected bvy its geography and this has shaped both its history and cultural development. Due to its physical setting the Sultinatre has developed apart from the remainder of the Peninsula and Oman today has an identity which sets it apart from the reainder of the Gulf area.

Basically six main categories of Omani people exist: the first being the inhabitants of the coastal areas of Muscat, Muttrah, Sur and Sohar, all of which have a tradition of seafaring, trading and fishing. Secondly the population of the Batinah coast are predominantly agriculturalists. Thirdly, the Hadhr of Nizwa and Rostaq and other traditional settlements are dependent upon the AFLAAJ for their principal source of livelihood; fourthly, the Bedu of the plains and desert areas; fifthly, the Shihuh of the Musandam Peninsula, and finally the peoples of Dhofar who are very different and have linkages with the peoples of Yemen and East Africa.

As will be explained in some detail, Islam plays an extremely important role in Oman. The family and marriage lies at the heart of Islam and it is particularly strong in Arab society, although under Shariah law, marriage is regarded as a civil contract. Marriages are still arranged although the girl must give her consent to the marriage and upon obtaining this consent a contract is exchanged. For the contract to be valid a bride price [mahr] must be paid and the price today is about 500 Omani Riyals [\$1,300). The bride price can and does take a variety of forms and can either be in the form of money, gifts, jewelry and clothes or any combination of these items. Finally it should be noted that in Oman the position of women in society is not quite as rigidly controlled as in other areas of the Gulf, for example in Saudi Arabia. While women are often veiled they do wear brightly colored clothes but are not so strictly confined to women's quarters. It is common to see women riding donkeys whilst the man walks. Gradually women are finding a place in the economy of Oman. Thus the project setting is one of rapid changes brought on by rapid and pervasive economic development. Women in particular can be expected to play an influential yet limited role during the life of the project.

Part A

## 1. Introduction

A crucial linkage in the delivery of benefits to Oman's population is the various forms of Omani Government Organizations for the delivery of benefits, be it the delivery of health services, schools, roads, or other forms of infrastructure. Over--million of Oman's inhabitants are dispersed throughout a rather vast country with over 80% living as sedentary villagers in the agricultural areas and another 15% living as pastoral nomads. In addition to an elaborate tribal structure, especially among the nomadic sectors of the population, the Arab's have also contributed Oman's dominant religious belief, Islam. Omani Islam is distinct in that it is primarily Ibadism a branch of the Kharjibe schism that broke with orthodoxy during the sixth century over the quesdtion of leadership within the Muslim community. Ibadism, which takes its name from Abdallah b. Ibad, one of the sects founders, developed in Basra where it was organized by ndfJabir b. Zaid, a native of Firq. Differing from more radical Kharijhe the Ibadis have been able to live in relative peace.

Oman's government seeks various vertical linking units to "spread" governmental control and "benefits" from capital projects to Oman's disparate population. These vertical linkages deal with two groups: villagers and Omani Government personnel. Villagers are provided with such things as basic curative and preventive medicine for common illnesses;, or schooling; or roads, or other types of infrastructural interventions. Problems are solved, disputes resolved, illnesses trated, but always done by local personnel under governmental supervcision.'

This section will focus on the operations of the Government as it relates to the sedentary population and governmental personnel. Three basic social soundness questions will guide the analysis:

a. How does the current system fit socioculturally within the existing structures, processes and values in the various towns and villages throughout the country?

b. Will the project's "benefits" spread successfully to all such groups within the country?

c. Will villagers actually benefit from the project's interventions in the way in which is intended?

The following sections address themselves to these questions, and order of the questions corresponds to the respective sections.

## 2. Sociocultural Fit

Oman is an Arab state in which traditional tribal organization serves as the basis for society. Oman's Arab population is divided into hundreds of tribes of varying size and cohesiveness with such factors as geneological origins, traditional alliances and economic patterns (settled versus nomadic) all contributing to intertribal solidarity. In Oman it is the tribe which regulates social, territorial, economic and political relationships. A tribe in Oman is simply a clan or group of clans that is usually organized around a common ancestor, although there is no formal determinant of whom the ancestor must be and it is not even completely necessary that any common ancestor be recognized. In practice all members simply agree that they do constitute a tribe and have mutually reinforcing obligations. The tribe then is the pragmatic institution that can lead to either divisiveness or conversely to unity. Tribes can become fragmented and can split into two or more when there is a loss of consensus about an ancestor.

Omani tribes have historically had a great deal of autonomy and it is through this unit that all economic benefits from the central government trickle down to the people. Tribes have a formal structure led by a sheikh whose chief duties are to mediate disputes within the group and to lead it when conflicts arise with outsiders or with the central government. The office is not hereditary but sheiks are normally selected from some elite family within the tribe.

In addition to the tribal structure, there is an informal ruling family council [the Taminah]. The duties of the sheikh who serve as the head are roughly those of the sheikh and the selection process is virtually the same, although in practice the taminah is hereditary. Taminahs have always tended to be involved with "national affairs" that is with affairs transcending a tribe or clan. No significant economic development activity can occur without the express consent and approval of the family council and in particular the Taminah. However, here again the powers conferred are not absolute as the community's greatest fears are tyranny and authoritarianism.

#### a. The Imanate

In addition to the tribal structure, the Arabs have also contributed Oman's dominant religious belief, Islam. Omani Islam is distinct in that it is primarily Ibadism, a branch of the Kharjite schism that broke with orthodoxy during the sixth century

over the question of leadership within the Muslim community. For Ibadis, eligibility to be the leader, which they call the Iman, is based on merit alone and does not require membership in Mohammad's tribe.

Imans combine political and religious functions; there is no separation of church and state. The Iman is responsible for the supervision of tax collections and the distribution of state revenues and he appoints governors and judges, enforces the SHARIA (Muslim Laws), provides for the social welfare of the people, and organizes and commands the army. While the Imam's powers are in no way absolute in that he is expected to confer with the ULERMA (religious scholars) and general public on matters affecting the general welfare, his power is nonetheless immense and all political, economic and social activity he must have the agreement of this body in order to be implemented.

Although Ibadism has historically served as the basis for Omani nationalism, not all Omani Arabs are Ibadis and the population today is divided between two large tribal confederations--the Hinawi and the Ghafiri. However, like tribalism, the confederations and alliances are not static. Tribes today do change confederations and most today are the result of some historical accident. Although Arabs do dominate the Oman region and their social organization and religion are standard for the entire country, various other ethnic groups have flourished in the Sultanate. For example, the Ru'us al-jibal region is inhabited solely by a little known people called the Shihuh, a composite group of mysterious origins that has been equated with the Shuhites of the Old Testament. Several other minority groups also can be found in Oman. The Bayasira, a widely-dispersed group, may represent the original inhabitants of Oman.

Generally, economic benefits must not only fit in with the village and tribal structure, but it must reinforce its existence. This is primarily the result of three distinct factors: Villagers must have a voice in the benefits conferred; villagers and tribes must be supportive of the benefits; and the incentives for those implementing the benefits reinforce underlying values. In other words, the conferral of economic benefits must be from the "bottom

up" for it must be the tribes themselves who can either elect to accept or refuse a particular economic intervention. Those charged with the responsibility of accepting or rejecting a particular intervention must be people who are trustworthy and reliable as well as those who remain in the particular locale for most of the year.

#### b. Economic Activity

Agriculture has long been the basis of Omani society. Tribesmen who are farmers are able to overcome poor soil and a shortage of water to grow dates, limes, and other fruits and vegetables. Fishery activities have supplemented agriculture along the coast, and about 7% of the population have followed a nomadic life-style. Some traditional manufacturing has also been conducted, with pottery, weaving, metal work, ship building and several other handicrafts being important activities. Although less than 1% of the Sultanate's land is cultivatable, agriculture is by far the most important economic activity in the country, and is the livelihood of 85 percent of the people. While there is a lack of good soil and a lack of water, farmers have tended to overcome these obstacles.

Economic development is more congruent with the life of sedentary villagers than with that of the migrating nomads. It is more difficult to supervise and support the latter because of their migratory routes and schedules are subject to climatic conditions and hence are not highly predictable. Nevertheless, like the villager they do recognize the efficacy of economic development and will make use of whatever "fruits" it brings.

### 3. Spread Effect

At least two factors will enable the "fruits" of capital economic development to expand and be implemented throughout the country: the motivation of the tribes themselves and the special attention the central government gives to the needs of a particular locale.

Tribes want very much to share in the benefits of twentieth century economic development. Their recognition of the efficacy of modern life has already been mentioned and they would like to have the "fruits" of economic development readily available. Village sheiks, especially want the best possible life for their people. The Sheik in some locales, as mentioned above, often allies himself with other leaders so as to reinforce his own position. This is because Sheiks work through important village personalities in order to get villagers to agree on an action or to accept innovation. In this way the Sheik not only maintains but actually increases his village support.

Finally economic development is a source of status for aspiring individuals. These individuals are likely to make it known to their fellow members of the tribe that they want to be agents for economic development. In this manner they can be catalyst for upward mobility within the village.

Within the tribal structure, specific people are responsible for the expansion of economic development. As noted earlier, tribes and their leaders are concerned about the general welfare of people. The spread effect will be directly proportional to the amount of interest a Sheik and the family council (the Taminah) take in a particular intervention or economic development activity.

There are, however, some constraints on the expansion of economic benefits. The most obvious and difficult ones to overcome are the vast distances and problems of travel for many Omanis. This is especially the case among the nomads where just finding their particular locale is a problem. Secondly the relatively limited training of most members of the tribe combined with members traditional beliefs, the severe handicap of limited water available and the presence of free-grazing animals all make it difficult to institute any sustained economic development. The exact "fit" to remedy these constraints must be carefully considered prior to the beginning of a particular economic intervention, development scheme.

#### 4. Beneficiaries

The tribes themselves are the obvious beneficiaries because it is they who will receive the benefits of any economic development which occurs as a result of project activities. More important, the tribes themselves are not passive participants but actively benefit from any form of economic development. The tribes themselves oversee the implementation of all activities emanating

from the project. Project personnel must be acceptable to the tribal authorities otherwise no implementation can begin. There remains a hidden hope and expectation that at some point soon, economic development can and will be shifted away from the coastal areas into the more interior and less developed parts of Oman. Regional cooperation and development begins first amongst these peoples before being cast beyond the borders of Oman.

#### 5. Women

The women in Oman deserve special mention. In fact women play a more active and visible role in Oman than in most of the Arabian peninsula, where the role of women is still restricted. In their roles, they have received encouragement and support from the government, which has provided schooling and university education for girls on a par with that of boys. Moreover, the Government has also decreed that women should be given career opportunities and equal pay. In the coastal areas, many women have jobs both in the public and private sectors. In the countryside among the sedentary people, women have always played an active role in the agricultural communities. There is in fact little segregation of men and women. This is a tradition which stretches back to the nineteenth century. Women among the sedentary peoples are indeed emancipated and on the peninsula they are not veiled, although some may wear the burqa or the abaya. They must be regarded as vital players in the economic development scenario in Oman.

#### 6. Conclusion

Despite the constraints noted, economic development activities which flow from this project are an effective way of meeting the needs of the rural poor. This is done through a linkage of local participation in the economic development activities of the country. This linkage insures a minimum disruption of existing local structures and processes and a compatible mixture of traditional and modern beliefs and practices. In addition this linkage can be expanded throughout Oman as more and more people are provided with the benefits of economic development thereby enhancing their lives and bringing to them the "fruits" of the twentieth century.

t B-Social Analysis of Economic  
Development Among the Nomads {Bedouins}

#### Background

As many as 8% of Oman's rural people spend some or all of

their time in nomadic encampments, securing their living by moving their animals to the best available areas of grass and water, while concentrating at certain seasons near some fixed resources such as dry-season wells, dry season agricultural lands, or vegetation. In terms of absolute wealth, many of these nomads may not be the "poorest of the poor" in Oman. Their herds represent substantial living capital, although there is no accurate way to calculate their total value in market terms. Further, the nomads may have a somewhat better economic status as more of their wealth is retained rather than spent.

On the other hand they are clearly the part of the population least integrated into the national political entity, least serviced by national institutions, and least involved in decisions in the broader economy that vitally affects their own lives. Given that the capacity for producing changes lies largely in government hands, their continued marginality threatens to destroy their way of life, which at one time was at least co-equal to, and sometimes even dominant over, that of the settled villagers. Recognizing that the pastoral zone posed special problems and that its development should enhance the lives of the nomads themselves, the various parts of the Government and the Joint Commission have embarked on fisheries and water development activities as a means of reaching this small part of the population.

## 2. Existing Economic Activities

Most nomads maintain small numbers of animals: goats and sheep for milk, meat, wool and hides, a donkey for transport, and maybe even a cow or rarely a horse. As stated about 5-8% of the people follow some form of nomadism. Several traditional Bedouin groups exist--most notably the Wahiba, Duru, Janaba, Awanir, Bait Kathin, and Harasis--whose economies are based on tending goats and camels and who roam within roughly defined tribal territories in the desert. Most Bedouins in Oman spend their summers camped near villages where they own date gardens. Economic development amongst the nomadic people has lagged behind that of the coastal areas. The Government of Oman is attempting to rectify this inequity.

Migrations are usually over very small distances and appear to be a matter of superstition or personal convenience but also assuring that their herds have access of feed and water. Distinctive nomadic groups include the Shawawi of northern Oman and the Jiballs of Dhofar. The Shawagwi are mostly goat herders who inhabit temporary camps among which they rotate regularly. As stated their migrations are normally over very small distances. The Jiballs are unique in that they tend distinctive small cattle. Their migrations generally take them to the northern slopes where

they inhabit caves during the wet season from June to October and then back to the southern slopes during the dry months of winter. The Shihuh are the seasonable nomads moving from the mountains to the coast during the summer summer dry season in Ru'us al-Jibal.

### 3. Receptivity to Economic Development

Despite what they perceive as the elaborateness of twentieth century life, nomads are highly receptive to twentieth century innovations. This is especially true of western medical practices. If anything, they believe that western practices and medicine probably has a pill or an injection for every malady which they face. Nomads know for example that there is a western medicine for fevers, headaches, swellings, skin disorders, gastro-intestinal problems, progressive blindness, and impotence. While they ardently desire to be "free" of governmental control, they nonetheless want to enjoy improved water availability or improved ranges for their herds. Most nomad groups in Oman have at least some hazy knowledge of modern medicine and modern economic development. When it is described fully and when it becomes clear that literacy is not a prerequisite for partaking of the benefits offered by economic development, enthusiasm for the idea is often combined with a wave of visible relief that such an efficacious system is within their capacity if not their grasp. Towns do exist among these peoples and market areas do exist where these interior peoples do sell their wares. In such towns and communities labor is strictly divided among men, women and children. The male role includes participation in the business of the family (his tribe) and when in the town, taking part in community affairs, attending the mosque, supervising the date plantations, or working in the fields. Yet for most there is the ever present need to search for water, feed for their animals and ultimately carrying for the welfare of their families.

### 4. The Constraints Against Economic Development

The Government of Oman recognizes that no special treatment can be accorded to the nomads. All Omani must "share and share alike" in twentieth century economic development. Under these circumstances the spread of economic development is likely to spread much more slowly to the nomadic areas than among the sedentary populations. The Omani Government will have to devise special procedures and methods in order to distribute any benefits which occur under this project. The lack of personnel able to work among the nomads in their own language, the degree to which

services are staffed so far by better educated and trained Omani sedentary groups, and other larger sociopolitical factors of nomad-government relations, all add up to a kind of non-personally motivated but institutional discrimination against the nomadic populations. In order to offset these constraints, nomadic populations need to be assured that all government services will be distributed freely whereas the sedentary groups in Oman must pay for them and in turn pay special fees.

#### D. Role of Women

The female role in the interior and amongst the nomads is to cook for the family and prepare all the meals, serve coffee or tea to any visitors, to sew, make and mend such clothes as are no bought from some far-away shop. In addition, women regularly wash clothes and linen, draw water, wash up after meals, weave and do embroidery. They are not in the mainstream of economic life and for their part they have a marked resistance to abandoning their traditional roles.

#### E. Conclusion

The foregoing analysis is meant to be frank and honest, not accusatory.

In AID guidance on the analytical description of the poor majority, it is recognized that sometimes the poor cannot be reached by the programs supported by AID and counterpart funds due to such reasons as political will, cost-efficiency, or technical capacity. In some measure all these factors may apply to the present situation, although the second and third of these factors could be overcome if some extra assistance is applied.

In any event, the probable inability of this project to impact significantly on nomadic communities in Oman does not militate against the project as a whole. The Omani are committed to treating all citizens equally, to make the system of economic development equitable and widespread, and with this policy many thousands of nomadic Omani can be reached. In the short-run only some members of the nomadic community will benefit, while the large majority will be no worse off than they are now. The real challenge when implementing this project will be to assure that at least some of the "fruits" of economic development and the twentieth century does in fact reach the nomads. Nothing less will be acceptable to the Government of Oman.

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#### IV. IMPLEMENTATION PLAN

##### A. Implementing Agencies

###### 1. Government of Oman

Funds will be obligated through a grant agreement with the Ministry of Finance and Economy. The staff of the OJAC will be responsible for the selection of those areas meriting pre-feasibility, feasibility or engineering design studies. Established criteria outlined in detail in Part III will be followed in making the selection. For public sector capital projects, decisions regarding direct or host country contracting modes for pre-feasibility, feasibility or engineering design work will be made on a case-by-case basis by the OJAC. For potential OMANI or U.S. private investment activities and sectoral studies, direct AID contracts will be undertaken by the OJAC. The project is designed to leverage public and private investment in the studies for pre-feasibility, feasibility or engineering design phases as well as in the follow-on project investment. AID's portion of the CPDF financing of pre-feasibility, feasibility and engineering design work for public and private investment projects will, therefore, be limited to 50% of the costs.

Following completion of the studies, the Ministry of Finance and Economy will be responsible for jointly screening requests for submission for joint funding. The projects ultimately endorsed may originate from local government units, implementing agencies, regional groups or the private sector. While the system for receiving and reviewing requests by the Government of Oman will evolve in greater detail during the course of implementation of the project, the OJAC staff are planning to develop a system with the Government of Oman which will provide maximum input from by local government officials as well as those in the private sector. Initial orientation meetings may be held to familiarize all involved groups with either the Government of Oman and/or the private sector regarding implementation procedures. The Government of Oman will establish a screening process and criteria in conjunction with AID.

###### B. USAID

Within the OAJC, the contracted Project Officer will be the implementing officer for the project. Overall coordination activities will be provided by the Program Office. A U.S. direct-hire program officer will be assigned to monitor the project and he will work as appropriate with the collaboration of the Engineer at the OAJC. A foreign service national employee [FSN] project development specialist and an FSN engineer will assist with project monitoring.

Other staff offices in the OAJC, including the Controller's office, the Regional Legal Advisor, the Fisheries Officer, and the Human Resources Officer will assist in project implementation and monitoring on an as-needed basis. Additional FSN staff personnel may be required to support implementation and monitoring of the contracts and grants under the project.

### C. Implementation Arrangements

#### USAID Review and Selection

In order to ensure that studies proposed for financing meet the project criteria and conform to pertinent statutory criteria, as well as to assess whether the studies to be financed are for projects which AID may be potentially interested in funding as discrete projects, the OAJC will form a Project Review Committee to review studies proposed for financing under the studies component of the project. The Committee will be chaired by the Program Officer or his designee and will be composed of representatives of the Offices of the Controller, Engineering, appropriate technical offices and the CPDF Project Officer. Additional OAJC staff will participate in the deliberations of the Review Committee on an as-needed basis. An appropriate office to act as the Secretariat of the Committee will be designated by the OAJC. The Project Officer will be responsible for agenda development, scheduling, and insuring that appropriate background material on studies and activities which are under consideration are distributed, and comments and decisions by the Review Committee are recorded. The Committee chairperson may be given the authority to approve studies and other activities proposed for financing under the project.

The OAJC will regularly inform AID/Washington of activities initiated under the CFDF project through quarterly project status reports or other appropriate means. In addition, where the study may lead to a sizeable, high profile or complex project for discrete project funding, the OAJC will consult with AID/Washington. In those cases where a feasibility study has been performed and the OAJC intends to proceed with detailed project design and financing, a Project Identification Document [PID] for the sub-project will be required and will be submitted.

### D. Procurement Plan

The authorized source/origin for procurement under the project is the United States. Procurement activities financed under the project will follow the relevant AID Handbooks and regulations, including AID Handbook 18 [entitled "Procurement Policies"]; Handbook 13 [entitled "Grants"]; Handbook 11 [entitled Country Contracting]; Handbook 15 [entitled "Commodities"]; and Federal Acquisition Regulations and AID Acquisition Regulations as applicable. The procurement plans for technical services and commodities follow:

## 1. Technical Services

Technical services for the project will begin with the selection of a Project Officer for the project. Other technical services for the pre-feasibility, feasibility and engineering design studies under the project will be procured under AID-direct requirements type contracts. Additionally, firms can be engaged to update feasibility studies, collaborate with agencies of the Government of Oman, collaborate with the private sector, or implement studies on an as-needed basis. Prospective bidders for the principal contracts will be encouraged to participate as consortia or joint ventures including any minority and/or disadvantaged small businesses. Procurement will begin shortly after the signing of the Grant Agreement, including any refinements in the Scope of Work and all contracts will be advertised in the Commerce Business Daily.

The use of host country contracting for the requirements contracts has been reviewed but considered undesirable for the following reasons:

-First, the implementing agencies does not have the capacity or authority to undertake contracting in Oman;

-Secondly, a major concern in both the OAJC and AID/Washington is to utilize an approach which provides for maximum flexibility and timeliness. Competing for multiple services at the initial stages of project implementation through requirement(s) contracts has been identified as an appropriate approach to accomplish these objectives. Individual feasibility study contracts with multiple agencies in the Government of Oman would intensify management effort and time for both USAID and the Government of Oman. Once the large AID-direct requirements contracts are executed, a process which may take six months, the time and flexibility to undertake individual studies under the sub-projects will be reduced. The process of obtaining services based on prepared scopes of work should be implemented within a period of 45 days thus allowing for the identification of appropriate specialists and getting them on-site. During the proposal process, the competing firms will have to demonstrate the capacity to provide a large range of expertise in a time fashion. The firm(s) selected will be required to provide assistance within a 30-day turnaround period.

-Thirdly, the type of contracting envisioned require a strong capacity to quickly implement, and this presupposes an experienced staff. In addition, there must be an efficient system of work order preparation and approval, and a strong financial capacity to manage with multiple, piecemeal orders. Most agencies in Oman are unfamiliar with or have little experience with this type of contracting process. Moreover, the guidelines imposed by the Government of Oman and the lack of experience in dealing with expatriate types of contracts risks increasing the time periods and thus delaying project implementation. In addition to the time factor, is the lack of available staff qualified to evaluate scopes of work and monitor studies as many may not fall within a particular agency's technical capacity. That is, many of the sub-projects may require personnel with multiple specializations, including social scientists, anthropologists, engineers, environmentalists, transportation specialists, etc. Any particular agency or ministry in the Government of Oman may not have the personnel to perform these specialized backstopping skills.

Notwithstanding these constraints, USAID can decide on a case-by-case basis whether technical studies for infrastructural-type sub-projects can effectively be implemented by the Government of Oman utilizing host-country contracts for U.S. based services. However, such an assessment would have to insure that an adequate and qualified staff as well as streamlined systems of administration are in place, and that the additional workload could be efficiently handled so as to pose no delay to project implementation.

Technical services for smaller project feasibility studies can probably be provided by two or three locally procured AID-direct Indefinite Quantity Contracts (IQCs) for up to \$150,000 each. These IQCs can provide the engineering, economic, anthropological, financial and technical inputs on an as-needed basis. Those studies financed under the small studies fund should cost less than \$30,000 each. The selected IQC contractors will likely work closely with local government officials in carrying out the various studies required.

USAID may procure technical and related operations support for the CPDF by contracting with an 8(a) firm. The selected firm will provide long-term technical, expatriate and technical services. In addition it can procure the needed project commodities and provide other appropriate support. Proposals from one or more firms could be required. Procurement for these services should begin in the second quarter of FY 1991.

## 2. Commodities

Only limited commodities will be procured by the project. Procurement can be undertaken locally by the technical support contractor. USAID may procure some commodities directly through a Project Implementation Order/Commodities prior to the execution of the technical support contract. An illustrative list of commodities to be purchased under the project is included in Annex-D.

### E. Gray Amendment

USAID has given full consideration to the potential involvement of small and/or economically and socially disadvantage firms and has determined there is potential for firms meeting the criteria of the Gray Amendment. That potential is as follows:

-Prospective bidders for the large requirement-type contract(s) for feasibility studies will be required to include the participation of Gray Amendment qualifying enterprises as sub-contractors.

-A qualified Section 8(a) Small Business Act firm may be sought to provide operations support services for the CPDF project.

-Efforts will be made to identify qualified firms under the Gray Amendment for the various evaluations needed during the course of project and sub-project implementation.

### F. Implementation Schedule

The following implementation schedule indicates target dates for project actions:

<u>ACTION</u>	<u>DATE</u>	<u>ACTION OFFICE</u>
1. Project Documentation		
a. Grant Agreement	Jan. 1991	USAID/Gov't of Oman
b. Sub-Project Ags. Signed	Feb. 1991	USAID/Gov't of Oman
c. Technical Support Ags. Signed	Jan. 1991	USAID/Gov't of Oman NGOs
2. Initial Precedents Met	Feb. 1991	USAID

3. Contracting Actions(Studies and Ops. Support)

Technical Support

a. Tech.Assis. Proj.Officer	Feb. 1991	AID
b. Potential Firms Ident.	Feb. 1991	AID
c. PIO/Ts Signed	Feb. 1991	USAID/Gov't of Oman
d. Proposal(s) Reviewed	March 1991	USAID
d. Contracts Executed	April 1991	USAID/Gov't of Oman
e. Contractor(s)on Site	June 1991	USAID
f. Commodity Proc.Init.	June 1991	USAID

4. General Contracts for Studies

a. Advertisements Placed	February 1991	USAID
b. PIO/T Signed	March 1991	USAID
c. RFP Issued	Jan. 1991	USAID
d. Proposals Reviewed	March 1991	USAID
d. Contractors Selected	May 1991	USAID
e. Contract(s)Negotiated and executed	June 1991	USAID
g. Contractor(s)in Place	July 1991	USAID

5. Initial Pre-feasibility, Feasibility, and  
Engineering Design Studies Undertaken

a. Studies	July 1991	USAID
b. Reviewed	August 1991	USAID

6. Evaluation

a. Mid-Project Evaluation	July 1992	USAID/Gov't of Oman
b. Final Project Eval.	May 1993	USAID

7. Project Assistance

Completion Date	Sept. 1996	USAID
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## G. Monitoring Plan

Monitoring will take place continuously over the life of the project. The major monitoring responsibility, however, will be borne by the OAJC as the implementing agency. To facilitate monitoring, OAJC will develop and maintain a database for all sub-projects. This database will contain the following indicators pertaining to the progress and status of implementation of project and sub-project activities:

- \*-Number, type and profile of projects identified for sub-project funding;

- \*-Number and type of engineering plans, environmental assessments prepared under the project and sub-projects;

- \*-Number and type of pre-feasibility and feasibility studies for major infrastructure investments;

- \*-Project financial performance vis-a-vis planned budget and proposed schedule of disbursements.

For monitoring purposes, the contractors' quarterly and annual reports will be submitted to USAID and the Government of Oman. These reports will delineate contractor's activities; status information on the key monitoring indicators; analysis of the implementation experience, problems encountered and those lessons learned which can be readily utilized to improve project implementation.

## EVALUATION SCHEDULE

Ongoing evaluation studies will be an integral feature of the project and all sub-projects from the outset. The evaluation process will center around: the quality and status of the outputs, sub-project significance as a means of reaching purposes and goals; and the verification of scheduled activity completion. Recommended changes and modifications will be developed from these activities in order for the project to realize more fully its stated goals and sub-goals. The results of the evaluation will serve as a tool for assessing the transferability of the project to other parts of Oman and to the Gulf area.

### A. Collaborative Arrangements

Strategy for the evaluation process will emerge as each sub-project pre-feasibility study, feasibility study and engineering design study is implemented. Evaluation programs should be related to the overall goal of increasing the presence of American firms in both the public and private sectors in Oman. All participants in both the public and private sectors will be participants in the evaluation process.

### B. Studies and Other Activities (Interim-to be performed during the eighteenth month of project implementation )

The following are the proposed evaluation indicators for the studies and operations support:

- Effectiveness of project assistance and the sectors of the public and private sectors in defining and developing project proposals from the sub-project activities for funding;

- Responsiveness of the project generation mechanisms and operating procedures to screen any proposed projects;

- Problems encountered in securing and administering the project inputs as needed to develop the projected outputs;

- Extent to which future projects incorporate the recommendations/conclusions emanating from the development plans and feasibility studies; and

- For projects that have resulted from the studies undertaken by this project: a) to examine their effectiveness in meeting goals and objectives established under the sub-projects and b) to assess the contribution of the feasibility and planning inputs provided through this project.

### C. PIF (Interim)

An evaluation of PIF after approximately twelve months (or earlier if it is deemed appropriate) of operation will review the overall effectiveness of the mechanism in generating viable studies that have had or can be expected to lead to private and public sectors investments in Oman. Accordingly, it will look at both the structure and the client or investor side of the program and make recommendations for programs continuation or changes to improve the overall effectiveness of implementing the project. The evaluation will analyze such questions as:

- for funding;
  - Management effectiveness of the activities selected
  - Appropriateness of screening criteria;
  - Effectiveness of promotional efforts;
  - quality of studies being financed;
- value they see in the project;
  - Private Sector reaction to the project and the
- and resolutions of any problems caused by AID procedures; and
  - AID support to the project as well as an analysis
- Adequacy of the funding levels for the studies.

### D. Final Evaluation

The final evaluation will incorporate any questions addressed in the interim evaluation and will focus on the impact in achieving the project purpose--that is, have the studies and engineering design plans resulted in the development and implementation of high-priority projects (public and private) financed ;under or in association with the project?

CONDITIONS PRECEDENT AND SPECIAL COVENANTS

In addition to the standard provisions pertaining to Project and Grant Agreements, the following Conditions Precedent [CPs] and Special Covenants are proposed:

1. CP to First Disbursement of Funds

-There will be an agreement in writing that all technical services and studies financed from project funds will have as a source origin the United States [000].

2. CP for Additional Disbursement of Funds

-Prior to the disbursement of funds under this project, or the issuance of documentation pursuant to which disbursement will be made for any purpose other than to finance the procurement of technical assistance, the Grantee will, except as the parties may otherwise agree in writing, furnish to A.I.D. in a form and containing the substance satisfactory to A.I.D. an implementation plan for the institutional support of activities financed under this project.

3. CP for the Additional Disbursement of Funds

-The parties signatory to the Grant or Project Agreement will agree in writing to a timetable for the disbursement of funds under the project.

## SPECIAL COVENANTS

(1) The Parties agree that it is desirable to mobilize both public and private capital in order to complement and help optimize investments in both sectors and that studies and related project activities will be aimed to accomplish this objective. Except as the Parties may otherwise agree in writing, the Parties agree that A.I.D. may provide approximately \$5,000,000 subject to the availability of funds for this purpose to assist in the establishment of a list of project interventions into which future funding efforts can be directed.

(2) The Grantee will make available in a timely manner the counterpart funding of \$5 million required.

(3) The Parties agree to establish an evaluation program as a part of this project. Except as the Parties may otherwise agree in writing, the program will include, during the implementation of the project and the sub-projects, one or more of the following:

- Identification and evaluation of those program areas or constraints which may inhibit the achievement of the goals and purposes of the project;

- Assessment of how the information gained may be used to overcome such problems; and

- Evaluation of the overall development impact of the project.

## ANNEX A

1. AID Representative Miller presented PID to PRC on 28 March. AA/ANE approves PID subject to conditions noted below and redelegates PP approval authority to AID Rep. In addition to unresolved design issues elaborated in the PID, OAJC should also focus its attention on the other issues identified by the PRC which are repeated below.
2. Private Sector Participation - The PID notes that GovOman supports for use of funds to support private sector capital projects will be a necessary condition before implementation of project. PRC concurred in the importance of this issue and suggests that OAJC examine GovOman support as a first step of project design. PRC view was that mechanism for giving preference to private sector projects over capital projects should be done by weighting the selection criteria rather than by attempting to establish a minimum quota.
3. Demand Analysis. At an early stage in project design, OAJC should establish the effective demand of both private and public sectors to ensure absorption and determine allocation of project funds. For the public sector. Public investment component of GovOman draft \_\_\_ fourth five year plan provides a ready means of confirming demand. Special attention should be given to ensuring adequate response to viable proposals from the private sector.
4. Potential U.S. involvement in follow-on capital projects. An important purpose of the project is to stimulate U.S. private sector involvement in follow-on capital projects resulting from project financed engineering studies is highly desirable, and we strongly endorse efforts to promote such involvement. Projects which result in U.S. trade and investment opportunities should be given priority consideration as noted in project criteria. In your screening process, you should focus on those areas with potential U.S. trade and investment linkages.
5. Project Scope. Given the relatively modest budget, activities should be limited to pre-feasibility, feasibility or engineering design work. Ensuing capital project proposals should be viewed as candidates for financing through separate projects.
5. Economic Analysis. As proposed in the PID, Mission is encouraged to undertake full benefit/cost or equivalent economic analysis at the feasibility study stage to the extent that it is practical to do so. PP should reflect the distinction between financial analysis and economic analysis and both should be applied in sub-project evaluation. Calculation of IRRs should not be used alone. Recommend that net present value also be calculated for each application. IRR is particularly hazardous as a device for project ranking. If Mission intends to evaluate a menu of possible projects, NP is a superior device for ranking them. Still better, Mission is urged to use the net \_\_\_

investment ratio in cases where it needs to rank alternative projects. Evaluation and limitations of this measure as a ranking device can be found in J. Price Gittinger. Economic Analysis of Agricultural Projects. pages 346-361. Any design contractor will be familiar with this method, so it is merely recommended that it be included as an option in scopes of work for design teams when project ranking is an issue.

7. Financial Analysis. We recommend that the financial analysis section of the PP be strengthened along lines of AID HB3 guidance. In cases where private investment is important, a full financial analysis should be submitted and also scopes of work. Financial sustainability of institutions involved in sub-projects should also be included. PRC suggested that PP might contain an annex that spells out expectations of design teams for both the economic and financial analyses. Requirements of Handbook 3 and especially appendices 3D and 3E provide the basis. If Mission still has copy of pre-1988 editions of HB 3 3D and 3 E were more detailed and may be more helpful in drafting guidance and SOWs for contractors than the shorter revised design.

8. Management Responsibility. PRC concludes that proposed shifting of project management to MFE after third year (PID page 10) should be dropped.

9. Impact. The PP should include monitoring and evaluation component which tracks to the extent possible, project impact on beneficiaries, in developing the PP. The Mission is required to be cognizant of the potential impact on women, assuring, whenever possible, that they are beneficiaries and at the least, are not adversely impacted on this project.

10. EXIMBANK Participation. ANE/MENA will consult with EXIMBANK regarding latter's potential participation in this project.

11. AID/W assistance. ANE/PD will assist in locating quality design contractors and experts in finance, when OAJC has defined its requirements.

PROJECT CHECKLIST

Listed below are the statutory criteria applicable to projects. This section is divided into two parts. Part A includes those criteria applicable to all projects. Part B applies to projects funded from specific sources only: B(1) applies to all projects funded with Development Assistance.

## CROSS REFERENCES:

IS COUNTRY CHECKLIST UPTO DATE? HAS STANDARD ITEM CHECKLIST BEEN REVIEWED FOR THIS PROJECT?

A. GENERAL CRITERIA FOR PROJECT

1. FY 1990 Appropriations Act Section 523: FAA Sec. 634A. If money is to be obligated for an activity not previously justified to Congress, has Congress been properly notified? Yes
2. FAA Sec. 611(a). Prior to an obligation in excess of \$500,000, will there be: (a) engineering, financial or other plans necessary to carry out the assistance; and (b) a reasonably firm estimate of the cost to the U.S. of the assistance? Yes
3. FAA Sec. 611(a)(2). If legislative action is required within the recipient country with respect to an obligation in excess of \$500,000, what is the basis for a reasonable expectation that such action will be completed in time to permit orderly accomplishment of the purpose of the assistance? N/A
4. FAA Sec. 611(b); FY 1990 Appropriations Act Section 501. If project is for water or water-related land resource construction activities, have benefits and costs been computed to the extent practicable in accordance with the principles, standards, and procedures established pursuant to the Water Resources Planning Act (42 U.S.C. 1962 et seq.) See A.I.D. Handbook 3 for guidelines.) N/A

5. FAA Sec. 611(e). If project is capital assistance (e.g. construction), and total U.S. assistance for it will exceed \$1 million, has OAJC Director certified and Regional Assistant Administrator taken into consideration the country's capability to maintain and utilize the project effectively? Yes
6. FAA Sec. 209. Is project susceptible to execution as part of regional or a multilateral project? If so, why is project not executed? Information and conclusion whether the assistance will encourage regional development programs. No, the project will provide bilateral financing for the technical asis.feasibility studies and commodities.
7. FAA Sec.601(a). Information and conclusions on whether projects will encourage efforts of the country to:  
 (a)increase the flow of international trade; (b)foster private initiative and competition; (c)encourage development and use of cooperatives, credit unions and savings and loan associations; (d)discourage monopolistic practices; (e)improve technical efficiency of industry, agriculture and commerce; and (f)strengthen free labor unions. (a) Some of the outputs will lead to activities which may increase export trade and also foreign investment. (b)Project will encourage more private sector investment in the economic development of Oman. c)N/A d)N/A e)Project will provide feasibility studies for infrastructure activities that could lead to improved performance in the stated sectors. f) N/A

8. FAA Sec. 601(b). Information and conclusions on how project encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (incl. use of private trade channels and the services of U.S. private enterprise).
- The studies to be undertaken will utilize private enterprise firms as well as encourage future private investment
9. FAA Secs. 612(b), 616(h). Describe steps taken to assure that, to the maximum extent possible, the country is actually contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the United States are utilized in lieu of dollars.
10. FAA Section 612(d). Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release?
- N/A
11. FY 1990 Appropriations Act Sec. 521 If assistance is for the production of any commodity for export, is the commodity likely to be in surplus on world markets at the time the resulting productive capacity becomes operative, and is such assistance likely to cause substantial injury to U.S. producers of the same, similar or competing commodity?
- The project will not provide funding for the immediate production of any export products
12. FAA Sec. 611(e). If project is capital assistance, and all U.S. assistance for it will exceed \$1 million, has there been a certification by the Director stating that the country can utilize the project effectively?
- N/A
13. FAA Sec. 208.619. Is the project susceptible of execution as part of a regional or multilateral project? If so, why is the project not so executed? Information and conclusion whether assistance is for a newly independent country, is it being
- Project is not susceptible of execution as a part of a regional nor a

- |   |  |
|---|--|
| furnished through multilateral organizations or plans to do so to the maximum extent possible?  | multilateral project   |
| 14. <u>FAA Secs. 103, 103A, 104, 105, 106, 120-21: FY 1990 Appropriations Act, Title II, under heading "Sub-Saharan Africa, DA."</u> Does the project fit the criteria for the source of funds (functional account) being used?   | N/A  |
| 15. <u>FAA Sec. 107.</u> Is emphasis placed on use of appropriate technology (relatively smaller, cost-saving, labor-using technologies) that are generally most appropriate for the small farms, small businesses, and small incomes of the poor)?   | N/A  |
| 16. <u>FAA Secs. 110, 124(d).</u> Will the recipient country provide at least 25 percent of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or is the latter cost-sharing requirement being waived for a "relatively least-developed country)?  | Yes  |
| 17. <u>FAA Sec. 128(b).</u> If the activity attempts to increase the institutional capabilities of private organisations or the government of the country, or if it attempts to stimulate scientific and technological research, has it been designed and will it be monitored to ensure that the ultimate beneficiaries are the poor majority?   | N/A  |
| 18. <u>FAA Sec. 281(b).</u> Describe extent to which the program recognises the particular needs, desires and capacities of the people of the country; utilises the country's intellectual resources to encourage institutional development; and supports civil education and training in skills required for effective participation in governmental processes essential to self-government. | Projects proposed at all levels of govt. are eligible for feasibility studies under the project. |
| 19. <u>FY 1990 Appropriations Act, under heading "Population DA," and Sec. 535.</u> Are any of the funds to be used for the performance of abortions as a method of family planning or to motivate or coerce any person to engage in the practice of abortions?   | No   |

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- Are any of the funds to be used to pay for the performance of involuntary sterilization as a method of family planning or to coerce or provide any financial incentive to any person to undergo sterilizations? No
- Are any of the funds to be made available to any organization or program which, as determined by the President, supports or participates in the management of a program of coercive abortion or involuntary sterilization? No
- Will funds be made available only to voluntary family planning projects which offer, either directly or through a referral to, or information about access to, a broad range of family planning, methods and services? No
- In awarding grants for natural family planning, will any applicant be discriminated against because of such applicant's religious or conscientious commitment to offer only natural family planning? N/A
- Are any of the funds to be used to pay for any biomedical research which relates, in whole or in part, to methods of, or the performance of, abortions or involuntary sterilization as a means of family planning? No
20. FAA Sec. 601(e). Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise? Yes
21. FY 1990 Appropriations Act Sec. 579. What portion of the funds will be available only for activities of economically and socially disadvantaged enterprises, historically black colleges and those universities having a student body in which more than 40 percent of the students are Hispanic-Americans, and private and voluntary organizations which are controlled by individuals who are black Americans, or who are economically or socially disadvantaged (including women)? The sv for op. spt. can be done by firms which do meet the terms of the Gray Amendment

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22. FAA Sec. 118(c). Does the assistance comply with the environmental procedures set forth in A.I.D. Regulation 16? Does the assistance place a high priority on conservation and the sustainable management of tropical forests? Specifically, does the assistance, to the fullest extent feasible: (1) stress the importance of conserving and sustainably managing forest resources; (2) support activities which offer employment and income alternatives to those who otherwise would cause destruction loss of forests, and help countries identify and implement alternatives to colonizing the forested areas; (3) support training programs, educational efforts, and the establishment or the strengthening of institutions to improve forest management; (4) help end destructive slash- and -burn agriculture by supporting stable and productive farming practices; (5) help conserve forests which have not yet been degraded by helping to increase production on lands already cleared or degraded; (6) conserve forested watersheds and rehabilitate those which have been deforested; (7) support training, research and other actions which lead to sustainable and more environmentally sound practices for timber harvesting, removal and processing; (8) support research to expand knowledge of tropical forests and identify alternatives which will prevent forest destruction, loss or degradation; (9) conserve biological diversity in forest areas by supporting efforts to identify, establish and maintain a representative network of protected tropical forest ecosystems on a worldwide basis, by making the establishment of protected areas a condition of support for activities involving forest clearance or degradation, and by helping to identify tropical forest ecosystems and species in need of protection and establish and maintain appropriate protected areas; (10) seek to increase the awareness of U.S. Government agencies of the immediate and long-term value of tropical forests; and (11) utilize the resources and abilities of all relevant U.S. government agencies?

Yes  
The bulk of the feas. studies will be for infras. and thus require environment assessment. These will conform to the prov. of AID Regulation 16.

(1)-(11)-N/A

23. FAA Section 118(c)(13). If the assistance will support a program significantly affecting any tropical forests (including projects involving the planting of exotic animal species), will the program or project: (1) be based upon careful analysis of the alternatives available to achieve the best sustainable use of land, and (2) take full account of the environmental impacts of the proposed activities on biological diversity? N/A
24. FAA Sec. 118(c)(14). Will assistance be used for: (1) the procurement or use of logging equipment, unless an environmental assessment indicates that all timber harvesting operations involved indicates that all timber harvesting operations will be conducted in an environmentally sound manner and that the proposed activity will produce positive economic benefits and sustainable forest management systems; (2) actions which will significantly degrade national parks or similar protected areas which contain tropical forests, or introduce exotic plants or animals into such areas? 1)No  
2)No
25. FAA Sec. 118(c)(15). Will assistance be used for: (1) activities which would result in the conversion of forest lands to the rearing of livestock; (2) the construction, upgrading or maintenance of roads (including temporary haul roads for logging or other extractive industries) which pass through relatively undergraded forest lands; (3) the colonization of forest lands; or (4) the construction of dams or other water control structures which flood relatively undergraded forest lands, unless with respect to each an environmental assessment indicates that the activity will contribute significantly and directly to improving the livelihood of the rural poor and will be conducted in an environmentally sound manner which supports sustainable development? 1)No  
2)No  
3)No  
4)No
26. FY 1990 Appropriations Act. If assistance relates to tropical forests, will project assist countries in developing a systematic analysis of the appropriate use of their total tropical

forest resources, with the goal of

developing a national program for sustainable forestry?

N/A

27. FY 1990 Appropriations Act.

(Section 534(b). If assistance relates to energy, will such assistance focus on improved energy efficiency, increased use of renewable energy resources, and national energy plans (such as least cost energy plans) which include investment in end-use efficiency and renewable energy resources?

N/A

Describe and give conclusions as to how such assistance will: (1) increase the energy expertise of the A.I.D. staff, (2) help to develop analyses the energy sector actions so as to minimize emissions of greenhouse gases at least cost, (3) develop energy-sector plans that employ end-use analyses and other techniques to identify cost-effective actions to minimize reliance on fossil fuels, (4) help to analyze fully environmental impacts (including impact on global warming), (5) improve efficiency in the production, transmission, distribution and use of energy, (6) assist in exploiting non-conventional renewable energy resources, including wind, solar, small-hydro, geo-thermal, and advanced biomass systems, (7) expand efforts to meet the energy needs of the rural poor, (8) encourage host countries to sponsor meetings with United States energy efficiency experts to discuss the use of least-cost planning techniques, (9) help to develop a cadre of United States experts capable of providing technical assistance to developing countries on energy issues, and (10) strengthen co-operation on energy issues with the Department of Energy, EPA, the World Bank, and the Development Assistance Committee of the OECD.

N/A

28. FY 1990 Appropriations Act, Title II under heading "Sub-Saharan Africa, DA"

(as interpreted by conference report upon original enactment). If assistance will come from the Sub-Saharan Africa DA account, is it: (1) to be used to help the poor majority in Sub-Saharan Africa through a

process of long-term development and economic growth that is equitable, participatory, environmentally sustainable, and self-reliant; (2) being provided in accordance with the policies contained in Section 102 of the FAA; (3) being provided, when consistent with the objectives of such assistance, through African, United States or other PVOs that have demonstrated effectiveness in the promotion of local grass-roots activities on behalf of long-term development in Sub-Saharan Africa; (4) being used to overcome shorter-term constraints to long-term development, to promote reform of sectoral economic policies, to support the critical sector priorities of agricultural production and natural resources, health, voluntary family planning services, education and income generating opportunities, to bring about appropriate sectoral restructuring of the Sub-Saharan African economies, to support reform in public administration and finances and to establish a favourable environment for individual enterprise and self-sustaining development, and to take into account, in assisted policy reforms, the need to protect vulnerable groups; (5) being used to increase agricultural production in ways that protect and restore the natural resource base, especially food production to improve health conditions with special emphasis on meeting the health needs of mothers and children, including the establishment of self-sustaining primary health care systems that give priority to preventive care, to provide increased access to voluntary family planning services, to improve basic literacy and mathematics especially to those outside the formal educational system and to improve primary education, and to develop income-generating opportunities for the unemployed and under-employed in urban and rural areas?

N/A

29. International Development Act Sec. 711.  
FAA Sec. 463. If project will finance a debt-for-nature exchange, describe how the exchange will support the protection of :  
(1) the world's oceans and atmosphere,  
(2) animal and plant species, and (3)  
parks and reserves; or describe how the exchange will promote:

- (4) natural resource management,
- (5) local conservation programs,
- (6) observation training programs,
- (7) public commitment to conservation,
- (8) land and ecosystem management, and
- (9) regenerative approaches in farming, forestry, fishing and watershed management.

N/A

30. FY 1990 Appropriations Act Section 515. If deob/reob authority is sought to be exercised in the provision of DA assistance, are the funds being obligated for the same general purpose, and for countries within the same region as originally obligated, and have the House and Senate Appropriations Committees been properly notified?

N/A

31. FAA Section 110(b). Will grant capital assistance be disbursed for project over more than three years? If so, has justification satisfactory to Congress been made, and efforts for other financing?

Grant funds will be distributed over three years.

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS																																
<p>Program or Sector Goal: The broader objective to which this project contributes: (A-1)</p> <p>To achieve broader based, country-wide and more sustainable economic growth in Oman through studies in the public and private sectors-studies which will lead to development-oriented projects.</p>	<p>Measures of Goal Achievement: (A-2)</p> <ol style="list-style-type: none"> <li>1. Increased incomes and more employment opportunities.</li> <li>2. More in-depth pre-feasibility, feasibility and engineering design studies which will lead to follow-on funding of development projects.</li> <li>3. Increased contributions to the non-oil related GNP.</li> <li>4. Development projects throughout Oman, especially in the non-coastal areas.</li> </ol>	<p>(A-3)</p> <ol style="list-style-type: none"> <li>1. Survey of family income in the target areas</li> <li>2. Project evaluation reviews, monitoring and other site-reports</li> <li>3. Surveys of private investments in areas targeted for studies</li> <li>4. Government of Oman economic &amp; other statistical indicators</li> </ol>	<p>Assumptions for achieving goal targets (A-4)</p> <ol style="list-style-type: none"> <li>1. Economic and political stability will persist in Oman.</li> <li>2. Government of Oman policies continue to encourage development of the private sector and that the private sector can contribute to economic development</li> <li>3. Government of Oman policies will continue to encourage the participation of American private enterprise in the economic development of Oman in both the public and the private sectors.</li> <li>4. Peace and tranquility will continue to prevail in Oman.</li> <li>5. The private sector will continue to grow.</li> </ol>																																
<p>Project Purpose: (B-1)</p> <p>To assist Oman to develop and implement high priority development projects which will be identified through studies financed under the project.</p>	<p>Conditions that will indicate purpose has been achieved: End-of-Project status. (B-2)</p> <ol style="list-style-type: none"> <li>1. Improved quality and quantity of projects approved for future FY funding.</li> <li>2. Improved activity/quality of pre-feasibility, feasibility and engineering design studies for projects.</li> <li>3. More effective monitoring and co-ordination of projects.</li> <li>4. Strengthened human resources throughout Oman and increased evidence of trained personnel at the intra-regional levels in Oman.</li> <li>5. Increased private sector investments in projects throughout Oman but especially in the non-coastal areas.</li> </ol>	<p>(B-3)</p> <ol style="list-style-type: none"> <li>1. Survey of numbers of sub-projects funded under the project.</li> <li>2. Survey of investment data by area of the country.</li> <li>3. Impact studies</li> <li>4. Project reports, project reviews, monitoring and evaluation reports of sub-projects.</li> </ol>	<p>Assumptions for achieving purpose: (B-4)</p> <ol style="list-style-type: none"> <li>1. Future funding for viable sub-projects will continue to be available through AID.</li> <li>2. Government of Oman and AID will continue to honor commitments.</li> <li>3. Willingness of the assist with investments and economic growth outside the present areas.</li> <li>4. Financial markets willing to assist to mobilize private enterprise by committing resources outside of the capital coastal area.</li> </ol>																																
<p>Project Outputs: (C-1)</p> <ol style="list-style-type: none"> <li>1. Detailed information regarding economic development in various zones as summarized from pre-feasibility, feasibility and engineering design studies.</li> <li>2. Pre-feasibility, feasibility or engineering design studies which can be used for nationwide economic development.</li> <li>3. Pre-feasibility, feasibility and engineering design studies proposed by local government units and/or the private sector.</li> <li>4. Studies regarding areas of investment.</li> <li>5. Evaluation and audits of the various project</li> </ol>	<p>Magnitude of outputs: (C-2)</p> <ol style="list-style-type: none"> <li>1. 3 or more</li> <li>2. 1 1/4 or more</li> <li>3. 10 or more</li> <li>4. 5 or more</li> <li>5. Two (one interim and one final) and 1 audit report.</li> </ol>	<p>(C-3)</p> <ol style="list-style-type: none"> <li>1. Project and sub-project records and databases</li> <li>2. Project reviews</li> <li>3. Contractor's Reports</li> <li>4. Evaluations and Audit Reports</li> </ol>	<p>Assumptions for achieving outputs: (C-4)</p> <ol style="list-style-type: none"> <li>1. Government of Oman policies continue to support public and private sector development especially in the least developed area of the country.</li> <li>2. Quality expertise is readily available to conduct the various pre-feasibility, feasibility and engineering studies under the project.</li> <li>3. Demand for assistance within the Government of Oman and in the private sector continue as is and does not diminish.</li> </ol>																																
<p>Project Inputs: (D-1)</p> <ol style="list-style-type: none"> <li>1. Finance for Studies</li> <li>2. Technical Assistance for the following:             <ol style="list-style-type: none"> <li>a. Pre-feasibility, feasibility and engineering design studies</li> <li>b. Training and Human</li> <li>c. Evaluation and Audit</li> </ol> </li> </ol>	<p>Implementation Target (Type and Quantity) (D-2)</p> <table border="1"> <thead> <tr> <th></th> <th>USAID</th> <th>Govt of Oman</th> <th>8000</th> </tr> </thead> <tbody> <tr> <td>1. Studies</td> <td>3,750</td> <td></td> <td>3,750</td> </tr> <tr> <td>2. Technical Assistance Oper. Spt)</td> <td>--</td> <td></td> <td>440</td> </tr> <tr> <td>3. Commodities</td> <td>--</td> <td></td> <td>89</td> </tr> <tr> <td>4. Training</td> <td>120</td> <td></td> <td>--</td> </tr> <tr> <td>5. Evaluation and Audit</td> <td>78</td> <td></td> <td>--</td> </tr> <tr> <td>6. Contin-ency</td> <td>195</td> <td></td> <td>715</td> </tr> <tr> <td><b>Total</b></td> <td><b>5,000</b></td> <td></td> <td><b>5,000</b></td> </tr> </tbody> </table>		USAID	Govt of Oman	8000	1. Studies	3,750		3,750	2. Technical Assistance Oper. Spt)	--		440	3. Commodities	--		89	4. Training	120		--	5. Evaluation and Audit	78		--	6. Contin-ency	195		715	<b>Total</b>	<b>5,000</b>		<b>5,000</b>	<p>(D-3)</p> <ol style="list-style-type: none"> <li>1. AID/Government of Oman Grant Agreement</li> <li>2. Technical Assistance Contracts executed</li> <li>3. Financial Reports</li> <li>4. Project Reports</li> <li>5. Project Records</li> <li>6. Evaluation</li> </ol>	<p>Assumptions for providing inputs (D-4)</p> <ol style="list-style-type: none"> <li>1. Availability of AID and Government of Oman Funding</li> <li>2. Timely availability of counterpart funding from the Government of Oman</li> <li>3. Expedient sub-project identification</li> <li>4. No duplication with other donor activities</li> </ol>
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COMMODITIES (EQUIPMENT) BUDGET

<u>COMMODITIES (EQUIPMENT)</u>	<u>QTY</u>	<u>UNIT COST</u>			<u>TOTAL</u>
		<u>RO</u>	<u>US\$</u>		
<b>COMPUTER &amp; COMMUNICATION</b>					<b>\$27,040</b>
COMPUTER STATIONS	2	1500	3900	7,800	
PRINTERS	2	1500	3900	7,800	
SOFTWARE		1000	2600	2,600	
PHONE PBX/2 LINES	8	175	455	3,640	
PHOTOCOPIER	1	1500	3900	3,900	
FAX (MACHINE & LINE)	1	500	1300	1,300	
<b>VEHICLE</b>					<b>\$31,200</b>
4WD UTILITY WAGON	1	12000	31200	31,200	
<b>OFFICE FURNITURE</b>					<b>\$15,990</b>
DESKS STAFF & TDY	6	250	650	\$3,900	
WORKING CHAIRS	18	55	143	2,574	
ARMCHAIRS	4	250	650	2,600	
SOFAS	2	500	1300	2,600	
BOOKCASES	6	75	195	1,170	
FILING CABINETS	6	75	195	1,170	
CONFERENCE TABLE	1	400	1040	1,040	
MISC. TABLES	6	60	156	936	
<b>SUB-TOTAL</b>					<b>74,230</b>
<b>CONTINGENCY @ 20%</b>					<b>14,846</b>
<b>TOTAL COMMODITIES (EQUIPMENT)</b>					<b><u>\$89,076</u></b>

CAPITAL PROJECTS DEVELOPMENT FUND

07

CENTRAL PROJECTS NOTE 2.01INVESTMENT CRITERIA IN  
ECONOMIC ANALYSIS OF PROJECTS

1. This Note provides a clarification of the criterion to be used when comparing the economic costs and benefits of a project in order to determine if it represents a good use of resources from the economic point of view. It does not consider how economic costs and benefits should be measured or the appropriate procedures when some of the relevant benefits and costs are not quantifiable. It complements a number of guidelines on these and other aspects of project analysis that have been prepared or are under preparation.
2. It is divided into two parts. The first part discusses the investment criteria used in the economic analysis of projects in general terms. It begins with a simple exposition of the concept of the discount rate relevant to economic analysis. The Net Present Value criterion (NPV), which is the fundamental tool in the economic analysis of projects, is then considered, along with one of its variants, the cost-benefit ratio (CB). This is followed by a discussion of the internal economic rate of return rule (IRR), which is a special aspect of the NPV method. Traditionally, the IRR rule is used in Bank practice for the purpose of presenting the results of the economic analysis in President's Reports and staff project reports, although it is frequently a less convenient tool for the analysis itself. This discussion focuses only on those notions which are most necessary to know for Bank staff, including project analysts, reviewers and others involved. It is not a literature survey, or a "state-of-the art" paper. More comprehensive statements are available in the literature referred to in the Appendix.
3. The second part deals with the problems, both presentational and substantial, which are most frequently experienced in Bank practice in this area. The problems discussed here relate to: (a) treatment of projects with very high rates of return, (b) the use of cost minimization techniques, (c) optimum time phasing, and (d) analysis of projects with interdependent components.
4. This discussion of investment criteria also does not introduce risk and sensitivity analysis, on which a separate Note is being prepared. When probability analysis is undertaken the basic decision criterion will usually involve only the expected present value of net economic benefits, based on the expected values of costs and benefits.

often imperfect and fragmented in less developed countries, and moreover the conversion of financial rates to corresponding rates in economic efficiency prices may present formidable conceptual and statistical problems.

### Net Present Value

11. The basic economic criterion concerning the acceptability of a project involves the present (discounted) value of its benefits net of its costs, the benefits and costs being defined in incremental terms as compared to the without project situation. Two conditions must be satisfied if a project is to be acceptable on economic grounds.
  12. First, the present value of the net benefits of the project must not be negative at the appropriate shadow discount rate. Second, the net present value of the project must be higher than, or at least as high as, the net present value of mutually exclusive project alternatives. There are usually many projects, or project options, which by their nature are mutually exclusive: if one is chosen, the other cannot be undertaken. This applies to different designs or sizes or time phasing of what is essentially the same project. It also applies, perhaps less obviously, to such cases as plants in alternative locations serving the same limited market, surface irrigation development ruling out tubewell irrigation, and river development upstream instead of downstream. It should not be assumed too easily that such mutually exclusive alternatives do not exist. The need to compare mutually exclusive options is one of the principal reasons for applying economic analysis from the early stages of the project cycle.
  13. Sometimes the measurement of the relevant costs and benefits may require that the best alternative project options be carefully explored and examined. An agricultural project, for example, may use undeveloped land for which there is no readily apparent market. The opportunity cost of such land may be mistaken to be zero, or very low, unless its best alternative use is identified. Thus, the project may show a high net present value simply because the alternative uses of the land (for growing other crops, for example) have not been considered. Another example concerns projects which use natural gas, e.g., fertilizer projects. The marginal cost of using the gas may appear to be negligibly low unless its other uses, such as in alternative projects involving liquification for exports, are considered. Although in principle all meaningful project options should be considered, in practice only a few can usually be examined. Nonetheless, it should be borne in mind that a high net present value may reflect an inadequate search for alternative projects rather than a potentially valuable project.
  14. Except when mutually exclusive projects are concerned, there is no need to rank projects in order of priority; projects are either acceptable or not. However, accepting all projects in accordance with the net present value criterion may lead to a greater investment program for the economy than anticipated, in which case otherwise

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is gained (or lost) by investing the \$100. If this is true for all the marginal choices open to an economy, then the division of its income at the margin between consumption and investment is optimal, and the economy should not attempt to increase its investment rate at the expense of current consumption.

3. However, if the return to investment is higher than the CRI, the economy will be at a point where additional savings and investment should be valued more highly than additional consumption, i.e., the economy would be interested in increasing its per capita income faster than it otherwise would. In terms of the illustration above, suppose the annual stream of consumption benefits resulting from the investment is \$12 rather than \$8, the cost-benefit stream being (-100, +12, +12, ...). In this case the present value of the annual benefits at the CRI of 8% is \$150 (i.e.,  $100 \times 12/8$ ), and the net present value of the investment is thus \$50 rather than zero. In other words, for every \$1.00 worth of present consumption sacrificed for investment, the gain in future consumption would be \$1.50. Each additional unit of savings and investment will thus command a "premium" of 50% over consumption. The valuation of the benefits and costs of a project will then need to be correspondingly changed.

9. Whenever the return to investment, or the "investment rate of interest (IRI)", differs from the CRI, an undesirable situation is indicated, and additions to savings and consumption will not be equally valuable at the margin. The issue in such a case is not whether the IRI or the CRI, or some average of the two, is the appropriate discount rate. One should use the CRI if an appropriate premium on savings is consistently applied throughout the analysis; one could alternatively use the IRI if a discount on consumption (corresponding to the premium on savings) is consistently applied. Such problems are avoided in the conventional practice by assuming that the CRI and IRI are equal, i.e., that there is no misallocation of resources at the margin between consumption and savings.

10. Finally, the two types of aggregation problems discussed above are not independent. If consumption gains and losses of different persons are weighted differently, rather than equally (para. 5 above), then the appropriate discount rate will also change. The discount rate used in traditional practice assumes that it equals both the consumption and investment rates of interest, and that gains to all persons are equally weighted. It will be simply referred to as the "shadow discount rate" in the following discussion. Although this discount rate is often referred to as the opportunity cost of capital, it should be noted that it need not have an easily discernible link to financial rates of return observable in private capital markets; such markets are

### Benefit-Cost Ratios

17. A variant of the NPV measure is the benefit-cost ratio, both benefits and costs being defined in terms of their present values. If the net present value is positive (or zero), the benefit-cost ratio will exceed unity (or equal unity). This ratio, which originated from the context of budget rationing, has some presentational appeal: "so many dollars worth of benefits per dollar of costs incurred". Although seldom used in Bank practice such ratios are commonly used in outside documents, such as project feasibility reports. Analysis of projects, however, should not be based on comparisons of benefit-cost ratios, for two reasons:

- (a) such ratios are sensitive to the way costs and benefits are classified, and there is no fixed rule in this respect. For example, suppose the present values of the benefits and costs of an operation are 100 and 50 respectively. The net present value is then 50, and the benefit-cost ratio is 2. However, if we transfer a cost item, worth 20, from the cost side to the benefit side the net present value remains unchanged, as  $\sqrt{100-20} - \sqrt{50-20} = 50$ , but the benefit-cost ratio is increased to 2.7. Thus, simply by grouping benefit and cost items differently, the benefit-cost ratio for the same operation can be changed substantially; and
- (b) moreover, benefit-cost ratios cannot be used to choose the best among mutually exclusive project options, as the option with the highest benefit cost ratio is not necessarily the option with the highest net present value. Benefits of 2 and costs of 1 yield a higher ratio than benefits of 20 and costs of 11.

If benefit-cost ratios are presented in staff project reports, the present value of all significant items of benefits and costs must also be shown in order to clarify the computation of the ratios as much as possible. Usually such ratios are presented only in cases in which the economic rates of return would tend to be very high (see paras. 22-23 below).

### Economic Rate of Return

18. The discount rate at which the net present value of a project becomes zero is its internal rate of return. When benefits and costs are defined in terms of changes in aggregate consumption with equal weights

acceptable projects would have to be rejected. The criterion does not need to be altered in such a case however. To clarify the appropriate procedures in the event of a "budget constraint" it is helpful to distinguish between three cases, the first one being the case with no "budget constraint". First, the discount rate initially used in computing the net present values of the potential projects in the investment program may equal the investment and consumption rates of interest (IRI and CRI). In this case the investment program would accommodate all projects with zero or positive net present values, and no constraint on financing the program would be experienced. It is important to note, however, that the investment program in this context refers to that of the economy; a part of the government, e.g., a state enterprise, may still face budgetary constraints. Persistent undesirable surpluses and deficits in different parts of the system would indicate misallocation of resources rather than the need to change the shadow discount rate or to alter the net present value rule.

15. Secondly, the shadow discount rate may still equal the IRI and the CRI but the size of the investment program may nonetheless be too large. This would indicate that the shadow discount rate initially used in programming was underestimated, and should be raised so as to eliminate some of the projects. It should be noted that if the discount rate is raised, then the relative merits of the various projects would also tend to be affected since the time patterns of costs and benefits differ as between projects. Projects which appeared marginal before may not be the ones to be eliminated when the discount rate is raised. Thirdly, if the economy consistently fails to invest as much of its resources as would be desirable, because of say, a weak fiscal system, then the investment rate of interest (IRI) would exceed the consumption rate of interest (CRI). In this case the choice of the correct discount rate (CRI if consumption is the "numeraire", and IRI if savings is the "numeraire") needs to be combined with the appropriate premium on savings (para. 9). As indicated earlier (para. 10) this case is ruled out by assumption in traditional practice.

16. The estimation of the benefits and costs should preferably avoid biases, and be based on expected values, in the statistical sense, as otherwise it may not be possible to satisfy both aspects of the economic criterion mentioned in para. 12 above. A conservatively biased estimate of the net present value, for example, may suffice to show that it is likely to be positive, but such biases may invalidate comparisons among mutually exclusive alternatives. Sensitivity and risk analyses are generally advisable to identify the assumptions which play a key role in the analysis, and to convey the probability, in the judgment of the analysts, of the success of the project. Such analyses will be discussed in a separate Central Projects Note.

21. For these reasons it is preferable to use and discuss the NPV tests in the economic analysis. However, this does not mean that the IRR should not be used also. First, the IRR, as the switching value of the discount rate, is a very useful concept as indicated above. Second, the final results of the economic analysis have traditionally been presented in terms of the IRR in President's Reports and in staff project reports, and this use as a convenient summary measure should continue.

## II. Special Issues

### Projects with High Rates of Return

22. Occasionally some projects exhibit very high rates of return, say, in excess of 100% or even 1,000%. There is nothing unnatural about such high rates of return if the projects involve, say, mostly maintenance expenditures, or expenditures needed to complete past investments which are sunk costs. More generally, projects which involve minor net costs during the initial years will tend to show high rates of return. Since rates of return of such magnitudes appear rarely for Bank projects, the analyst should identify the special nature of the project investment concerned. It is particularly helpful in such cases to present the estimated net present value (and perhaps the benefit-cost ratio as well) and indicate its sensitivity to the key assumptions made. It is also important to ensure that mutually exclusive alternatives with even higher net present values have not been overlooked.

23. High rates of return may also reflect improper timing of costs and benefits, as discussed in the Appendix, Section II. The usual discounting conventions may ignore important time lags in some cases. As a result, the estimates of the net present value or of the rate of return may be seriously wrong. In such cases, the analyst should use the actual expected time lag between inputs and outputs.

### Cost Minimization

24. If the several mutually exclusive options that are being compared yield the same benefits, it is necessary only to consider costs and select the alternative with the lowest present value of costs when discounted at the appropriate discount rate. A common procedure when only two options are compared in such cases is to obtain the "equalizing" rate of return, which is the rate that equalizes the present value of the two streams of costs. If this rate is higher than the shadow discount rate then the option with the higher initial costs will be the least cost option (and vice versa). If more than two options exist this procedure requires systematic pair-wise comparisons, and may lead to conflicting results. It is then preferable to compare the present

For all individuals and for savings and consumption (para. 10 above), this rate is referred to as the economic rate of return in efficiency prices (ERR). It is also known as the "switching" value of the discount rate, since at discount rates below the ERR the NPV is positive, and at discount rates above the ERR the NPV is negative. Mathematically, such a switching value need not always exist, e.g., when net benefits are positive in all project years; in that case the ERR is not definable. Even when the ERR is definable it may not be unique, i.e., the NPV may change signs at more than one discount rate. However, in practice these problems due to non-existence and non-uniqueness appear to be rarely encountered.

19. Leaving aside such possible difficulties, the ERR is a useful concept as the switching value of a major project parameter, viz. the discount rate. If the ERR is significantly higher than what the shadow discount rate is expected to be then this would provide reassurance regarding the project's soundness. Switching values for other important project parameters may also be very useful. For example, if the maximum value of the wage rate at which the NPV of a labor-intensive project becomes zero is well above the expected shadow wage rate, this would also be a reassuring result. Switching values of other considerations, such as the yield per acre or the number of participating farmers in an agricultural project, may also be very useful in particular cases.

20. While the ERR concept can be used in the economic decision criterion in an analogous manner to the NPV criterion discussed above, its use suffers from some drawbacks. If the ERR equals or exceeds the shadow discount rate then the NPV will not be negative, and therefore the first part of the economic decision criterion is satisfied. However, the use of ERR for selecting the best among mutually exclusive options is more complex. If option A has a higher ERR than option B then it is not necessarily true that A also has a higher net present value. If the ERR is to be used, the choice between mutually exclusive projects should be based on the differences in their streams of costs and benefits as illustrated in the Appendix, Section I. However, ranking project options in this way increases the possibility that the relevant stream of net benefits will change signs several times, in which case there may not be a unique positive (and real) rate of return. Moreover, when the number of alternative options to be examined is large, the use of the ERR method becomes very cumbersome, since it requires pairwise comparisons. Its use then makes the analysis unnecessarily complicated. Another difficulty with the use of the ERR in the decision criterion arises in the context of risk analysis. If costs and benefits are measured in terms of their expected values then the resultant NPV will also be its expected value; this, however, is not the case with the ERR.

Optimum Time Phasing

30. An important aspect of project analysis concerns the choice of the date at which the proposed investment is to be first introduced, i.e., construction started. Alternative starting dates, as well as other variations in execution such as construction in several stages, are mutually exclusive options from which the one with the highest net present value needs to be chosen. There are no "short cuts" or easy rules of general validity by which timing issues can be satisfactorily resolved.

31. The conventional first-year return test, if strictly interpreted, is applicable only in special cases. According to this test a project should be postponed if the ratio of net first-year benefits to the initial investment costs is below the relevant discount rate. This rule is illustrated as follows:

Option I : net benefits starting at present,  
(-100, 8, 9, 10, ...)

Option II : net benefits starting one year later,  
(0, -100, 9, 10, ...)

Option II

less  
Option I : (100, -108, 0, 0, ...)

Thus, the second option is preferable if  $(100 - \frac{108}{1+r})$  is positive, where  $r$  is the relevant discount rate. The benefits from postponing the initial investment cost will be  $r \cdot 100 / (1+r)$ , and the costs of postponement, in terms of net benefits foregone, will be  $8 / (1+r)$ . Thus, postponement will be preferable if  $r$  is greater than 8%. This test will then need to be repeated for successive years until the relevant ratio of benefits to costs equal or exceed the discount rate.

32. This procedure will ensure the correct solution only if (a) the project costs do not change due to postponement, (b) the project benefits depend only on calendar time, not project age, (c) the net benefits of the project increase, or at least not decrease, over time, (d) the project life is long enough to make the "tail-end" effects of postponement negligible, and (e) the initial investment cost occurs in the first year only. These are restrictive conditions, although some simple variants of the rule can be easily devised. For example, the first year rule normally used in practice is a variant designed to take into account "construction" periods of several years (see Appendix, Section II). This variant of the first year rule is frequently used in highway projects which are not expected to affect the volumes of traffic. If a highway improvement project is such that the future traffic levels would be the same with or without the project, then it is possible that a delay in starting the project by,

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values of the costs (at the shadow discount rate) of all relevant options and select the one with the least cost. The analysis should show these comparisons, and may, in addition, indicate the "equalizing" rate of return of the least cost alternative with the next best alternative. However, such equalizing rates of return should not be confused with the economic rate of return, and should not be presented as such.

25. The cost minimization method is often used in situations where it is difficult to value the benefits of a project. Although the least cost method cannot, by itself, indicate a project's acceptability, it may help qualitative assessments when the quantity and the quality of outputs and services are specified as physical targets, e.g., teacher/student ratios, or the expected reductions in accidents due to highway safety improvements, etc. The least cost of attaining such fixed targets in a project will also indicate the minimum value of the benefits that is required to justify the project. The problem due to non-quantifiability of benefits are discussed in detail in Central Projects Memorandum No. 5.3.

26. In practice, the least-costing technique is frequently used in such sectors as electric power and village water supply. For example, in identifying priorities in the power (or more broadly energy) sector the level and growth of demand, as well as its geographic dispersion, may be taken as given, and the minimum cost means of meeting the demand then determined. Such a cost minimization exercise will tend to involve such factors as the types of energy sources to be used, the location of new generating plants and loading centers, and the distribution networks of alternative KV ratings.

27. It should be noted of course that least costing in such cases is a crude method, as final demand and its growth are likely to be affected by tariffs, which in turn are related to system designs and costs. The assumption that demand is totally unresponsive to price, not uncommonly made in utility projects, is a rather extreme and unrealistic assumption.

28. The least cost option need not necessarily remain so if the parameters that most affect the project are varied. Thus, it is helpful to compute the range of values of the important parameters over which the option remains least cost. The equalizing rate of discount referred to earlier indicates the relevant range of discount rates over which the option is preferred to others. Similarly, the assumed growth rate of demand for the project outputs is another parameter which may frequently affect the least cost plan: it is usually desirable therefore to check the effects of alternative rates of growth in demand.

29. In presenting the results of least cost analysis in staff project reports, it is important that (a) the object being least costed be adequately and precisely explained, and (b) the sensitivity of the least cost option to major project parameters (demand, input costs, etc.) be fully explained.

- (b) A only, but suitably adjusted to redefine it as a separate viable project (for example, with the dam scaled down),
- (c) B only, similarly redefined as a separate viable option.

The option with the highest NPV should then be chosen. The economic rates of return for the three options above might also be computed as, say, 20% for A only (option (b)), 40% for B only (option (c)), and 30% for A plus B (option (a)); this will not, however, necessarily mean that option B is the best one (see Appendix, Section I). The rate of return method can of course be adapted to suit this type of cases but the process becomes increasingly complex and cumbersome as the number of project options becomes greater (see para. 20 above). Many Bank projects involve many more than the three mutually exclusive options in this illustration.

37. In an interdependent case, such as the one above, it is meaningful to estimate separate economic rates of return for the individual components only after these have been carefully redefined as separate projects. In practice, however, separate rates of return are sometimes computed by arbitrarily allocating, or "pro-rating", joint costs between the components. For example, if the joint option (A plus B) involves 50% of the water to project area A and 50% to area B, then separate rates of return might be estimated by allocating the "overhead" costs of the dam on a 50:50 basis. Such a procedure is incorrect and can be highly misleading since it may not be possible to save half of the costs if only A, or only B, is undertaken. Both the NPV and the IRR are comparative statements, and the relevant alternatives to the project must always be clearly identified for the statements to be meaningful.

  
Warren C. Baum  
Vice President, Projects Staff

#### Appendix

Penalver-Quesada/Ray/van der Tak/ub

June 27, 1977

say, one year, will imply foregoing the realization of only the first term of the stream of net positive benefits, the annual net benefits thereafter being unaffected. Indeed, if net benefits rise over time then a satisfactory first year return test will also indicate that the project is acceptable. However, this variant of the first-year rule may not be valid if the highway project induces additional traffic, either new traffic or traffic diverted from other competing highways (or other modes).

33. The use of the first-year return test may yield correct results in some cases where the required conditions are not strictly met, e.g., project costs change but to a minor extent. Nonetheless, the first-year return rule, or any of its variants, should not be used unless the conditions for its validity have been carefully examined. The particular variant of the first-year rule used, and its appropriateness, should be explained.

#### Interdependence Between Project Components

34. Many loans and credits contain several project components. For example, a rural development project may combine irrigation water, various types of farm inputs, extension work, social infrastructure such as community centers, water supply, schools, etc. Similarly, a single operation may involve the construction of a dam and canals for irrigation, navigation, supply of potable water, electric power generation, etc.

35. In all such cases the first task is to carefully specify the inter-relationships between the various components. Schools, community centers and health clinics may be closely linked to agricultural productivity in one case, and very weakly, if at all, in another. Having specified the linkages, the correct procedure is to identify all feasible and meaningful combinations of the project components. If, for example, there are three components, there will be a maximum of seven options to choose from, of which several will probably be infeasible or clearly inferior choices. The expected net present values from each of the meaningful options will then need to be compared, and the option with the highest net present value chosen. This is simply an application of the same principle that is used to determine that a particular proposal is superior to alternative designs, timings, etc. It does emphasize the point, however, that the choice of a particular option is not necessarily acceptable simply because its NPV is positive; even if the total package has a positive NPV it may be possible to increase the NPV by deleting some components or adding others.

36. To illustrate, an agricultural project may involve development in two areas, A and B, which share the cost of, say, a dam and a common institution and its staff. It might be meaningful to test whether one or the other "sub-project" should be dropped or postponed, even though the cost of each of the sub-projects will be higher when separately considered, rather than jointly. The options then might be:

- (a) A and B jointly,

4. When more than two options exist, it is easier to look at the NPV and select the highest one.

## II. The Unit Period of Discounting

5. The usual cost-benefit stream shows net costs during the initial "construction" years, and thereafter net benefits until major replacements or new investment expenditures are made. After the initial years, the operating costs and benefits during each year are added and the net benefits so arrived at are "timed" at the end of the year. The practice of ignoring lags between inputs and outputs during the operating years does not introduce any serious errors in most cases.

6. There are cases, however, when proceeding as above will introduce serious biases. For illustration consider a simple farming "project" which provides farmers with additional seeds and fertilizers during the planting season, the outputs being obtained six months later. If these costs and benefits are added up and the net benefits treated as if they occurred at the end of the year, then the cost-benefit stream will only consist of net benefit terms, except for the initial investment or start-up expenses. If these initial expenses are small, then the rate of return computed on an annual basis will tend to be very high.

7. Suppose, for example, that the actual cost-benefit sequence is a six-monthly sequence (-10, -100, +115); the correct six-month rate of return is then about 5%, and its annual equivalent is about 10.25%.<sup>1/</sup> However, if the time lag between (-100) and (+115) is ignored, we get a one year sequence (-10, +15), which has an annual rate of return of 50%. As the initial expenditures (-10) tend to zero, the incorrectly estimated rate of return will tend to infinity.

8. There are projects, especially in agriculture, where upward biases due to improper timing of benefits and costs, as illustrated above, can be very significant. Many operations in agricultural projects involve time lags which should not be ignored. Even in the case where such biases do not make an unacceptable project appear acceptable, the mere fact of high expected rates of return may create a false impression of the margin

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<sup>1/</sup> It may help to recall the general formula relating to the annual rate of return ( $r$ ) to a rate of return based on a fraction of a year,  $k$ . The formula is

$$r = (1 + r_k)^{1/k} - 1, \text{ where } r_k \text{ is the fractional rate of return.}$$

If the relevant interval is six months, then  $k = 0.5$ ; thus if  $r_k = 100 = 1$  then  $r = 100 = \left[ (1.05)^2 - 1 \right] = 10.25\%$ .

## I. Mutually Exclusive Projects

1. Consider a project for which two alternative designs are being considered. Under option I, initial investment costs will be \$184,000, and annual net benefits \$28,000. With option II initial investment costs are \$220,000 and net annual benefits \$32,900. For simplicity we consider that annual net benefits are constant over the project life and that the economic life is 20 years for both options. The rates of return for each option are:

Option I ERR : 14.1%

Option II ERR : 13.8%

Therefore, one may think that the first option should be chosen. However, if we look at the net present value of each option, the conclusion may be different. For example, if the discount rate is 12% we have

Option I, NPV (at 12%) = 25,200

Option II, NPV (at 12%) = 25,800

and option II should be chosen.

2. If the rate of discount is lower than 12%, for example 11 or 10%, we will get a similar result and the difference between the two present values will be higher. If the rate of discount is sufficiently higher than 12%, say, 13% or more, the NPV of option I will be higher than that of option II. The switch-over point is a rate of discount of 12.2%, at which both options have the same NPV.

3. It is possible to use the ERR to choose between mutually exclusive projects by looking at the ERR of the difference between their streams of costs and benefits. In the example above, subtracting option I from option II we get a stream with initial costs of \$36,000 (\$220,000-\$184,000) and net annual benefits of \$4,900 (\$32,900-\$28,000). The ERR of this new stream is 12.2% and therefore, if the rate of discount is lower than 12.2%, option II should be chosen. This is summarized in the following table:

	Option I	Option II	Difference (Option II - Option I)
Initial Investment	\$184,000	\$220,000	\$36,000
Net Annual Benefits	\$ 28,000	\$ 32,900	\$ 4,900
ERR	14.1%	13.8%	12.2%

III. Optimum Time Phasing

11. The First-Year-Rule (FIR) is illustrated below. Suppose there are two time streams of costs (C) and benefits (B) as follows (using one-year intervals of discounting):

$$\begin{aligned} \text{(i)} & : (-C, B_1, B_2, B_3, \dots) \\ \text{(ii)} & : (0, -C, B_2, B_3, \dots) \end{aligned}$$

Subtracting the second time stream from the first, one gets the time stream

$$\text{(iii)} : (-C, B_1, +C, 0, 0, \dots)$$

If  $r$  is the appropriate discount rate then one should delay the start of the project by one year if the net present value of this time stream (iii) is negative, i.e.,

$$-C + \frac{B_1 + C}{(1+r)} < 0,$$

$$\text{or, } B_1 + C < C(1+r)$$

$$\text{or, } \frac{B_1}{C} < r$$

If the ratio of the first-year benefits ( $B_1$ ) to costs at time zero ( $C$ ) is greater than, or equal to, the rate of discount ( $r$ ) then the project should be started; otherwise it should be delayed by one year. In the latter case it is necessary to repeat the application of the FIR until the optimum starting date at which the benefit-cost ratio exceeds, or equals, the rate of discount is obtained. This method of "searching" for and finding the optimum starting date ensures success only if the various conditions stated in the text (para. 32) hold.

12. The FIR relevant in practice must of course allow for a longer "construction" period than one year. But this is easily taken care of if the other conditions remain unchanged. For example, if the construction period is two years then the relevant time streams are:

$$\begin{aligned} \text{(i)} & (-C_0, -C_1, B_1, B_2, \dots) \\ \text{(ii)} & (0, -C_0, -C_1, B_2, \dots) \end{aligned}$$

if we write

$$c = C_0 + \frac{C_1}{1+r}, \text{ and}$$

$$b = \frac{B_1}{1+r}$$

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of error that can be tolerated. To counteract the upward biases that may be involved some analysts prefer to introduce a lag of one year between costs and benefits. For example, the six-monthly sequence may be treated as (-10, -100, 0, +115), or converted into an annual sequence such as (-110, +115). However, this introduces an unduly conservative bias into the estimate.

9. It is difficult to prescribe a general rule except to say that the analyst should use the actual expected time lags between inputs and outputs whenever not to do so is likely to introduce significant biases.

10. If a project has several components, with inputs and outputs appearing at different points in time, then the same method should, in principle, be used for computing the aggregate rate of return. For example, suppose a project has three components, X, Y and Z, with the following streams of costs and benefits:

Fractions of a year	0	1/4	1/2	3/4	1
<u>Component</u>					
X	-100	0	0	0	120
Y	0	0	-50	0	65
Z	0	-80	0	95	0
TOTAL	-100	-80	-50	95	185

Assuming for simplicity that the project lasts only one year we have:

Annual rate of return for X, 20%

Semi-annual rate of return for Y is 30%, and its annual equivalent is 69%

Semi-annual rate of return for Z is 18.75%, and its annual equivalent ERR is 41%,

Quarterly rate of return for the project as a whole is 7%, and its annual equivalent is about 31%

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1. Little, I.M.D., and J. A. Mirrless. Project Appraisal and Planning for the Developing Countries. Basic Books, U.S.A. 1974. Chapters 1 and d.
2. Squire, L., and H. G. van der Tak. Economic Analysis of Projects. Baltimore: The Johns Hopkins University Press, 1975. Chapter 4.
3. Readers interested in more detailed illustrations of net present value and economic rate of return calculations (as well as other concepts) may usefully refer to the various documents prepared by the Economic Development Institute; information regarding these documents can be obtained from the Teaching Materials Unit.

# ACTIVITY ANALYSIS

- 1) DATA  
 1A. NATURAL RESOURCES  
 1B. SOCIO ECONOMIC

- 2) STRATEGIC PLANNING  
 2.1 FIVE YEAR PLAN  
 2.2 REGIONAL PLANNING  
 2.3 SECTORIAL PLANNING

- 3) PRIVATE SECTOR  
 3.1 MARKET DEMANDS ANALYSIS  
 3.2 MARKET STRUCTURE  
 3.3 PRIMARY FACTORS AND  
 ADDING TECHNOLOGY  
 3.4 IMPORTED INPUTS

- 4) ENVIRONMENT FOR  
 THE PRIVATE INVESTMENT  
 4.1 INVESTMENT RULES AND LAWS  
 4.2 COMMERCIAL BANKING FACILITIES  
 4.3 DEVELOPMENT BANKING FACILITIES  
 4.4 FISCAL POLICIES  
 4.5 FOREIGN TRADE FACILITIES  
 AND RESTRICTIONS  
 4.6 EXCHANGE RATES AND  
 EXPATRIATION OF PROFITS

- 5) FACTOR ENDOWMENT  
 5.1 HUMAN RESOURCES  
 5.2 NON RENEWABLES  
 OIL - GAS  
 MINERALS  
 5.3 RENEWABLE RESOURCES  
 FISHERIES  
 5.4 OTHER

## PRE-IDENTIFICATION ACTIVITIES

6. STUDIES  
 6.1 RESEARCH SURVEYS  
 6.2 OPPORTUNITY STUDIES  
 6.3 RESOURCES INVENTORIES  
 AND CAPACITIES  
 6.4 ENVIRONMENTAL STUDIES  
 6.5 APPROPRIATE TECHNOLOGIES

7. DESK RESEARCH  
 7.1 IDENTIFY DIRECT  
 PRODUCTION ACTIVITIES  
 7.2 IDENTIFY BOTTLENECKS  
 AND INSTITUTIONAL  
 RESTRICTIONS  
 7.3 PROMOTE FURTHER  
 IDENTIFICATION  
 7.4 IDENTIFICATION OF  
 LOCAL SUPPORT  
 ORGANIZATION  
 7.4 IDENTIFICATION OF  
 OVERSEAS TECHNICAL  
 SUPPORT

8. SHOPPING LIST  
 8.1 DIRECT PRODUCTION  
 ACTIVITIES  
 8.2 INFRASTRUCTURE  
 FACILITIES  
 (NEW AND/OR EXPANSION)  
 8.3 SOCIAL DOWNGRANT  
 ACTIVITIES  
 8.4 SHORT TERM POLICY  
 DECISIONS  
 8.5 LONG TERM POLICY  
 DECISIONS

## PROJECT IDENTIFICATION ACTIVITIES

9. DEVELOPMENT OF  
 PROJECT IDENTIFICATION  
 9.1 DEFINE PROBLEM  
 WHO WANTS WHAT.  
 9.2 DEFINE WHO HAS  
 THE POWER AND  
 9.3 DEFINE THE SIZE  
 OF THE MARKET,  
 SUPPLY, DEMAND,  
 STRUCTURE.  
 9.4 ASSES IF THERE IS  
 ADEQUATE KNOW-HOW  
 AND PROPERLY TESTED  
 TECHNICAL PACKAGES.  
 9.5 DECIDE HOW  
 PRODUCTIVITY WILL  
 INCORPORATE AND/OR  
 COMPETE WITH THE  
 MARKET WILL STRENGTHEN  
 9.6 ARE MAIN UTILITIES  
 AVAILABLE  
 (TRANSPORT, ENERGY, WATER,  
 LAND DEVELOPMENT)  
 9.7 ARE MAIN RESOURCES  
 AVAILABLE  
 (CAPITAL, LABOR, LAND),  
 DEFINE WHO ARE THE  
 SUPPLIERS.  
 9.8 IDENTIFY TYPES OF  
 CONSTRAINTS AND RISKS  
 OF THE ACTIVITY  
 9.9 ASSES INSTITUTIONAL  
 AND ORGANIZATIONAL  
 CAPABILITIES

10. PROFILE OF PROJECT  
 10.1 SUMMARIZE PROJECT IDEA  
 10.2 PROPOSE BUDGET  
 FOR PRO-FEASIBILITY  
 10.3 INDICATE SOURCES OF  
 FUND  
 10.4 SHOW CONSISTENCY TO  
 MACRO ECONOMIC POLICY  
 AND PRIORITY  
 10.5 RECOMMENDATIONS

## PRE-FEASIBILITY STUDY

11. DEFINE BOUNDARIES OF  
 PROJECT AND IDENTIFICATION  
 11.1 TARGETS  
 11.2 MARKET DEMAND  
 11.3 PROJECT SPECIFIC  
 TECHNICAL IDENTIFICATION  
 11.4 DATA BANK  
 NATURAL RESOURCES  
 HUMAN RESOURCES  
 SOCIO-ECONOMIC

12. PERFORMANCE OF PLANT  
 12.1 NATIONAL PARAMETERS  
 12.2. PHYSICAL EQUIPMENT OUTPUT  
 EQUIPMENT AND INPUTS  
 12.3

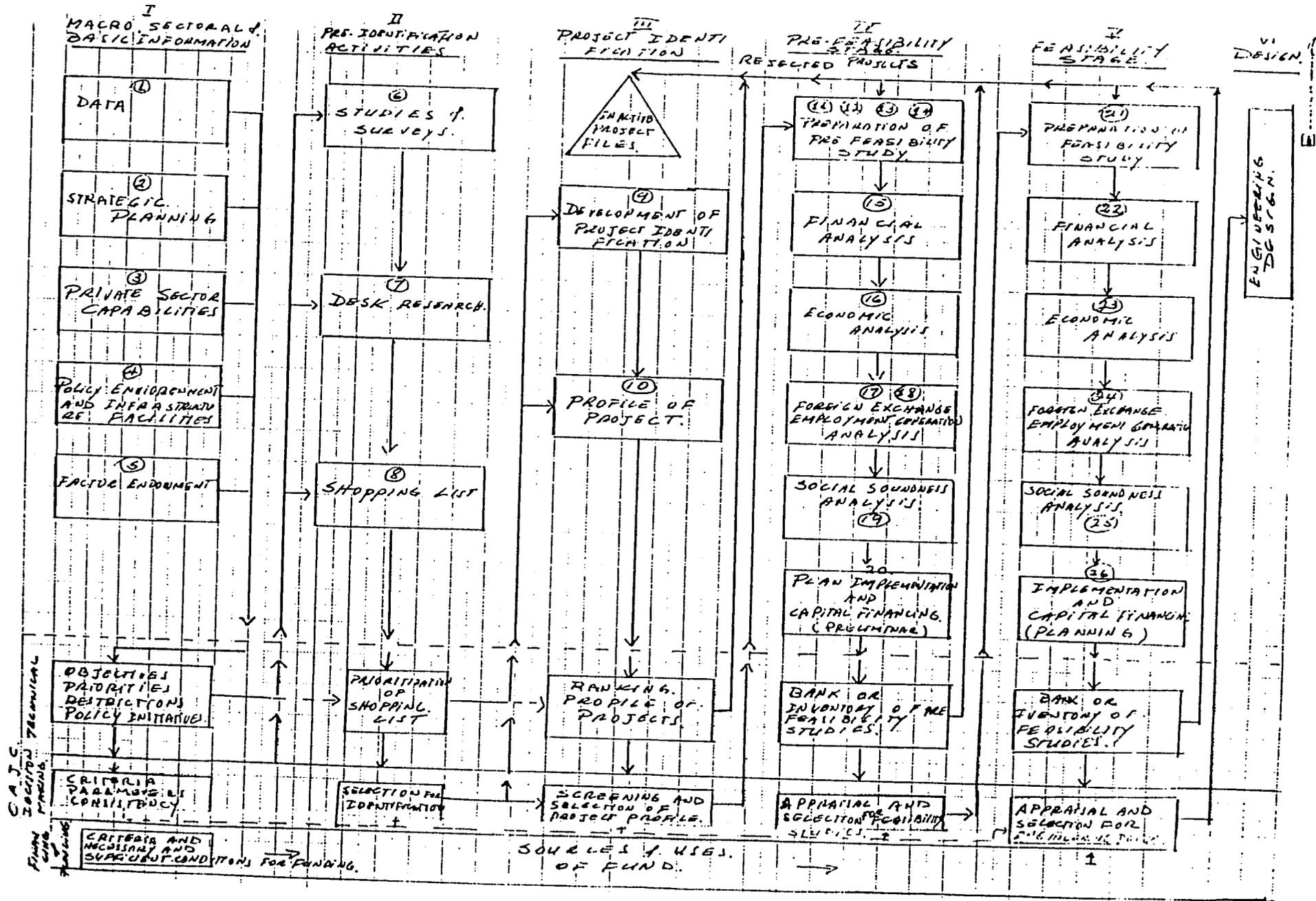
13. PREPARATION TECHNICAL DESIGN  
 13.1. PRODUCT MIX  
 13.2. TECHNOLOGY  
 CHOICE AMONG ALTERNATIVES  
 13.3. LOCALIZATION  
 13.4. SIZE OF SCALE  
 13.5. PHYSICAL DATA  
 13.6. PHYSICAL OUTPUT

14. PREPARATION OF PROTECTED  
 14.1. INVESTMENT ESTIMATES  
 14.2. REVENUE ESTIMATES  
 14.3. COST ESTIMATES  
 14.4. CASH FLOWS  
 14.5. BREAK-EVEN ANALYSIS

15. FINANCIAL ANALYSIS  
 15.1. DISCOUNTED CASH FLOW  
 15.2. NET PRESENT WORTH  
 15.3. INTERNAL RATE OF  
 RETURN  
 15.4. SENSITIVITY  
 16. ECONOMIC ANALYSIS  
 16.1. ELIMINATE TRANSFERS  
 AND DISTORTIONS  
 16.2. DISCOUNTED CASH FLOW  
 WITH NATIONAL PARAMETERS  
 16.3. NET PRESENT ECONOMIC  
 WORTH  
 16.4. ECONOMIC RATE OF RETURN  
 16.5.

# PROJECT FORMULATION/ANALYSIS STAGE

A - FILE 2



RF

# ACTIVITY ANALYSIS

## FEASIBILITY.

## ENGINEERING AND DESIGN

(3)

17. FOREIGN EXCHANGE EFFECT  
 17.1 INVESTMENT - REVENUE AND OPERATING COST DOMESTIC COMPONENT FOREIGN EXCHANGE COMPONENT

SAME ACTIVITIES AS IN PRE-FEASIBILITY DIFFERENCE IN!

PREPARATION  
 CIVIL & ARCHITECTURE SPECIFICATION  
 LAYOUT AND INDUSTRIAL PROCESS SPECIFICATION  
 SPECIFICATION ON INSTALLATION AND EQUIPMENT  
 DETERMINATION OF ENERGY INPUTS SPECIFICATION

17.2 DETERMINING TRADE RATIOS.  
 $\frac{\text{NET SALES FOREIGN EXCHANGE}}{\text{NET DOMESTIC COST}}$

PROGRAM OF IMPLEMENTATION  
 PROGRAM OF CONSTRUCTION  
 PROGRAM FOR STARTUP & LEARNING.

18. EMPLOYMENT GENERATION

PROGRAM FOR COMPLETING THE PROJECT

18.1. AVERAGE INVESTMENT PER PERMANENT WORKER

19. SOCIAL SOUNDNESS ANALYSIS

19.1 SOCIOCULTURAL FEASIBILITY  
 19.2 SOCIAL COST-BENEFIT ANALYSIS

20. PRELIMINARY ANALYSIS IMPLEMENTATION AND CAPITAL FINANCING

20.1 PLAN FOR IMPLEMENTATION  
 20.2 ORGANIZATIONAL AND INSTITUTIONAL VIABILITY  
 20.3 ALTERNATIVES OF FINANCIAL PLANS

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ENVIRONMENTAL ANALYSIS GUIDELINES  
[For Sub-Projects]

1. General Purpose
2. Collaboration with the Government of Oman on Preparation
3. Contents:

Summary: Major environmental issues, mitigation requirements, monitoring requirements and conclusions.

Purpose: Proposed Action and description of alternatives

Potential Major Issues vis a vis the Affected Environment

Potential Environmental Effects:

During construction/during engineering design phase

Unavoidable effects

Determine if Short or long-term

Determine if reversible or irreversible

Determine if significant

Determine Direct/indirect effects

Negative/Positive Determination

Special Topics of Concern:

Rare and endangered species

Biologically diverse areas

Archaeological and historical sites

Mitigation plan to reduce/offset negative effects or when effects

need to be monitoring closely because they cannot be determined during the Environmental Assessment.

Conclusions

## PLANNING STEPS FOR ENVIRONMENTAL SCREENING

### 1. Pre-feasibility stage

-Identify genetic environmental problems associated with the proposed project activity;

-Obtain a checklist of potential issues

### 2. Pre-Feasibility to Feasibility Stage

-Prepare an Initial Environmental Examination (IEE) to determine if an Environmental Assessment or an Environmental Impact Statement will be needed;

-Review a checklist of projects which are: (a) Categorically excluded; b) always require further environmental analysis; and c) may require further environmental study;

### 3. Feasibility Stage

-If an EA will be prepared, develop SOW early

-Focus on primary issues

-Include officials from Government of Oman, engineering, AID, and environmental specialists

-Establish a schedule to have major engineering and environmental outputs that provide feedback at several stages;

-Engineering should identify alternatives as soon as possible. When alternatives are identified, EA should begin a rapid assessment to identify major environmental issues;

-Use EA preliminary assessment to screen alternatives;

-Conduct field reviews and detailed assessment of major issues;

-Justify review options with engineering design, in particular determining if revisions in engineering design are needed so as to mitigate environmental effects.

-Draft the Environmental Assessment;

-Select alternatives;

-Develop a detailed mitigation plan for the selected alternative(s)

-Prepare final Environmental Assessment

### 3.. OAJC Review

-Should be done at the IEE stage for sub-projects or alternatively SOW ;for the Environmental Assessment for the sub-projects;

-Selection of alternatives, mitigation plan, and final Environmental Assessment;

-OAJC should come from Review committee composed of Project Officer, Program Officer, Environmental Officer, and representatrives from the Project Review Committee.

### 4.. AID/W Review

-Reviews work at Mission level;

-Determines if Environmental Studies performed are adequate.

## Analysis of Other Donor Assistance

External Assistance to the Government of Oman plays an important role as the Government attempts to diversify and generate employment opportunities for its citizens. The amount, source, and a brief description of the known external assistance is shown in Table . Projects listed are those of a relatively recent vintage as even today little is known about other donor activities. Although almost every European and Arab country does have some type of joint commission with Oman, the Omani-American Joint Commission for Economic Cooperation is an organization resident in Oman. It is an organization established by the Governments of the Sultanate of Oman and the United States. It was founded in 1980 as a means of assisting the economic development of Oman through cooperatively and jointly-financed development projects. While other joint commissions meet annually, fund some training activities and issue promises about closer cooperation, the OAJC actually has an active project portfolio.

Total ODA assistance is difficult to quantify. There are no donor meetings, no coordinating donor group and no formal mechanism for coordination. The Government of Oman has delineated three organizations within the Government to monitor and ostensibly coordinate other donor activities.

During the year 1989, the total budget for the Government of Oman amounted to RO 1197.2million (\$3,134 million). For that year the total for external donor assistance is estimated to be about \$ 60.4 million. Of external aid, \$28.6 million was in the form of bilateral assistance and \$31.8 million was in the form of multinational assistance. The trend appears to be for external funding to be increasing rather than decreasing. This trend is certainly exemplified in multi donor assistance, both from the GCC and the United Nations.

External donor assistance has not, since 1984, been equally divided between projects benefitting urban and rural areas of the Sultanate. The weighting in favor of the coastal areas is exemplary of all external donor activities in Oman. Beginning in the late eighties, the Government of Oman National Budget is more heavily in favor of rural expenditures. Heretofore it has not been possible to make a clear distinction between urban and rural expenditures.

Coordination of external aid projects with those activities recommended in the PP should be carefully worked out since several areas could be complementary to the planned targets. As noted earlier in this section, there are no donor meetings and there is little coordination of aid activities by the Government of Oman in spite of the fact that several ministries including offices within the Ministry of Foreign Affairs and the Ministry of Finance and Economy are charged with coordination.

Arab bilateral and multilateral funds assist Oman in loan and grant financing for large infrastructure projects and to a lesser extent, feasibility and planning studies. However, this assistance is tied directly to overall GCC relations and neither planning nor specific project details are coordinated among the donors. Probably the best coordinated group of projects in Oman is that associated with the United Nations Development Program and its specialized agencies. But this assistance is all reimbursed by the Government of Oman. As to forms of assistance by external donors, the trend is now away from loan financing to cooperative or grant financing. An exception to this trend occurred in 1988 when the Government of Japan accorded Oman a concessional loan of \$20 million.

As noted in the PID the more traditional donor assistance activities are grouped into two primary areas: [a] industrial development and [b] human resources development/education. Tables exemplifying the scope and size of various donor activities are included as a part of this Annex.

Known sources of external donor assistance are presented in Tables----- . Due to the long-standing relationship of the United Kingdom with the Sultanate of Oman, assistance from that quarter in the form of grants is important and heavily relied on by the Government of Oman. Assistance is however only an average of 25% of total life of project costs, and the general term of most assistance is 6 years. Information concerning assistance from the United Kingdom is available only in London but is not available in Oman. Another major donor in Oman is Japan. Most of the assistance provided by Japan has been in the form of unarmked assistance or more specifically Technical Assistance grants. Since 1983 the total amount allocated by Japan for this purpose has amounted to over \$97 million. Various surveys conducted by Japan at the specific request of the Government of Oman has, during the period 1977-1990 amounted to approximately \$8.5 million.

Assistance from Germany and France respectively has, since the late 1980s amounted to less than a million dollars per year. Most of the funds given have been for training. There is no evidence that these sources of assistance will increase.

Assistance from the European Economic Community also constitutes only a portion of life of project costs, specifically 70%. The accounts marked as "Unspecified" constitute only 45% of life of project costs. Only 32% of the funds budgeted in this category have actually been disbursed.

OTHER DONOR  
FINANCIAL ASSISTANCE TO OMAN  
(\$ 000)

	<u>1980- 1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
<b>Multilateral</b> -----						
- GCC	32,500	N/A	N/A	18,600	5,500	20,000
- EEC	N/A	N/A	5,855	5,440	4,597	3,565
-United Nations	N/A	2,592	1,408	2,563	5,658	11,796
 <b>Bilateral</b> -----						
- UK	13,787	16,330	12,183	12,119	4,899	4,684
- Germany	N/A	N/A	225	530	525	400
- France	N/A	N/A	N/A	625	505	625
- Japan	10,042	2,004	5,482	3,059	1,119	1,019

\* Includes cost-sharing projects funded and originated by UNDP/New York

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UNITED KINGDOM  
Assis. to Oman-1985-90  
(\$000)

<u>PROJECT</u>	<u>1985</u>	1986	1987	1988	1989	<u>1990</u>
Assism. to Ed. Sector	1,505	---	2,564	---	N/A	1,000
Assistance to Min.-- of Labor		562	779	835	---	1,269
Assis. to the Min. of Commerce -5	1,642	---	763			225
Assitance to Min. of Industry		10,000		2,000	500	N/A.
Training	550	525	545	225	525	190
Tech. Assistance- Needs Analysis	125	200	200	125	150	N/A.
Prof./Scholar Exchange	165	200	235	100	175	300
Tech. Assis. Min. of Livestock		355	500	255	245	455
Unspecified	9,000	4,478	6,597	8,499	3,294	5,345
<b>TOTALS</b>	<u>13,787</u>	<u>16,330</u>	<u>12,183</u>	<u>12,119</u>	<u>4,899</u>	<u>4,684</u>

SOURCE: Hansard August 1990

Notes: Figures given for British Assistance to Oman represent 25-29% of Life of Project Costs for years 1985-1987; for years 1988-1990, the figures represents 30-33% of the total Life of Project Costs. The remainder of project costs are financed by counterpart contributions from the Government of Oman.

Figures represent that assistance programmed by the Overseas Development Association [ODA] but no records are available on the amount of programmed assistance actually disbursed. Generally, 88% of the assistance programmed is disbursed.

British Council in Oman serves solely as the executing agency and will not confirm nor deny the validity of the assistance figures which have been presented to Parliament on August 25, 1990 by the Financial Secretary.

The projects listed in this table are all grants. All began in 1985 [or were so authorized even if no funds were dispersed]. All are scheduled to terminate in either late 1991 or the second quarter of 1992. No breakdown of the affected projects by year was available at the time of compilation of this table. No additional information is available as to what, if any, additional amounts of money are programmed for the years 1991-1992.

<u>Project Activity</u>	<u>Funding Source</u>	<u>Amount 1983-89</u>	<u>Total Amt. \$Millions</u>	<u>Description</u>
<u>Year</u>				
1983	Japan	2.12	2.12	TA Grant
1984		1.36	1.36	"
1985		2.20	2.20	"
1986		1.46	1.46	"
1987		0.61	0.61	"
1988		1.97	1.97	"
1989				
Totals		97.2	97.2	

<u>Project Activity</u>	<u>Amount</u> ((\$000))	<u>Period</u>
Survey for Funding Industry Mining and Power	500	1977
Survey for Industrial Dev. Plan	500	1977-78
Survey-Oil Refinery Cons.Plan	525	1978-79
Survey for Min. Exploration Planning	535	1978-79
Survey for Collaborative Min. ' Exploration	535	1980-83
Survey for Econ. Tech. Coop.	540	1979-81
Survey for the Hydrologic Ob. Project in Batinah	540	1981-85
Survey for the Wadi Jizzi Agricul. Development	540	1980-82
Survey for Detailed Design on the Wadi Jizzi Agric.Dev	540	1984-85
Survey for the Power &Desalina. ' Complex Plant	542	1984-85
Survey for the Ag. Devel. Project in the Nejd Region	545	1987-89
Survey on the Devel. Mining Project in the Rakah Area	544	1988-90
Survey for the Master Plan for the Ag. Development in Oman	544	1989-90
Survey for the Port Dev. for Northern Oman	575	1989-90
Totals      14 Projects	8,530	

Note: Technical Cooperation Surveys conducted by the Japan International Cooperations Agency [JICA]

THE FEDERAL REPUBLIC OF GERMANY  
 Assistance to Oman 1987-90  
 (\$000)

<u>PROJE</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
<u>Technical Assis.Min. of Environment</u>		225	100	50
Exchange-Ministry of Agriculture&Fisheries	100		100	-
Higher Level Training	125	205	200	200
Unallocated	100	100	125	150
Totals	225	530	525	400

SOURCE: OECD

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FRANCE

Assistance to Oman  
(\$000)

<u>PROJECT</u>	<u>1988</u>	<u>1989</u>	<u>1990 (EST)</u>
<u>Tehnical Assistance</u>	200	125	300
Scholarships	300	225	275
Other	125	155	150
Total	625	505	625

SOURCE: OECD

EEC Assistance to Oman  
1987-1990  
(\$000)

<u>PROJECT</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
Assis. to Live- stock	1,555	1,685	1,342	1,500
Assis. to Edu.	1,200	2,000	1,000	N/A.
Study Teams	500	500	500	N/A.
Sector Grants	1,600	255	755	865
Unspecified	1,000*	1,000*	1,000*	1,200*

SOURCE: OECD

Notes: Assistance is only dispersed if the Government of Oman provides counterpart funding amounting to at least 70% of total life of project costs. Only during the years 1988 and 1989 has this assistance been utilized.

Other assistance provided in this table constitutes only 45% of life of project costs.

**UNITED NATIONS**

PROGRAMME AND PROJECT MANAGEMENT SYSTEM  
LEDGER OF PROJECTS FOR IPF  
EXCLUDING PROJECTS FINANCIALLY COMPLETED BEFORE 1987  
AS OF August 12 1990

Country : OMA

PROJECT NUMBER and SHORT TITLE	BUDGET BEFORE 1987	BUDGET 1987	BUDGET 1988	BUDGET 1989	BUDGET 1990	BUDGET 1991	TOTAL 1987-1991	BUDGET AFTER 1991	GRAND TOTAL
<b>OMA/EI/003/P/01/01</b>									
National Community Development	GROSS	334,212	24,247	-3,371	0	0	20,676	0	855,088
	CS	267,158	105,489	0	0	0	105,480	0	368,638
	NET	571,054	-81,233	-3,371	0	0	-84,604	0	486,450
<b>OMA/EI/005/T/01/37</b>									
Industrial Advisory Services	GROSS	1,337,298	240,709	54,848	19	0	295,576	0	1,632,874
	CS	928,231	175,499	112,896	-1,145	0	287,450	0	1,275,661
	NET	349,067	65,010	-58,048	1,164	0	8,126	0	357,193
<b>OMA/EI/009/R/01/16</b>									
Meteo. Training & Equipment	GROSS	906,635	153,855	141,206	103,026	0	398,087	0	1,304,722
	CS	833,721	-50,633	122,388	103,026	20,297	195,078	0	1,028,799
	NET	72,914	204,488	18,818	0	-20,297	203,009	0	275,923
<b>OMA/B3/001/N/01/12</b>									
Agricultural Research & Dev.	GROSS	650,930	100,878	41	91,183	0	192,102	0	843,032
	CS	559,387	0	188,255	97,124	7,068	292,447	0	851,834
	NET	91,543	100,878	-188,214	-5,941	-7,068	-100,345	0	-8,802
<b>OMA/B4/004/N/01/15</b>									
Civil Aviation Development	GROSS	577,666	206,313	31,352	849	0	239,514	0	816,180
	CS	577,666	233,455	12,564	0	0	246,019	0	823,685
	NET	0	-27,142	18,788	849	0	-7,505	0	-7,505
<b>OMA/B4/005/D/01/12</b>									
Industrial Use of Dales	GROSS	24,866	-460	0	0	0	-460	0	24,406
	CS	24,340	0	0	0	0	0	0	24,340
	NET	526	-460	0	0	0	-460	0	66

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PROGRAMME AND PROJECT MANAGEMENT SYSTEM  
 LEDGER OF PROJECTS FOR IPF  
 EXCLUDING PROJECTS FINANCIALLY COMPLETED BEFORE 1987  
 AS OF August 12 1990

Country : OMA

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PROJECT NUMBER and SHORT TITLE		BUDGET BEFORE 1987	BUDGET 1987	BUDGET 1988	BUDGET 1989	BUDGET 1990	BUDGET 1991	TOTAL 1987-1991	BUDGET AFTER 1991	GRAND TOTAL
OMA/E6/001/H/01/12 Marketing of Agr. Produce										
GROSS		11,564	44,327	19,359	0	0	0	63,626	0	75,250
CS		0	0	20,376	0	0	0	20,376	0	20,376
NET		11,564	44,327	-1,019	0	0	0	43,308	0	54,872
OMA/E6/006/D/01/31 Banking Training Development										
GROSS		68,757	3,409	0	0	0	0	3,409	0	72,166
CS		0	9,009	0	0	0	0	9,009	0	9,009
NET		68,757	-5,600	0	0	0	0	-5,600	0	63,157
OMA/57/039/D/01/12 Goat and Sheep Production										
GROSS		0	0	22,592	43,013	30,395	0	96,000	0	96,000
CS		0	0	22,592	51,000	22,458	0	96,000	0	96,000
NET		0	0	0	-7,987	7,937	0	0	0	0
OMA/57/011/J/01/12 Soil Survey & Land Classif										
GROSS		0	4,714	202,822	243,279	1,298,302	1,090,428	2,839,545	295,009	3,134,553
CS		0	0	0	450,814	1,298,303	1,090,428	2,839,545	295,009	3,134,553
NET		0	4,714	202,822	-207,535	-1	0	0	0	0
OMA/57/012/I/01/12 Rangeland Management										
GROSS		0	0	57,262	156,763	265,962	66,713	546,700	20,000	566,700
CS		0	0	34,000	124,900	265,962	51,338	476,700	0	476,700
NET		0	0	23,262	31,863	0	14,375	70,000	20,000	90,000
OMA/57/013/E/01/37 Adviser to Min. Industry										
GROSS		0	0	121,573	105,654	136,760	145,637	507,564	0	507,564
CS		0	0	39,000	57,750	42,657	49,593	189,000	0	159,000
NET		0	0	82,573	47,904	94,103	94,044	318,564	0	318,564

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Country : OMA

PROJECT NUMBER and SHORT TITLE		BUDGET BEFORE 1987	BUDGET 1987	BUDGET 1988	BUDGET 1989	BUDGET 1990	BUDGET 1991	TOTAL 1987-1991	BUDGET AFTER 1991	GRAND TOTAL
OMA/87/031/E/01/15 Civil Aviation Development	GROSS	0	0	226,433	255,556	244,274	9,417	735,450	0	735,450
	CS	0	0	130,745	172,116	244,667	9,417	557,945	0	557,945
	NET	0	0	95,688	83,440	-393	0	177,505	0	177,505
OMA/87/022/C/01/62 Improvement in Inpcr: Mgmt.		0	26,581	0	0	0	0	26,581	0	26,581
OMA/87/025/D/01/56 Assistance to Min. Housing	GROSS	0	0	18,358	74,857	0	0	93,215	0	93,215
	CS	0	0	0	55,398	0	0	55,398	0	55,398
	NET	0	0	18,358	39,459	0	0	57,817	0	57,817
OMA/87/027/J/01/01 Social Development Programme	GROSS	0	130,780	450,116	700,373	703,897	798,339	2,983,465	4,674	2,988,139
	CS	0	0	447,789	756,941	903,807	484,869	2,593,406	4,674	2,598,080
	NET	0	130,780	2,327	-56,568	0	313,520	390,059	0	390,059
OMA/87/030/D/01/16 Meteo Trng & Equip (II)	GROSS	0	0	0	48,142	162,383	120,000	330,525	82,500	413,025
	CS	0	0	0	0	210,525	120,000	330,525	82,500	413,025
	NET	0	0	0	48,142	-48,142	0	0	0	0
OMA/88/001/C/01/01 Assist to Development Council	GROSS	0	0	6,846	13,819	13,500	2,681	36,846	0	36,846
	CS	0	0	0	5,100	29,065	2,681	36,846	0	36,846
	NET	0	0	6,846	8,719	-15,565	0	0	0	0
OMA/85/002/F/01/37 Str.Computer Dept.of Min.Comm	GROSS	0	0	55,198	96,330	72,126	0	223,654	0	223,654
	CS	0	0	0	115,000	108,654	0	223,654	0	223,654
	NET	0	0	55,198	-18,670	-36,528	0	0	0	0

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PROGRAMME AND PROJECT MANAGEMENT SYSTEM  
 LEDGER OF PROJECTS FOR IPF  
 EXCLUDING PROJECTS FINANCIALLY COMPLETED BEFORE 1987  
 AS OF August 12 1990

Country : DMA

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PROJECT NUMBER and SHORT TITLE		BUDGET BEFORE 1987	BUDGET 1987	BUDGET 1988	BUDGET 1989	BUDGET 1990	BUDGET 1991	TOTAL 1987-1991	BUDGET AFTER 1991	GRAND TOTAL
DMA/88/003/0/01/37 Improvement of Qualit.Cont.ISStd		0	0	0	96,512	8,121	0	104,633	0	104,633
	GROSS	0	0	0	96,512	8,121	0	104,633	0	104,633
	CS	0	0	0	96,512	8,121	0	104,633	0	104,633
	NET	0	0	0	0	0	0	0	0	0
DMA/88/005/C/01/12 Stock Assess.Research Vessel		0	0	0	430,531	1,076,685	23,620	1,530,836	0	1,530,836
	GROSS	0	0	0	430,531	1,076,685	23,620	1,530,836	0	1,530,836
	CS	0	0	0	260,450	1,146,770	23,620	1,530,836	0	1,530,836
	NET	0	0	0	70,081	-70,081	0	0	0	0
DMA/88/006/F/01/12 Date Palm Improvement		0	0	7,654	107,582	71,835	0	207,281	0	207,281
	GROSS	0	0	7,654	107,582	71,835	0	207,281	0	207,281
	CS	0	0	0	79,115	128,166	0	207,281	0	207,281
	NET	0	0	7,654	28,467	-36,331	0	0	0	0
DMA/88/007/C/01/07 Establishment Metrology Lab.		0	0	0	6,292	0	0	6,292	0	6,292
	GROSS	0	0	0	6,292	0	0	6,292	0	6,292
	CS	0	0	0	0	6,292	0	6,292	0	6,292
	NET	0	0	0	6,292	-6,292	0	0	0	0
DMA/89/001/C/01/49 Tourism Planning & Training		0	0	0	132,114	157,386	0	329,500	0	329,500
	GROSS	0	0	0	132,114	157,386	0	329,500	0	329,500
	CS	0	0	0	110,031	219,469	0	329,500	0	329,500
	NET	0	0	0	22,083	-22,083	0	0	0	0
DMA/89/002/E/01/37 Industrial Master Plan		0	0	0	88,557	610,643	0	699,200	0	699,200
	GROSS	0	0	0	88,557	610,643	0	699,200	0	699,200
	CS	0	0	0	88,557	610,643	0	699,200	0	699,200
	NET	0	0	0	0	0	0	0	0	0

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PROGRAMME AND PROJECT MANAGEMENT SYSTEM  
 LEDGER OF PROJECTS FOR IPF  
 EXCLUDING PROJECTS FINANCIALLY COMPLETED BEFORE 1987  
 AS OF August 12 1990

Country : OMA

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 Version 5.0

PROJECT NUMBER and SHORT TITLE		BUDGET BEFORE 1987	BUDGET 1987	BUDGET 1988	BUDGET 1989	BUDGET 1990	BUDGET 1991	TOTAL 1987-1991	BUDGET AFTER 1991	GRAND TOTAL
=====										
OMA/85/005/D/01/1s										
Fog Water Collection (south)	GROSS	0	0	0	21,255	0	0	21,255	0	21,255
	CS	0	0	0	0	19,859	0	19,859	0	19,859
	NET	0	0	0	21,255	-19,859	0	1,396	0	1,396
=====										
OMA/85/007/F/C1/01										
Develop Council - Planning	GROSS	0	0	0	58,702	503,177	748,187	1,310,066	26,504	1,336,570
	CS	0	0	0	58,702	503,177	748,187	1,310,066	26,504	1,336,570
	NET	0	0	0	0	0	0	0	0	0
=====										
OMA/89/009/C/01/11										
Utilization of Sea Shells	GROSS	0	0	0	15,013	208	0	15,221	0	15,221
	CS	0	0	0	0	15,221	0	15,221	0	15,221
	NET	0	0	0	15,013	-15,013	0	0	0	0
=====										
OMA/87/012/C/01/12										
Bee Disease Consultancy	GROSS	0	0	0	6,623	5,297	0	11,920	0	11,920
	CS	0	0	0	0	11,920	0	11,920	0	11,920
	NET	0	0	0	6,623	-6,623	0	0	0	0
=====										
OMA/89/013/A/01/32										
Assist. Plan Committee South	GROSS	0	0	0	0	28,500	54,000	82,500	26,500	109,000
	CS	0	0	0	0	28,500	54,000	82,500	26,500	109,000
	NET	0	0	0	0	0	0	0	0	0
=====										
OMA/89/014/C/01/12										
Admin/Fin. Adv. Service to MRF	GROSS	0	0	0	0	95,000	0	95,000	0	95,000
	CS	0	0	0	0	95,000	0	95,000	0	95,000
	NET	0	0	0	0	0	0	0	0	0
=====										

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Country : OMA

PROJECT NUMBER and SHORT TITLE		BUDGET BEFORE 1987	BUDGET 1987	BUDGET 1988	BUDGET 1989	BUDGET 1990	BUDGET 1991	TOTAL 1987-1991	BUDGET AFTER 1991	GRAND TOTAL
=====										
OMA/89/015/A/01/11										
Dairy Product. Consultancy	GROSS	0	0	0	0	2,250	0	2,250	0	2,250
	CS	0	0	0	0	2,250	0	2,250	0	2,250
	NET	0	0	0	0	0	0	0	0	0
-----										
OMA/90/005/A/01/11										
Agricult. Marketing Plan	GROSS	0	0	0	0	46,000	0	46,000	0	46,000
	CS	0	0	0	0	46,000	0	46,000	0	46,000
	NET	0	0	0	0	0	0	0	0	0

PROGRAMME AND PROJECT MANAGEMENT SYSTEM  
 LEDGER OF PROJECTS FOR IFF  
 EXCLUDING PROJECTS FINANCIALLY COMPLETED BEFORE 1987  
 AS OF August 12 1990

Country : DMA

	BUDGET BEFORE 1987	BUDGET 1987	BUDGET 1988	BUDGET 1989	BUDGET 1990	BUDGET 1991	TOTAL 1987-1991	BUDGET AFTER 1991	GRAND TOTAL
<b>COUNTRY TOTAL:</b>									
Approved Projects:	4,411,928	925,353	1,412,469	2,595,544	5,759,155	3,057,072	14,099,593	435,486	18,967,307
Cost Sharing:	3,246,503	473,010	1,130,607	2,762,391	6,001,401	2,634,633	15,002,042	435,486	16,434,031
Net Total	1,165,425	452,343	281,862	833,153	-242,246	422,439	1,097,551	20,000	2,283,276

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INITIAL ENVIRONMENTAL EXAMINATION

- A. PROJECT COUNTRY: Sultanate of Oman
- B. ACTIVITY: Capital Projects Development Fund [272-0108]
- C. A.I.D. FUNDING: \$5 MILLION
- D. PERIOD OF FUNDING: FY 1991-FY 1993
- E. STATEMENT PREPARED BY: *Roy A. Harrell Jr.*-----  
Roy A. Harrell Jr.  
Consultant-R.R. Nathan Associates

F. ENVIRONMENTAL ACTION RECOMMENDED: Conditional Categorical Exclusion pursuant to Sections 216.2(c)(1)(i) and 216.2(c)2(1), is recommended subject to the requirement for separate environmental studies for each sub-activity.

G. ENVIRONMENTAL OFFICER CLEARANCE:-----

H. DECISION OF OMANI-AMERICAN JOINT COMMISSION DIRECTOR

APPROVED-----

DISAPPROVED-----

DATE-----

I. DECISION OF ANE ENVIRONMENTAL OFFICER

APPROVED-----

DISAPPROVED-----

DATE-----

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## B. Assessment of Environmental Impact

The pre-feasibility studies, feasibility studies, engineering design and technical assistance activities to be financed by the project will not have a direct impact on the physical or natural environment. However, some follow-on construction and implementation of subject-projects may have significant effects on the environment, especially for infrastructure and selected private sector productive activities. Such follow-on sub-activities would be separately authorized and environmental statements would be prepared for each. It is expected that such assessments will contribute significantly to ensuring that activities approved for later funding under the sub-projects will not have a negative effect on the environment.

## C. Recommended Environmental Action:

That a categorical exclusion for this project be approved based on: (1) Section 216.2(c)(1)(i)-"The action does not have an effect on the natural or physical environment" and (2) Section 216.2(c)(2)(1)-"Education, technical assistance, or training programs except to the extent such programs include activities directly affecting the environment..."are excluded from the required assessment procedures. Based on the IEE to be prepared for each sub-activity under this project, the Mission will make a determination prior to approving any sub-project for funding, and will coordinate with the Ministry of Environment in the Government of Oman concerning the issuance of a No-Objection Letter..

## ANNEX H

Rusail Industrial Estate  
Reserved Project Profiles  
Seeking Joint Venture or Technical Cooperation

<u>Project</u>	<u>Product Description</u>	<u>Capacity</u>	<u>Market Size</u>		<u>Imported Raw Material</u>	<u>Local Raw Material</u>	<u>Investment (US\$000)</u>	<u>IRR</u>	
			<u>Oman</u>	<u>Export</u>					
<u>CHEMICAL</u>									
Adhesive Tapes	Kraft Adhesive Tapes	1MM Rolls	1MM Rolls		Paper, Adhesive	Limited	1,069	13.6%	
Building Sealants	Acrylics, etc.	208K Ltrs.	350-400K Ltrs.	-	Compounds, Etc.	-	620	17.0%	
Dry Cell Batteries	R20 & R6 Types	13 Million	18 Million	140 Million	All	-	5,130	29.0%	
Industrial Gas	Oxygen, Nitrogen	1.0 MM Cu M.	1.3 MM Cu M.	-	Chemicals	-	728	30.5%	
Sulphuric Acid	Sulphuric Acid	4,500 Tons	2,500 Tons	-	Sulphur	Limited	1,144	16.8%	
<u>FOOD PRODUCTS</u>									
Breakfast Cereals	Cornflakes, etc.	360 Tons	600 Tons	2,500 Tons	Corn Grits	Limited	1,802	19.0%	
Fish Processing	Fish Processing								
Mineral Water	Mineral Water	24 MM Lts.	35 MM Lts.	Some	PVC Granules	Water	3,744	43.9%	
Agrobased Industry	Ketchup, Jam. etc.	430 Tons	1,200 Tons	15,000 Tons	Packaging	Tomato	416	25.5%	
<u>METALLURGY</u>									
Brass Door Handles	Brass Door Handles	58,000 Sets	33,000	433,000	Steel, Brass	-	1,160	19.0%	
Electric Elements	Water Heater El.	100,000	100,000	1,320,000	Tubing, Etc.	Packing	520	14.0%	
ERW Steel Pipes	Black Steel Pipes	50,000 T	45,000 T	600,000	Coil, Zinc, Acid	-	12,170	20.0%	
Ferrous Castings	Cast & Ductile Iron	2,857 T	4,000 T	N/A	Pig Iron, Add.	Scrap	2,129	16.5%	
Hand Tools	Spanners, Plyers, Etc.	530,000 Units	\$3.7 MM	\$39.3 MM	Pre-Forged Blanks	-	810	19.0%	
Locks & Hinges	Mortice Locks, Etc.	180,000 Units	350,000 Units	1.9 MM Units	Components	Packing	820	19.0%	
Metal Cans	3 Piece Tin (Bev.)	150 MM	55 MM	80 MM	Tin Plate	Limited	3,947	53.8%	
Precision Toolroom	Jigs, Dies, Moulds	\$1.1 MM	\$1.4 MM	-	Special Steels	Limited	2,570	15.0%	
Solar Panels	Solar Panels	17,000 Units	Limited	56,000	Solar Cells, Etc.	Limited	1,066	41.0%	
Steel Billets & Bars	Steel Bars	18,000 Tons	75,000 Tons	-	Steel Pellets	Scrap	1,362	26.8%	
Steel/Alum. Ceilings	Decorative Ceilings	1,600 Tons	3,000 Tons	-	Coiled Metal	Limited	949	37.4%	
Storage Systems	Pallet Racks, Angles	1,300 Tons	2,900 Tons	-	Steel, Components	Packing	2,000	39.0%	
Water & Elec. Meters	Meters	75,000 Units	33,000 Units	345,000 Units	Components	Packing	910	22.0%	
<u>PHARMACEUT./COSMETICS</u>									
Perfumes	Eau de Cologne, Etc.	360,000 Lts.	900,000 Lts.	-	Raw Mtl & Packg	Limited	1,336	25.1%	
Perfumes & Cosmetics	Eau de Cologne, Etc.	1,106 Tons	RO 8 MM	-	Raw Mtls	Limited	832	23.9%	
Pharmaceuticals	Standard & Generic	4 MM Units	RO 12.5 MM	RO 151 MM	All Raw Mtls.	Limited	17,680	20.9%	
<u>PLASTICS</u>									
Polystyrene Cups	Cups (Yogh./Ice Cr.)	28.5 MM Cups	62.5 MM Cups	-	Polystyrene Gran.	Limited	1,100	22.2%	
PVC Pipe Fittings	PVC Pipe Fittings	150,000 Units	107,000 Units	-	PVC Granules	Limited	910	17.0%	
<u>Total Projected Investment:</u>							<u>\$66,924</u>		
<u>Number of Projects:</u>	<u>27</u>						<u>Averages: Investment &amp; IRR</u>	<u>\$2,479</u>	<u>24.9%</u>

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Telex : 3785 AMEMBUS ON

للتعاون الاقتصادي والفني

مس.ب : ٦٠٠١ روي  
سلطنة  
سلطنة عمان  
تليفون : ٧٠٣٠٠٠  
فاكس : (٩٦٨) ٧٩٧٧٧٨

No. \_\_\_\_\_ الرقم

Date \_\_\_\_\_ التاريخ

ANNEX

GRAY AMENDMENT CERTIFICATION

I, Duncan Miller, Director of the Omani American Joint Commission in the Sultanate of Oman, having taken into account the potential involvement of small and/or economically and socially disadvantaged enterprises, do hereby specify that in my judgement most technical assistance required under this project can best be procured through open competition. However, prospective bidders for the large requirements contracts will be required to submit joint proposals with Gray-Amendment-satisfying firms that possess the required capabilities. I have also determined that a contract to provide technical assistance and related support services to this project may be awarded to an 8(a) firm. Furthermore, for the scheduled external evaluations, involvement of local expertise and Gray-Amendment-satisfying organization is anticipated. My judgement is based on the recommendations of the Project and OJAC Review Committees.

-----  
Duncan R. Miller

Director, Omani American Joint Commission

-----  
Date

## SCOPE OF WORK

### A. Proposed Contract

A personal services contract should be executed to obtain the services of a Project Manager to the Omani-American Joint Commission [OAJC]. The specific duties will be to monitor, evaluate and oversee the implementation of the Capital Projects Development Fund. Specific duties are described in paragraph B of this document.

### B. Scope of Work

The selected Contractor will provide advice and assistance in the implementation of the Capital Projects Development Fund Project. The incumbent's work will be monitored and supervised by the Deputy U.S. Representative in his function as Program Officer. The project Manager will also work in close collaboration with the OAJC's Director of Projects, who oversees the development and operation of Project Management Systems. The incumbent will be required to provide technical direction and guidance and will insure the technical soundness of approach for all sub-activities undertaken by the OAJC. It is also expected that the Contractor will work closely with relevant host government officials at all levels, especially those in the Ministry of Finance and Economics, and private sector entities and individuals.

### C. Duties and Responsibilities

The duties of the Project Manager of the CPDF project include, but are not limited to the following:

1. Provide the technical direction and guidance to the OAJC in meeting the goals and purposes of the project. This includes: representing the OAJC in all matters pertaining to the project and any sub-projects, including contacts with the Government of Oman and any Contractor personnel who may be contractually engaged during the course of the project. In particular, the Contractor will prepare and update implementation plans for all project and sub-project activities. In the discharge of these duties, the incumbent will work closely with counterpart personnel in the Ministry of Finance and Economics, as well as with senior OAJC managers.
2. Develop an understanding of the major private sector operations which might conceivably serve as the focal points for pre-feasibility, feasibility and /or engineering design studies. In this regard, the incumbent should research those ways of promoting greater participation of the private sector in the economic development of Oman. This includes working with both public officials and private companies in establishing communication for a dialogue in all matters pertaining to the economic development of the non-coastal areas; work with the private sector to determine opportunities and constraints to new investment; work with the

Ministry of Finance and Economics to facilitate the implementation of studies for sub-sector projects; and finally serve as the catalyst for a discussion of benefits between the public and private sectors.

3. Assess the existing policy framework which governs the economic development of Oman; assist the OAJC in establishing a policy dialogue pertaining to these matters with Government of Oman officials; identify weaknesses in the policy framework or its implementation, and propose methods to strengthen policies for economic development in Oman.

4. Provide technical guidance and direction for OAJC work plans and economic development activities related to the project. This includes organizing and participating in all evaluations scheduled for the project and any sub-projects, undertaking any special short-term studies which may enhance implementation of the project; evaluating the role of OAJC in the economic development of Oman and participating in any conferences or seminars related to the general theme of economic development. The incumbent will also work closely with other international and donor institutions dealing with the problems of economic development in Oman.

5. Provide technical input and participate fully in the design and implementation of the performance monitoring system for project and sub-project activities. At the system design stage this will include the identification of progress indicators and implementation benchmarks to achieve project and program objectives. The implementation of the system will include periodically assembling data and analysis and, on a semi-annual basis, reporting on such analysis and trends in terms of project and program performance.

6. Participate in the preparation of quarterly reports, annual work plans and reports, sub-project sub-obligating documents and preparation of project implementation reports for AID/W; assist in the preparation and review of performance evaluations and staff development plans; become familiar with A.I.D. documentation and reporting requirements and contribute to all normal correspondence related to the project and/or sub-project.

## II. PERIOD OF SERVICE.

Within ten (1) days after written notice from the OAJC that all clearance and other clearances and certificates have been received as required under GP Clause 3, the Contractor shall proceed to Muscat, Sultanate of Oman, unless another date is agreed to in writing by the OAJC and the Contractor. After arrival the Contractor shall promptly commence performance of the duties given in Part II of this document. The contractor's period of overseas service shall be approximately forty-eight months, beginning on June 5, 1991.

SCOPE OF WORK  
Short-Term Experts

Objective

In order to assure that the Capital Project Development Fund is properly implemented, basic economic, financial, and social parameters need to be established at the outset. Three or four experts can travel to Oman for thirty days each to perform the needed preliminary work in these areas before any studies funded under the project begin.

Background

The Government of Oman has placed economic development priorities at the heart of the Fourth Five Year Development Plan. Within this context it has committed itself to reform and expansion of the economic opportunities for the whole country, specifically including both the public and private sectors. The private sector has been to participate in these endeavors.

Driven by oil revenues the past 15 years, Oman has seen unparalleled growth in the governmental and physical infrastructure necessary to support the beginnings of a modern economy. Yet there are no identifiable development projects which can be readily implemented to support and continue these efforts. As the emphasis in economic activity in Oman undergoes a shift from investment in the public sector infrastructure to investment in productive activities, many opportunities for employment and economic activity are shifting to the private sector.

The Sultanate, in its efforts to propel the forces of economic growth, has agreed to help select some investment study areas from which hopefully viable down-stream projects can be later identified. While there is a clear need for viable economic development projects, there is considerable divergence of views about how best to structure such efforts. The objective of providing short-term assistance would be to establish the parameters from which investment study projects could be launched. The parameters are of critical importance in assuring that sub-project studies are properly launched.

### Description of Activities

The consultant(s) will:

\*-Review relevant documents in both the public and private sectors and establish those areas in which the United States might have a comparative advantage following which the identified areas can be judged according to the screening criteria established for the project.

\*-Review the situation prevailing in the Omani economy and propose viable economic parameters such as the establishment of guidelines pertaining to opportunity costs of capital and shadow exchange and wage

\*-Establish the parameters pertaining to the sociological parameters of any sub-project endeavor in accordance with the guidelines established under the CPDF project.

### Report Requirements

Final draft report in five copies to be submitted to OAJC prior to departure from Oman. Presentation made to key host Omani officials in the public and private sector if requested.

Five (5) copies of the final report to be submitted to OAJC within 14 calendar days from receipt of OAJC comments on the final draft.

### Consultant(s) Qualifications

Consultant(s) should be well versed in economic development and/or development anthropology and have a minimum of ten (10) years experience in their respective specialties. Consultant(s) should possess a minimum of Master's degrees in related subjects. Experience in the Arab world, and particularly in the Gulf area, will be considered favorably.

SCOPE OF WORK  
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## INDICATORS OF GULF OIL COUNTRIES

TABLE 1

	POPULATION	EX-PATRIATE		GROSS DOMESTIC PRODUCT	GROSS DOMESTIC PRODUCT P/CAPITA	P E T R O L E U M		
	(IN MILLIONS)	(EST.)	%	(\$ MILLION)	(\$000)	RESERVES AT 1989	(MM BBLS) DAY	PRODUCTION YEAR
BAHRAIN	0.46	(115)	25%	3,224	7,040	920	0.047	17
KUWAIT	1.96	(1,176)	60%	25,794	13,160	94,500	0.764	279
OMAN	1.38	(388)	28%	7,976	5,780	4,280	0.619	226
QATAR	0.35	(263)	75%	5,476	15,645	3,200	0.293	107
SAUDI ARABIA	14.00	(2,000)	14%	77,490	5,535	255,000	3.734	1,363
U.A.E.	1.50	(440)	29%	23,291	15,527	98,100	1.370	500
	19.65	(4,381)	22%	143,251	7,291	456,000	6.827	2,492

STRUCTURE OF OMAN'S OIL EXPORTS  
 YEARS 1981 - 1981  
 ( Millions of R.O.)      TABLE 2

Year	Oil Exports	6 leading buyers					Nether.	6 Ctries Share	Rest of The World	Total
		Japan	Korea	Taiwan	Singapore	U.S.A.				
1981	1526.4	48%	0%	3%	9%	8%	12%	80%	20%	100%
1982	1409.6	40%	0%	3%	22%	6%	7%	77%	23%	100%
1983	1346.6	50%	11%	3%	12%	8%	2%	86%	14%	100%
1984	1401.0	62%	18%	1%	8%	3%	2%	94%	6%	100%
1985	1597.0	67%	14%	3%	3%	0%	0%	87%	13%	100%
1986	981.0	53%	17%	7%	4%	1%	0%	81%	19%	100%
1987	1328.0	41%	16%	10%	7%	6%	2%	82%	18%	100%
1988	1101.7	50%	23%	7%	2%	1%	0%	84%	16%	100%
1989	1344.4	39%	32%	10%	6%	3%	0%	89%	11%	100%

Estimates: Based on data Statistical Year Books, 1986, 1988 and 1989 A.D.  
 Sultanate of Oman

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GULF REGIONAL STRUCTURE OF OMAN'S NON OIL EXPORTS  
YEARS 1981 - 1989

Table 3

Year	GDP	Non Oil Exports	Non Oil Export Relative Shares					GCC's Share	Rest of The World	Total
			U.A.E	Qatar	Kuwait	Saudi A.	Bharain			
1981	2490.5	6.6	29%	5%	27%	11%	3%	74%	26%	100%
1982	2613.6	7.7	31%	10%	12%	12%	5%	70%	30%	100%
1983	2739.9	10.7	21%	12%	6%	8%	4%	51%	49%	100%
1984	3046.7	17.2	16%	2%	7%	7%	4%	36%	64%	100%
1985	3453.8	22.8	21%	4%	1%	7%	2%	34%	66%	100%
1986	2800.4	26.6	17%	2%	5%	6%	1%	31%	69%	100%
1987	3002.6	39.0	22%	1%	1%	4%	10%	38%	62%	100%
1988	2925.9	62.9	19%	1%	0%	6%	30%	56%	44%	100%
1989	3230.6	66.6	19%	1%	0%	13%	30%	64%	36%	100%

Estimates: Based on data Statistical Year Books, 1986, 1988 and 1989 A.D.  
Sultanate of Oman

OMAN'S DIRECTION OF TRADE STRUCTURE  
IMPORTS 1981 - 1989

Table No. 4

Year	Imports Mill. R.O.	U.S.A.	Japan	U.A.E.	U.K.	Germ.	France	Nether.	Sev.Ctries Share	Rest of the World	Total
1981	790.4	8%	23%	16%	15%	4%	2%	2%	70%	30%	100%
1982	926.6	8%	21%	14%	14%	8%	3%	3%	72%	28%	100%
1983	860.9	8%	22%	18%	19%	7%	2%	3%	79%	21%	100%
1984	949.2	8%	21%	18%	17%	10%	3%	3%	79%	21%	100%
1985	1088.9	6%	20%	21%	16%	8%	4%	3%	78%	22%	100%
1986	916.7	8%	14%	19%	18%	9%	4%	4%	75%	25%	100%
1987	700.7	7%	15%	21%	15%	8%	4%	4%	74%	26%	100%
1988	846.5	9%	17%	21%	13%	5%	3%	3%	71%	29%	100%
1989	868.0	8%	16%	24%	12%	5%	3%	3%	71%	29%	100%

Sources: Estimates base on data of Statistical Year Books , 1986, 1988 and 1989 A.D.  
Sultanate of Oman

EXPORT OIL LINKAGE TO OMAN'S GROSS DOMESTIC PRODUCT  
[EXPORTS OIL/GDP] RATIOS 1981 - 1989

Table 5

Year	GDP Mill. R.O	Oil Exports	Oil Export Linkages to GDP						6 Ctries Share	Rest of the World	Oil Exp./ GDP
			Japan	U.S.A.	Nether.	Korea	Singapore	Taiwan			
1981	2490.5	1526.4	30%	5%	7%	0%	5%	2%	49%	45%	94%
1982	2613.6	1409.6	21%	3%	4%	0%	12%	2%	41%	51%	92%
1983	2739.9	1346.6	24%	4%	1%	5%	6%	2%	42%	49%	91%
1984	3046.7	1401.0	29%	1%	1%	8%	4%	1%	43%	48%	91%
1985	3453.8	1597.0	31%	0%	0%	6%	1%	1%	40%	52%	93%
1986	2800.4	981.0	18%	0%	0%	6%	1%	3%	28%	61%	89%
1987	3002.6	1328.0	18%	3%	1%	7%	3%	5%	36%	54%	90%
1988	2925.9	1101.7	19%	0%	0%	9%	1%	2%	32%	54%	85%
1989	3230.6	1344.4	16%	1%	0%	13%	2%	4%	37%	49%	86%

Estimates: Based on data Statistical Year Books, 1986, 1988 and 1989 A.D.  
Sultanate of Oman

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EXPORT LINKAGE TO OMAN'S GROSS DOMESTIC PRODUCT  
 {EXPORTS NON OIL/GDP} RATIOS FOR 1981 - 1989

Table No. 6

Year	GDP Mill. R.O	Non Oil Exports	U.A.E	Non Oil Exports Qatar	Export Kuwait	Linkages to Saudi A.	Bharain	GCC'S Link	Rest of N World	oil-Xpo GDP	Ratio
1981	2490.5	6.6	0.1%	0.0%	0.1%	0.0%	0.0%	0.2%	0.1%	0.3%	
1982	2613.6	7.7	0.1%	0.0%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	
1983	2739.9	10.7	0.1%	0.0%	0.0%	0.0%	0.0%	0.2%	0.2%	0.4%	
1984	3046.7	17.2	0.1%	0.0%	0.0%	0.0%	0.0%	0.2%	0.4%	0.6%	
1985	3453.8	22.8	0.1%	0.0%	0.0%	0.0%	0.0%	0.2%	0.4%	0.7%	
1986	2800.4	26.6	0.2%	0.0%	0.0%	0.1%	0.0%	0.3%	0.7%	0.9%	
1987	3002.6	39.0	0.3%	0.0%	0.0%	0.1%	0.1%	0.5%	0.8%	1.3%	
1988	2925.9	62.9	0.4%	0.0%	0.0%	0.1%	0.6%	1.2%	0.9%	2.1%	
1989	3230.6	66.6	0.4%	0.0%	0.0%	0.3%	0.6%	1.3%	0.8%	2.1%	

Estimates: Based on data Statistical Year Books, 1986, 1988 and 1989 A.D.  
 Sultanate of Oman

IMPORT LINKAGE TO OMAN'S GROSS DOMESTIC PRODUCT  
FOR THE PERIOD 1981 - 1989

Table 7

Year	Imports	U.S.A.	Japan	U.A.E.	U.K.	Germ.	France	Nether.	Total Linkage
1981	790.35	2.44%	7.16%	5.05%	4.60%	1.37%	0.76%	0.79%	22.18%
1982	926.55	2.84%	7.34%	4.96%	5.10%	2.94%	1.17%	1.06%	25.42%
1983	860.85	2.42%	6.91%	5.50%	5.88%	2.29%	0.69%	1.04%	24.73%
1984	949.22	2.34%	6.64%	5.51%	5.17%	2.99%	0.90%	0.97%	24.52%
1985	1088.93	1.80%	6.37%	6.65%	5.17%	2.46%	1.17%	0.98%	24.59%
1986	916.67	2.47%	4.71%	6.12%	5.88%	2.94%	1.16%	1.31%	24.59%
1987	700.73	1.57%	3.55%	4.90%	3.43%	1.87%	0.84%	1.05%	17.21%
1988	846.49	2.54%	4.87%	6.08%	3.84%	1.50%	1.00%	0.83%	20.66%
1989	867.95	2.07%	4.22%	6.50%	3.13%	1.47%	0.90%	0.85%	19.13%

Sources:

TABLE 8

GROSS DOMESTIC PRODUCT SULTANATE OF OMAN  
(Millions of R.O. at 1978 A.D. prices)

Year	Oil Sector	Primary sector	Other Non Oil	Total Non Oil	VA. Gov. Services	GDP Prod. Value	Ind. Taxes	GDP Purch Value
1978	493.02	30.70	309.37	340.07	109.20	942.29	4.60	946.89
1979	460.34	40.57	343.15	383.72	137.40	981.46	6.00	987.46
1980	437.55	49.01	409.67	458.68	144.60	1040.83	6.30	1047.13
1981	499.61	49.70	497.98	547.68	170.20	1217.49	8.10	1225.59
1982	501.74	54.13	623.64	677.77	176.60	1356.11	11.03	1367.14
1983	593.30	64.19	717.65	781.84	203.90	1579.04	16.30	1595.34
1984	635.99	70.38	895.70	966.08	235.60	1837.67	24.50	1862.17
1985	771.90	81.68	976.48	1058.16	248.10	2078.16	27.04	2105.20
1986	873.20	79.06	960.01	1039.07	239.10	2151.37	23.86	2175.23
1987	930.92	83.77	804.88	888.65	259.65	2079.22	16.20	2095.42
1988	1001.17	101.79	840.61	942.40	262.98	2206.55	15.60	2222.15
1989	1024.53	94.61	883.62	978.23	227.40	2230.16	16.67	2246.83
R Squared	0.92	0.94	0.79		0.84	0.93		0.93
Growth Constant	8.56%	9.81%	10.20%		7.29%	9.05%		9.08%
LN	5.926	3.504	5.801		4.795	6.765		6.772

Sources: Statistical Year Books , 1986, 1988 and 1989 A.D.  
Sultanate of Oman

TABLE 9

GROSS DOMESTIC PRODUCT SULTANATE OF OMAN  
(Millions of R.O. at current prices)

Year	Oil Sector	Primary sector	Other Non Oil	Total Non Oil	VA. Gov. Services	GDP Prod. Value	Ind. Taxes	GDP Purch Value
1978	493.80	30.70	317.80	348.50	109.20	951.50	4.60	946.90
1979	719.70	40.30	399.00	439.30	137.90	1296.90	7.00	1289.90
1980	1269.50	53.60	554.40	608.00	194.60	2072.10	8.60	2063.50
1981	1473.80	64.70	702.80	767.50	260.50	2501.80	11.30	2490.50
1982	1420.90	69.90	831.50	901.40	306.00	2628.30	14.70	2613.60
1983	1400.60	86.10	914.90	1001.00	360.00	2761.60	21.70	2739.90
1984	1474.40	96.20	1084.00	1180.20	423.80	3078.40	31.70	3046.70
1985	1685.00	102.50	1229.50	1332.00	477.90	3494.90	41.10	3453.80
1986	1071.70	105.20	1164.70	1269.90	495.80	2837.40	37.00	2800.40
1987	1414.80	113.70	991.10	1104.80	509.90	3029.50	26.90	3002.60
1988	1198.40	137.60	1084.30	1221.90	535.20	2955.50	29.60	2925.90
1989	1475.40	133.70	1102.20	1235.90	548.70	3260.00	29.40	3230.60
R Squared	0.337	0.929	0.756		0.889	0.651		0.648
Growth Constant	5.72%	12.65%	10.70%		14.48%	8.81%		8.75%
LN	6.717	3.543	5.989		4.835	7.221		7.217

Sources: Statistical Year Books , 1986, 1988 and 1989 A.D.  
Sultanate of Oman

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AGGREGATED EXPENDITURE OF GROSS NATIONAL PRODUCT IN SULTANATE OF OMAN  
(Millions of R.O. at current prices)

Table 10

Year	GDP	Net Factor Income	GNP	Consumption Private	Gov.	Gross Saving	Investment Private	Gov.	Ex-post Gap	Exports	Imports	Resource Balance	Net Factor Profit	Income Workers	Remittance Bank	Int. Of. Int.	Total	Ex-post Gap
1976	884.30	-148.00	736.30	181.30	240.90	314.10	57.30	259.80	-3.00	551.00	406.00	145.00	-74	-76		2	-148	-3.00
1977	946.80	-130.00	816.80	254.80	268.50	293.50	70.60	218.90	4.00	559.00	425.00	134.00	-52	-76		-2	-130	4.00
1978	946.90	-111.00	835.90	310.30	272.30	253.30	87.40	186.10	-20.20	552.00	461.20	90.80	-40	-73		2	-111	-20.20
1979	1289.90	-137.00	1152.90	337.40	354.70	460.80	119.70	215.70	125.40	787.40	525.00	262.40	-44	-86		-7	-137	125.40
1980	2063.50	-212.00	1851.50	593.60	499.20	758.70	159.90	305.80	293.00	1294.00	789.00	505.00	-97	-125	3	7	-212	293.00
1981	2490.50	-235.00	2255.50	590.60	656.40	1008.50	193.90	389.60	425.00	1625.00	965.00	660.00	-122	-158	9	36	-235	425.00
1982	2613.60	-238.00	2375.60	794.70	715.20	865.70	224.50	482.20	159.00	1532.00	1135.00	397.00	-139	-191	10	82	-238	159.00
1983	2739.90	-297.00	2442.90	802.20	779.80	860.90	207.00	529.90	124.00	1475.00	1054.00	421.00	-143	-239	15	70	-297	124.00
1984	3046.70	-350.00	2696.70	938.50	808.00	950.20	260.70	652.50	37.00	1532.00	1145.00	387.00	-151	-282	22	61	-350	37.00
1985	3453.80	-399.00	3054.80	1125.60	938.10	971.10	251.40	701.70	38.00	1722.00	1285.00	437.00	-167	-312	11	69	-399	38.00
1986	2800.40	-336.00	2464.40	1020.00	929.00	515.40	246.50	651.90	-383.00	1098.00	1145.00	-47.00	-165	-323	7	145	-336	-383.00
1987	3002.60	-281.00	2721.60	929.60	913.70	878.30	164.60	399.70	314.00	1468.00	873.00	595.00	-138	-270	8	119	-281	314.00
1988	2925.90	-406.00	2519.90	1179.80	956.00	384.10	157.70	353.40	-127.00	1290.00	1011.00	279.00	-128	-293	4	11	-406	-127.00
1989	3230.60	-424.00	2806.60	1269.60	975.60	561.40	152.30	289.10	120.00	1561.00	1017.00	544.00	-128	-331	15	20	-424	120.00

R Squared  
Growth  
Constant  
LN

Sources: Statistical Year Books , 1986, 1988 and 1989 A.D.  
Sultanate of Oman

1/9/80

BALANCE OF PAYMENTS STRUCTURE  
(Current Millions R.O.)

TABLE 11

Year	Exports	Imports	Resource Balance	Net Factor Profit	Income Workers	Remittance Bank	Int.Of. Int.	Total	Ex-post Gap	Grants	Of.Cap.	Net Capital Movements Of.Loans	Oil	Priv.	Error Omissions	Total	Reserves Fgn.Asset	Domestic Absorp.	DA/GNP	DA/GDP	
1976	551.00	406.00	145.00	-74	-76			2	-148	-3.00	18.00	48.00	36.000		-103.00	-4.00	4.00	739.3	100.41%	83.60%	
1977	559.00	425.00	134.00	-52	-76			-2	-130	4.00	93.00	30.00	14.000		-65.00	76.00	-76.00	812.8	99.51%	85.85%	
1978	552.00	461.20	90.80	-40	-73			2	-111	-20.20	7.00	-8.00	15.000		-27.00	-34.20	34.20	856.1	102.42%	90.41%	
1979	787.40	525.00	262.40	-44	-86			-7	-137	125.40	62.00	-10.00	-4.00	9.000	-80.00	102.40	-102.40	1027.5	89.12%	79.66%	
1980	1294.00	789.00	505.00	-97	-125		3	7	-212	293.00	35.00	-15.00	1.00	27.000	-21.00	324.00	-324.00	1558.5	84.17%	75.53%	
1981	1625.00	965.00	660.00	-122	-158		9	16	-235	425.00	50.00	5.00	51.00	2.000	3.00	483.00	-483.00	1830.5	81.16%	73.50%	
1982	1532.00	1135.00	397.00	-139	-191		10	82	-238	159.00	15.00	-19.00	41.00	55.000	9.00	269.00	-269.00	2216.6	93.31%	84.81%	
1983	1475.00	1054.00	421.00	-143	-239		15	70	-297	124.00	51.00	-34.00	163.00	67.000	10.00	213.00	-213.00	2318.9	94.92%	84.63%	
1984	1532.00	1145.00	387.00	-151	-282		22	61	-350	37.00	73.00	-6.00	151.00	33.000	3.00	126.00	-126.00	2659.7	98.63%	87.30%	
1985	1722.00	1285.00	437.00	-167	-312		11	69	-399	38.00	60.00	-23.00	73.00	31.000	3.00	-183.00	-1.00	3016.8	98.76%	87.35%	
1986	1098.00	1145.00	-47.00	-165	-323		7	145	-336	-383.00	0.00	-5.00	216.00	110.000	2.00	-235.00	-295.00	2847.4	115.54%	101.68%	
1987	1468.00	873.00	595.00	-138	-270		8	119	-281	314.00	3.00	-15.00	-52.00	5.000	1.00	72.00	-72.00	2407.6	88.46%	80.18%	
1988	1290.00	1011.00	279.00	-128	-293		4	11	-406	-127.00	16.00	-5.00	72.00	47.000	1.00	-151.00	-147.00	2646.9	105.04%	90.46%	
1989	1561.00	1017.00	544.00	-128	-331		15	20	-424	120.00	8.00	8.00	54.00	19.000	1.00	-108.00	102.00	-102.00	2686.6	95.72%	83.16%

REGRESSION ESTIMATES WITH RESPECT TO (t)

Constant	6.451	6.118	3.961	4.148
SE Y est.	0.300	0.255	0.339	0.209
R squared	0.556	0.640	0.571	0.888
Growth	7.71%	7.81%	8.97%	13.53%
Std.Err G	1.99%	1.69%	2.24%	1.39%

Sources: Statistical Year Books, 1986, 1988 and 1989 A.D.  
Sultanate of Oman

Domestic Absorption (DA) = Consumption + Gov. Expenditure + Investment  
Gross Domestic Product (GDP)  
Gross National Product (GNP) = GDP - Net Factor Income

TABLE 12

GOVERNMENT REVENUES - EXPENDITURE - CAPITAL EXPENDITURE AND FINANCING 1979 - 1989  
(Millions of current R.O.)

Year	GDP Value	Prod. Oil & Gas	Gov. Oil Industry		Government Revenues				Total Gov. Revenue	Expenditure & Transfer Payments				Government Capital Expenditure				Grants	Surplus (Deficit)			Financing	
			Rev.	Expend.	P.D.O.	P.D.O.	Net Oil Rev.	Duties		Corporate Taxes	Other	Gov. Expend.	Interest Payments	Transf. Priv.Sect	Surplus (Deficit)	Dev. Expenditu	Civil Exp. Min.Defen		Gov. Net.Lendi	Surplus (Deficit)	Net Gov. Borrowing		SCRW
1978	951.5	460.5	18.6	33.7	408.2	4.6	6.0	31.2	450.0	201.1	138.1	16.2	0.0	94.6	89.0	63.4	25.0	-82.8	6.7	-76.1	-10.2	0.0	-8
1979	1296.9	638.9	24.1	63.7	551.1	7.0	5.6	40.7	604.4	246.4	144.5	19.7	0.0	193.8	129.4	22.6	11.8	30.0	61.9	91.9	-13.0	0.0	7
1980	2072.1	1109.5	35.3	77.8	996.4	8.6	6.5	63.3	1074.8	347.7	214.8	21.1	8.7	482.5	168.9	59.1	16.4	238.1	35.2	273.3	1.0	-274.3	6
1981	2501.8	1359.4	47.1	76.4	1235.9	11.3	10.5	96.9	1354.6	450.0	272.5	15.5	5.5	611.1	241.0	71.9	43.9	254.3	50.0	304.3	50.5	-215.9	13
1982	2628.3	1234.6	55.7	106.2	1072.7	14.7	11.4	73.1	1171.9	497.9	315.7	17.5	19.2	321.6	289.0	83.4	28.3	-79.1	14.7	-64.4	41.0	-98.4	-12
1983	2761.6	1297.7	58.7	86.4	1152.6	21.7	18.7	85.7	1278.7	530.4	362.7	19.2	22.8	343.6	290.7	140.3	35.7	-123.1	50.7	-72.4	162.8	-89.9	0
1984	3078.4	1339.0	58.5	90.7	1189.8	31.6	20.4	122.2	1364.0	568.8	409.4	39.3	13.6	332.9	374.0	159.4	46.6	-247.1	72.8	-174.3	150.7	-27.5	-5
1985	3494.9	1546.7	62.9	100.0	1383.8	41.1	26.4	148.8	1600.1	608.9	489.0	47.1	14.0	441.1	433.7	136.0	23.5	-152.1	-8.8	-160.9	73.4	96.8	5
1986	2837.4	966.8	72.3	109.3	785.2	37.0	25.6	158.6	1006.4	579.4	500.0	75.9	10.7	-159.6	363.1	86.0	-2.7	-606.0	-0.3	-606.3	215.9	492.4	10
1987	3029.5	1233.9	66.5	98.8	1068.6	26.9	21.2	197.0	1313.7	541.2	509.1	72.9	11.0	179.5	230.0	42.4	4.5	-97.4	2.7	-94.7	-52.2	146.5	-0
1988	2955.5	1037.8	62.7	76.4	898.7	29.6	23.4	150.0	1101.7	525.3	535.2	84.0	15.9	-58.7	203.8	63.9	-6.8	-319.6	15.8	-303.8	72.1	231.8	0
1989	3260.0	1232.5	64.9	91.4	1076.2	29.4	16.0	183.2	1304.8	576.8	589.9	94.5	34.4	9.2	173.8	18.2	-20.7	-162.1	6.2	-155.9	34.6	-113.0	-23

Sources: Statistical Year Books , 1986, 1988 and 1989 A.D.  
Sultanate of Oman

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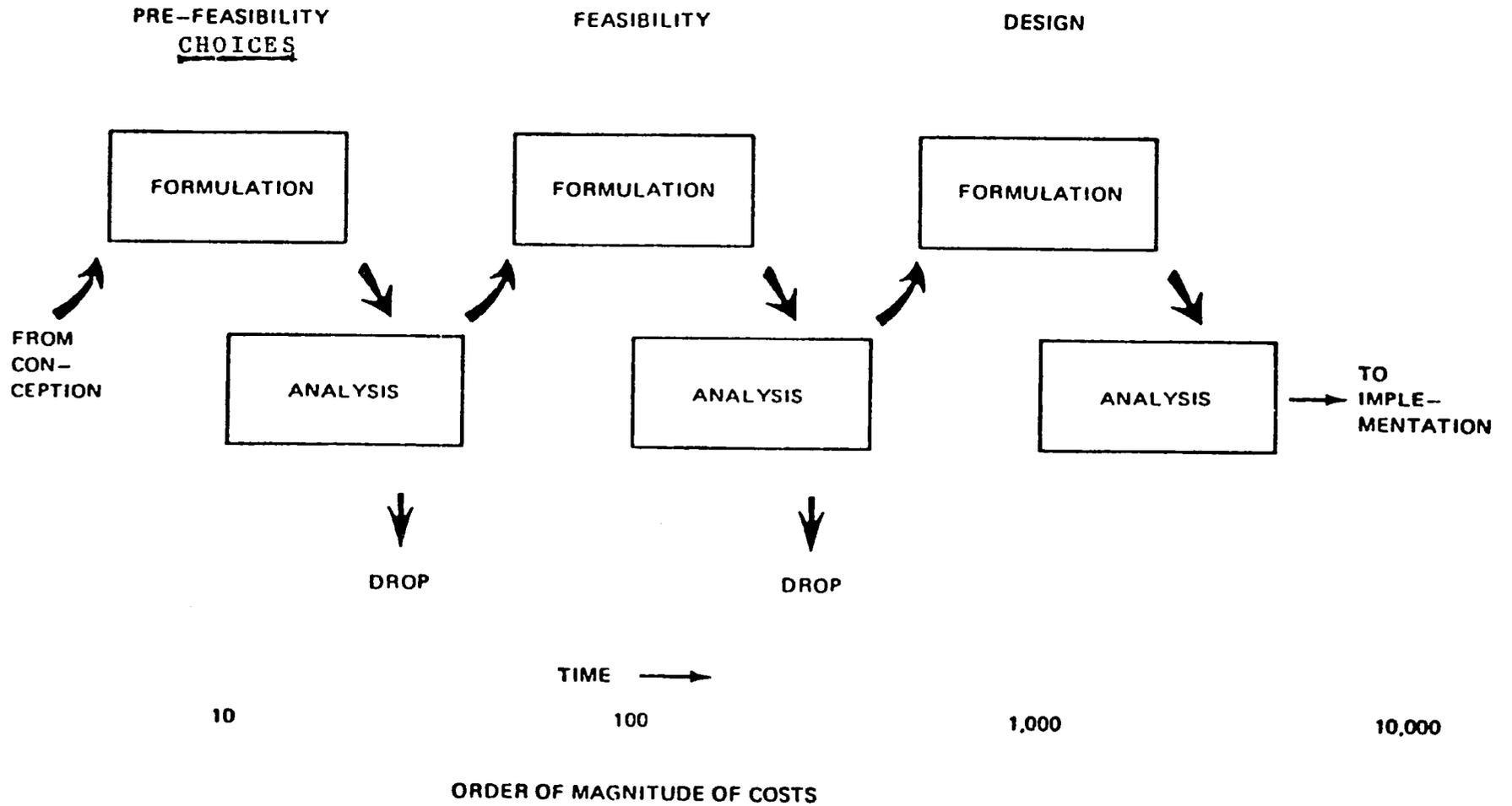
TABLE 13

MONEY SUPPLY OF SULTANATE OF OMAN 1978 - 1989  
(Millions of R.O. )

Year	GDP Purc Value	Money in Circulation	Demand Deposits	Money M1	Time Sav. Deposits	Money M2	Govern. D. Deposits	Money Su M3	Money Sup 4 = M1 + G
1978	946.9	64.4	51.8	116.2	121.4	237.6	42.5	280.1	158.7
1979	1289.9	74.3	51.9	126.2	135.7	261.9	68.1	330.0	194.3
1980	2063.5	94.8	63.9	158.7	185.7	344.4	150.3	494.7	309.0
1981	2490.5	116.2	101.9	218.1	259.8	477.9	195.5	673.4	413.6
1982	2613.6	129.8	113.3	243.1	328.9	572.0	231.8	803.8	474.9
1983	2739.9	140.4	131.6	272.0	425.6	697.6	310.6	1008.2	582.6
1984	3046.7	150.0	141.4	291.4	517.8	809.2	369.9	1179.1	661.3
1985	3453.8	178.5	148.7	327.2	597.6	924.8	311.9	1236.7	639.1
1986	2800.4	168.8	141.5	310.3	555.5	865.8	262.5	1128.3	572.8
1987	3002.6	180.3	154.1	334.4	578.3	912.7	242.2	1154.9	576.6
1988	2925.9	176.3	135.8	312.1	655.3	967.4	258.2	1225.6	570.3
1989	3230.6	183.6	160.5	344.1	713.7	1057.8	278.6	1336.4	622.7
R Squared	0.648			0.836		0.893		0.820	0.689
Growth Constant	8.75%			9.80%		13.84%		13.62%	11.10%
LN	7.217			4.842		5.508		5.809	5.368

CAPITAL PROJECTS DEVELOPMENT FUND

### PROJECT FORMULATION/ANALYSIS STAGES



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