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**Balochistan  
Area [REDACTED]  
Development  
Project**

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Frederic C. Thomas  
Richard R. Howes  
Michael V. Julien  
Allen J. Clark

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Development Alternatives, Inc. 624 Ninth Street, N.W. Washington, D.C. 20001

**BASIC PROJECT INFORMATION DATA**

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  - a) **Mission Directors:** (1) Donor M. Lion (2) Eugene S. Staples (3) James A. Norris
  - b) **Project Officers:** (1) Richard Scott (2) John Anania (3) Robert Traister (4) A. Karim Nayani
9. **Previous Evaluations:** One
10. **Cost of the Present Evaluation:**

<b>Contract:</b>	DAI	140 person days	\$109,933.
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## PREFACE

From September 8 to October 17, 1990, a four-person team from Development Alternatives, Inc. (DAI) undertook an evaluation of the Balochistan Area Development (BALAD) Project. The team members were:

**Frederic C. Thomas**, Anthropologist (Ph.D) and Team Leader, currently an independent consultant. His prior experience included 25 years of senior overseas responsibilities with the UN Development Program, US Agency for International Development and the Peace Corps in their technical cooperation programs, mainly in North Africa, the Middle East and South Asia.

**Richard R. Howes**, Agricultural Economist (Ph.D), with experience with the U.S. Department of Agriculture and as a professor at the University of Maryland. He previously conducted several evaluations of large multi-faceted area and regional development programs in Bangladesh, Mauritania, Iran, and several African countries.

**Michael V. Julien**, Private Sector Specialist (M. Sc. Mngt.) whose experience includes management of an agri-processing company and design and implementation of USAID private sector development finance programs. Recently, he was chief of party of an AID-funded agribusiness diversification project in the eastern Caribbean.

**Allen J. Clark**, Civil and Agricultural Engineer (M.S.), with extensive experience in the survey, design and construction of roads and other building projects in Burkina Faso, Senegal, Mauritania, Burundi and Zaire.

The evaluation team was briefed by AID/Washington and USAID/Islamabad. It spent approximately one week in Quetta interviewing senior Government of Balochistan (GOB) officials and reviewing Project files. Subsequently two weeks were spent in Turbat visiting Project activities in the Turbat and Panjgur districts as well as visits to the coastal towns of Gwadar and Pasni in connection with road activities and an appraisal of private sector development opportunities. Moreover, one member of the team spent two days in Karachi discussing private sector development. Upon return to Quetta for the purpose of writing up findings and some final meetings with GOB officials, a one-day USAID-sponsored workshop, organized and lead by two Coverdale facilitators, served as an opportunity to review the main issues and conclusions emerging from the evaluation. Afterwards the team leader returned to Islamabad to complete the report, a field draft of which was discussed with USAID/Islamabad on October 17, 1990 prior to his departure from the country.

The evaluation could not have been completed without the help of the Project Officer in Quetta and his Program Assistant, who accompanied the team to Makran. The team's appreciation is also extended to the USAID, GOB officials and others who made their valuable time available in order to provide the team with their views and comments on BALAD activities. Particularly, the team wishes to express its thanks to the BALAD staff in Turbat for their support and interest in the evaluation. Without their fullest cooperation this report could not have been written.

## TABLE OF CONTENTS

	<u>Page</u>
<b>EXECUTIVE SUMMARY</b>	xiii
<b>SECTION ONE</b>	
<b>INTRODUCTION AND OVERVIEW</b>	1
<b>THE MAKHRAN</b>	1
<b>HISTORY OF BALAD</b>	2
<b>SECTION TWO</b>	
<b>MAIN PROJECT COMPONENTS</b>	7
<b>ROADS COMPONENT</b>	7
<b>Setting and Main Program Elements</b>	7
<b>Setting</b>	7
Bela-Awaran Road	7
Kech River Bridge	8
Turbat Town Roads	8
<b>Road Rehabilitation</b>	8
Original Objectives and Subsequent Modifications	8
Implementation Issues and Progress to Date	9
Assessment of Road Rehabilitation Achievements	10
Appropriateness of Purpose Level Indicators	10
Road Rehabilitation Equipment	11
Personnel and Training Needs	11
Sequence of Rehabilitation Operations	12
<b>Road Maintenance</b>	12
The Original Objective	12
Implementation and Progress to Date	13
<b>Institutionalization of Road Activities</b>	14
Progress to Date	14
C&W Administrative Capability	14
<b>Conclusion and Recommendations</b>	15

<b>WATER COMPONENT</b>	16
Traditional Irrigation Systems	16
Original Objectives and Later Changes	17
Selection and Implementation of Water Subprojects	18
Progress and Evaluation of Results	19
Karez Borings	19
Other Karez and Kaurjo Improvements	20
Experience with Recharge Schemes	21
Quality of Construction	22
Recent Emphasis on Institutionalization	22
Need for Groundwater Studies	23
Training of Line Department Personnel	23
Benefits and Purpose-level Indicators	24
Conclusions and Recommendations	25
<b>AGRICULTURE COMPONENT</b>	26
Setting	26
Planned BALAD Activities	26
Implementation	27
Progress	28
Conclusions and Recommendations	29
<b>SPECIAL DEVELOPMENT ACTIVITIES</b>	30
Rationale	30
Selection and Implementation of SDA projects	30
Progress	31
Impact and Benefits	31
Sustainability	33
Future Directions for SDA	33
<b>VO-TECH TRAINING PROGRAM</b>	34
Rationale	34
Implementation	34
Follow-up on Vo-Tech Graduates	34
Value and Sustainability of Training	35
Lessons Learned and Recommendations	36
<b>PRIVATE SECTOR ACTIVITIES</b>	36
Use of Private Contractors	37
Technical Assistance to Private Farmers and Agribusiness	37
Benefits to the Private Sector	38
<b>PUBLIC ADMINISTRATION COMPONENT</b>	38
Setting and Rationale	38
The Local Administrative System	38
Local Government Councils	39
Concept and Justification for the PPMU	40
Implementation and Progress	41
PPMU Staffing and Functions	41
Divisional Working Committee	43
Coordination with Line Agencies	44
Provincial Steering Committee	44
Computer Section in P&D	45
Project Monitoring Capabilities	46
Institution Building and BALAD Follow-up	46

Obstacles to Integrating PPMU	46
March 1989 Steering Committee	46
PPMU Concept Paper	47
Karachi Workshop	47
USAID Concept Paper	47
LBI Contract Amendment	48
Regional Planning Initiatives	48
Sustainability	49
Integrating PPMU with P&D	49
Achieving Provincial-level Coordination: A Common Data Base	51
The Need for Participatory Planning and Development	51

### SECTION THREE

#### CROSS-CUTTING ISSUES AND FUTURE IMPLICATIONS 53

ENVIRONMENTAL IMPACT	53
PRIVATE SECTOR POTENTIAL	53
Present Business Conditions	53
Business in Makran	53
Market Links	54
Business Constraints and Weaknesses	54
Investment Climate	56
Economic and Infrastructure Development	56
Access and Proximity to Markets	56
Human Resources and Services	57
Natural Resources and Comparative Advantages	57
Investment Incentives	58
Investment Opportunities	58
Earlier Studies	58
Emerging Markets	59
Growth Markets	59
Mature Markets	59
Private Sector Strategy	60
Objective	60
Lessons Learned from BALAD	60
Components	60
Conclusions	62
WOMEN IN DEVELOPMENT	62
Difficulty in Measuring Impact	62
Opportunities	63
Recommendation	63
ACHIEVING PARTICIPATORY DEVELOPMENT:	
LINKAGE WITH THE PEOPLE AND LOCAL GOVERNMENT	63
Traditional Makrani Cooperation	63
Relevant Experience: Pak-German Self Help Project	64
Applicability to the Makran: Elements of a Strategy	64

**SECTION FOUR**

<b>MAIN CONCLUSIONS AND RECOMMENDATIONS</b>	<b>67</b>
<b>ROADS COMPONENT</b>	<b>67</b>
<b>WATER COMPONENT</b>	<b>67</b>
<b>AGRICULTURE COMPONENT</b>	<b>68</b>
<b>SDA COMPONENT</b>	<b>69</b>
<b>HUMAN RESOURCES AND TRAINING</b>	<b>69</b>
<b>PRIVATE SECTOR</b>	<b>70</b>
<b>WOMEN IN DEVELOPMENT</b>	<b>71</b>
<b>INTEGRATING PPMU WITH P&amp;D</b>	<b>71</b>
<b>PARTICIPATORY PLANNING AND DEVELOPMENT</b>	<b>73</b>
<b>BIBLIOGRAPHY</b>	<b>75</b>
<b>APPENDICES</b>	<b>79</b>
<b>PERSONS CONSULTED</b>	<b>79</b>
<b>SCOPE OF WORK</b>	<b>85</b>

**LIST OF TABLES AND MAPS**

<u>Table</u>		<u>Page</u>
1	BALAD Obligations and Expenditures to Date	5
2	Roads Rehabilitated	9
3	Roads Maintained	13
4	Water Sector Activities	19
<u>Map</u>		
1	The Location of Selected Regions of Baluchistan	xvii
2	SDA Schools	31
3	Marketing Network in Makran Division	55

## ACRONYMS

ADP	Annual Development Plan
ACS	Additional Chief Secretary (Planning & Development), GOB
AKRSP	The Aga Khan Rural Support Program
A&E	Architectural and Engineering
ARD	Agriculture and Rural Development Office, USAID/Pakistan
BALAD	Balochistan Area Development Project
C&W	Communications and Works Department, GOB
COP	Chief of Party, LBI Inc.
DDC	Divisional Development Committee
DWC	Divisional Working Committee
ENG	Office of Engineering, USAID/Islamabad
FAR	Fixed Amount Reimbursement
GOB	Government of Balochistan
GOP	Government of Pakistan
HRD	Office of Human Resource Development, USAID/Pakistan
IFB	Invitation for Bid
I&P	Irrigation and Power Department, GOB
LBI	Louis Berger International, Inc.
LGRD	Local Government and Rural Development Department, GOB
MIS	Management Information System
MNA	Member of the National Assembly
MPA	Member of the Provincial Assembly
NWFP	North West Frontier Province
OFWM	On Farm Water Management, Department of Agriculture, GOB
PACD	Project Assistance Completion Date
PC-1	GOP planning document that sets forth funding for a project
P&D	Planning and Development Department, GOB
PHE	Public Health Engineering Department, GOB
PIL	Project Implementation Letter
PIO/C	Project Implementation Order/Commodities
PIO/T	Project Implementation Order/Technical
PSC	Provincial Steering Committee
PP	Project Paper
PPMU	Project Planning and Management Unit
PROMIS	Project Management Information System
RAO	Regional Affairs Officer
SDA	Special Development Activities
SGA	Services and General Administration Dept., GOB
SKB	Saadulla Khar Brothers
TA	Technical Assistance
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WID	Women in Development

## EXECUTIVE SUMMARY

The evaluation of the Balochistan Area Development (BALAD) Project is based on the views and conclusions of a four-person team from Development Alternatives, Inc. (DAI). The team was in Pakistan for five weeks, a little more than two of which were spent in the Makran. The four members examined the main components of the Project: road rehabilitation and maintenance, irrigation projects, agriculture, Special Development Activities, and the public administration issues related to the establishment of the PPMU and the institutional sustainability of the BALAD concept and activities. Special attention was also given to cross-cutting issues, particularly the potential for private sector development, greater local participation and the need to address more explicitly the role that women can have in Makran's development.

BALAD was begun largely for political reasons: road improvements and other infrastructure to demonstrate central government concern for a strategically important yet previously neglected part of the country. In the past two years more emphasis has been placed on the institutions needed for improved planning, management and local participation in development. The shift of emphasis has occurred without departing from the original purpose — the integration of Makran into the political and economic mainstream of Pakistan. This evaluation was done from this more recent perspective. While it notes where the Project has had a visible, political impact, attention is mainly on the extent to which BALAD is responding to underlying institutional and sustainability requirements.

The team concluded on the basis of its observations that, after a very slow start under isolated and difficult conditions, BALAD has established for itself an important place in the Makran. Accomplishments with respect to infrastructure are mixed but generally positive. The Kech Bridge and over 300 kilometers of roads upgraded and; to a lesser extent, maintained by the Project are no mean achievements. Some 178 irrigation projects were implemented throughout the Turbat and Panjgur districts in an effort to address the most critical need of the local population. BALAD's agriculture activities are off to a good start but, like water sector activities, tend to be of an ad hoc nature without reference to any overall conceptual framework. The use of SDA funds to construct additional primary school classrooms, especially for girls, also stands out as a positive achievement.

On the other hand, the Vo-tech Training Program, which had been highly praised in the interim evaluation, was judged by the team to be a relative failure, at least on the basis of follow-up interviews with returned Makrani students. Also, nothing explicit has been done to address the special needs of women, other than classrooms for girls. The main private sector beneficiaries from BALAD activities are 41 local contractors, who carried out construction projects, and some 350 farmers, who participated in on-farm demonstrations and crop trials.

With regard to the institutionalization of BALAD activities, the Project has little to show. Long delays in providing the leadership and staff to the PPMU left the evaluation team with serious reservations regarding GOB's commitment to decentralize development planning and project monitoring. USAID efforts to de-emphasize implementation of infrastructure and get the Project back onto its original track, while understandable, have tended to undermine the momentum of activity and PPMU confidence. BALAD is still today a contractor operation with PPMU tacked on as an adjunct. Except for agricultural activities which have been a joint effort by PPMU and LBI, road and water sector projects were accomplished largely through the efforts of the LBI staff acting independently.

Although its professional staff have P&D appointments, PPMU is not an integral part of the P&D Department nor in a position to exercise divisional planning responsibilities. Efforts to establish a viable PPMU, both in concept and in fact, have also been hampered by the tenuous working relationships that exist between BALAD and the line departments. At the divisional level, these departments do not have the commitment nor the personnel to assume the level of responsibility for planning and implementation that is required as the Project, and particularly PPMU, restricts its functions to development planning, prioritization of projects and monitoring of progress.

In the roads sector, cooperation with C&W has been reasonably good. Also, BALAD agricultural staff have involved agricultural extension and OFWM personnel in their farm demonstration activities. But divisional-level coordination of project planning is almost non-existent; perhaps it is impossible within the highly centralized GOB administrative system. The Project must give much more attention to training of line agency personnel, as LBI intends to do, even though it will be an uphill struggle because of agency weaknesses and GOB bureaucratic conditions.

The evaluation team decided that, despite the institutional and bureaucratic obstacles, it would be a mistake not to press ahead with efforts to establish a viable development planning, monitoring and coordinating mechanism at the Makran divisional level. Although the conditions are not favorable to say the least, the potential importance of such a mechanism in achieving participatory development planning and administration is well worth the risks involved.

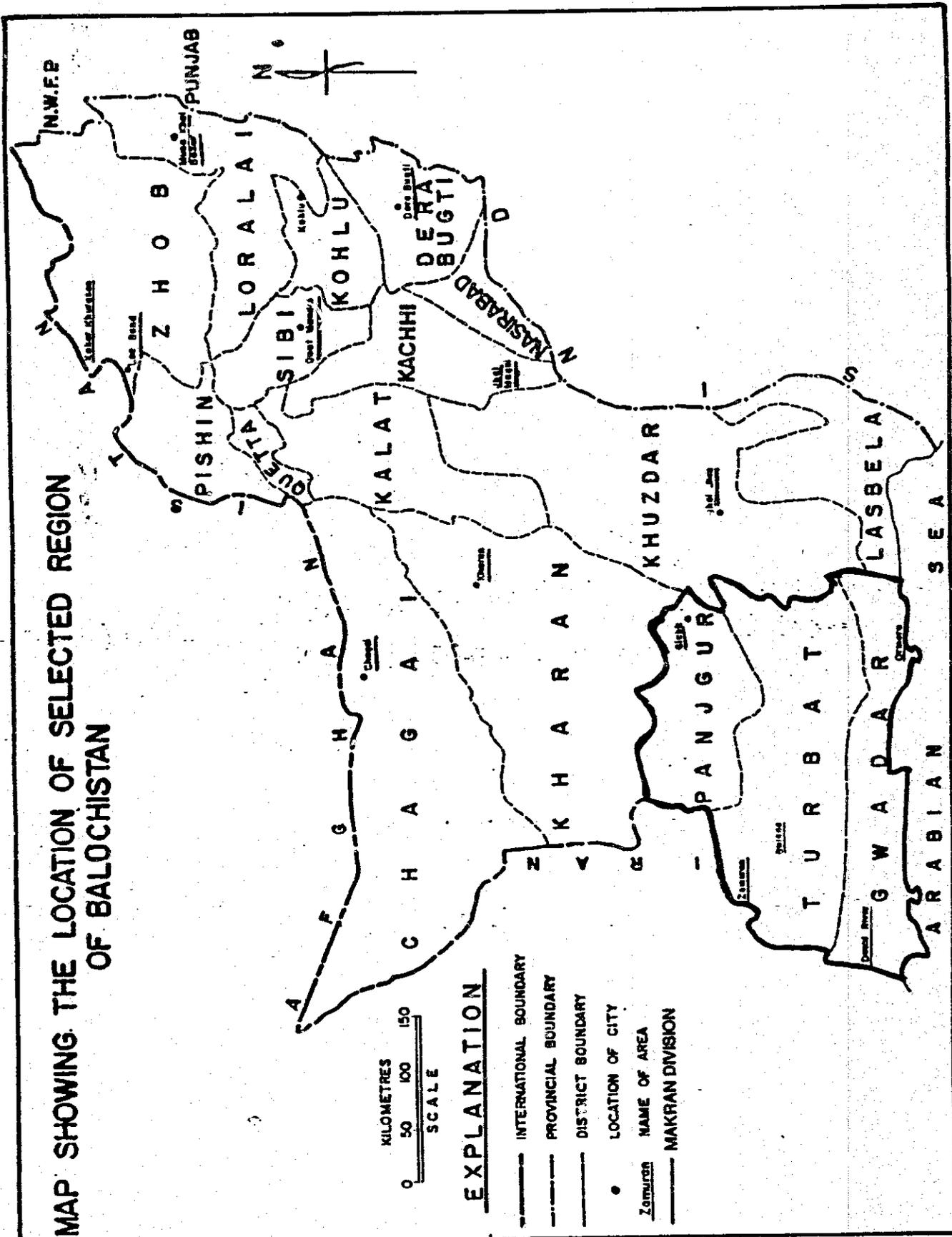
The team concluded its examination of BALAD activities with the following principal recommendations:

- Given the importance of developing C&W's road planning and implementation capabilities, a much larger GOB commitment of personnel and funding is needed, even if this means giving the Makran division priority over other divisions in Balochistan. If GOB is unable to make this commitment, lack of equipment and limitations on LBI and C&W supervisory capabilities, as well as logistical reasons, dictate that rehabilitation activities should be consolidated on one road instead of two as is now the case.
- A comprehensive study of water and groundwater resources is a basic prerequisite to water sector interventions in the future. An expert on water resource surveys and study design should be engaged to prepare a detailed scope of work for the study.
- Except for activities already approved, all further karez borings, infiltration galleries and delay action dams should be postponed until more information is available on the impact of these activities on groundwater resources. The construction of siphons, channel linings and other karez improvements should continue provided karez owners share in the cost.
- A strategy for agricultural marketing needs to be developed in view of the constraints that presently exist and the importance of date and food crops to the local economy.
- A training center should be established in Turbat or Panjgur to provide seasonal training to local farmers. Initially under BALAD supervision, the center should later become autonomous, preferably under the sponsorship of an international NGO.
- BALAD should establish an explicit WID dimension in its program and draw on outside AID resources, particularly of Genesys, to support activities that LBI has identified to promote the role of women in development.

- With respect to SDA and WID activities, BALAD funding should be conditional upon local participation and contributions.
- GOB should give priority to the placement of "vo-tech" graduates in regular civil service and contract positions. Also the decision to exclude graduates from receiving new scholarships in order to complete their university degrees should be reconsidered.
- In view of the importance given to both on-the-job and institutional training of line agency staff in project planning and implementation and to ensure their involvement in BALAD project activities, LBI should recruit a national as full-time training coordinator on its staff.
- PPMU should play a central development planning and monitoring role at the divisional level. Its mandate should be defined and include all development activities in the division, not just those of BALAD. Accordingly, PPMU should be regarded as the Divisional Planning and Monitoring Unit (DPMU).
- PPMU should have a director with senior rank and level of authority, who will enjoy the full complete confidence of the ACS (Development). Directly responsible to the ACS, he should work closely with the Commissioner of Makran Division and serve as co-chairman of the Divisional Development Committee.
- DPMU should have offices separate from LBI. Its staffing requirements, particularly with regard to planners (including an irrigation planner) and statisticians should be filled as soon as qualified candidates can be found.
- GOB should provide all DPMU staff with regular government appointments. Otherwise, DPMU staff on government contract should receive an incentive allowance during this interim phase. Since this phase will coincide with USAID involvement in the Project, a system of performance pay or bonuses in addition to training and other incentives might appropriately be funded by USAID.
- GOB should modify its job classifications with respect to DPMU to allow for recruitment of Makranis as planner trainees or engineering assistants without the requisite degrees for government service. The Project would provide on-the-job training as well as university-level training to enable them to qualify professionally for permanent GOB positions.
- There should be computerized capability to monitor Project activities at both the divisional and the provincial level, particularly as increasing attention is given to inter-sectoral interventions within regional development plans.
- DPMU planning should be done on a district basis and directly involve the villagers and the union and district councils in identifying local priorities and self-help resources. Makranis should be recruited, perhaps through a contract with the University of Balochistan, to be trained as community organizers to assist the people in conducting surveys, identifying priorities and mobilizing local resources.
- SDA resources should be channeled through the DDC to be used to respond quickly and flexibly to initiatives taken by the villagers in local-level planning and self-help mobilization. Primary responsibility for programming SDA funds and ensuring line agency support in project implementation should rest with the DPMU.

- A strategy is needed to enable the private sector to take advantage of business opportunities that exist and, more importantly, opportunities that will emerge with infrastructure developments. This strategy should consist of: access to USAID policy-level project assistance, micro and small-scale enterprise assistance to Makrani entrepreneurs, a marketing and productivity improvement program for the agricultural sector.

# MAP SHOWING THE LOCATION OF SELECTED REGION OF BALUCHISTAN



## SECTION ONE

### INTRODUCTION AND OVERVIEW

#### THE MAKRAN

Makran is the southwestern division of Baluchistan province. It has an area of about 21,000 square miles and, according to the 1981 census, a population of 650,000. There are undoubtedly considerable more people in the division at the present time. Most of Makran consists of bare, rugged mountains with sparse vegetation in ravines where occasionally some rainfall collects. Rainfall ranges from three to seven inches a year; in some years there is almost none at all. In this harsh and largely desolate land, population is highly concentrated. 95 percent of the people live on less than five percent of the land.

The division has three principal mountain ranges that run roughly parallel to the sea: the coastal range, the central range, and the Siahan range. Between these ranges, broad valleys form natural divisions between the three administrative districts of Panjgur, Turbat and Gwadar. In the northern part of the division, the Rakhshan river basin flows from northeast to southwest and provides water for the Panjgur oasis. Further south, another river basin includes the Kech, which provides water for a string of oasis stretching out from Turbat, the Nihing and the Dasht.

Although most of Makran consists of unproductive and uninhabited mountain ranges, the valleys in between are fertile and productive when irrigated. Hundreds of "karezes" and "kaurjos" tap the precious water supplies of the principal river basins. A karez is a long horizontal underground tunnel that is fed from "mother" wells while a kaurjo is an open ditch carrying water diverted from an intermittent stream. Only a small fraction of land is irrigated by tube wells because of the high cost of diesel fuel and the absence of electricity, but with the availability of electric power within the next few years, the number of tubewells is expected to increase dramatically. In coastal Gwadar most people depend upon fishing for a livelihood, making the sea the second most important resource of the Makran.

Traditionally Makranis formed a stratified society composed of land-owning ruling and middle classes and a lower class of farm labor, artisans and slaves. Thus Makran differs from the more hierarchial tribal society characteristic of other parts of Baluchistan. Because of the mobility of Makranis and the practice of migrating temporarily out of Makran especially to Oman and other parts of the Arabian peninsula, however, these class distinctions and the inherited rights and privileges they entail have been breaking down. Former farm laborers or Makranis of slave origin returning after years of working abroad buy land mainly to raise their social status than for any productive purpose. Nearly all of the villages in the Makran have ethnically mixed populations. The relative equality of the society, the labor mobility which provides for an inflow of remittances, and the strong identification that Makranis feel for their home — however harsh and inhospitable it may appear to outsiders — characterize the human resources base upon which development of the area depends.

## HISTORY OF BALAD

The Baluchistan Area Development (BALAD) Project was chiefly motivated by the need to integrate southwestern Baluchistan more closely into the administrative and economic fabric of Pakistan. Secessionist sentiments and ethnic ties with Baluch populations of Iran and Afghanistan were a source of apprehension to the Government of Pakistan (GOP), especially at the height of the war in Afghanistan. The Makran, isolated from the rest of the country and facing the sea, Iran and the Gulf, was in a sensitive strategic position.

Building up its program at the time, USAID agreed to provide critical infrastructure and thus help GOP demonstrate its concern for the needs of the neglected population. Administered by a regional affairs officer in Karachi, BALAD was treated as quite separate from the Mission's regular development program. USAID officials in Islamabad readily admit that BALAD would not have been part of the AID program if normal development criteria had applied.

The Project Agreement was signed on August 30, 1984. USAID funding for the proposed five-year effort was placed at \$40 million with an additional imputed value contribution from the Government of Baluchistan (GOB) estimated at approximately \$5.8 million in rupee equivalent. The Project Paper (PP) identified three main areas of activity: (1) road construction, rehabilitation and maintenance; (2) improving the efficiency of existing water facilities and the construction of small and medium-scale diversion structures and dams; and (3) strengthening the capacity of the GOB and the Makran division to plan, prioritize, select and implement development projects. Subsequently, the life of project was extended by one year to December 31, 1990. AID funding was also increased in August 1987 to \$45 million, primarily to finance additional road design activities.

Conditions precedent in the original grant agreement included the formal establishment of a Project Planning and Monitoring Unit (PPMU) at Turbat, appointment of a project director, and provision of a site for the project headquarters. Project mobilization required well over a year. The long-term technical assistance (TA) contract with Louis Berger International, Inc. (LBI) was signed in September 1985. The full TA team was established in the country by April 1986 with the arrival of the last of the planned core team of four long-term expatriates.

Construction of the project headquarters compound in Turbat began in December 1985 and was completed in April 1987. There was little else to show by way of accomplishment, mainly because of extended delays in mobilization on the part of the Pakistani contractor selected by USAID for the Bela-Awaran road. The improvement of this road, and its planned extension to Turbat, was widely perceived as the main contribution USAID could make to development in Makran.

With no road and only comfortable offices and housing for staff to show, there was growing local criticism of USAID and the Project. To counter the agitation being fanned by the student's wing of the Balochistan National Movement, new activities which could be implemented quickly and have high visibility were added to the Project: the construction of the Kech River bridge near Turbat, the paving of selected Turbat town roads, and the implementation of a vocational-technical training program which largely replaced the original training program described in the PP. Under the Special Development Activities (SDA) component of the Project, which had originally been designed to follow the main infrastructure activity rather than precede it, an active program of building school classrooms and related structures was quickly initiated for the same, mainly political reasons.

As might be expected under the rugged conditions in Makran, fuel shortages and the breakdown of equipment as well as difficulties with local contractors because of absences, non-performance or inability to meet standards were continuing problems. The need to terminate one subcontractor in 1987 resulted in a court case against LBI. The frequent and sometimes prolonged absences from Turbat of the senior staff of line departments, particularly C&W, also held up implementation. Nevertheless, 1987 and 1988 saw a growing momentum of activity: construction of check dams and watercourse improvements, siphons, karez borings and improvements, road rehabilitation to improve gradients and alignments, upgrading with low water crossings and culverts, and maintenance operations.

With regard to the establishment of a divisional level planning and monitoring unit (upon which the longer-term sustainability of activities depended), the Project was seriously deficient. The PPMU was only a shell of an institution composed of a director and one or two subordinate staff. In late 1988 steps were taken to terminate BALAD at the end of the LBI contract period. Only through the intercession of the Chief Minister of GOB with the U.S. Ambassador and assurance that PPMU's vacant positions would be filled was the Project extended.

In early 1989 agriculture was added as an active component with the assignment of an expatriate agronomist to the LBI staff and the appointment to PPMU of three local staff, one of whom was an agronomist. Agriculture department officers and field staff participated in establishing demonstration plots, introducing new varieties of wheat and other crops and improved cultivation practices. The farmers responded positively, and the agriculture dimension of the Project has remained active up to the present time.

With only a skeletal staff, PPMU had been mainly involved in providing support of an administrative nature, particularly subproject identification, the processing of proposals to P&D and in the final contracting stages. During 1989 increasing attention was given to developing PPMU's planning capabilities. The unit was asked to develop ideas regarding the future direction of the Project, and special areas in the Makran division were identified for regional planning purposes.

Reflecting the shift from infrastructure construction to agriculture production and rural development planning, the agricultural and rural development division (ARD) of USAID took over responsibility for the Project and outposted to Quetta a national project officer as its representative to oversee operations and maintain liaison with GOB authorities. This change meant more coordination from Islamabad and refocusing activities to conform more closely to USAID's development strategy. The integration of "lagging areas" of the country into the national economic mainstream remained an overall objective, but with greater emphasis on popular participation, involvement of the private sector and women in development, and on raising human resources and management capacity to a level where all area development projects will be planned and managed by local and provincial authorities.

The LBI contract was extended in September 1989 for another year with particular emphasis on agricultural development and the institutionalization of the activities undertaken to date. In addition to continuing road rehabilitation and maintenance, the Kech Bridge and approach road project was progressing well. Construction on the Bela-Awaran road was far behind schedule, however, and the contract was eventually terminated. This major road component of BALAD along with the Awaran-Turbat road, for which preliminary design was completed, were then split off from the Project to become a separate Balochistan Road Project. Also school building activity was suspended in early 1989 since USAID was mounting a large primary education project (PEP) in Balochistan, part of which would be devoted to construction of schools. 1989 also saw a slackening of water sector activities due in part to doubts about the effectiveness of karez borings, delay action dams and other interventions.

As Table 1 shows, at the time of this evaluation cumulative expenditures on the Project totalled \$25 million of which \$20.1 million was for construction and \$3.7 million for technical assistance, the latter being mainly the LBI contract costs. Of the construction total, \$3.6 million represented projects that had been identified and supervised by the PPMU and the LBI team, mainly in maintaining and rehabilitating roads, in building delay action dams and improving karezes and irrigation systems, and in agriculture and SDA project activities. The \$16.5 million balance was spent on the BALAD headquarters complex, the Bela Awaran road, the Kech bridge, and two other smaller construction projects which were funded and contracted directly by USAID.

During the first half of 1990 attention was devoted to activities to be carried out during the extension period from October 1990, being the gap between Project funding and the LBI contract and the probable starting date of a follow-up BALAD II project. The LBI proposal placed more emphasis on institutional development and training and less on implementation of specific projects. With further strengthening, PPMU would engage more actively in developing planning documents for much of the Makran. The emphasis with respect to roads would be on building C&W capabilities to plan, design and maintain a good road system. Likewise in the water sector, institutional development and training would be stressed. It was also expected that the agricultural and SDA components of the Project would be used to address the needs of villages, for example with respect to potable water, markets and medical services, and, most particularly, the needs of women.

TABLE 1

## BALAD OBLIGATIONS AND EXPENDITURES TO DATE

	A.I.D. GRANT \$ (000)		G.O.P. Rs (000)
	OBLIGATIONS	EXPENDITURES	OBLIGATIONS
Technical Assistance	5,430		
LBI Contract		3,269	
Other TA		<u>443</u>	
Total		3,712	
Training	737	387	
Commodities	1,055	936	
Construction	34,857		38,637
BALAD Hqs.		1,470	
Kech Bridge		3,947	
Bela-Awaran Road A&E		5,848	
Bela-Awaran Construction	3,846		
Balochistan Road A&E		1,108	
Other A.I.D. Direct		340	
PPMU Contracted		<u>3,592</u>	
Total		20,151	
Other Costs	2,636		
Evaluation	260	130	
Contingency	25	00	
<b>TOTAL</b>	<b>45,000</b>	<b>25,316</b>	<b>77,868</b>

## SECTION TWO

### MAIN PROJECT COMPONENTS

#### ROADS COMPONENT

##### Setting and Main Program Elements

###### Setting

The poor condition of the road network has always been viewed as one of the major constraints on development. Of some 3,000 kilometers of roads in the Makran, less than 100 kilometers were paved, and most of them lacked drainage structures. For the most part roads consisted of single tracks which had their inception in the days of camel traffic.

The idea in the PP was to upgrade and maintain important roads in order to tie the area more closely to the rest of the country, increase the flow of goods and services and stimulate economic growth. The centerpiece of the road component was to be the contract construction of difficult stretches between Bela and Awaran.

Also included in the Project was the rehabilitation and maintenance of gravel roads to ensure access within Makran. In addition, the Project would strengthen and improve the road maintenance capabilities of C&W. Other road improvement activities were subsequently added to the Project, including a major bridge over the Kech river in Turbat and paving of the town roads.

###### Bela-Awaran Road

The planned reconstruction of the Bela-Awaran road was widely perceived as the main contribution USAID could make to development in Makran. The PP envisaged construction limited to 45 kilometers of paved road through two difficult mountainous sections. Later USAID decided to pave the entire 101 kilometers all the way to Awaran. This was seen to be more cost effective than improving the road on a piece-meal basis.

Road design including drainage structures was completed on schedule by the joint venture A&E firm. USAID prepared a list of firms to bid on the project. Eight of 90 firms applying were interviewed and only two were initially prequalified. At the recommendation of the USAID contracting office two other firms, NASA and Shahzaman, were added to the list in order to increase the competitiveness of the selection process. In evaluating the bids, the A&E firm felt that NASA's response was marginal. But as the lowest bid it recommended that NASA should be selected if they met three conditions: (1) adequate and sufficient construction equipment; (2) a capable project management team, and (3) sufficient financial backing. At the time NASA was engaged in an agreement with a foreign firm to provide the necessary equipment, the project management team and financial backing. A \$16.4 million contract providing for a 30-month construction period was signed in August 1987. In October NASA informed USAID that their

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agreement with a foreign partner had been canceled but that they were pursuing a similar agreement with another partner. The contract was terminated for default in February 1988, but for reasons that are not entirely clear, it was reinstated two months later.

After struggling with NASA for almost three years, USAID again fully terminated the contract on May 29, 1990. At that time the estimated percentages of completion of roadwork were 70 percent of embankments, 18 percent of stone subbase and 12 percent of base course foundation. Approximately 19 percent of the work relating to bridges and culverts was done, but not a single structure was finished. NASA was paid a total of \$3.85 million.

### **Kech River Bridge**

Consisting of two approach embankments, connected in the center by a reinforced concrete-piled bridge, the Kech bridge stands out as one of the more impressive construction projects in the Makran. Thus it has served its purpose as a highly visible intervention associated with the U.S. as well as providing easy year-round connection of Turbat to the Mand-Turbat-Arawan road.

The A&E contract was signed in April 1986, and the invitation for construction bids was issued in February 1987. A contract was signed with a local firm, Saadullah Khan Brothers (SKB). There were the inevitable delays and the mobilization period had to be extended. However, the bridge is now complete and open to traffic, although minor "rip rapping" remains to be done on the embankments.

USAID/ENG had some doubts regarding the economic justification of the 30-foot span between the piles; a longer span would have meant fewer piles. The supervising engineer on the site said that at the time of design it was not known what size of launching equipment would be available to position the prestressed concrete girders. Hence a span was used which could surely be managed a Pakistani contractor.

### **Turbat Town Roads**

It was decided early in the Project to pave some road sections in Turbat as part of the effort to deflect criticism that BALAD was doing nothing. There would be little other justification since the municipality, unlike the rural areas, is able to raise revenues for such improvements. In any case, four sections are already paved and a fifth section is underway. Drainage structures have been placed where necessary along these sections. This work has served to improve BALAD's image among the local population, which was the underlying purpose.

### **Road Rehabilitation**

#### **Original Objectives and Subsequent Modifications**

The PP established as outputs the rehabilitation and maintenance of 600 kilometers of category I roads and 900 kilometers of category II roads. Category I includes all roads connecting district and divisional headquarters, roads connecting population and agricultural production centers with Karachi and any other roads carrying high volumes of traffic. Category II covers roads carrying low volumes of traffic but connecting outlying towns and agricultural areas with district centers.

Rehabilitation involves road widening, cutting down vertical curves to provide safe sight distances, widening the radius of horizontal curves, improving approaches to low-water crossings, and realignment of short lengths of road.

Referred to as stage I rehabilitation, the initial concept was to widen the roads from a one to a two vehicle width and make minor changes in alignments. This rehabilitation could be accomplished rapidly with a minimum of skills and special training. It resulted in an immediate improvement over the extremely rough tracks existing at the time and therefore served the desired purpose of demonstrating that the Project was having an impact.

With the arrival of a new LBI head roads engineer (Ted McKenzie) in mid 1989, a new standard of rehabilitation was adopted: the classic elevated, crowned roadbed with side ditches. This standard was referred to as stage II rehabilitation: road width was increased to 10 meters as opposed to the 8-meter width of stage I and, where necessary, a layer of gravel was installed on the roadbed as a wearing surface.

### Implementation Issues and Progress to Date

TABLE 2

#### ROADS REHABILITATED

	Road Length (kms.)	Stage I	Stage II
Turbat-Gwadar	184	130	15
Hoshab-Panjgur	150	20	50
Turbat-Pasni	100	100	
Total		250	65

**Earthworks:** Three roads were improved using the stage I standard, as shown in Table 1. Teams are currently working to upgrade two roads to stage II standards. Approximately 20 kilometers on the Turbat-Panjgur road are completed, and work over an additional 40 kilometers is in progress. On the Turbat-Gwadar road earthwork is complete over 5 kilometers with an additional 10 kilometers in progress.

**Drainage Structures:** Most of the drainage structures constructed by local contractors consist of the 34 low water crossings on the Turbat-Mand road. Only a few box culverts have been constructed.

The low water crossings consist of compacted fill sandwiched between upstream and downstream walls to limit the erosion of the road surface. The walls are either of stone rubble masonry or rock-filled wire baskets, known as gabions. The downstream wall has an apron near the stream channel level to protect against scouring.

Initially the project favored the gabion-type construction as being the most cost effective. Recent experience has shown, however, that the stone rubble masonry design is about the same cost, so the project has shifted to this type of construction.

The Project recently decided to install some 125 pipe culverts on the Hoshab-Panjgur road. A tender was issued in late August 1990 for the construction of 36-inch concrete pipes, but so far no interest has been shown. The only local contractor with pipe-casting experience has never fabricated pipe over two feet in diameter. So the TA team is considering procuring larger pipe casting forms from Karachi for the contractor's use.

Since drainage structures should be installed before the next monsoon season (July-August) to avoid having to repair numerous washouts, this bottleneck could have serious consequences. Therefore, the Project should consider low water crossings instead. These could consist of protecting relatively low embankments with gabion on the downstream side. If the Project could hire labor directly, work could proceed without the time-consuming contracting process. This type of structure is easily constructed by the "on-the-spot engineering method", thus allowing installation before the rainy season.

### **Assessment of Road Rehabilitation Achievements**

Stage I rehabilitation satisfied the need for quick action and visible progress. It was also appropriate in view of the limited amount of equipment, mainly bulldozers and motor graders, on hand at the time. It greatly reduced travel times as well as vehicle operating costs and improved comfort for the traveler.

With the arrival of the new head roads engineer (July 1989) road rehabilitation standards were significantly raised. Roads constructed to stage I standards were seen as only temporary. The road was still lower than the surrounding terrain and therefore acted as a receptacle when it rained. Water flowed onto the road causing rutting and making the road susceptible to potholes. Continuous maintenance was required, the motor graders tending to cut the road deeper and deeper until eventually it reverted back to its original state as a one-lane track.

Under stage II the quality of the road is upgraded both in terms of travel time and resistance to weathering. The road is crowned with side ditching and elevated (60 cms.) above the natural terrain. Positive drainage away from the roadway means a minimum of water soaking and erosion. Over time, maintenance costs should be much less.

The adoption of the 80-kph design speeds for stage II roads will cut travel times to half of that on stage I. Road user costs will be significantly reduced in terms of wear and tear on vehicles. The main disadvantage of stage II standards is that these roads require more equipment time to build.

### **Appropriateness of Purpose Level Indicators**

Decrease in travel time, the number of vehicles per day and the number of kilometers of rehabilitated roads are the indicators that are used in the USAID purpose level monitoring system. If average daily traffic and decrease in travel time are known for each road, the two figures could be multiplied together, and their products for each road added together. The total would serve as a single indicator of vehicle user savings, the usual basis for a cost-benefit analysis of a road project. On the other hand, the number of kilometers of rehabilitated roads is an ambiguous indicator because of the different rehabilitation standards, including the number of drainage structures that may be required.

1983 traffic estimates for six Project roads were contained in the PP. These counts were performed over a limited period and only during daytime. Recently the TA team completed counts at major road intersections during a 24-hour period. But these counts also have the disadvantage of being single data points which do not indicate seasonal variation of traffic levels or variations over the days of the week. Therefore, comparison of the two counts can only indicate trends, which must suffice until more systematic data is collected. By this indication, traffic has increased by approximately 80 percent between 1983 and 1990.

### **Road Rehabilitation Equipment**

The Project was provided with equipment from USAID's ACE program and from C&W. The USAID equipment, which became available under several procurement actions, initially included two bulldozers without rippers. Since rippers are essential when excavating in many of the hard soils and rocky areas of Makran, this oversight greatly reduced the efficiency of road rehabilitation.

The change from stage I to stage II rehabilitation has increased the need for equipment and changed the requirements, most notably the need for dump trucks to haul gravel onto the road. For this reason USAID has ordered seven new dump trucks in addition to the four already working on the Project.

Equipment breakdowns in Makran's rugged conditions have been a continuing problem since the beginning of the Project. Four major pieces of equipment are currently down with seized engines. Typically, breakdowns result from lapses in maintenance or the continued operation of a malfunctioning machine, in short from deficiencies in maintenance scheduling and training.

The Project rents equipment from C&W on an hourly rate. This rate is based on estimated average costs for equipment operation including POL and maintenance, as well as depreciation if the machine was not originally purchased by USAID.

### **Personnel and Training Needs**

C&W supplies equipment operators, mechanics and a counterpart construction supervisor for road rehabilitation. To supervise construction, the TA team provides an expatriate roads engineer, a senior roads engineer, a senior mechanical engineer, two junior roads engineers, two construction supervisors, two surveyors and other support personnel.

The skill level of the C&W personnel was more suited to stage I road rehabilitation than to stage II. With the adoption of the higher road standards in late 1989 it became necessary to upgrade their skills and also to provide training for the TA supervisory team. This has slowed construction activities.

The quality of the TA roads engineering staff is excellent; the senior and junior engineers seem to be very competent. But the expatriate head roads engineer position has been vacant for two months and that of junior engineer for a year. The TA team also provides construction supervisors and surveyors on the two job sites. However, they lack the experience needed to manage efficiently a construction site; only one of the three supervisors has a minimal knowledge of surveying. With their ambitious work plan, the staff is currently overloaded.

Missing from these road crews, besides an experienced and motivated construction supervisor, is a fully qualified head mechanic. A mechanic should be attached to each construction crew. At present

BALAD has no control over the regular maintenance of the equipment, which instead is entrusted to relatively unskilled C&W mechanics who are unaccountable to BALAD. In view of all the "deadlined" C&W equipment, the importance of competent mechanics cannot be overemphasized.

The PP anticipated the need for the training of C&W equipment operators, mechanics and other technicians and suggested both formal in-country training and on-the-job training. Other than some workshop sessions in Turbat, which have dealt with equipment operation and maintenance, most training has been on the job.

It was recognized from the outset that a major training effort would be needed to upgrade the skills of C&W personnel and to enable them to run a capable roads department. Recently a consultant (Sterling Hayden) assessed the training needs of the Project as a whole, including those of C&W personnel. The TA team and C&W senior engineers have confirmed the need for highly focused training in such areas as engine overhaul and surveying. But the present BALAD training budget is considerably below the amount required for the program that has been recommended. Because of its importance to the sustainability of road activities, special attention should be given to formal training at centers within Pakistan and to field-level training which BALAD staff can develop.

### **Sequence of Rehabilitation Operations**

Currently the Project is working on both the Hoshab-Panjgur and Turbat-Gwadar roads. Progress is slow because of lack of equipment, fuel shortages, delays in funding and shortage of trained personnel. Concentrating equipment and personnel on the Hoshab-Panjgur road would simplify logistics and result in a more efficient use of limited personnel. While work is in progress, the next road to be rehabilitated could be selected, probably the Turbat-Mand road which has by far the most traffic. Survey and design could then be done, and C&W could work out, prior to the start of rehabilitation work, property rights and the material supply problems which have plagued the Turbat-Gwadar project.

### **Road Maintenance**

#### **The Original Objective**

The objective as originally stated in the PP was improved maintenance of 900 kilometers of category I roads with an intended design speed of 50 kilometers per hour. This objective was to be accomplished by strengthening the institutional capacity of C&W through technical assistance and by providing operational funding.

As stated in the PP: "The C&W has 16 new graders on-hand for the grading required but insufficient budget resources for fuel, trained operators and mechanics prevent their full utilization. Grading operations are limited to emergencies for the most part, with equipment standing idle and traffic speeds on roads substantially reduced due to poor road conditions.

"The Project will provide financial assistance, training and supervision for the C&W to use the grading equipment effectively and efficiently for grading maintenance of priority one roads. This maintenance work which is separate from the road rehabilitation work, will require eight graders covering a specified area. A system will be established to provide water for equipment operation and maintenance and protection of equipment and personnel during severe dust storms and extreme heat. The C&W Quetta

office has 25 percent parts on-hand for the graders. The Project will establish a system to assure timely provision of those spares."

### Implementation and Progress to Date

Maintenance operations under BALAD have consisted of three motorgraders travelling in tandem, blading and shaping the road bed in a continuous operation from beginning to end. Usually three to five passes concluded one cycle. Several such cycles were applied to most of the roads selected for improvement. The equipment was rented from C&W as in the case of the rehabilitation program.

TABLE 3  
ROADS MAINTAINED

	Road Length (kms.)	No. of cycles	Length Covered
Turbat-Mand	120	6	560
Turbat-Awaran	257	4	635
Turbat-Gwadar	184	2	280
Turbat-Pasni	106	1	100
Total	667		1575

BALAD road maintenance activities were started in August 1987 and suspended in March 1989. This decision was taken because the TA team and USAID felt that C&W must take responsibility for the maintenance if it is to be continued after the Project ends.

This evaluation found the primary road network to be in a reasonable state of repair compared to the conditions described in the PP. There was evidence of recent grading and travel speeds generally averaged between 40 to 50 kilometers per hour. It should be noted, however, that there has been very little rainfall in Makran this year, so roads should be in better condition than usual. Also, the evaluation visits took place immediately following trips by senior GOB officials, which prompted special C&W maintenance efforts.

C&W maintenance still seems to be done on an ad hoc basis. The Turbat-Mand road, for example, has to be graded after every heavy rain, at least to the extent of smoothing out the "nullah" (river bed) crossings.

The TA team is currently working on a maintenance plan for the entire Makran. Initial calculations indicate that some 45 graders will be needed to provide reasonable coverage. At present, however, C&W cannot keep one fourth of that number operational. In short, C&W must undergo a major transformation in order to cope with road maintenance needs. The recently designed Balochistan Road Project addresses these needs at the regional level. Perhaps some fallout will be felt in Makran.

## **Institutionalization of Road Activities**

### **Progress to Date**

Initially the Project concentrated on doing work on the ground, but during the past year institutionalization of road sector activities has become the main priority. The following is a list of tasks that have been accomplished along with some observations made in the course of this evaluation:

- Kilometer posts were installed on the Hoshab-Panjgur and Turbat-Gwadar roads: an aid both in construction and maintenance;
- Geometric standards have been established for Makran roads and accepted by C&W. Although they provide an excellent basis from which to work, C&W notes the amount of extra road maintenance work that will be required because of the 10-meter width as opposed to the narrower existing roads. Also, the wider the road the greater the construction effort and costs, which could be an important limiting factor on the amount of roads constructed under BALAD;
- A road classification system has been completed and accepted by the provincial C&W department. (The C&W Secretary expressed his appreciation of both the road classification system and the geometric standards);
- A road condition rating system has been prepared: a help in establishing road improvement priorities and the scope of work required for rehabilitation;
- A paper on stage II road rehabilitation concepts and methodologies has been prepared: a clear, concise document, particularly useful for training purposes;
- Traffic counts of the road network were undertaken from February through May 1990: a help in prioritizing road improvements and a basis for traffic data collection;
- A daily and periodic equipment preventative maintenance program was established. This program should be implemented as soon as possible with a follow-up by the TA team to make sure that it is adhered to; and
- Calculations of population served by different roads being worked on: a help in conjunction with traffic counts in determining future road priorities.

### **C&W Administrative Capability**

An administrative analysis of C&W, contained as an annex in the Balochistan Road Project Document, makes the following points:

- The executive engineers responsible for districts are not held sufficiently responsible for their actions. The annual performance review by the superintending engineer at the division level is used only as a basis for promotion and not as a disciplinary instrument. Promotions are generally based on seniority;

- Executive engineers are rewarded more for road rehabilitation and construction than for road maintenance, and consequently maintenance is neglected; and
- Fiscal control in C&W is weak, an example being the 6,000 laborers who are paid to do road maintenance even though most of them never work on the road.

A flagrant example of C&W negligence is a series of box culverts that were installed on the Turbat-Hoshab road several years ago. They are now collapsing because of the poor quality of the concrete used by the contractor, creating gaping holes in the road.

C&W in Makran is also short of both personnel and funding. For instance, they do not have a heavy equipment mechanic capable of performing more than most rudimentary repairs. Also, the road maintenance budget of Rs7 million for FY 1990, of which only Rs1 have been allocated so far, has remained constant, not reflecting C&W's increased responsibilities.

These administrative weaknesses become all the more crucial in the light of LBI's proposal for the current extension period: "The emphasis will change from continuing to improve the roads in the region, to building the capabilities of the C&W to effectively plan, design, implement and maintain a good road system. Maintenance management systems will be introduced, better mapping will be obtained, inventories will be conducted and procedures will be developed which should enable the PPMU and C&W to effectively plan and implement a cost effective road development and maintenance program in the future."

LBI has accomplished some solid work in developing documentation and procedures for C&W. But to what extent will C&W adopt these procedures? Perhaps a more realistic assessment of C&W's capabilities is needed and a work plan prepared to deal with the basics. For instance, an equipment maintenance program has been developed; it now needs to be implemented. The financial and personnel limitations on C&W, which are unlikely to be alleviated, only reinforce the importance that must be given to developing a realistic road rehabilitation and maintenance program. Earlier Project objectives need to be re-evaluated in the light of these practical limitations and the standards that have been established on the basis of extensive study and operational experience.

### **Conclusion and Recommendations**

On balance, the roads component has had a positive impact. The most visible accomplishment is the Kech bridge which handles over 700 vehicles per day. Turbat town road paving has also served to enhance BALAD's status in the area. On the other hand, the Bela-Awaran road project at a cost of \$8 million never approached what had been originally planned.

315 kilometers of roads in the division have been rehabilitated, of which 65 kilometers are up to stage II standards. This compares with an anticipated 600 kilometers in the PP. Also, the number of drainage structures that have been built (36 low water crossings and 10 culverts) falls short of the number planned in the PP.

The Balochistan Road Project includes procurement of equipment, technical assistance and training to enable C&W to manage the road maintenance system. Perhaps AID support of this project will contain some leverage to produce the transformation in C&W which is needed.

Accordingly, it is recommended:

- C&W increase financial and personnel support of the Project in order to adopt the procedures developed by the TA team. Personnel requirements include mechanics, surveyors, draftsmen and engineers;
- C&W should adopt procedures developed by the TA team pertaining to equipment maintenance, spare parts inventories, and road maintenance. It is better to address problems C&W has in these areas during the transition phase of the Project rather than in a possible BALAD II;
- If C&W is unable to increase its present level of funding and personnel, the Project should consolidate road rehabilitation activities on one road in order to reduce the need for experienced personnel and simplify logistics;
- During the current extension period the LBI team, in collaboration with PPMU, assist C&W in road sector planning based on an assessment of priorities and C&W's administrative and operational constraints;
- After site inspection, LBI should sign off on payments made under road-related construction contracts; and
- In the absence of a USAID project manager, regular USAID monitoring of progress is required, including review of the status of reimbursement payments. More frequent visits by US direct hire staff would be beneficial for purposes of discussing issues with the BALAD staff and identifying potential problems before they arise.

## WATER COMPONENT

### Traditional Irrigation Systems

Even today karez, which are long horizontal underground tunnels carrying water from "mother" wells, provide water to 90 percent of the irrigated areas of Makran. Some 200 karezes are concentrated in the vicinity of Turbat and another 150 in the Panjgur oasis. Another five percent of the irrigated area is by kaurjos, which are open ditches which carry water diverted from usually dry watercourses during times when water is flowing. Tubewells furnish water to the remaining five percent. The number of tubewells in the area is increasing even where diesel-fueled pumps are employed. With a regular supply of electricity expected within the next few years, a dramatic expansion in tubewell irrigation can be expected to occur.

A typical karez may be over 200 years old. It has three "mother" wells, which actually produce the water. The karez yields between one-half and one cusec of water, which suffices to irrigate between 40 and 80 acres of land. The typical karez is about a mile and a half long, and there are about 150 access wells along its length. It has a gradual slope and emerges from the ground into an open channel called a "kalmar" which may extend another quarter of a mile, conveying the water to the fields.

The karez might belong to a group of some 50 farmers who are shareowners in an association. Each farmer owns rights to a certain proportion of the water, which on average is the amount produced by the karez for three hours per week. Members occasionally sell or trade their shares to other members of the association.

The leader of the association, or "sarrishta", is often a descendant of the person who organized the original construction. He manages the association, keeping a written account of water use and settling disputes that may arise. The karez association remains, even today, an important part of the fabric of agricultural life. Its future viability becomes clouded, however, when more tubewells begin tapping into the aquifers and lowering the water table so that karezes dry up.

One of the main systems of rainfed agriculture is "khushkaba" under which small bunds or earthen embankments are constructed to trap and store rain water. Immediately after the waters subside, the land is plowed and crops sown. Another system is "sailaba" under which structures are constructed over the dry river basins so that after rains the flood waters are diverted and led to the fields for irrigation. Some sailaba systems are constructed just for irrigation while others are both for irrigation and storage of drinking water. If it does not rain and the bund waters dry up, wells are dug above the structure where water is found due to the seepage of previous years.

Water, not land, is the principal limiting resource in the Makran. 20,000 acres are considered to be highly suitable for irrigated agriculture, and perhaps another 60,000 acres which, if levelled and treated for some salinity, would be good farmland. The other limiting resource is the availability of skilled farmers and agricultural workers. Because of the migration of thousands of Makranis to Karachi and the Persian Gulf states, there are few people who are still willing to engage in low-paid agricultural labor.

### **Original Objectives and Later Changes**

Within this setting and constraints it is understandable that water development activities have been a major component of BALAD. The PP envisioned the following outputs:

- Vertical bores drilled in 95 karez mother wells;
- Capping of 95 karez systems;
- Construction of 35 gabion small delay action dams;
- Construction of 12 earth-filled delay action dams;
- Improvements in 144 watercourses under on-farm water management activities;
- Land levelling of 4175 acres under on farm water management (OFWM) activities;
- Construction of the Kil Kaur dam;
- Construction of the Goberb diversion structure; and
- Establishment of a rolling water management planning process.

In late 1988 and early 1989 basic changes took place in these objectives. USAID and the TA team felt that, while karez work should continue, on-farm improvements in water and crop management might well outweigh the impact of watercourse and karez improvements alone. They decided also that existing check dams should be evaluated for two rainy seasons before any more were built. Moreover, it was agreed that BALAD efforts should be integrated with those of GOB line agencies, the anticipated strengthening of the PPMU serving to promote this increased coordination.

### **Selection and Implementation of Water Subprojects**

Sets of criteria were established for the selection of the various types of water subprojects. In many cases the sarristha would ask for Project assistance, indicating what the problem was and, in a general way, what had to be done. The site would then be visited by a member of the TA team. In choosing sites, an attempt was made to obtain a broad spatial distribution of karez borings so that experience could be gained concerning factors effecting success.

Watercourse improvements were undertaken where water losses had occurred through seepage or destruction of channels during periods of high water. On most occasions improvements have been located where the watercourse crosses a nullah or river bed. Both siphons and channel work have been used to improve watercourses.

On the basis of a list provided by the irrigation department, delay action dam sites were selected where the TA team believed that recharge would increase water flows in nearby karezes. The sites were then submitted to the DWC for approval.

Karezes were improved to demonstrate various methods to the community. Priority was given to infiltration galleries and the lining of karez sections, which could be replicated in other karezes having similar conditions. Also, some rehabilitation was undertaken on karezes which were not in operation but which had a good chance of again producing water flows.

Most water subprojects were first proposed by a district coordination committee. Occasionally, however, TA staff might propose a project brought to their attention by the members of a karez association. Projects were then approved at a DWC meeting chaired by the commissioner. A TA team member would visit the site to confirm that there was local support and maintenance capability and that the project was appropriate for BALAD to undertake. Then a technical feasibility study was done.

Water subprojects costing less than \$50,000 (later raised to \$200,000) were implemented through a procedure described in USAID project implementation letter number 8 (PIL 8). This procedure provided for earmarking local currency funds for BALAD operations on the basis of an annual work plan and budget. Thus, a revolving fund was established to implement projects approved by the DWC and found by the TA team to be technically sound. When the USAID project officer administratively approved the project as eligible for PIL 8 reimbursement, contracting could take place. The PPMU deputy director would request tenders. The TA team, which evaluates the tenders, would reject a low bid if the contractor was not considered qualified. Once a bid was approved, the PPMU director would issue a "notice to proceed" to the contractor.

At this point the BALAD construction department joined with the design department to lay out the project, after which, until completion, the project was largely a construction responsibility. When work was satisfactorily completed, a final certification was prepared by the TA team and sent to the PPMU deputy director. The contractor was then paid.

Karez borings, channel lining, kaurjo improvement and siphon construction projects followed this same procedure. Check dams required one final step because they are handed over to the GOB rather than to a group of private individuals. This entails a joint inspection of the dam by BALAD and the executive irrigation engineer.

Projects that were technically complex or exceeded the authority established under PIL 8 were funded by USAID directly. In these rare cases the TA water section designed the project and developed the specifications, which were submitted to the USAID office of engineering. If approved, tenders were then floated by the USAID contracting officer and evaluated by BALAD before the contract was awarded. BALAD supervised construction and approved applications for payment. USAID and BALAD together conducted the final inspection.

### Progress and Evaluation of Results

As of the end of August 1990 the water sector activities shown below were completed or in progress.

TABLE 4  
WATER SECTOR ACTIVITIES

Activity	Completed	In Progress
Karez improvement	24	1
Watercourse improvement	43	0
Recharge Schemes	16	0
Karez boring	95	0
Total	178	1

Expenditures were as follows: Karez borings costing Rs3.6 million, an average of Rs36,560; karez/kaurjo improvement projects costing Rs17.5 million, having an average cost of Rs273,892; and delay action dams/recharge schemes costing Rs32.6 million, an average cost of Rs1.6 million.

#### Karez Borings

According to BALAD's August 1990 report, 66 of the 95 karez borings that had been carried out were successful. Karez borings are now discontinued pending an evaluation of the benefits resulting from this activity.

An analysis of water flows in a sample of 10 karezes where a successful boring was carried out shows that immediately after boring was finished, average water flow increased by 40 percent. One to three years after boring, there was still on average a 25 percent increase in the flow rate.

Karez owners told the evaluation team that borings did little if any good. Some even said that they believed that the borings actually reduced the flow of water because holes were not properly sealed after an unsuccessful operation. LBI water staff estimate that somewhat less than half the boring operations have increased the water flows over a year or more.

Cases of incompetence on the part of contractors doing karez borings were noted. Records of one example (Sheda karez) indicated that at one point when an increase in flow had been achieved, drilling should have stopped. But the contractor continued drilling, the increase in water flow was lost, and the bore hole had to be sealed to keep the original flow from being reduced.

While the karez boring program had both successes and failures, the general impression among local farmers is not favorable. A fair evaluation of the program may be impossible because water is such a vital commodity. Hopes are high when work begins, and when a large increase does not materialize, there is inevitably disappointment. The program should therefore be discontinued.

### **Other Karez and Kaurjo Improvements**

The PP called for capping 95 karez systems. There was no interest in this on the part of karez owners, however, so the concept was expanded to include general improvement and rehabilitation of karezes and kaurjos through the construction of channels, siphons and infiltration galleries. A total of 67 of these subprojects were completed.

Siphons have been for the most part successful and well-received by karez owners. They save the labor that would ordinarily be needed to rebuild the channel after a local flood. Siphons also save water on a continuing basis when compared to an open channel across a nullah. Occasionally, however, karez owners do not understand the purpose of the siphon. In one case (Phulabad karez), the sarrishta complained that only one pipe was used while two pipes were used in other siphons on the same channel. It turned out that differences in the slope of the siphons resulted in different pipe requirements. There are even some siphons that are not being used. Although they work properly, the TA team says that the people don't want to use them, that more water goes into the siphon than comes out. They would prefer a covered channel.

Channel linings and other measures to reduce water losses in the ground-level extensions of karezes and in kaurjos have been well-received. As with siphons, they do not alter the flow from the ground but do reduce water losses.

These observations indicate that the karez shareholders were not adequately consulted in the planning and construction of the structures. Ideally, their participation should include contributions of labor, materials and even funding. Without their participation there is risk not only that the structure will remain unused but that people will resent the intrusion of the Project into their water system.

Infiltration galleries are designed to increase the flow of kaurjos, mainly by increasing the number of days of operation. There may also be a small increase in the rate of flow resulting from extending the kaurjo and the slight deepening that usually occurs. Moreover, maintenance is reduced by installing an infiltration gallery.

The Project has introduced several infiltration galleries in the beds of watercourses in the Panjgur oasis. At the time of the evaluation, some of the kaurjos served by them were producing water and some were dry. The impression from farmers was that while infiltration galleries did not produce much

additional water, they did decrease labor costs. Also among BALAD staff opinions differ concerning the effectiveness of these interventions. Data on water flows does little to resolve the questions since flow rates vary from week to week depending upon changes in the amount of groundwater. The principal variable seems to be the depth of the water table in the river bottom.

### **Experience with Recharge Schemes**

The PP called for construction of 47 small delay action dams. These dams store water during a flood and then slowly release it so that it permeates into the groundwater reservoir. These dams range in capacity from 8 to 320 acre-feet. The 20 such dams that have been constructed have absorbed 60 percent of the funds spent on all BALAD water projects.

During December 1989 many areas of Makran received heavy rains. Collecting water for the first time, some of the dams failed and others were damaged. Project files report that six dams worked properly except for minor problems of erosion, five partially failed, usually because gabion walls were improperly tied, and two were never completed. (One of the uncompleted dams had been damaged in an earlier flood because of mistakes which resulted in the resignation of the BALAD supervisor and fining of the contractor.) The failures of these dams caused no loss of life, property damage was not extensive, and the dams were soon repaired, except for one (Pardan) which was canceled.

The effect of delay action dams on the groundwater resources remains uncertain. Water flow rates have been monitored in karezes thought to be affected by the delay action dams, and calculations by the evaluation team indicated that the average flow rate has stayed about the same after construction of the dams.

For lack of rain, the dams have been dry most of the time, so there has been little possibility that they could produce an increase in groundwater or karez flows. BALAD staff say that most of the dams have been completely filled only once, in December 1989, and may only have had some water in them one or two other times. The 16 dams that have been built by the Project have a total storage capacity of 962 acre-feet. If all of this water were absorbed into the groundwater reservoir each time the dam was filled, say once a year on average, and then discharged into karezes and kaurjos, it would equal a continuous flow of about 1.3 cusec. If these assumptions are accepted, the cost of water produced by these delay action dams is approximately Rs13.6 million per cusec of perennial supply.

The proposed dam at Kil Kaur was not recommended by the TA team because test borings revealed poor foundation conditions, the supply of irrigation water was uncertain, and there was local opposition to the project among downstream water users who were worried that dam would reduce water flows in their karezes. The project was canceled in June 1987. The Goberd diversion structure was also canceled at the same time because of the opposition of water users downstream for the same reason.

The PP called for improvements in 144 watercourses, but at the time of the evaluation, a total of 43 had been completed. It called for the leveling of 4,175 acres of land under OFWM, but no subprojects of this type have been undertaken; only recently has BALAD worked with the Agriculture Department on land-leveling and improved construction of bunds. Finally, the PP called for the establishment of a rolling multi-year water planning process, but this does not explicitly appear in BALAD work plans.

## Quality of Construction

Generally the quality of irrigation structures was found to be good. On several siphons, however, the concrete did not come close to the strength expected and crumbled quite easily. This could be a result of not enough cement in the mixture, improper aggregate gradation or too wet a mixture. A further problem was honeycombing, due to inadequate tamping of the concrete as it was poured.

Channel linings are really reinforced concrete aqueducts, sometimes covered with prefabricated concrete slabs. In areas subject to flooding this construction seemed justified. In other areas, however, the linings could have been constructed at less cost with an unreinforced concrete lining of a trapezoidal canal cross section.

Similarly, in areas where the channel is excavated below the ground surface, channel slab covers seem warranted. Elsewhere the only justification would be to reduce evaporation, which in the channels would not be sufficient to justify the cost.

Problems were also noted in the construction of dams. In one case a dam washed out probably because collars were not constructed around a dam outlet pipe. Other dams needed repair because the rock gabions were not tied together when constructing the spillway.

Construction in remote areas such as Makran, where skilled personnel and equipment are often lacking, will typically be of lower quality than that in more populated areas. Yet BALAD now has six Pakistani engineers on its staff as well three expatriate engineers in the past. In discussions with the TA team, it was frequently pointed out that design engineers were often involved only in the final inspection, whereas they should have periodically visited the site during construction to ensure that specifications were being met.

## Recent Emphasis on Institutionalization

The most recent modifications in the TA scope of work, which came into effect with a PIO/T in March 1990, stipulated that the TA team:

- Develop a water sector work plan in collaboration with the PPMU and the irrigation department;
- Assist the PPMU and line agencies in operating karez capping slab precasting systems;
- Review the performance of water recharge structures;
- Review the current system for improving karezes and recommend changes;
- Identify needs for various types of recharge structures, evaluate various subprojects, develop demonstration and test activities;
- Identify and evaluate the needs for and subsequently design and supervise the implementation of small-scale water resource development activities;
- Develop systems to monitor water development activities and evaluate the results; and

- Develop and implement training programs and systems, based upon an inventory of existing manpower and the determination of the needs of agencies involved in water management in Makran.

This new list of tasks reflected a re-evaluation of water sector activities and increased emphasis on water management planning and monitoring. Re-evaluation stemmed inter alia from the fact that there was little interest on the part of karez owners in precast capping systems, borings should be done only in areas where past borings had proven successful and the value of check dams was subject to question.

In accordance with this new emphasis, monitoring of water flows continues in the karezes that could be affected by recharge from the dams. Along with improvement in the construction of siphons and channels, greater account is being taken of the opinions and reactions of owners when subprojects are laid out. To facilitate monitoring, a draft computer flow chart system has been developed for planning a subproject, soliciting community inputs, implementation and follow-up.

LBI staff is collaborating with agricultural engineering officials in a demonstration of improved bund construction. The project involves land levelling, terracing and building small bunds between terraces, all of which act to increase the amount of land that will support crop production. The TA team designed the bund system and is supervising the operation, and agricultural engineering is supplying the bulldozer.

#### **Need for Groundwater Studies**

Negotiations are underway for a study of the groundwater in Makran. USAID originally had requested that private sector consultants be approached regarding their interest. Upon review of the qualifications of private firms, however, LBI staff concluded that the Geological Survey of Pakistan would be in the best position to conduct such a study. The water section believes that USAID has accepted this view. If so, details will be worked and the agreement finalized when the expatriate water resources engineer (David Boggs) returns to the Project.

The motivation for a hydrological survey seems to have been requests for domestic water projects in Gwadar, Pasni and other towns along the coast rather than a need for better information to address water projects generally. The PP did not address the need for a comprehensive study of water resources, and the need has been largely overlooked to date.

#### **Training of Line Department Personnel**

The TA team has provided on-the-job training at project sites for the younger officers of the irrigation department as well as for local contractors involved in implementing the projects. Some preliminary steps have been taken to line up training for agriculture personnel, namely working out procedures and identifying institutions. At present, however, no one in the LBI water section is substantially involved in the effort to arrange training for GOB counterpart staff.

## Benefits and Purpose-level Indicators

The importance of water in Makran is demonstrated by the fact that there is no area measure of agricultural land. The measure used instead is the "hangam", which is the amount of land that can be irrigated with 12 hours flow from a karez or kaurjo. Agricultural land only has value when it has access to water.

Unfortunately, without a study of the groundwater system, BALAD does not really know after four years the extent to which agriculture benefits from Project activities. The amount of annual recharge of the ground water has to be determined. The study should also indicate where the water resources are close to the surface.

In the absence of such information little can be concluded with any degree of certainty. It appears that small increases in availabilities have occurred in half of the karezes that were worked on. Yet it is uncertain whether these increases came at the expense of other users of the reservoir.

Infiltration galleries produce more water on an annual basis because they enable the kaurjos to operate without being destroyed by each flood. But here again there is no certainty that the increased water produced is additional water that would otherwise be lost. It may be water that would have recharged the groundwater reservoir and occurred in some other well or karez.

Clearly, on the other hand, siphons and channel improvements increase the efficiency of water delivery. Water that has already been captured is conserved. Most of it otherwise would be lost to evaporation or in the production of plants of little value. So the water conserved by these structures produces obvious benefits in the form of increased crop production.

For delay action dams to be effective, their watersheds must receive rainfall. Over the past few years, with rainfall much less than normal, there has been little opportunity for these dams to assist in the recharge of the groundwater reservoir. Again, without knowledge of the recharge-discharge balance, the benefits resulting from these structures are uncertain. All one can say is that since their construction the benefits they have produced are minima.

The purpose level indicators presently being used include the number of karezes improved, number of delay action dams completed, and number of acres receiving a stabilized supply of floodwater and perennial water respectively. These measures, especially acres of land having a stabilized supply of irrigation, are helpful in assessing Project performance.

In addition, indicators should focus on the amount of additional water produced or saved. It would be useful to estimate the number of karez borings that lead to an increase in water supply, the number that failed, and the number of bore holes that were sealed to prevent a reduction in the original flows. Another indicator would be an estimate of additional water produced since karez water flow data is available. Likewise in the case of infiltration galleries, estimates of increased water production could be made using flow rates and the additional number of days each year that the kaurjo was able to operate. With respect to siphons and channel linings, appropriate indicators would focus on water savings as a result of the improved conveyance (key variables being the length of the original channel across the nullah and the estimated water loss per foot or meter).

Overall, the quality of TA has been good, and substantial progress has been made on the program of subprojects specified in the PP. However, there were problems in quality control in karez boring and damage to several delay action dams. It seems that TA staff failed to elicit sufficient input from the community when designing these schemes.

### **Conclusions and Recommendations**

The most pressing need in the water area is for comprehensive knowledge of the groundwater system in Makran. A study of groundwater and related meteorology should be designed to provide detailed information on volume, occurrence, recharge and discharge of groundwater, and its depth in all areas of the division. The study should be done as soon as possible because of the rapid escalation in the number of tubewells which could have a devastating effect on traditional irrigation systems. To ensure that the study will provide the needed information and quantify the needed relationships for all future water-related activities, an expert in water resource surveys and study design should be engaged to prepare a detailed scope of work for the study.

Future water development projects should call for financial contributions from karez owners and other beneficiaries, as is now required in the case of bund construction. Contributions will serve to increase the number of projects, assist in eliminating projects that are marginally beneficial, and help to encourage greater community involvement in planning and implementation.

Karez borings should be discontinued because they are only successful one-half to two-thirds of the time, and the community generally feels that they have been of little value. Consequently, this activity does not reflect well on BALAD.

Infiltration gallery subprojects should also be discontinued since improving the flow in one kaurjo can adversely effect the flow in other kaurjos and karezes downstream. Furthermore, the general community feels that these subprojects have produced little overall benefit.

BALAD has discontinued construction of additional delay action dams until sufficient rainfall and runoff data are collected to determine that the amount of recharge is worth the expenditure. The evaluation team concurs with this decision.

Involvement in siphons, channel lining and other small water development projects should continue, provided that financial contributions from benefitting groups are forthcoming.

LBI's proposed scope of work for the current extension period is consistent with the conclusions reached in this evaluation. The proposed scaling back of construction activities seems appropriate as is the emphasis given to the training of irrigation and OFWM technicians in water management planning.

## AGRICULTURE COMPONENT

### Setting

The traditional agricultural economy is based upon exploiting the groundwater resources using the karez and the occasional surface runoff using the kaurjo. Also bunds or small earthen dams are employed to collect rainwater or contain runoff so that fodder or grain crops can be grown after the water has receded.

Water from karez is transported in mostly unlined channels ("kalmars") to fields bordered by the predominant agricultural plant, the fig palm. On small irrigated fields tomatoes, okra, eggplant, rice, sweet potatoes and squash are grown in the summer ("kharif") season. During the winter ("rabi") season spinach, onions, turnip, and wheat are the principal crops. Also, one of the main crops throughout the year is alfalfa, which is fed to livestock or sold green in local markets.

Dates are still the most important crop in Makran. Even today when a new karez is constructed for irrigation, the first thing that is done is to plant the date palm shoots. The young date trees require much care, but after the trees are five or six years old they require little work except at the time of pollination and harvest.

Land holdings in the irrigated areas are small, and where karez or kaurjo irrigation water is available throughout the year, cropping intensity is high. Because of the exodus of Makrani agricultural workers, there are severe shortages of labor even though higher wages are offered. However, the breakup of the traditional social system, resulting in owners working their own land, and the return of some labor from the Gulf states, could be easing the situation.

### Planned BALAD Activities

As noted earlier, serious questions were raised in late 1988 regarding the efficacy of many of the water sector interventions. USAID and LBI believed that more attention should be given to on-farm agricultural and water management activities linked to the on-going program of irrigation improvement.

LBI's expatriate agronomist (Daniel Bradbury) arrived in June 1989. With an initial assignment of just over a year, he prepared a work plan having a short-term focus. A year later and with a good chance that the Project would be extended until the end of 1991, he was able to plan some longer-term activities.

The plan that was then prepared was qualitative in nature and did not indicate numerical targets. It included the following elements:

- On-farm demonstrations;
- Introduction of new crops and methods for maximizing yields;
- Improvement of on-farm water management (OFWM);
- Training and other support for the development of date processing;

- Investigating the present agricultural credit system and the possibility of forming agricultural credit institutions;
- Private sector involvement in mechanization of water infrastructure development and food processing;
- Introduction of appropriate mechanization;
- Compilation and completion of the karez inventory;
- Examination of the role and capacity of agricultural and related public institutions and coordination of Project activities with these agencies; and
- Maintain relations with provincial, divisional and district-level Project committees and keep them informed about Project activities.

### Implementation

LBI and PPMU agriculture staff plan and carry out subproject activities largely on their own initiative. Agricultural extension officials in Turbat are kept informed regarding on-farm demonstrations that are being planned and encouraged to participate. Similarly, agricultural engineering, OFWM and irrigation department staffs are notified of planned activities in their areas of interest.

There are two sources of funds for these activities: PIL 8 and the "compound line item" in the LBI contract. The PIL 8 procedure, which applies to the larger expenditures, has already been described. Originally earmarked to pay expenses related to the LBI office and residential complex, the compound line item is now also used for small purchases for subprojects.

The agricultural extension department at the Makran divisional level is officially responsible for farmer training and on-farm demonstrations as well as the provision of plant protection services. In practice, however, the initiative in organizing demonstrations, which are the heart of the program, has remained in the hands of the BALAD team.

Most farmer training as well as the training for agricultural extension officers and assistants is done through on-farm demonstrations. For example, a demonstration was conducted in Panjgur in late 1989 where three wheat and barley plots were established. The main purpose was to introduce the farmers to zarghoon, a high yielding variety of wheat. Zarghoon had been developed for upland conditions of Balochistan by the Agriculture Research Institute in Quetta, but farmers in Panjgur did not know about it.

In a demonstration of this type farmers are involved in preparing the land and planting, meanwhile being trained in any agronomic practices that are new. Every 10 to 15 days the condition of the crop is monitored by BALAD staff. At harvest time a field day is organized where each operation up to harvest is explained and the sometimes dramatic results of the entire process can be witnessed. In Panjgur, 20 to 25 farmers attended the field day and witnessed yields three times the average they normally knew.

Another demonstration on lands irrigated by a karez not far from Turbat showed the possibilities of using small hand tractors for land preparation, thereby saving time and labor. It demonstrated how the tractor is used in making the furrows needed for between-row irrigation, with a resulting increase in

yields. Not that the farmers are going to go out and buy small tractors, but at least they have a better idea of what their options are when agricultural labor is hard to find.

Another demonstration dealt with mechanical date pollination. Pollination is traditionally done by tying branches from a male date palm above the flowers of the female tree, which involves a lot of labor. Farmers were shown instead how to obtain the essence from the male tree, process it and reduce its concentration with flour to make a dusting mixture. The method of dusting was then explained, using an apparatus with a long extension that allows the farmer to do the work himself from the ground. While they could not all afford the new equipment and rapid introduction of the technique is unlikely, the demonstration suggested the possibility of obtaining the equipment on a cooperative basis.

In February 1990, a one-day training session was held in Panjgur to teach farmers how to prune their grape vines. An expert from the Deciduous Fruit Research Center in Quetta was the principal instructor. 25 farmers and five agricultural extension personnel attended. Each farmer was given a pair of pruning shears, and within a week, half of them had pruned their own grape vines.

### **Progress**

During the period in which agronomists have been assigned to BALAD, 382 farmers and 82 agricultural department staff were trained at 49 on-farm demonstrations. Extension personnel who had assisted in the demonstrations were rewarded with an expense-paid trip to an agricultural festival at Sibi. In this area of activity BALAD progress has been excellent.

Until now, working relationships between BALAD and OFWM have been quite limited. However, a mechanism has been worked out to provide OFWM with funding to carry out subprojects essentially of a construction nature. BALAD supervision will assure quality control. The cooperating farmers will contribute 10 percent of the cost and keep a close eye out on how their money is being spent. One such project involves the levelling the land inside a bund so more cropland can be planted. Initial earth moving has been done, and when it rains the land will be levelled. Then demonstrations will be organized to help farmers make more efficient use of the land.

Over the past 15 months the Project has been working with the Agricultural Research Institute on a plan to establish a farm systems research center for Makran. The center would study oasis agriculture as a system with a view to better understanding the problems and finding solutions. The Institute has apparently now decided to go forward with this plan.

The Turbat date processing company (Shah and Sons) went into production in 1989 with BALAD providing some technical assistance and other support. When a local entrepreneur expressed interest in starting up the idle date processing plant, BALAD let GOB know that USAID was interested in seeing the plant in operation. Mr. Shah provided the funds to get started, and BALAD provided an expert in the date industry who was familiar with processing, quality control, shipping, and marketing matters. The expert suggested some initial processing and shipping of the dates in 20 kilogram boxes to Karachi and Sukkor. He felt that once the company became known in the business, it could begin final processing of part of its supplies. Apparently Mr. Shah did not accept this advice. The sequel to this story is that the plant did not operate this harvesting season, seemingly because Mr. Shah was no longer interested.

BALAD also provided encouragement and support to a local businessman who now stocks fertilizer, seeds, pesticides, tools, and some small equipment. BALAD initially agreed to purchase some supplies through his store and introduce him to wholesalers in Karachi, explaining to them his relationship with

the Project. The proprietor has been able to conclude financially attractive arrangements with suppliers, and his store has become an important resource for Turbat area farmers.

Although it has been slow, some progress has been made with regard to institutional training in Pakistan for line agency staff — as distinct from the kind of on-the-job training provided to agricultural extensionists in the course of arranging on-farm demonstrations. With the help from the training consultant, BALAD staff have identified appropriate institutions and courses. Also, certain practical problem pertaining to the use of Project funds to train GOB officials have been resolved. As yet, no training has begun, however.

Purpose level indicators for agriculture currently include farmer training, increased date production and, under the institutional heading, agricultural extension. The number of farmers trained is an appropriate indicator. Another would be the number of agricultural extension personnel receiving training. Indicators could also include measures of improved variety seeds and amounts of fertilizer purchased.

In sum, the quality of the TA has been good. In a relatively short period of time the Project has made progress through its direct dealings with farmers. There are no quantitative measures of the progress in terms of increased plantings, yields or farm income because of the short time that has elapsed and the absence of baseline data. Impressions gained from discussions with Project staff and brief contact with individual farmers confirm the value of on-farm demonstrations, an activity which should be continued. Also, there has been progress in building relationships with agricultural extension staff, although with other line departments relationships still remain somewhat ambiguous.

### Conclusions and Recommendations

BALAD should continue to plan on-farm demonstrations in close collaboration with agricultural extension officials. Equally important is the in-country training that BALAD can provide. Thus the extension department, rather sooner than later, should be in a better position to assume its proper responsibilities.

Date buyers in Karachi and members of the Makran Cooperative Date Growers Mill Society agreed that the primary constraints in the date industry are lack of decentralized packing facilities and high cost and inconsistent delivery of dates to Karachi and Sukkur. A marketing strategy should be developed to increase the economic returns to growers and the community. The strategy would probably involve preliminary processing locally in packing sheds located close to the farms and bulk shipping to Karachi. There is no reference to these priorities in the LBI proposal for the next two years. But if Makran is to benefit from robust prices and export opportunities (described below), a program is needed to alleviate these constraints. It is therefore recommended that a consultant be hired to develop an appropriate model for a date marketing system.

The young field assistants in agricultural extension comprise an important group with which BALAD now works. Forty motorcycles are being procured to give them increased mobility. This support, which helps line staff assume greater responsibility, is all to the good. It perhaps goes without saying, however, that actual distribution by the GOB should be closely monitored to ensure that the equipment is used as was intended.

Consideration should be given to the establishment of a center in Turbat or possible in Panjgur for the training of farmers and members of their families. One advantage would be that it could eventually provide farmers a range of support similar to that now being provided by the Project. As the Project

focuses more on project planning and monitoring, a modest training facility somewhat apart from the Project and dealing with the practical problems in Makran agriculture becomes especially appropriate. For example, a course in general irrigated farming could cover the range of agricultural practices from seed selection through harvest. Its length, perhaps a season or a year, would enable students to apply what they have learned at home and also pass it on to relatives and neighbors: Initially under TA team supervision and USAID funding, the center should later be sponsored by an international NGO collaborating with private sector interests in Makran.

## **SPECIAL DEVELOPMENT ACTIVITIES**

### **Rationale**

In the original PP \$1 million was allocated for Special Development Activities (SDA) to "permit rapid response to opportunities which develop during implementation of the Project." As examples of such activities, the PP mentioned the construction of schools, health facilities, housing for teachers or health workers, perhaps the initial phase of a comprehensive plan for water resource development or a marketing studies on profitable crop alternatives. Under the PIL 8 procedure, the upper limit for a SDA subproject was raised from \$50,000 eventually to \$200,000 in order to use this category, if necessary, for Turbat town road paving and other more costly activities.

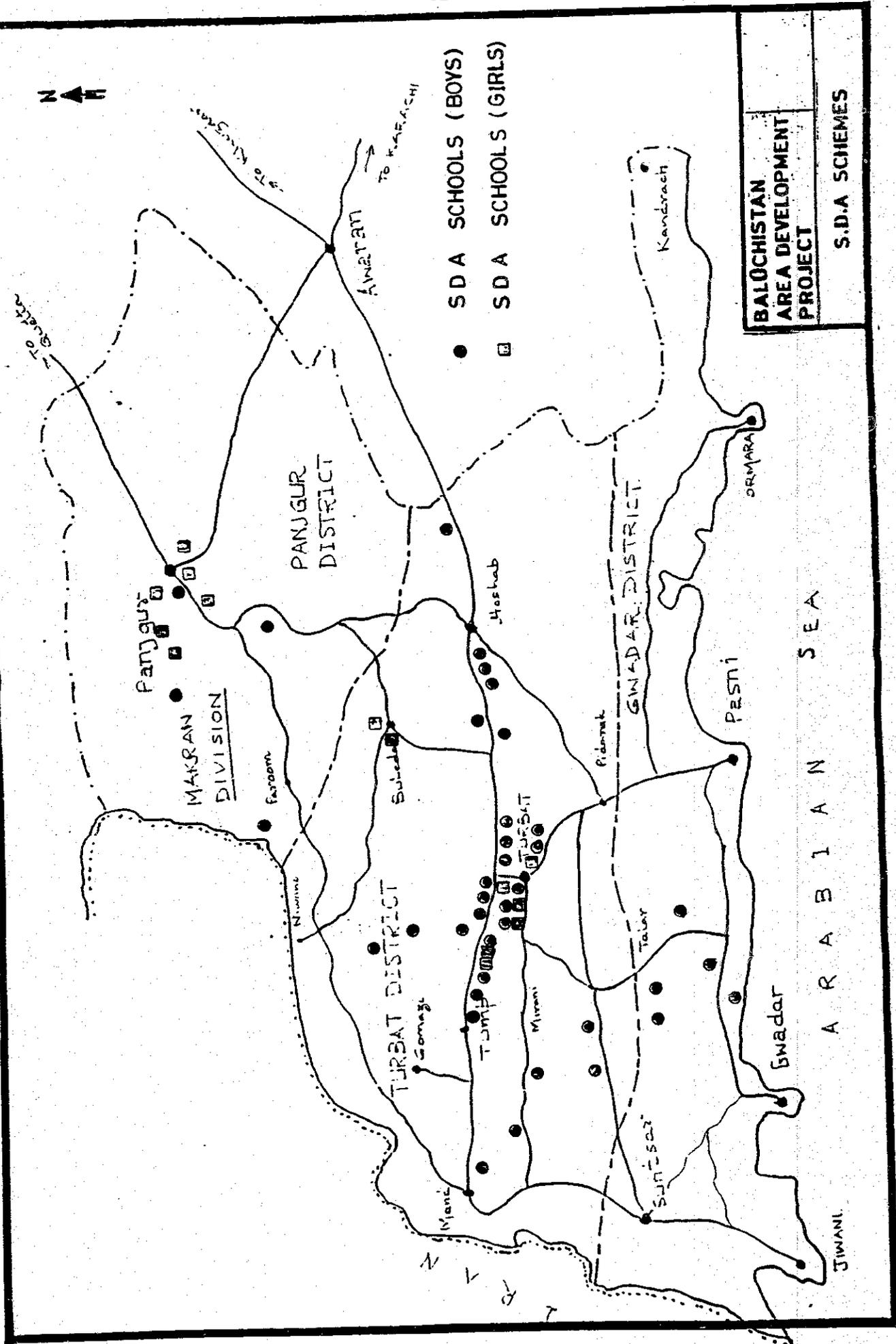
### **Selection and Implementation of SDA projects**

According to the PP, the decision as to the specific projects was to be taken at the local divisional level in close coordination with the line departments of the GOB. With the exception of studies and surveys, projects under SDA were expected not to begin until the other main Project activities were launched and adequate management capability was available.

Selection criteria stipulated that the SDA project be: consistent with GOB's Special Development Plan, acceptable to the local administration in Makran, complement existing or planned infrastructure, be self-sustaining without requiring major changes in local social practices or technical skills, enhance the GOB's ability to provide services, contribute to strengthening the private sector, be socially and technically sound and be economically justified.

As planned in the PP, project selection has been through the district committees and the DWC. While it was originally expected that the PPMU, jointly with the USAID personal services contractor, would be primarily responsible for management and supervision, these responsibilities inevitably reverted to the TA team which had the engineering capacity to supervise construction. This partly explains why SDA activities took on a stronger emphasis on infrastructure than was initially intended.

The initial selection of projects in 1986 included rural health units and potable water as well as schools. Because of uncertainty regarding the capacity of GOB and local communities to staff health units and maintain hand pumps, USAID preferred to concentrate SDA resources on the addition of classrooms to existing primary schools. As it subsequently became evident, adding classrooms did not provide any built-in assurance that they would be adequately staffed and utilized.



- SDA SCHOOLS (BOYS)
- SDA SCHOOLS (GIRLS)

**BALUCHISTAN  
AREA DEVELOPMENT  
PROJECT**

**S.D.A. SCHEMES**

A R A B I A N S E A

JIWANI

## Progress

With the exception of a maternity home and one road project, SDA has concentrated from its beginning in 1986 on expanding existing schools. By focussing on just one activity, work proceeded at a much faster rate than had been originally envisioned. Unlike other BALAD components, most construction was completed on schedule and within budget.

District coordinating committees seem to have been reasonably objective in their identification and recommendations regarding priority locations where additional classrooms were needed. In general, priorities were determined at the district level by the district education officer and the MPA sitting in the coordinating committee. Projects that were subsequently approved at the divisional level were visited by BALAD to confirm the priority and appropriateness of the choice.

49 classrooms were constructed at 22 town and village schools by mid-1987. Local contractors were used and the first classrooms built were often substandard. As contractors gained experience and with LBI supervision, the quality of construction improved.

The buildings are all reinforced concrete structures. The main complaint is that they are hotter inside than the traditional mud brick schools. So in future more appropriate climatic designs as well as the use of local materials should be considered. The use of local materials would allow for a contribution on the part of the community. The Pak-German self-help project builds a frame and a roof, and the people fill in the walls.

SDA project approvals reflected the traditional bias in favor of boys education with over two-thirds of the new classrooms constructed for males only. The interim evaluation consequently recommended that SDA resources be concentrated on schoolrooms for girls, and over the next two years this was the case. By the beginning of 1989 an additional 60 classrooms had been constructed for a total of 109 classrooms in some 51 localities.

SDA experienced a hiatus of about nine months in 1987-8 apparently because of an overcommitment of funds at the time along with the fact that teaching personnel had not been appointed to certain of the schools. USAID ordered a review of classroom utilization before approving new projects. At the same time the shift of focus to female education meant identifying new projects and holding up action on others.

The program resumed in July 1988 and remained active into early 1989 when new approvals were again suspended by USAID because of the pending large Primary Education Development Program (PED). USAID felt that since the PED is a total package and not just the construction of school buildings, no further commitments should be made of SDA funds for school construction activities and that SDA funds be reserved instead for agricultural activities.

## Impact and Benefits

Local communities have been especially appreciative of SDA as more children became enrolled in primary education programs. BALAD found in two areas an average of about 60 pupils per school in a village of 200 houses. There was clearly a strong inclination among the people to send their children to school, and if classroom space were insufficient, students would take their classes under the trees. In helping to meet this need, SDA contributed significantly in creating a favorable perception of BALAD among the local population.

It is fair to assume that as a result of SDA the learning environment, particularly in remote villages, has improved. Moreover, SDA served as a timely vehicle for advancing the role of women through the attention it gave to the needs of girls primary education.

These conclusions can be corroborated in term of the purpose level indicators that have been identified for the Project, specifically in contributing to improved access to educational services. During the period of SDA activities, primary enrollment increased from 26,466 to 45,895 boys and 3,212 to 5,298 girls in the Makran division. While this increase cannot be attributed directly to the provision of additional classrooms, the additional space has been undoubtedly a factor.

On the other hand, the emphasis given to expanding school facilities has detracted from other priorities which could be addressed through the SDA mechanism, most particularly housing for teachers, especially female teachers, rural health centers, and potable water supplies.

### **Sustainability**

Sustainability will depend on GOB's ability to supply more trained teachers, meet the recurring cost of building maintenance as well as the demand for teaching equipment and materials. In his review of the SDA schools in late 1987, the BALAD sociologist found many schools operating "to the complete satisfaction of the education department in terms of the utilization of the additional classrooms." However, the inability to hire an adequate number of teachers for the remoter areas remained a serious problem. Teachers were reluctant to be posted to these areas where there is a scarcity of basic necessities, as was in fact acknowledged by village elders who take responsibility for providing them with board and lodging.

These needs will place additional management burdens on the education department. Of course, GOB should be in a stronger position thanks to USAID support under the PED program, and sustainability should not be a major concern of BALAD in the future.

### **Future Directions for SDA**

BALAD TA team and PPMU staff have proposed that during the current Project extension period (October 1990 through September 1992) there will inevitably arise a number of projects which do not fall into the roads, water and agriculture components of the Project. These could include wells for road construction activities which will be turned over to villages as water supply upon completion of roadwork, village facilities such as community centers and health facilities, and "the paving of specific village roads".

The fact that USAID is providing general support to primary education does not preclude the occasional need for expansion of classrooms and the construction of teacher housing in particular locations using SDA resources. The fact that this activity offers immediate tangible accomplishment will serve to maintain BALAD's credibility.

With the need for more integrated planning within particular development areas, there should be opportunities to use SDA funding to respond to village-level priorities as they arise. Numerous small projects identified by the people themselves and in which they themselves participate would constitute a healthy dimension to what has hitherto been a traditional infrastructure program involving little local participation. In addition to potable water needs which are particularly acute in Gwadar (as well as in

parts of Panjgur and Turbat districts), there is need for BALAD to react to village priorities (and hopefully initiatives) in food preservation and marketing, in vegetable gardening and poultry raising, in developing cottage industries for women. Some of these activities may more properly be addressed within the water and agriculture components of BALAD while others — such as establishing women's centers as a first step in developing a WID program at the village level — will lend themselves to SDA.

## **VO-TECH TRAINING PROGRAM**

### **Rationale**

During its first two years BALAD faced mounting local criticism in Makran, particularly on the part of the Balochistan Students Organization, on the grounds that the Project was providing no visible benefit to the area. To counter this criticism, the GOB suggested that USAID introduce an overseas training program for young Makranis which could be implemented quickly and have high visibility. The idea of sending 50 Makrani students to the U.S. was received favorably by the people of Makran and the provincial authorities in Quetta.

### **Implementation**

The program was initiated in November 1986 with a budget of \$1 million, half of which was charged to BALAD and half to USAID's Development Support Training Project (DSTP). It was implemented through an existing USAID contract with the Academy for Educational Development (AED). A year later \$500,000 was added to the budget to cover training costs in the U.S.

The program consisted of two months of English language training and cultural orientation at AED in Islamabad and six months of further English training in Singapore, after which the participants were enrolled in certificate and associate degree course work in U.S. institutions. Course duration ranged from ten months for a certificate to two years for an associate degree. Interviews, selection and placement in U.S. colleges were coordinated by USAID's Office of Human Resources Development (HRD).

Advertisements in local newspapers attracted over 250 Makranis. A committee composed of representatives from USAID, BALAD, the ACS and the Minister for C&W (who was the MPA from Makran) selected 55 students for training. 45 of them completed the first phase of the program and entered academic institutions in the U.S. Of this number 37 were enrolled in two-year certificate and diploma programs, and the remaining eight attended 10-12 month non-degree technical programs.

By mid-1990 39 of the participants had successfully completed their programs and were actively seeking employment with the GOB or the private sector. Three completed their programs but did not return to Pakistan. Another three dropped out prematurely.

### **Follow-up on Vo-Tech Graduates**

The interim evaluation found reactions to the program to be universally positive. It was, in fact, the only BALAD activity that had the unreserved support of the Chief Minister. The evaluation team recommended that the program be expanded to include all of Balochistan.

Records in USAID/Islamabad of the status of the returnees were not immediately available for purposes of the current evaluation. Nine interviews were therefore conducted in an effort to get some idea of the individual benefits derived from the program. This sampling furnished an impression quite different from the positive conclusions reached during the interim evaluation.

Complaints expressed by the returned Makranis were the following:

- Prior to their departure to the U.S. they were assured by senior officials that the GOB would find them jobs on their return. This has not happened despite their attempts to find employment as well as personal meetings with the GOB officials who had endorsed the vo-tech program from the beginning;
- An associate degree from a U.S. institution has little value from the point of view of potential employers nor does it meet the minimum entry requirements for selection into the civil service at the professional level;
- The University of Balochistan will not recognize associate degrees or certificates as qualification for further study towards a bachelor degree. Instead they are treated as equivalent to a high school diploma, with the result that the vo-tech graduates must start all over again;
- The BALAD project discriminates against hiring Makranis, especially for intermediate administrative positions which they say they are qualified to meet. While there may be some truth in this claim, it should be pointed out that LBI has in fact recently hired three vo-tech returnees and is considering hiring another;
- Vo-tech graduates are not eligible for further scholarships to complete their B.A. or B.S. degree requirements in the U.S. under the current HRD Balochistan-wide fellowship program. This program offer three or four year courses so that Baloch applicants will qualify with degrees which are recognized in Pakistan; and
- The main employers in the Makran are the government, the nationalized commercial banks and BALAD. Vo-tech returnees said that all responsible positions in commercial banks were filled by persons from outside Makran and even outside Balochistan who are only willing to work in Turbat if they are given senior posts. This "catch 22" effectively excludes Makranis.

Some of these complaints may be legitimate. Six of the nine interviewees were unemployed. As already noted, three of them had been hired by LBI. Of the 15 local administrative staff with BALAD, two are Makranis and another four are Baloch; the rest are from outside Balochistan.

USAID recently wrote to the GOB to emphasize the importance of employing the returnees. In response the GOB's Services and General Administration department circulated a request to all departments listing the names of the returnees and recommending special consideration for them. When asked regarding the current whereabouts and employment status of the vo-tech students, a senior GOB official said that since he had not heard from them he assumed that they had all found jobs.

#### **Value and Sustainability of Training**

There is little positive that can be said at this time regarding the long-term value and sustainability of this training. It did open up educational opportunities, besides the exposure to the U.S. and English

language training. Whether that exposure will have any lasting influence on the thinking of young Makranis, who were previously attracted to radical anti-American positions, is questionable. Their experiences since returning home have left a sour taste in their mouths.

Distortions in the educational environment and the local job market have accentuated their plight. The combination of free university education and the dominance of the public sector, especially in Makran where the (formal) private sector is very small, means that there are far more applicants than the system can absorb. Competing with better qualified university graduates (at least on paper), returned vo-tech students stand little chance of getting a civil service position.

They would be better off now — and perhaps even in a position to contribute to the development of Makran — if an integrated program had been developed from the start. This could have included a Makran training needs assessment based upon educational qualifications of persons entering the job market and existing skill needs, thus establishing appropriate criteria for selection, courses of study to be given priority, and degree requirements to facilitate placement upon returning home. But given the underlying political reasons for initiating the vo-tech program in the first place, this was not done.

### **Lessons Learned and Recommendations**

A generalized program to upgrade human resources capabilities may make better sense in other parts of Pakistan. In a "lagging area" like Makran, training is probably more effective if targeted to address clearly identified skill needs and deficiencies. The BALAD training consultant recommended such "customized" training.

The decision to exclude vo-tech graduates from receiving new scholarships should be reconsidered. Returnees from the original contingent should be allowed to complete their degrees, provided they pursue disciplines which are relevant to Makran development needs.

GOB should give priority to the placement of vo-tech graduates in regular civil service and contract positions, particularly in the Makran where, unlike most outsiders, they want to work and make a contribution.

USAID and GOB should consider establishing an English language training facility in the Makran division. This would enable young Makranis to compete for training opportunities in the U.S. as well as in other countries in the region and, for that matter, in technical institutes situated in other provinces of Pakistan.

Because of the dearth of positions with government and a minuscule formal private sector, particular attention should be given to entrepreneurial training, not only in agriculture but also in developing small-scale enterprises in the urban informal sector.

### **PRIVATE SECTOR ACTIVITIES**

The development of local businesses in Makran emerged only recently as a priority which BALAD should address. Prior to 1989 private sector development had been purely incidental to the main thrust of road sector, water sector and SDA interventions.

## **Use of Private Contractors**

The procedures followed in contracting infrastructure subprojects have already been described. The system of tender notices and competitive bids reviewed by the PPMU, the LBI team and line agency representatives (in the PC-1 committee) serves as a discipline to ensure that proposals are well balanced and price quotations are realistic. After the necessary approvals, the successful contractor begins work on a cost reimbursable basis. The contract is essentially established with PPMU, and PPMU is reimbursed after the work is finished.

The Project sometimes falls short with regard to the supervision of contracted work while in progress. This is primarily the responsibility of the LBI construction team which has the engineering know-how. But also the design team with its different perspective should monitor implementation.

The amount of contracting activity generated by BALAD since the Project began can be gauged in terms of the 45 road projects involving water crossings, box culverts, road paving and other installations at a total cost of almost Rs34 million. These projects were executed locally by 13 different private contractors under the PIL 8 procedure. (This figure does not include road construction and maintenance done under C&W force account.) In addition, 179 water sector projects have generated Rs32 million in contract awards to 28 different private contractors for the construction of siphons, canals, infiltration galleries, karez linings, and check dams. Finally, 53 SDA projects generated contract awards totalling Rs13.5 million and involved 25 different private contractors. In total, Rs79.5 or \$3.8 million has been paid out to local contractors.

## **Technical Assistance to Private Farmers and Agribusiness**

As already noted, some 350 private farmers and over 70 agricultural development staff participated at one time or another in on-farm demonstrations of new crop varieties and improved cultivation practices. Significant yield increases were attributed to the new wheat varieties. At the time of this evaluation, however, farmers had not yet planted the new varieties on a commercial scale, so it was too early to evaluate the impact of the program.

Between October 1989 and June 1990 the Project provided technical assistance to the date processing company (Shah & Sons) in Turbat. Although the owner was not satisfied with the TA, he asked for additional hands-on assistance during the next date processing season. He said that the consultant had recommended that he sell bulk quantities to brokers and wholesalers rather than concentrate on retail packaging. Despite his misgivings, subsequent conversations with date buyers confirmed the appropriateness of the consultant's advice.

BALAD provided preliminary assistance to a group of farmers who were interested in forming an agricultural machinery cooperative in Turbat district. In March 1990 a short-term consultant recommended a program for improvement of date palm cultivation, on the basis of which BALAD initiated procurement of pollinators for on-farm demonstrations. Also, the Project helped a local businessmen to obtain distributorship rights from fertilizer, pesticide and insecticide suppliers. This was the first commercial attempt at creating a local source of inputs for Makrani farmers.

## **Benefits to the Private Sector**

Of the 41 local contractors that have been used in the course of the Project, eight have been given above-average ratings by the LBI team and seven have been categorized as good or average. The others undertook limited, specialized assignments, such as karez borings or rock blasting, and have not responded to further tender calls from PPMU. Two contractors have been disqualified from future bidding because of unsatisfactory performance.

Of those whose performance was above-average, three are from Turbat and five from Panjgur. Three of them had no previous building experience and had to be registered by GOB before becoming eligible for BALAD work. Initially they took on jobs which others were reluctant to accept. Essentially labor contractors, they had to round up workers and rent the equipment they needed for the job, usually from a line department. Two to three years after delivering consistently reliable services, these better contractors have increased their permanent work forces from between five to 15 skilled employees and have acquired bulldozers, cement mixers, tractors, and other heavy equipment. The contractor on the Talar Gap section of the Turbat-Gwadar road upgrading purchased a bulldozer and a compactor and increased his technical expertise in the area of blasting. He will probably be awarded a contract to provide blasting services along the more difficult stretches of the Hoshab-Panjgur road. Such success stories are the exception rather than the rule.

The top-ranked contractors have improved their supervisory skills and can now meet work specifications which are higher than normally required by local clients. They now receive offers from the private sector to do similar work.

Total contractor revenues equivalent to \$3.8 million have been generated through BALAD. At an average of 10-12 workers per project, between 2770 and 3324 jobs have been created as a result of locally-implemented subprojects. Discounting labor costs, LBI estimates that 30-50 percent of contractor revenues are passed on to local building material suppliers in the Makran.

Purpose level indicators to monitor private sector impact or involvement in Project implementation were not included in the BALAD monitoring system. In future, indicators should include quantitative data such as jobs created, number of new businesses, financial flows to the private sector, new crops and increases in yields and acreage. Qualitative data should include trends in business development, management competency, and spin-off benefits such as the extent to which private sector technical capacity was enhanced as a result of transactions with the Project.

## **PUBLIC ADMINISTRATION COMPONENT**

### **Setting and Rationale**

#### **The Local Administrative System**

At the divisional and district levels, the administrative system established by the British to maintain law and order is still essentially intact. It relies heavily on authoritative direction through appointed civil officers — commissioners, deputy commissioners, assistant commissioners and "tehsildars".

The commissioner is primarily responsible to the additional chief secretary (Home) for law and order matters. But he is also responsible to P&D for development matters. He chairs a divisional development committee (previously known as the coordinating committee) which includes the heads of line agencies and the deputy commissioners of the districts, of which there are three in the Makran division. In principle the DDC meets every two months to review and monitor development projects, and annually to approve the annual development plan (ADP) for the division and forward it to the development ACS for approval and incorporation in the provincial ADP. In performing his development functions the commissioner is assisted by a director of development who represents the P&D secretary in Quetta, and on behalf of the commissioner, maintains liaison with the technical departments and donor project staff.

### Local Government Councils

The Department of Local Government and Rural Development (LGRD) is represented at the division, district and subdivision levels by the joint director, assistant director, and development officer (DO) respectively. An engineer or overseer (junior engineer) is usually also assigned to the district and subdivision.

District councils and below them, union councils and town committees, are composed of popularly elected members. In Makran division there are three municipal committees (Turbat, Gwadar and Pasni), two town committees (Ormara, Panjgur), three district councils (Panjgur, Turbat, Gwadar), and 38 union councils. Only the municipalities collect enough revenues (mainly octroi, but also license fees and rent on municipally-owned buildings) to cover their staff costs as well as those of certain municipal improvements, such as street paving and the construction of water tanks. The fact that there is very limited inter-district trade limits octroi (a three percent tax on goods transported into an area) as a source of revenue.

The rural councils depend upon central government grants-in-aid to meet personnel costs as well as any development projects they undertake. Only Rs10 million or less than \$500,000 in grants-in-aid are annually available to cover the needs of all local government bodies in the Makran.

District councils prepare an ADP which is really only a list of projects against which the total grant-in-aid funds will be allocated. The typical allocation is in the range of Rs30-50,000 to meet some or all of the cost of digging a well, constructing a bund, excavating a tank for collection of rain water, building a boundary wall or extending a karez. Generally these projects benefit a group of landowners or karez owners rather than the community as a whole. How much of the allocation is actually spent on the particular project is hard to determine. In one case a district council allocated Rs30,000 to dig a pond for collecting rainwater, yet the job was done by a rented bulldozer at an estimated cost of Rs6,000. (One can guess where the balance of the money went.)

Local council development plans are not part of the divisional and district ADPs as would be expected, the reason given being that local council projects are very small scale and, besides, instigated on the basis of individual rather than community interests.

Because the projects are small, line departments do not want to execute them. "Our roads are not their roads," according to C&W. Union councils appear to be dormant in many areas, the chairmen directing their interest and energies to the district council level where they sit as members. District council projects are executed by local contractors, who hire the labor and rent the necessary equipment, just as is the case in most BALAD projects.

Apparently the "self-help" in local self government was wiped out along with the "basic democracies" in the late 1960s. Today there appears to be little direct popular involvement in council-initiated projects, other than in water projects where landowners have a strong self-interest; if the work is not done through the council, they will have it done themselves.

UNICEF and Pak-German self-help project experience suggests that people will contribute to the cost of digging a well as a condition for obtaining a hand pump, or in excavating a "tank" or depression to collect rainwater if they can obtain the use of a PHE bulldozer. Yet there is little agreement as to how strong these cooperative traditions remain. In the Gwadar areas of severe drinking water shortage, village leaders said that they now depend upon the government to deliver water by tanker.

### **Concept and Justification for the PPMU**

Even before the PP was signed, GOB had decided to begin establishing a divisional level planning and development unit starting in FY 1984. The concept arose from the development of similar units in Punjab and P&D's desire to establish branch offices in all five divisions of Balochistan.

Strengthening capacity to plan, prioritize, select and implement development projects for Balochistan as a whole, and Makran in particular, was recognized as the most difficult and important long term component of the Project. It included four main elements:

- Technical assistance and staff support to P&D in Quetta;
- The establishment of a PPMU in the Makran;
- Activities complementary to those carried out by the PPMU designed to improve the performance of human resources in irrigation, agriculture and roads in Makran; and
- A special development fund.

As originally conceived in the PP, a planner/systems analyst would work with P&D to improve systems for design and analysis of new development projects for Balochistan. Assistance would also be provided to improve monitoring, reporting and evaluation systems within P&D and simultaneously to support activities of the PPMU as a prototype development unit at the divisional level. The expatriate planner/systems specialist would serve as a consultant to the ACS, who would be the BALAD project manager, and to the P&D secretary.

The PP noted that the commissioner has authority to direct all activities in the division. However, "he lacks the means to exercise full authority because there is no nation-building department staff attached to his office — no planning, implementing or supervisory capacity. These conditions allow district level officials of the line agencies to go their own way. In theory they respond to the provincial authorities, bypassing the division commissioner. In practice, since provincial authorities are 600 kilometers away and communications are intermittent, the district offices are on their own... The peculiar problem facing BALAD designers was how to make a reality of the commissioner's authority over district officials, thereby assuring the participation of line departments in the Project, while keeping a policy role for the provincial government in the implementation of this major effort." The key decision at the time was to establish a PPMU as the commissioner's principal means of exercising authority in development matters.

The PPMU would possess appropriate authority and staff capacity to work with the line agencies and the private sector in planning, coordinating, monitoring "and, in some cases, managing BALAD inputs." Ultimately the PPMU should become a model division planning and development unit to be replicated in other divisions of Balochistan.

In view of the difficulty of recruiting experienced staff for such a unit, GOB committed itself to recruit new personnel to work initially in the PPMU as trainees and "then as the core staff for the divisional P&D unit which will emerge as BALAD is completed." BALAD would provide training opportunities as incentives to GOB employees who are willing to work in the Makran, and scholarship assistance to young Makrani students with prospects for a government position.

The urgent need for a fully qualified staff to implement BALAD from the outset necessitated contracting a core PPMU staff. This staff included expatriate personnel together with Pakistani professional and support staff employed by the contractor firm. It was recognized that the core staff would have a major part in carrying out the bulk of implementation activities for the Project, while at the same time the new GOB staff would benefit from on-the-job training.

The statement of work in the original TA contract in 1985 had two main objectives:

- To institutionalize and operate a PPMU having five sections: roads, water, agriculture, planning/economics/statistics, finance/administration; accordingly to strengthen program planning, management, budgeting, monitoring, and evaluation; and
- To implement, through PPMU, development activities by line agencies, contractors, "private groups and associations".

The regional planner/systems analyst was expected to support PPMU in developing, planning, designing, and monitoring projects and to "assist the GOB...to strengthen divisional level development planning and implementation using inter alia lessons learned from BALAD project experience."

## **Implementation and Progress**

### **PPMU Staffing and Functions**

Since the start of the Project GOB has not been able to supply the staff that was required. GOB officials do not want to serve in the Makran. Project directors were changed frequently and lacked the stature and confidence necessary to receive the support that was needed from Quetta.

A retired colonel and civil engineer (Anwar ul-Haq) was appointed as project director in late 1984 together with two supporting staff. Mirza Masaud Ahmed (the present deputy director), a roads engineer, was assigned to the Project in mid-1986 along with an administration and finance officer. Then the original project director was replaced by the additional commissioner of Makran division, who remained in the post for a little over a year when he was transferred out of the division and Mirza Masaud took over as director. So at the time of the interim evaluation PPMU was but a shell of an organization consisting of a director with one junior staffmember, and none of the technical positions had yet been filled. At the end of 1988 when USAID was on the verge of closing down the Project — the primary purpose of which was to institutionalize a PPMU — the posts of agronomist and economist were finally

filled along with an accountant to replace the administrative and finance officer who had left several months earlier. And this is the staffing of the PPMU at the present time.

With a skeletal PPMU staff and preoccupied with implementing infrastructure, the TA team has had to design, implement and monitor almost all the projects under BALAD. PPMU's functions have been limited to administrative aspects of the Project, particularly the identification of subprojects, the processing and submission of PC-1 proposals to P&D, as well as assistance in the tendering of contracts.

The PPMU deputy director attends district level meetings where projects are proposed, writes them up for submission to the DWC. If approved and the TA team confirms technical and financial feasibility, he prepares the PC-1 which is cleared locally by a PC-1 committee under the commissioner before tendering begins. When USAID clears the project as eligible for reimbursement, PPMU issues tender notices and arranges pre-contract meetings with interested bidders and the TA team before the contract is awarded.

Nearly all of the small-scale road, water, and SDA projects are implemented according to PIL 8. This procedure, which has already been described, provides for earmarking local currency funds for PPMU operations on the basis of an annual work plan and budget approved by the PSC. Thus, a revolving fund is created out of which the contractor is paid. Ostensibly responsible for certifying as to contractor performance, PPMU in fact relies on the LBI technical staff to determine that the subproject has been handled according to approved plans and specifications and that reimbursement is authorized.

Projects are selected according to a PIL 8 evaluation format to ensure that the proposed project will benefit the people and be maintained after completion. With PPMU involved in the initial selection and the LBI staff with technical design and supervision of implementation disagreements arise between the PPMU deputy director and the COP on such matters of appropriateness of the intervention and extent of local support.

With the appointment of an agronomist (Ahmed Ali Baloch) and an economist (Mohammed Hayat) to its staff in January 1989, PPMU has become more involved in substantive and technical matters. The addition of an expatriate agronomist (Daniel Bradbury) to the LBI team ensured effective utilization of the PPMU agronomist in dealing with the GOB extension officials and organizing agricultural activities. The economist was involved in the regional planning exercises for Dasht.

The positions of chief of water section and chief of roads section are still vacant. USAID has not pressed GOB to fill these slots because of the current emphasis on planning and monitoring, which may call for different staffing needs. Unfortunately, no decision has been taken by GOB to a recent PPMU request for four positions to staff a data collection unit (statistician, assistant, typist, and clerk).

The PPMU deputy director has a temporary P&D appointment, and the economist is on deputation from the GOB. The other two senior staff are on contract. The first PPMU director recommended a 40 percent project allowance for contract staff in lieu of the benefits which government personnel receive in cadre posts, but this recommendation was not approved.

According to the ACS, the Bela-Awaran road component of the Project, which was handled by USAID directly, undercut the PPMU and made it harder to attract qualified personnel. He contended that finding qualified people to work in Makran is the problem, not regularizing their positions. He also said that P&D is now in the process of confirming the appointment of a new project director (Abdul Rahman Tareen) at an appropriate senior rank.

### Divisional Working Committee

The PP stipulated that a divisional working committee (DWC) will be responsible for providing routine operational direction for BALAD. The DWC, chaired by the commissioner, meets in principle every three months or when there is a need. It includes the deputy commissioners and representatives of line departments which have an interest in BALAD activities. It reviews quarterly work plans and progress reports, discusses problems and approves subprojects within its financial authority.

The DWC meeting is preceded by similar meetings chaired by deputy commissioners at the district level, at least in Turbat and Panjgur. These meetings include local government and line agency representatives as well as MPAs and MNAs and other invited notables. They propose subprojects which the PPMU writes up and submits to the DWC. Projects approved by the DWC are then handed over to the TA team for technical and financial feasibility consideration.

The DWC acts on PC-1 proposals involving expenditure of less than Rs500,000, which includes SDA projects and most water sector schemes. If it is above this amount the proposal is sent along with DWC's recommendation to the provincial steering committee.

In August 1990 a notification was circulated establishing a divisional development committee (DDC). The DDC is supposed to meet once a month, its first meeting being scheduled for October. Like the divisional coordination committee which it replaces, its membership includes the line agencies and the deputy commissioners, with the director of development serving as secretary. MNAs and MPAs and other notables may also be invited to attend. The DDC prioritizes projects proposed by similar committees at the district level and each year prepares the ADP for the division. The DDC at present has no final approval authority but forwards its recommendations to the Provincial Planning and Development Board.

The Commissioner mentioned to the evaluation mission that the DWC might be merged into the DDC. Some feel that merger would not be appropriate because of the much wider range of matters dealt with by the DDC. On the other hand, to continue to treat BALAD separately would be a mistake; a fully integrated PPMU must be in a position to plan and monitor the full gamut of development activity in the division.

There have been eight commissioners in Makran since the Project began, and months may elapse between the transfer of one commissioner and the arrival of his replacement. In one quarter in 1989 the DWC was delayed two months by the absence of the commissioner and in the next quarter there were no meetings whatsoever. The commissioner has on occasion designated the deputy commissioner for Turbat district to chair the meeting during his absence.

The PPMU deputy director complains of the slackening of activity and level of approvals during most of 1989 and early 1990. This was due to a number of factors: USAID overcommitment of funds, shifts of emphasis to agriculture and PPMU planning and monitoring, suspension of school building under SDA, reservations about some of the water sector activities, a new COP in Turbat and a new project officer in Quetta. Projects approved by the DWC needed TA team technical approval and administrative approval by the project officer for allocation of funds. When no action was taken, the commissioner in his capacity as BALAD project director and DWC members were not happy and expressed reluctance "to give projects to BALAD." In a special DWC meeting in April 1990 a number of SDA projects were proposed, but none were approved by the COP, often for good reason. As pressure built up, it put PPMU in a difficult position and created bad feelings between the PPMU deputy director and the COP.

It perhaps should be added that participation of the COP in the DWC does not necessarily mean that there is complete understanding since most of the discussion in is Urdu or Balochi.

### **Coordination with Line Agencies**

Progress reports note unfulfilled agricultural department posts and the frequent absence of senior line staff ("the normal practice for GOB employees assigned to Makran"). LBI progress reports in 1988 refer to the prolonged absences from Turbat of senior C&W staff, noting that such absences hold up Project activities. A 1989 progress report notes that the commissioner, deputy commissioners and the line agencies, with the exception of C&W, have the common complaint that they are not consulted about BALAD projects.

Relations with Agriculture are strengthened by the assignment of agronomists to the TA team and to PPMU. Liaison improves when the Project can provide the department with some equipment and logistic support, such as vehicles and motorcycles for agricultural extension work. Support of this nature is appropriate in view of the policy position that it is the line agency's responsibility, not BALAD's, to execute projects. As for I&P, there seems to be virtually no coordination, the apparent reason being that the small-scale nature of water sector schemes is of little interest to the department.

A former senior GOB official said that in the highly centralized GOB administrative system, line department officials at the divisional and district levels respect only lines of authority coming down from their provincial level departments. So it is unrealistic to expect coordination to take place at the divisional level. Instead, project direction must be placed within one of the departments. The commissioner at the divisional level is primarily responsible to the ACS (Home) and hence not in a position to exercise authority over line department representatives. The same is true for the deputy commissioners in the districts (who in the past were under LGRD and thus could effectively serve as project directors).

The Secretary of Agriculture said that the PPMU should include line agency officials in its staff in order to be effective. A 1989 Project progress report refers to the possibility of C&W seconding executive engineers to BALAD. The line agencies need to be more closely involved in project identification and planning, and assignment of their staff to the PPMU might improve working relationships. Also, it would serve to bridge the gap between PPMU and line agency modalities of operation.

But line agencies are short of staff in the Makran, and their frequent transfers could have a negative effect on the continuity of PPMU planning activities. What is needed are irrigation and agricultural planners rather than irrigation engineers.

### **Provincial Steering Committee**

The PP decided that the ACS would be chairman of the Provincial Steering Committee (PSC). "As overall project manager, he will reserve for himself all necessary authority to direct project activities in Quetta and will delegate to the commissioner of the Makran Division, as field project manager, all necessary additional power and authority to direct project activities...The Steering Committee will be chaired by the [ACS] and will also include representatives of the line departments and the USAID Regional Affairs Office."

The interim evaluation noted that the line agencies are not adequately represented "because apparently they choose not to attend committee meetings regularly." A review of recent minutes shows that meetings are held more frequently than before and are better attended. Its meetings are scheduled mainly on the basis of when the ACS can find time.

The PSC approves the annual workplan and budget of BALAD. It reviews progress reports, approves new project proposals above Rs500,000 or transmits them to USAID if over Rs2 million (\$100,000) or technically complex. In meetings earlier this year, the need to fill vacancies in the PPMU and P&D's computer section was discussed, and the proposal to develop a regional plan and staff a data collecting unit for that purpose was approved (although not yet implemented). The PSC has no staff, and follow-up on decisions seems to depend largely upon the personal intervention of the ACS.

According to a former senior GOB official, intersectoral projects such as BALAD must be headed by a provincial-level committee under the ACS. Projects that have tried to function outside of a department or fall between departments invariably fail. (The examples he mentioned were BIAD with UNICEF and EEC support and BMIAD with Dutch backing.) In short, given the GOB public administrative structure, a strong PSC becomes absolutely critical.

### **Computer Section in P&D**

P&D/Quetta was assigned an expatriate regional planner to advise in a number of areas, including how to increase its ability to plan, prioritize and monitor development projects. He spent less than nine months on the job, mainly occupied in establishing a computer facility to assist P&D in organizing data and in developing short training courses in computer use for GOB officials. The computer facility subsequently benefitted from an on-the-job training program provided by a short-term LBI expatriate consultant and is now assisted by a Pakistani systems analyst (Syed Ata Abbas) supplied by the Project.

The computer section has in addition to the systems analyst, a statistical officer, a computer operator, and a computer assistant. There has been long delay in filling the two vacant positions of a systems analyst to head the section and a programmer. Public Service Commission regulations make it difficult to hire from existing civil service staff or to fill the positions from outside.

IBM PCs are used to store and retrieve data needed in preparing the ADP. The first year of operation was devoted to developing the necessary data bases, which were then extended inter alia to the Special Development Program which includes BALAD. Most of the information retrieval is used to generate various reports on the public sector development program.

The computer section does not provide any direct support to BALAD activities in the Makran. Its data bases for provincial-level monitoring purposes are not tied into the PPMU system.

The ACS believes that P&D should have the computerized capacity to analyze, monitor and evaluate development projects. But this would require agreement with the line departments on an acceptable pro forma, which would be difficult to obtain. Others say that even if common pro forma were agreed up, P&D does not have the trained staff to make proper use of project-level information.

## **Project Monitoring Capabilities**

The interim evaluation noted that there had been little analysis of the baseline survey data on Gwadar and Turbat districts (Panjgur was not included) collected as an integral part of the Project. The evaluation felt that sectoral data, such as that collected by the water engineer in Turbat, would prove to be more valuable in the long run.

Regular project monitoring is carried out through MIS quarterly progress reports prepared by BALAD's computer section and semi-annual project implementation reports and project management information system (PROMIS) documents prepared by USAID's office of PDM. While these reports indicate progress with respect to planned inputs and outputs, they do not provide information on the impact of project activities.

PDM has criticized BALAD's MIS reporting on the grounds that it does not provide an aggregated picture of progress by quarter with respect to each component. Particularly progress in the "softer" areas of institutionalizing the PPMU, such as PSC efforts to define the PPMU role or the appointment of a director of development and approval of additional staff, are not captured in the reports.

The computer section of BALAD also keeps track of the inventory of ACE equipment and spares which are released by USAID to hand over to the C&W in Makran as well as a day-to-day record of equipment and personnel working on road sites. Computerized systems have also been developed to keep track of rainfall data and on karez flows and maintenance costs.

## **Institution Building and BALAD Follow-up**

### **Obstacles to Integrating PPMU**

Most fundamentally, there must be a GOB political commitment to decentralize development planning and monitoring responsibilities. With this commitment, merging PPMU into the GOB structure would be possible — provided PPMU activities were restricted to its original planning and monitoring role rather than the implementation of projects — and eminently desirable. The evaluation team found almost unanimous agreement, however, even on the part of GOB district-level officials, that the government is not prepared to make this basic policy commitment.

If this is so, it may be counterproductive to devote further BALAD resources and energies in an effort to create a viable PPMU under such inherently adverse conditions. But creating a PPMU has been a GOB objective since before BALAD began. Perhaps GOB favors decentralization in the abstract without being willing to do anything about it. Taking a longer view, however, it can be argued that an effective PPMU is critical to any effort to encourage local-level planning and resource mobilization, without which rural development in Makran will in the long run never be achieved.

### **March 1989 Steering Committee**

Following a visit to Balochistan in December 1988 by the US Ambassador and the USAID Mission Director, the Chief Minister requested continued support to the Project. USAID felt that the Project had "demonstrated sufficient potential to warrant continuation and the contract with LBI was therefore extended for another year to see what could be accomplished in the agriculture and institution building

areas." The composition of the technical staff changed so as to give more strength to the agriculture side of the Project. GOB for its part agreed to increase the staff of PPMU in order to support the efforts in agriculture and guide the Project.

The PPMU had become preoccupied with implementing projects which was not the role that was originally planned. To get BALAD back on track, USAID insisted in the March 1989 PSC that the PPMU should now concentrate on its planning and monitoring role. It should undertake a review of current activities and "take a lead" in identifying BALAD II areas of activity. Also, more attention should be given to coordinating with the concerned line agencies the handing over of completed projects.

The ACS did not support the suggestion that line agencies should implement the subprojects using the FAR procedure insofar as USAID-funded activities were concerned. Disturbing the existing system could result in a slowdown of momentum and result in less visibility. It was agreed, however, that the transfer of implementing authority be carried out during the extension period on selected subprojects.

### **PPMU Concept Paper**

USAID felt that a concept paper would serve as an opportunity to do some project evaluation and design. It would also give the PSC a project concept to react to, from which USAID could "rationally proceed" to a PID, PP or whatever amendment was necessary.

The draft concept paper for BALAD II was prepared by PPMU with TA assistance at the end of 1989. It stressed the need to improve working relationships between PPMU and the TA team on the one hand and between PPMU and the line agencies on the other. There was some limited involvement of C&W in DWC meetings but little contact with other line agencies. The paper was vague as to how these working relationships could be improved. It was more specific regarding the need for more flexibility in the Project to accommodate new proposals — a good point — and the need to extend the follow-up Project to Kharan district and the upper part of Khuzdar district (as well as two districts far away from Turbat which were slipped into the paper for political reasons).

### **Karachi Workshop**

The merger of PPMU with the P&D directorate was discussed at the Karachi workshop and turned down, chiefly on the grounds that the director of development is concerned with monitoring all development projects in the division whereas PPMU deals only with BALAD activities and then mainly in only two districts — an argument tantamount to perpetuating the irrelevance of the PPMU.

### **USAID Concept Paper**

Prepared by three USAID staffers (Asif Bhattee, Mohammed Saleem, Karim Nayani), the paper proposed new activities after the completion of the current BALAD Project at the end of 1991. These activities would be carried out mainly along the Bela-Awaran-Turbat road "in order to maximize benefit from the accessibility this road will provide." Thus it would include some areas of the Khuzdar district, particularly Jhal Jao, and Kharan district of the Kalat division. The approach that the authors recommended concentrated on:

- Creating a NGO to foster participatory, bottom-up development, using the PAK-German self-help project as a model;
- USAID contracting with foreign and local firms to furnish support to private businesses and industries in the preparation of feasibility studies, market plans and the designing of projects; other support at to provincial level institutions and other private sector interventions recommended in the investment climate assessment;
- Merging the PPMU with the development directorate with emphasis on regional planning; and
- Continuation of critical infrastructure and special development activities with implementation through the line agencies. The \$30 million estimated costs over the five year period (October 1993-1998) was considerably above the \$5-10 million level which USAID believed reasonable.

### **LBI Contract Amendment**

The scope of work in the TA contract extension (15 months from October 1, 1990 to December 31, 1991 with option to further extend for an additional nine months to September 30, 1992) relates mainly to institutional development and activities that apply to all sectors, namely:

- Development of program planning, management, budgeting, monitoring and evaluation at both the divisional and provincial levels;
- Introducing regional planning methodologies and management systems;
- Assisting PPMU in data collection and analysis;
- Implementing development activities through the PPMU and the line agencies; and
- Developing and implementing training plans.

### **Regional Planning Initiatives**

The PPMU and TA proposed drawing up an action plan, the aim of which would be to prioritize the needs of the people of Makran while at the same time upgrading PPMU's planning capabilities. A data collection unit would be established in PPMU to collect the necessary information on population and resources within definable areas. Selection of projects would involve the community leaders and government officials. The DWC would review the proposed projects and give their final recommendation to P&D for implementation through the line agencies.

The action plan and proposal to staff a data collecting unit were approved in a March 1990 PSC meeting. Line agencies should be involved in the planning and design of subprojects and also in their implementation, using the FAR mechanism. But it was admitted that their willingness to undertake small schemes was doubtful.

Preliminary plans for the Dasht and Gwadar areas were prepared by the BALAD staff. Based on visits to the area and departmental statistics, these assessments provide good descriptions of conditions, including population, literacy and other available statistics. They constitute essentially an inventory of

resources and needs, suggesting certain infrastructure priorities and project possibilities, such as food processing in Dasht and a fishing cooperative in Gwadar. They do not presume to determine the priority, cost and feasibility of projects.

This planning exercise had the backing and interest of the COP (James Schoof). There was PPMU participation in collecting field data for the Dasht plan while that for the Gwadar plan is almost entirely the work of the LBI sociologist (Abdul Rashid Baloch). There appears to have been little if any prior consultation with the PWS and the district authorities and community leaders were not informed in



Would the GOB consider modifying its job classifications with respect to PPMU to allow for recruitment of planner trainees or engineering assistants who do not have the university degrees that are normally required for government service? If so, there would also be need for assurances that these staff would not be discriminated against later when PPMU is fully absorbed in P&D. In the meantime, their professional qualifications would be upgraded through on-the-job and institutional training, including degree training in the U.S. Unless some special personnel category is established to permit recruiting Balochis and preferably Makranis into training positions — as the PP originally envisaged — there seems to be no way out of the present staffing dilemma.

### **Achieving Provincial-level Coordination: A Common Data Base**

Computerized capability is required to monitor Project activities at the divisional and provincial levels, particularly as increasing attention is given to inter-sectoral interventions within development areas such as Dasht and Gwadar. A common data base would provide the means for monitoring progress in the various sectors — including projects supported by local councils — in short a comprehensive picture of regional development.

GOB needs an efficient system for keeping track of inter-sectoral development activities because of:

- High turnover of departmental staff at the division and district levels;
- The tendency of line agencies to operate independently of each other with insufficient attention to the linkages between their sectoral interests;
- The concentration of authority at the provincial level, particularly in the position of ACS, where ultimate coordination takes place.

There has been some discussion on the part of USAID with the systems analyst in the P&D computer section about establishing a project monitoring data base, but with some understandable hesitancy since "no one know what the beast will look like." In view of the limited nature of MIS reporting currently done by the BALAD computer section, this will require a quantum jump in data storage and analytic capabilities. A much faster computer with the memory to handle the latest software will be indispensable if this jump is to be attempted — as it should be.

### **The Need for Participatory Planning and Development**

The Dasht and Gwadar area development plans furnish a useful inventory of resources and needs at the local level. They do not prioritize projects or determine their economic and technical feasibility. These plans have also be a useful exercise for BALAD and demonstrate what PPMU should be doing in the future.

Planning with reference to subdivisions or particular areas within districts will be more difficult to integrate later within the regular ADP process. Projects are first identified in the district coordinating committee by the deputy commissioner, heads of line agencies, MLAs and MPAs and then incorporated in the ADP by the divisional coordinating committee (now the DDC). Any regional planning done by PPMU should fit within this context.

Ideally, planning should be "bottom-up" or participatory. The process should originate at the village and union council levels, express the needs and priorities of the people and identify the resources that can be mobilized locally to support development projects. Local-level planning and resource mobilization are not separate activities but parts of a single process. People will contribute their own energy and resources to the implementation (and most importantly the maintenance) of development projects only if they are involved in the planning process from the outset. Their initial involvement is usually for the purpose of collecting data on village needs and resources which can then be consolidated and refined successively at the district, divisional and provincial levels.

Also, the preparation of the ADP at the district and divisional levels should not be done separately from the planning done by union and district councils against which central government grants-in-aid are allocated. Instead, local government resources, like those of BALAD, should be included in the ADP, the PPMU serving as the central focus of the process in Makran.

In sum, to fulfill its planning functions, PPMU needs the means of reaching down to the villages and engaging the people of the Makran in the identification of their priority needs and resources — without assuming on behalf of BALAD responsibility for implementing projects which are identified. Instead, implementation should be the responsibility of the people with the technical, material and logistical support of the line agencies, including LGRD. How this might be achieved is suggested in the concluding section of this report.

## SECTION THREE

### CROSS-CUTTING ISSUES AND FUTURE IMPLICATIONS

#### ENVIRONMENTAL IMPACT

Environmental impact has not been a major issue under BALAD. In the desert conditions of the Makran water sector activities are designed to improve the use of scarce water resources. Karez boring, construction of infiltration galleries and siphons and the improvement of channels have produced only slight changes in water production. These activities have not had any negative impact on the groundwater system. If anything, siphons and more efficient channels conserve precious water which is otherwise lost to evaporation in the extremely high temperatures encountered in the area.

Properly operating delay acting dams only add to groundwater resources, thus positively impacting on the environment. The failure of several of these dams during heavy storms in December 1989 had potential for causing property damage, but in fact there was little.

Also, road rehabilitation and maintenance operations have had little impact on the environment. Special care is taken so that construction activities do not block flows of irrigation water. Road materials are readily obtainable from desert wasteland, so there is no depletion of productive agricultural land. Care is used when roads are relocated to avoid encroaching on irrigated land.

Stage II road rehabilitation results in an elevated road bed and better drainage. On the other hand, earlier roads, which, with use, were below the level of the surrounding terrain, were susceptible to erosive channeling as a result of flooding from rains.

The rapid expansion of tubewell irrigation which will occur when dependable electric power becomes available could seriously draw down limited groundwater resources and have serious environmental consequences. For this reason, a comprehensive groundwater investigation is so important. Also, other development, which will take place with the availability of electric power, an improved road system and port facilities, could be detrimental to the fragile desert environment.

#### PRIVATE SECTOR POTENTIAL

##### Present Business Conditions

##### Business in Makran

Fishing, date production and wholesale and retail merchandise distribution are the main private sector activities in Makran. Fishing is the most lucrative. In 1985 Makran's fish catch of 92,000 tons was estimated at a value of \$17 million or about 80 percent of Balochistan's, and 30 percent of Pakistan's, total catch. 13,355 fisherman are engaged in full-time fishing along the Makran coast.

In 1985 Makran produced 62,000 tons of dates to be the second largest date growing region in Pakistan. Perhaps one third of the population earns approximately \$25 million from date production. Besides dates, food crops including wheat, rice, sorghum, barley, onions, and citrus fruits (lemons, guava, plums, grapes, and pomegranate) are grown for domestic consumption.

Wholesale and retail distribution are a growing activity in the main towns. Retail businesses include food and clothing distribution, vehicle repair, poultry, appliances, restaurants, bakeries, ice factories, small quarries, block making, furniture making, building suppliers, bazaars, fresh fruit and vegetable markets. Unfortunately, there is no registration list of Makran businesses.

Transportation and trucking is probably the largest single business because of dependence on wholesalers in other cities of Pakistan. Over 500 truckers are members of the Makran Transport Federation. There are also small outlets for fisheries supplies and equipment and boat building and repair in the coastal towns. Apart from the date processing plant in Turbat, there are no industries.

### **Market Links**

The main links are with Karachi and Quetta. All food items and building supplies comes to Makran through Turbat, except for wheat which is oceanfreighted via Pasni. Turbat and Gwadar are oriented towards Karachi whereas Panjgur conducts most of its trade with Quetta.

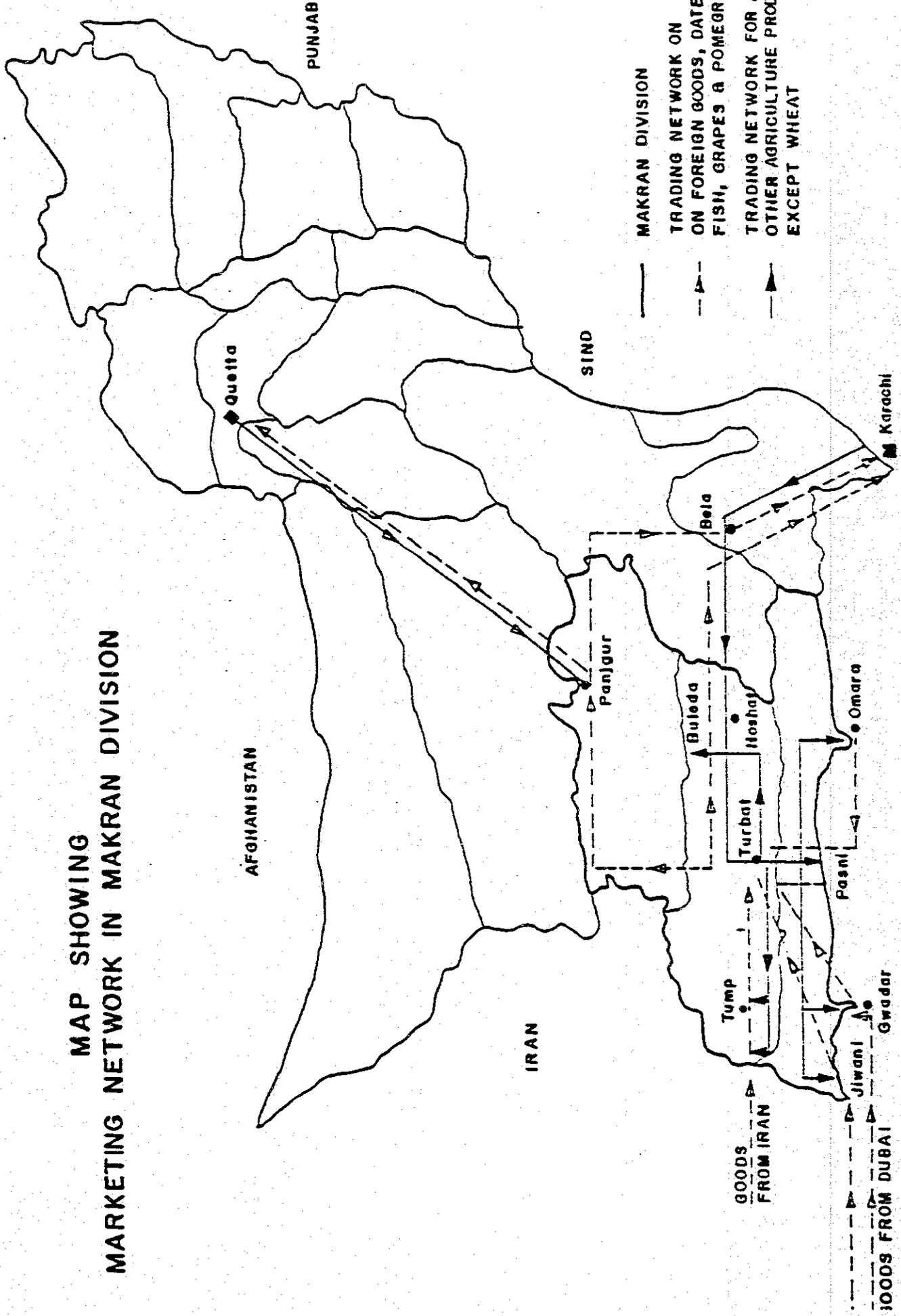
There is important though less visible trade with Dubai and Iran. Electronic equipment and fishing gear are the main items smuggled into Makran from the Gwadar and Jiwani coastline. This activity is so pervasive that "smugglers' bazaars" are established in the main towns.

According to the Makran Transport Federation about 80 percent of essential consumer goods are purchased from Karachi. Makran ships dates and return containers to Karachi and Quetta. Merchandise, rice, dry goods, cement and lumber come in from Karachi; vegetables, fresh and dried fruit from Quetta; potatoes, apples, tomatoes and saip parts from Iran. Also, a small amount of trade is generated in bi-weekly flights between Gwadar and Oman.

### **Business Constraints and Weaknesses**

Inadequate infrastructure, lack of trained human resources, shortage of farm labor, out-of-date fisheries, and deficiencies in agronomic practices are the principal constraints. Also the business community functions without benefit of institutional representation; there is no chamber of commerce or small business association. The fact that some businessmen are elected to municipal committees serves more to advance their personal interests than to provide broad support to the business community.

# MAP SHOWING MARKETING NETWORK IN MAKRAN DIVISION



## Investment Climate

### Economic and Infrastructure Development

A harsh climate, isolation, few natural resources, and a dispersed population characterize the Makran. Infrastructure constraints also impede the potential for private sector growth. Shortage of water for irrigation and drinking, limited power supplies, poor telecommunications and roads are major deterrents.

Rainfall is meager even in good years. There are no accurate estimates of water reserves although agriculture is becoming more dependent on ground water than on traditional means of flood irrigation. Gwadar district suffers from acute shortages of drinking water. Efforts are made to increase access to ground water, expand traditional irrigation systems and improve overall water management, but these efforts will have but marginal effect on private sector water management. A comprehensive hydrogeological survey is needed to determine how much ground water is available and how much can be tapped without seriously depleting reserves.

There are 10 diesel-powered generating stations in Makran. Except for the Pasni fishing port, electricity supplies fall far short of demand and in the main towns are only available for 12 hours a day. Larger businesses and essential government facilities use separate power generators to meet their needs. According to the Agricultural Development Bank and the Development Finance Corporation of Pakistan, many small business and agricultural proposals have to be rejected because of the lack of reliable electric power. However, with the recent completion of a 17.5-megawatt plant at Pasni and the planned construction of transmission lines inland to Turbat, Hoshab and Mand, and along the coast to Gwadar and Jiwani, uninterrupted electric power will reach these centers within the next few years.

The telephone and telegraph department has 26 exchanges and 4,000 lines connecting the main towns. Only Gwadar has a direct dialing service for calls within Pakistan; overseas calls are routed through Karachi. Direct dialing service and expansion of telephone exchanges and lines (to 9470) are scheduled for Turbat and Panjgur over the next two years. Facsimile services will be available once direct dialing is introduced.

The poor quality of roads has already been described. The efforts now underway with the help of BALAD will improve road transport conditions for the private sector.

### Access and Proximity to Markets

Road traffic accounts for 60-80 percent of the trade between the coastal towns and Karachi. Turbat acts as an inland distribution hub between the smaller towns and the principal markets of Quetta and Karachi. Panjgur, the northernmost town, has the highest frequency of direct trade with Quetta. The long distances that must be travelled over poor roads result in high freight costs and damages to product quality. The wholesale prices on exports from Makran are consequently low while prices of raw materials and consumer goods imported from outside are high.

Future transportation patterns will be transformed by the Balochistan Road (Bela-Awaran-Turbat), the recently completed Pasni fish harbor, and the Gwadar mini-port and fish harbor which will be completed within two years. Travel time, freight damages and vehicle maintenance costs will be greatly reduced with the construction by USAID of the Balochistan road. The new Gwadar port and modifications

to Pasni harbor will increase trade between Makran and Karachi because of better offloading and fish purchasing facilities.

Meanwhile Turbat's importance as the development center will probably decline. First, trucking distances between Turbat and the ports are three to five hours compared to 18 to 24 hours via Arawan and Bela to Karachi. Even when the Balochistan Road is completed, trucking time will be no less than the Gwadar-Turbat route. Second, the Gwadar port will enable ocean freight operators to offer dual services (delivery of consumer goods to Makran and return fish freight to Karachi), and since the harbor draft will be increased to seven meters, Gwadar should be able to handle containerized cargo.

### **Human Resources and Services**

Because of the migration of Makranis to Karachi and the Arabian peninsula, there is an acute shortage of skilled farm labor, and many skilled and semi-skilled jobs are now done by Pathans, Punjabis and other outsiders. Makrani skilled labor is mainly confined to the production, harvesting and curing of dates. There is little other processing and industrial production in the region. Also, labor productivity is generally considered lower than that of other Pakistanis, who are willing to work for lower wages. While continued BALAD activities and other income generating programs will provide useful training and experience, isolation from Pakistan's manufacturing centers makes it unlikely that Makran can achieve any competitive edge in skills and productivity in industrial production.

The absence of up-to-date management and technical support services presently requires larger businesses and government to depend on emergency services from Quetta or Karachi-based product representatives. With the development of the Balochistan road, electrification and modern port facilities, however, this situation should rapidly change. Increased use of electrical pumps, farm machinery, household appliances, and the growth in construction will create demand for electricians, builders and other private sector support services.

Most educated Makranis plan their academic careers to increase their chances of securing a government job. Vocational training facilities in the area are limited. The recent BALAD comprehensive training study identified many of the training needs in public and private sectors. The LBI proposal for the current contract extension period has already incorporated some of the recommendations, including C&W personnel training, water management training and farmer training programs.

With summer temperatures that can exceed 45 degrees centigrade, Makran will always be regarded as a climatically difficult area in which to do business. Much can be done, however, to improve living conditions through the provision of better health services, dependable electric power and potable water, and the eradication of malaria and other endemic diseases.

### **Natural Resources and Comparative Advantages**

Date cultivation and trade remain the mainstay of the Makrani economy with an annual production of 63,000 metric tons involving over 10,000 cultivators according to GOB's 1987-88 statistics. Producing some of Pakistan's best date varieties, the industry has been overtaken by superior production and marketing of lower quality varieties in the Persian Gulf states. Research, application of fertilizers, pest control, improvements in pollination and curing practices, however, will produce short-term benefits. Over the longer term, organized marketing and the introduction of better quality varieties, a pollen bank, quality controls, research facilities and the development of date processing will improve Makran's

marketing position. However, improvements in export market share will probably be marginal because of monopolistic competition from neighboring producing countries.

Although coastal fisheries is becoming Makran's major economic activity, poorly-organized marketing and insufficient storage facilities impede the realization of its full potential. Of Pakistan's total production, Balochistan accounts for 30 percent of the catch. The modernization of the Pasni and Gwadar ports should have a major impact on the industry. Unless licensing is imposed, the Makran coast will soon begin to attract middlemen and fishing companies from Karachi. Local fishermen will have more access to refrigerated storage, supplies and ship repair services.

Also of future importance is Makran's scenic coastline with its attractive beaches and safe harbors offering tourism potential. Infrastructure improvements along the coast should stimulate in the next few years private sector investment in this area. To date, however, a program for developing this resource has received little attention.

### **Investment Incentives**

GOB has introduced investment incentives for lagging areas like Makran. Concessions include eight percent industrial loans, a grace period on principal repayments, tax holidays, and duty-free import of machinery and equipment. However, as long as infrastructure constraints exist, such financial and fiscal incentives will have little effect on the investment climate. Still, they will send the right signals to the private sector which may encourage investment in such areas as long-line fishing and tourism.

### **Investment Opportunities**

#### **Earlier Studies**

Two preliminary assessments have been conducted on new business prospects in Balochistan. In March 1986 the Balochistan Development Authority (BDA) commissioned a study entitled "Investment Opportunities in Balochistan" which recommended for Makran on the premise that private sector development is determined primarily by resource potential: cold storage for fisheries, date processing and a fish meal plant.

A BALAD private sector investment climate assessment was done in July 1990. The consultants suggested for Makran: fresh fruit and vegetable marketing from Panjgur, fish processing and transport and road transport-related enterprises.

The investment opportunities identified below were derived from a somewhat different perspective. Because private sector development can only be sustained by continuous market-led growth, opportunities were identified by classifying the market strength of Makran's resources rather than by its resource capability. Industry prospects are therefore ranked by market outlook rather than supply potential, thus serving two purposes: (1) selecting only those opportunities that can survive because of positive long-term market trends, and (2) establishing the rationale, objectives and priorities for each part of BALAD's private sector strategy.

## **Emerging Markets**

An increasing share of future investment will be driven by infrastructure-led growth. Demand for industrial products and services will stimulate the expansion of small and medium enterprises. Micro-enterprises, previously inhibited by poor communications and uncertain power supply, will become more feasible. Moreover, the private sector should become directly involved in infrastructure projects. Water sourcing and supply in Gwadar, small power plants in localities outside the Pasni grid, and management of fishing facilities at Pasni are examples of such opportunities.

## **Growth Markets**

**Fisheries:** According to the National Directorate of Fisheries in Balochistan and the Karachi Chamber of Commerce and Industry, world demand for fish continues to outstrip supply because of population growth, changes in nutritional preferences and higher personal incomes. Pakistan, and Balochistan in particular, has a harvestable potential of two million metric tons per year. Present production is 442,000 tons of which 10-12 percent is exported. Potential for growth is also found in the domestic market: Pakistan's per capita consumption of fish is half that of India, two percent of Japan's and lowest in Asia.

**Tourism:** The Makran accounts for 75 percent of Balochistan's 500 kilometer seaboard, of which only five percent is used for onshore fisheries operations. Four of Makran's six airports are located at shore towns. Ormara, the best potential holiday resort, is relatively close to affluent domestic and international clientele in Karachi. Most importantly, Balochistan can select its own niche strategy, for example, as an unspoiled destination offering relaxation and privacy. Recently, GOP established a national policy to give tourism priority industry status and consequently investment concessions

In view of the growth prospects for the tourism industry it is recommended that a thorough assessment of this potential be conducted on behalf of GOB.

## **Mature Markets**

Iran and Iraq normally dominate the world market for dates. Pakistan, the fifth largest, produces ten percent of world supplies — about 200,000 tons annually — with Sindh, Balochistan and Punjab the major sources. But a significant portion of Makran's date crop is often never harvested because of low prices and transport difficulties.

Internationally, consumption and production appear to be in relative equilibrium. Since the Iran-Iraq war ended, these countries have flooded the market in an attempt to regain market share. This has depressed world prices and weakened the competitiveness of high-cost producing areas like Makran. But the recent Gulf crisis should create a void of 25-30,000 tons, which Pakistan could try to fill. With the disruption of Iraq's supply links, world market prices will rebound, offering good export opportunities for Pakistan.

Not being a major supplier and as technologically up-to-date as other countries, Pakistan may be slow to take advantage of this export opportunity. Pakistan exports special date varieties, but also imports 10-15,000 tons annually. This suggests that world supply and prices have a widespread effect on both farmgate prices and local demand. If Pakistan were to divert domestic supplies in order to respond to export opportunities, the effect on Makran production in covering domestic demand would be positive.

In sum, despite the inherent constraints, particularly water and labor supply, Makran can improve its long-term domestic market share by adopting appropriate measures to improve the amount and quality of yields and date curing operations. Particular attention will have to be given to developing a reliable means of collecting and transporting product to buyers in Sukkur and Karachi.

## **Private Sector Strategy**

### **Objective**

To facilitate the integration of Makran into the mainstream of Pakistan development, a private sector strategy should have the following attributes:

- It should be designed to stimulate investment opportunities, such as fisheries and tourism, which are propelled by market expectations.
- It should reflect the lessons learned from BALAD regarding project design, management and implementation.
- It should take advantage of and reinforce USAID's policy interventions which enhance the private sector environment.
- It should include projects which stimulate private sector participation in development or eliminate existing constraints to trade and investment.
- It should be compatible with and, in fact, be an integral part of BALAD area development and project planning with its emphasis in the future on grass-roots and local council participation.

### **Lessons Learned from BALAD**

BALAD works through the private sector, but without specific sectoral goals the Project cannot have more than an incidental effect on business activity. In terms of impact on the contracting business, channeling \$3.8 million through 277 contracts to create three new businesses is, by any standard, a marginal accomplishment.

On-farm demonstrations are valuable because they are well received by farmers and open the door for the introduction of more comprehensive TA programs. Having gained farmer confidence, BALAD must address one of the most pressing private sector needs in Makran, namely improving date harvesting and marketing.

### **Components**

The USAID concept paper on BALAD II advocated feasibility studies, institutional development, date marketing and micro-enterprise development as essential elements of any future BALAD activity. Expanding on these ideas, the evaluation team concludes that a BALAD private sector strategy should consist of three components:

- An access program to tap into USAID policy-level private sector project assistance, most specifically for fisheries and tourism development and for private sector institution building;
- A small-scale and micro-enterprise project to facilitate infrastructure-led business development; and
- An agriculture rationalization and productivity improvement project with special emphasis on date marketing.

**Access Program.** The program would identify critical policy issues at the local level which need to be addressed at the provincial and national levels within the framework of USAID private sector policy assistance. The program would also access TA for fisheries and tourism by buying into various AID programs. For example, restrictions on fishing zones impede coastal fisheries development. Further growth of the industry will require liberalization of policy regarding zonal fishing as well as relaxation of other business regulations.

USAID guidance on policies and strategies for increasing private sector investment in the fishing and tourism industries could be included under the Private Investment Expansion Program (PIE) component for improving investment climate. Other issues, such as the development of a Makran fisheries cooperative or business association, could be addressed both at the policy level through USAID's program and at the local level through BALAD.

**Small-scale and Micro-enterprise Project.** The aim would be to prepare the Makrani business community for the opportunities which emerge as a result of infrastructure development. The project would help Makranis expand operations, market new services and products and manage their businesses more efficiently by means of:

- TA to help existing businesses upgrade technical and management skills;
- A business development center to provide start-up services, training, diagnostic assessments and other assistance to both new and established entrepreneurs; and
- A micro-credit loan program to finance ventures which may not be eligible for commercial bank financing.

**Agricultural Rationalization and Productivity Improvement.** The project should focus on improving market access for dates and quality control during harvesting and increasing production efficiency of complimentary food crops by means of:

- A market information service to disseminate date broker specifications on purchase schedules, quality control standards, packing, shipping and delivery requirements;
- Development of a date marketing cooperative to organize and coordinate curing, packing, collection, quality control and delivery of dates to export brokers and domestic buyers; and
- A farmers' training center to promote the use of improved agronomic practices for the production of dates and other food crops.

## Conclusions

A market-driven strategy requires a program that enhances private sector ability to take advantage of business opportunities. These opportunities exist in markets led by infrastructure projects, growth markets of fisheries and tourism, and mature markets such as the date industry.

Other studies are needed to refine the strategy recommended from this evaluation. These should include market studies on fisheries and tourism and institutional assessments of a micro-enterprise program, fishing and date cooperatives, and business support organizations.

While a full-fledged private sector development program is beyond the scope of BALAD during the current extension period, it is important to establish conditions which will allow Makranis to respond to market opportunities when infrastructure is in place, such as by promoting business organizations, entrepreneurial training and experimentation with potentially exportable crops.

## WOMEN IN DEVELOPMENT

### Difficulty in Measuring Impact

The PP stated that "the Project will not affect directly the relative position of women in Makran. While it will make life easier and more bountiful for many women, it will do so in ways that will not change their position relative to men in the society." The interim evaluation confirmed that any indirect impact of the Project on women had been slight, noting that while females were eligible for the vo-tech program, none had applied. There were no visible signs of attitudinal change or socio-economic mobility as a result of BALAD activities. With women's concerns being only addressed marginally in the SDA program, the evaluation recommended that a conscious effort should be made to construct and rehabilitate female schools. "Improvement in a dozen primary schools for girls — in effect resulting in upgrading of 50 percent of the primary school facilities for girls in Makran — is not an unreasonable goal provided teachers (and students) are available."

In 1988 and 1989 the Project constructed some 40 additional classrooms in 17 girls primary schools throughout the division, as well as boundary walls, toilets and other necessary facilities. Most of the new classrooms are being fully utilized with presumably measurable benefit to the girls of these communities. In a region where the literacy rate among women is less than two percent and where male schools dominate the primary education system, any attempt to correct the imbalance is a refreshing initiative. Also, a maternity home was built in Panjgur, but at the time of the evaluation visit it was closed because of lack of staff.

Other than these physical accomplishments, there is no way of measuring the impact of the Project on women in Makran. There are no gender-specific monitoring or reporting requirements on the subject. The only relevant purpose level indicator tracks the percentage of villages benefiting from infrastructure investments.

## Opportunities

In May 1989 a UNICEF-supported income generating scheme for women was started in Makran. Implemented by the social welfare department, the scheme provides small interest-free loans, training and adult education programs in the towns of Turbat, Mand and Pasni. Around 200 women are enrolled in the program. According to the social welfare officer in Turbat, the program is well received by both males and females. The loan recovery record is good. In some areas men have requested assistance on behalf of their wives which indicates that there is no cultural opposition to this type of program.

Conditions in Makran may in fact be more favorable than elsewhere in the province for undertaking a WID initiative. Relatively higher bride prices are paid, and the wife has full control over what she acquires from her husband. The Muslim law of inheritance is followed, and she receives a portion of her parent's property or her husband's property if he predeceases her. Thus it is said that Makrani women are in stronger social and economic position than females in other parts of Balochistan.

There is also a coordination cell in the P&D department in Quetta which supports schemes formulated by NGOs in such areas as poultry raising, sewing and knitting, and adult literacy.

While its activities seem to be quite restricted at present, the cell would presumably serve a useful liaison function if local-level activities were initiated.

In mid-1989 GOB was invited to submit a list of potential income-generating projects for possible BALAD funding. Also, USAID can tap into Genesys, a worldwide WID technical assistance program, and through a contract with the Academy for Educational Development provide technical training for rural women.

## Recommendation

BALAD can draw on these resources in support of activities the TA team has proposed in its proposal for the current extension period. These activities include household processing of agricultural products, such as citrus juices and the extraction of date syrup and the pitting of dates at home in areas close to date processing plants, improvement of home poultry production, market gardening, bee keeping and honey extraction.

LBI's plan to fill two local female positions with a sociologist and a home economist to help introduce a specific WID dimension in the Project is strongly endorsed by the evaluation team.

## **ACHIEVING PARTICIPATORY DEVELOPMENT: LINKAGE WITH THE PEOPLE AND LOCAL GOVERNMENT**

### Traditional Makrani Cooperation

There is a tradition of cooperation in Makrani society. Karezes and kaurjos are cooperatively constructed, maintained and managed. If a karez shareowner refuses to contribute to karez cleaning and maintenance work, water to his fields is stopped. In the rainfed areas, embankments to divert and store flood waters are cooperatively constructed and repaired. An individual with just one pair of bullocks was unable to do the work alone, and he had to seek the cooperation of others. Nowadays that cooperation

might be expressed in collective obligation to rent a tractor or bulldozer. In the coastal fishing villages reciprocal assistance is provided in making local boats. Other areas of common interest are identified in union council records: the construction of a "katcha" road or a tank for the collection of rainwater.

These cooperative traditions have been undermined to an extent by the unilateral and subsidized interventions of GOB and BALAD; the receiver mentality will be difficult to change. How to do so and tap into the cooperative traditions inherent in village society is the main challenge that BALAD now faces.

### **Relevant Experience: Pak-German Self Help Project**

The project is currently operating in a total of 152 villages in 13 union council areas. Following the AKRSP model, the project emphasizes the importance of village organizations (VO) whose members pay regularly into a community savings fund. The VO may provide land or labor to implement a scheme which members have identified as highest priority. The project provides some initial funding, as well as technical support and loans. When the VO is on its feet and properly registered, it will be able to qualify for bank loans. The project stresses the importance of village motivation, savings discipline, and VO responsibility for maintaining infrastructure that is installed.

Among the lessons from six years of experience:

- Union council development officers (DO) in LGRD may be responsible for two or three council areas. They usually do not have the patience, training nor the interest to spend much time on village level motivation. This can only be done by social organizers, who are specially trained and paid Rs5500-7500 per month. When officials become involved, they end up doing things for the villagers and perpetuating a dependent mentality;
- Each social organizer tries to visit a village once a month, thus covering 15-20 villages. Frequent interaction and reinforcement of village self-help is critical. There is pressure on the project to expand its coverage, but to do so and still maintain contact with the people would be impossible;
- A number of projects have been developed in response to the initiative of village women. Finding female social organizers who can travel to the villages and stay overnight in resthouses is a problem;
- Technical backstopping is also important. It is provided by an irrigation and a civil engineer who prepare scheme proposals and cost estimates; and
- One of the reasons why the Pak-German project is creating a foundation is to mobilize outside funding, as in the case of the AKRSP, when the German aid program (GTZ) withdraws. Moreover, as a foundation, the project will not be dependent upon LGRD support. It can then employ staff at a more attractive and competitive salary level.

### **Applicability to the Makran: Elements of a Strategy**

The Commissioner in Makran division used to be project manager of the Pak-German self-help project. He believes that a similar initiative is needed in the Makran.

There would be certain differences, however: Rather than LGRD, P&G would be the responsible department since village-level activities would directly pertain to PPMU planning and monitoring functions. Village-level motivation, project identification and involvement in implementation would be a natural extension of the divisional planning process. These activities would be carried out in close collaboration with LGRD and the district and union councils.

Unlike the Dasht and Guadar area plans, coverage should extend eventually to all villages in the three districts of Makran; so that village-level participatory planning fits into the district and divisional-level ADPs, both with respect to Special Development Program resources and grants-in-aid to local government councils.

To initiate the process, a number of Makranis, say 10 to 15 with B.A. and M.A. degrees, would be recruited and trained as community organizers. BALAD's experience in recruiting enumerators for the socio-economic survey four years ago suggests that qualified candidates can in fact be found. Since BALAD probably would not want to assume direct administrative and supervisory responsibility for these new activities, consideration might be given to a contract with Balochistan University to recruit, train and provide field support to the community organizers, drawing on Pak-German, UNICEF and other experience with grass-roots programs.

With the prior support of the commissioner, deputy commissioners and district councils, meetings of union councils and community leaders would be organized to introduce the participatory planning approach and to identify young men and women from the villages to collect basic data on community resources and priority needs. Survey training sessions and follow-up visits by the community organizers would reinforce this local-level planning process.

Similar to AKRSP and Pak-German experience, a priority project would be identified in each village and modalities established for ensuring local participation in its implementation. Provided villagers take on some responsibility, such as raising funds to pay labor or collecting materials for construction and the relevant line agency agrees to provide technical and other support in implementing the project, BALAD would agree to the use of SDA funds to meet some of the cost of materials and contractor services. More appropriately, SDA funds would be placed under the control of the DDC so that PPMU is directly involved in planning and monitoring the projects. The establishment of a village self-help fund and demonstrated commitment to maintain the priority project would lead to a follow-up project along similar lines.

The data thus gained through village surveys and meetings to identify projects and establish modalities of cooperation would be consolidated into union and district development plans, which in turn would be incorporated into the divisional ADP and transmitted to P&D/Quetta for approval, probably by the Provincial Planning and Development Board rather than the PSC. The survey data would be used to establish a common data base for monitoring the resulting project activities at both the divisional and provincial levels. The PPMU would be central to this planning, prioritizing and monitoring process.

Once the efficacy and potential of decentralized participatory planning are firmly established, GOB would solicit the support of other donor agencies to finance elements of the Makran ADP that are beyond the financial and technical capabilities of the GOB and BALAD. As AKRSP has shown, establishing a solid program involving genuine local participation requires a lot of patience and effort, but once established, obtaining outside financial support is rarely a problem.

## SECTION FOUR

### MAIN CONCLUSIONS AND RECOMMENDATIONS

#### ROADS COMPONENT

In terms of physical achievements, the roads component has been reasonably successful. The Kech bridge and the paving of Turbat town roads have had a positive influence on BALAD's reputation in Makran. On the other hand, the Bela-Awaran road project never approached what had been originally planned. 315 kilometers of roads have been rehabilitated, of which 65 kilometers are up to stage II standards. This falls short of the anticipated 600 kilometers in the PP. Also, the 36 low water crossings and 10 culverts that have been installed is less than the number in the project paper.

In terms of institutional capability, C&W does not have the personnel, management capability or commitment to operate an effective road maintenance program or to supervise rehabilitation. This implies a continuing need for LBI operational involvement. However, such activities should be held to the minimum level required for BALAD to retain credibility. The emphasis in the current LBI proposal on building C&W capabilities to plan, design, implement and maintain a good road system, however optimistic given C&W's present level of performance, is nevertheless appropriate.

#### It is recommended that:

- Given the importance of developing C&W road planning and implementation capabilities, a larger GOB commitment of personnel and funding is needed at least during the Project extension period, even if this means according the Makran division priority over other divisions in Balochistan.
- If C&W is unable to increase its present level of support in terms of funding and personnel, the Project should consolidate road rehabilitation activities on one road in order to reduce the need for personnel and simplify logistics.

#### WATER COMPONENT

BALAD does not really know after four years the extent to which agriculture benefits from Project activities in the water sector. A study of the groundwater system in Makran is necessary before this can be determined. It appears that small increases in availabilities have occurred in half of the karezes that were worked on. It is uncertain without more groundwater knowledge, however, that these increases did not come at the expense of other users of the reservoir.

Infiltration galleries produce more water on an annual basis because they enable the kaurjos to operate without being destroyed by each flood. But here again there is no certainty that the increased water produced is additional water that would otherwise be lost. It may be water that would have recharged the groundwater reservoir and occurred in some other well or karez.

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It is certain, on the other hand, that siphons and channel improvements increase the efficiency of water delivery to the agricultural land. Most of the water would otherwise be lost to evaporation or in the production of plants of little value. So the water conserved by these structures produces clear benefits in the form of increased crop production.

Since rainfall has been much less than normal, there has been little opportunity for delay action dams to assist in the recharge of the groundwater reservoir. Without knowledge of the recharge-discharge balance, however, the potential benefits resulting from these structures are uncertain.

**It is recommended that:**

- Highest priority should be given to a comprehensive study of the water and groundwater resources of Makran. To ensure that the study will provide the needed information and quantify the needed relationships for all future water-related activities, it is recommended that an expert in water resource survey and study design be engaged to prepare a detailed scope of work for the study.
- Karez borings should be discontinued because they are only successful one-half to two-thirds of the time, and the communities generally feel that they have had little beneficial effect.
- Infiltration gallery subprojects should be discontinued because improving the flow in one kaurjo can adversely effect the flow in other kaurjos and karezes downstream. Furthermore, the general community feels that these subprojects have produced little overall benefit.
- BALAD's decision to discontinue construction of additional delay action dams is correct in view of the need for rainfall and runoff data to determine that the amount of recharge is worth the expenditure.
- Involvement in siphons, channel lining and other small water development projects should continue, provided that there are financial contributions from karez owners and other beneficiaries.
- More emphasis should be given to the training of irrigation and OFWM technicians in water management planning, as provided in LBI's current proposal.

### **AGRICULTURE COMPONENT**

In a relatively short period of time the Project has made good progress through its direct dealings with farmers. On-farm demonstrations and good working relationships with agricultural extension staff have had positive effect. Also, LBI and PPMU agricultural staff have taken other useful initiatives with respect to establishing an agricultural supplies outlet and in planning in-country training for line agency staff. But like the water sector, agriculture activities tend to be of an ad hoc nature without reference to an overall conceptual framework. activities.

**It is recommended that:**

- Special attention should be given to the training of GOB agricultural personnel so that the extension department, sooner rather than later, is in a better position to assume its full responsibilities.
- A date marketing strategy should be developed to increase the economic returns to growers and the community. The strategy should probably involved preliminary processing locally in packing sheds located close to the farms and bulk shipping to Karachi. A consultant should be hired to construct a model for such a marketing system.
- Consideration should be given to the establishment of a center in Turbat or possible in Panjgur for the training of local farmers. Especially as the Project focuses more on project planning and monitoring, a modest training facility somewhat apart from the Project and dealing with the practical problems in Makran agriculture is appropriate. Initially under BALAD supervision and with USAID funding, the center should later be sponsored by an international NGO collaborating with private sector interests in Makran.

### **SDA COMPONENT**

SDA funds have been used appropriately in responding to the need for additional primary school classrooms. Particularly the building of classrooms for girls stands out as a positive achievement. The fact that this activity offers immediate tangible accomplishment has served to maintain BALAD's image and credibility.

**It is recommended that:**

- SDA funds be used — with maximum flexibility — to respond to village-level priorities as they arise. Numerous small projects identified by the people themselves and in which they themselves participate would constitute a healthy dimension to what has been until now a traditional infrastructure program with little local participation. It should not be BALAD's role to implement these small schemes. Instead, SDA funds might be placed under the control of the DDC (or the DWC) to be used according to a procedures worked out in advance between USAID, BALAD and GOB. Projects would be implemented by the line agencies and require community participation as a condition for project approval. BALAD would assist DDC in planning and monitoring the use of these funds.

### **HUMAN RESOURCES AND TRAINING**

The Vo-Tech Training Program, although politically popular and highly praised in the interim evaluation, has produced some very disappointed young Makranis whose training in the U.S has not qualified them for the level of jobs they expected. This conclusion is based on interviews with nine students who had completed the program.

**It is recommended that:**

- The decision to exclude vo-tech graduates from receiving new scholarships should be reconsidered. Returnees from the original contingent should be allowed to complete their degrees, provided they pursue disciplines which are relevant to Makran development needs.
- GOB should give priority to the placement of vo-tech graduates in regular civil service and contract positions, particularly in the Makran where, unlike most outsiders, they want to work and make a contribution.
- USAID and GOB should consider establishing an English language training facility in the Makran division. This would enable young Makranis to compete for training opportunities in the U.S. and in third countries in the region.
- Because of scarce opportunities with government, particular attention should be given to entrepreneurial and small business training in order to take advantage of the opportunities that are expected to develop in the private sector during the next several years.
- In view of the importance to be given to both on-the-job and institutional training of PPMU and line agency staff in project planning and implementation and to ensure for training purposes their regular involvement in BALAD project activities, a training coordinator, preferably a Balochi, should be recruited as a member of the LBI staff.

### **PRIVATE SECTOR**

There are no explicit private sector goals established in the PP or as the result of any subsequent changes in the Project. Benefit to the private sector has therefore been incidental to BALAD's infrastructure objectives. Private contractors who have executed construction for BALAD and private farmers who have participated in crop trials and on-farm demonstrations have been until now the main private sector beneficiaries.

A market-driven strategy in the future should enhance the ability of the private sector to take advantage of business opportunities. These opportunities exist in the emerging markets led by infrastructure projects, potential growth markets of fisheries and tourism, and mature markets such as the date industry. An appropriate strategy should include USAID policy-level project assistance, most specifically for fisheries and tourism development and for private sector institution building; a small-scale and micro-enterprise project to facilitate infrastructure-led business development; and an agricultural rationalization and productivity improvement project with special emphasis on date marketing.

**It is recommended that:**

- In order to develop a private sector strategy within the context of BALAD II, studies are needed to refine the ideas recommended in this evaluation. These should include market studies on fisheries and tourism and institutional assessment of a micro-enterprise program, fishing and date cooperatives, and business support organizations.

## WOMEN IN DEVELOPMENT

Conditions in Makran may in fact be more favorable than elsewhere in the province for undertaking a WID initiative. A coordination cell in the P&D department supports schemes formulated by NGOs could presumably serve a useful liaison function if local-level activities were initiated. Also, USAID can tap into Genesys, a worldwide WID technical assistance program, and through a contract with the Academy for Educational Development to provide technical training for rural women.

It is recommended that:

- BALAD draw on these resources in support of activities LBI has proposed in its draft work plan.
- LBI should introduce an explicit WID dimension in the Project by filling the two local female positions noted in its proposal.

## INTEGRATING PPMU WITH P&D

Long delays in providing the leadership and staff to the PPMU raise serious doubts regarding GOB's commitment to decentralize development planning and project monitoring. PPMU suffers from an unclear mandate and lack of technical, planning and statistical staff. In fact, BALAD is a contractor operation with PPMU tacked on as an adjunct. Although its professional staff have P&D appointments, PPMU is not an integral part of the P&D nor in a position to exercise divisional planning responsibilities. Its staff do not benefit from the security of regular government appointments nor salaries which even begin to approach those received by national staff working with LBI.

The Project was originally approved on the premise that trainee staff would eventually be absorbed into government service. To accomplish this will be difficult because of the salary difference between that of LBI local staff and regular government personnel. When USAID withdraws and the LBI contract terminates, there will be little incentive for LBI local staff to take assignments with PPMU and their experience will be lost.

Most LBI and PPMU administrative and technical staff are from outside Makran and many are from outside Balochistan. The absence of Makranis in BALAD raises serious doubts regarding ultimate sustainability. Finding technically qualified Makrani engineers has been difficult, but it seems that in some disciplines college graduates could be recruited if service conditions were more attractive. Unless some special personnel category is established to permit recruiting Balochis and preferably Makranis into technical training positions, there seems to be no way out of the present staffing dilemma.

Divisional-level coordination of project planning is almost non-existent. In the highly centralized GOB administrative system coordination between line agencies occurs only at the level of the Provincial Planning and Development Board. (The influence and personal intervention of the ACS can be felt at this level and appears to be critical.)

Concerned mainly with generating data needed in preparing the ADP, the P&D computer section does not provide any support to divisional-level planning nor is its data base linked to the PPMU system.

This is unfortunate since a common data base would provide means, at both the PPMU and P&D/Quetta levels, for monitoring project planning and implementation in the various sectors and contribute significantly to coordination.

**It is recommended that:**

- PPMU should play a central development planning and monitoring role at the divisional level. Its mandate should be redefined to include all development activities in the division, not just those of BALAD. So PPMU should be redesignated as the Divisional Planning and Monitoring Unit (DPMU).
- The PPMU (DPMU) needs as its director someone who has senior rank and level of authority and enjoys the full confidence of the ACS. He should be the principal representative of P&D at the Makran division level and report directly to the ACS. His official relationship to the commissioner, as senior GOB authority in the division, would need to be carefully defined in new terms of reference. In any event, the commissioner should not also serve as BALAD director as is now the case. Aside from frequent transfers, his primary responsibilities relate more to law and order than to development matters. Moreover, he should not be expected to be fully informed regarding the details of BALAD approval, contracting and accounting procedures.
- The newly-established Divisional Development Committee (DDC) is supposed to replace the DDC under the Commissioner as the body responsible for approving and prioritizing development projects and preparing and overseeing the implementation of the ADP within Makran division. The DWC should therefore be merged within the DDC, thus placing the DPMU in a position to plan and monitor the full range of development activity within the division. The DPMU director should serve as co-Chairman of the DDC.
- DPMU should have technical capabilities to support its primary planning and monitoring activities, while execution of projects should be exclusively the responsibility of line departments. Its staffing requirements, particularly with regard to planners (including an irrigation planner) and statisticians should be filled as soon as qualified candidates can be found.
- GOB should provide all DPMU staff with regular government appointments. The resulting job security and service benefits would help to attract qualified personnel to positions which hitherto have been difficult to fill. GOB may not be prepared, however, to recognize DPMU as a permanent institution and to regularize its staff. In this event, DPMU staff on government contract should receive an incentive allowance during the interim pilot phase. Since this phase will coincide with USAID involvement in the Project, a system of performance pay or bonuses in addition to training and other incentives might be appropriately funded by USAID.
- GOB should modify its job classifications with respect to DPMU to allow for recruitment of planner trainees or engineering assistants without the university degrees normally required in government service. The Project would provide on-the-job training as well as university-level training to enable them to qualify professionally for permanent GOB positions. GOB would also have to assure that these staff will not be discriminated against later when DPMU is fully absorbed within P&G.

- The DPMU needs its own offices separate from LBI to establish its identity apart from a foreign contracting firm. Otherwise, line agencies will be reluctant to cooperate with PPMU on important functions such as regional planning and development budgets.
- There should be computerized capability to monitor Project activities at both the divisional and the provincial level, particularly as increasing attention is given to inter-sectoral interventions within development areas such as Dasht and Gwadar. A common data base would provide the means for monitoring progress in the various sectors — in short a comprehensive picture of regional development — and promote better coordination between line agency activities.
- In view of the limited type of MIS reporting that is currently done by BALAD, establishing a project monitoring data base will require a quantum jump in data storage and analytic capabilities, including a much faster computer with the memory to handle the latest software. As a first step, the LBI systems analyst should prepare a scope of work for upgrading the data bases and establishing a project monitoring system.

### **PARTICIPATORY PLANNING AND DEVELOPMENT**

The absence of local participation in infrastructure projects is one of BALAD's principal weaknesses. While local participation does not lend itself to major road sector activities, it should be a condition for most water sector interventions as well as the use of SDA funds for a wide variety of local felt needs and priorities. Moreover, participatory planning is essential for local resource mobilization and therefore relevant to the exercise of PPMU's functions at the divisional level.

#### **It is recommended that:**

- PPMU regional planning should be done on a district basis and directly involve the villagers and the union and district councils in identifying local priorities and self-help resources. The planning process should begin with village surveys done by the people themselves providing much of the data to be incorporated in the district ADP.
- Young Makranis should be recruited, perhaps through a contract with the University of Balochistan, to be trained as community organizers who will periodically visit the villages and assist the people in conducting surveys, identifying priorities and mobilizing local resources.
- SDA resources should be channeled through the DDC to finance part of the cost of the priority project that is identified in each village. Thus SDA funds will be used to respond quickly and flexibly to initiatives taken by the villagers in local-level planning and self-help mobilization. Primary responsibility for programming the funds and ensuring line agency support in project implementation will rest with the DPMU.

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**APPENDICES**

- **PERSONS CONSULTED**
- **SCOPE OF WORK**

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**PERSONS CONSULTED**

**USAID/Pakistan**

<b>James A. Norris</b>	<b>Director, USAID Mission to Pakistan</b>
<b>Hans P. Peterson</b>	<b>Chief, Office of Agriculture and Rural Development (ARD)</b>
<b>Frank Pavich</b>	<b>Chief, Rural Development Division, Office of ARD</b>
<b>A. Karim Nayani</b>	<b>BALAD Project Officer, Office of ARD</b>
<b>Asif Bhattee</b>	<b>Program Specialist, Office of ARD</b>
<b>Virgil D. Miedema</b>	<b>Chief, Program Operations (PRO)</b>
<b>Gene George</b>	<b>Chief, Office of Engineering (EN)</b>
<b>Michael Hauben</b>	<b>Project Development Officer, Office of Project Development and Monitoring (PDM)</b>
<b>Mohammad Saleem</b>	<b>Program Specialist, Office of PDM</b>
<b>Judy Schumacher</b>	<b>Information Specialist, Office of PMD</b>
<b>Tariq Durrani</b>	<b>TADP, Rural Development Division, ARD</b>
<b>Sarah H. Tirmazi</b>	<b>Economist, Office of Human Resources Development (HRD)</b>
<b>C. David Esch</b>	<b>Human Resources Development Officer</b>
<b>Carl R. Duisberg</b>	<b>Deputy Chief, Office of Energy</b>
<b>John D. Kerr</b>	<b>Energy Advisor, Office of Energy</b>
<b>Sardar M. Yusuf</b>	<b>Program Assistant, USAID, Quetta</b>
<b>Bernadette Sequeira</b>	<b>Secretary, USAID, Quetta</b>
<b>Richard Goldman</b>	<b>Private Enterprise Officer</b>
<b>Fazl Ahmed</b>	<b>Liaison Officer, USAID, Quetta</b>

**Louis Berger International, Inc.**

Gerald P. Shea	Vice President
Dwight Bunce	Chief of Party
Daniel Bradbury	Agronomist
Yayha Khan	Senior Water Engineer
Nisar Khan	Senior Roads Engineer
Mohammed Ali Baloch	Senior Construction Engineer
Abdul Rasheed Baloch	Sociologist
Riaz-ur-Rahman	Geologist/materials
Syed Ata Abbas	Systems Analysis, P&D, Quetta
Mohammed Iqbal	Executive Office
Mohammed Arif	Administrative Assistant
Qamar-ul-Hudda	Steno Secretary
Mansoor Yousuf	Systems Analyst

**Project Planning and Monitoring Unit, Turbat**

Mirza Masaud Ahmed	Deputy Director
Mohammed Hayat	Economist
Ahmed Aii Baloch	Chief of Section (Agriculture)
Abdul Sami	Chief of Section (Accounting)

**Government of Balochistan**

Sharek Rastum Poonegar	Chief Secretary
Ata M. Jafar	Additional Chief Secretary (Development)
Saleem Durrani	Secretary, Communications & Works Dept.
Sardar Mohammed Sharif	Secretary, Agriculture Department
Mohammed Azam Baloch	Secretary, Irrigation and Power Dept.
Irfan Kasi	Commissioner, Makran Division
Abdul Salam	Acting Director General, Agriculture Dept.
Fazl Durrani	Secretary, Dept. of Local Government & Rural Development (LGRD)
Nasim Qadri	Director, LGRD
Salim Chisti	Additional Sec'y, Department of Planning & Development (P&D)
Rukhsana Malik	Research Officer, P&D Department
Saifullah K. Paracha	Former Secretary, P&D, LGRD
Beshir Ahmed	Director of Development, P&D Dept., Turbat
Ali Nawaz Magsi	Deputy Commissioner, Panjgur
Habib ur-Rahman	Assistant Director, DGRD, Panjgur
Mohammed Amin	Development Officer, DGRD, Panjgur
Nazir Ahmed	Development Officer, DGRD, Turbat
Abdul Rahim	Social Welfare Officer, Social Welfare Dept., Turbat District
Naser Ahmed	Assistant Director, Agricultural Development Bank of Pakistan, Turbat
Mohammed Ibrahim Shaad	Regional Operations Officer, Agricultural and Rural Development Bank, Turbat
Abdul Raziq	Agricultural Officer, Panjgur
Mahmoud Ahmed	Extra Assistant Director, Agriculture (OFW&D), Panjgur
Ahmed Baloch	Asst. Director General, Fisheries Dept., Pasni
Kaleem Nasir	Superintending Engineer, C&W, Turbat

Ghous Buksh	Sub-Engineer, C&W, Turbat
Jan Mohammed	Subdivision Officer, C&W, Gwadar
Ghulam Dastagir	Subdivision Officer, C&W, Panjgur
<b>Others</b>	
George Metcalfe	Corporate Agribusiness Specialist, RONCO Consulting Corp.
Ute Hubner	Acting Deputy Coordinator, PAK-German Self-Help Project
Rima Salah	Director, UNICEF, Quetta
Eshan Shah	Manager, Shah & Sons Date Processing Factory, Turbat
Chotta Yousuf	President, Makran and Kalat Division, Transport Federation, Turbat
Dr. Maiik Baloch	Ex-Minister of Health, GOB
Ghulam Nabi Baloch	Operations Officer, Regional Development Finance Corp., Turbat
Malik Dad Karim	Chairman, Municipal Committee, Turbat
Khalil Ahmed Hoth	Date farmer, Panjgur
Sardar Abdul Rahman	Managing Director, Makran Date Growers Cooperative Society, Turbat
Suliman Magsi	Divisional Engineer, Telephone and Telegraph Dept., Turbat
Shamon Ali	Manager of Operations, Pakistan International Airlines, Turbat
Rana Nasir Ali	Senior Mechanical Engineer, National Energy Services of Pakistan (Private) Ltd. (NESP)
Tariq Mushtaq	Senior Electrical Engineer, NESP
Sait Ayub	Fish Broker and Exporter, Pasni
M.A. Chaudhury	Technical Director, International Multifoods, Ltd., Karachi
Lal Mohammed	Manager, Cooperative Fishing Society of Karachi
R. Sidiki	Marketing Manager, Cooperative Fishing Society, Karachi
Mundagar M. Irani	Commodity Inspection Service, Ltd., Karachi
Alper Skevket	Site Manager, Siddley Hawker U.K., Ltd., Pasni Diesel Power Station

## SCOPE OF WORK

### A. Objectives

(1) Assess progress to date in implementing the BALAD project, including progress in achieving objectives and targets originally considered in the Project Paper and as modified in 1989 TA contract amendment; (2) evaluate the appropriateness of changes in objectives and the methodology adopted since the last evaluation; and (3) review and assess adequacy and effectiveness of project management interventions and recommendations, based on analysis of the problems and constraints, host government institutional capabilities and the socio-political realities, as to possible further modification of project strategy, approach, specific activities and overall design of the project as it enters its extension phase.

### B. Scope of Services

Achievement of the above objectives requires that the team examine the project in relation not only to the planned targets, outputs, and activities outlined in the Project Paper but in light of the proposed scope of work and objectives of the extension phase of the project. The team will also need to examine the adequacy and appropriateness of administrative arrangements, the existing capabilities of the implementing agencies, the performance of the TA contractor to date, the planned implementation schedule of future activities, the procedures, proposed staffing and level of effort, the financial plan and administrative/organization arrangements of the next phase of the project.

Specifically the evaluation team shall:

1. Assess overall progress to date of the civil work sub-projects pertaining to the roads including the Bela Awaran Road and the Kech River Bridge, water resources development, and special development activities of the project.
2. Examine the selection criteria, design work, supervision and effectiveness of all subproject construction activities as well as the effect of the completed facilities on local population.
3. Evaluate the progress and direction of the project's newly implemented agricultural activities and examine appropriateness and effectiveness of their approach and methodology.
4. Assess the adequacy and effectiveness of institutional roles and working relationships among the P&D Department, the line agencies, the Steering Committee, the Divisional Working Committee (DWC), the PPMU, the long-term contractors, AID, and other entities involved in the project.
5. Examine the effectiveness of PPMU in planning and monitoring the project activities and assess GOB support for the PPMU and other key line agencies in Makran division.
6. Assess and make recommendations as to the optimum staffing levels of PPMU and the TA team in light of the objectives and activities proposed to be undertaken in the extension phase of the project.
7. Evaluate the ongoing and proposed program aimed at institutionalization of the project activities, including efforts directed towards the strengthening of line agencies capacity to carry out continued development efforts. Particularly, efforts to strengthen heretofore neglected agencies such as the

Department of Agricultural Extension, On-Farm Water Management, Agricultural Engineering and the Irrigation Department need to be examined.

8. Assess the appropriateness and effectiveness of on-going and proposed subprojects aimed at improving the social and economic status of women in the Makran division.
9. Evaluate the performance of long-term technical assistance in building and strengthening institutions concerned, in particular, developing contracting, management, and monitoring skills at the PPMU, improving planning and monitoring skill at the P&D Department, and strengthening and improving road construction and maintenance capability of the C&W department within Makran division.
10. Assess effectiveness of PPMU as a divisional level development organization in terms of authority and staff capacity to work with line agencies and private sector in planning, coordinating, monitoring, and managing development activities. Assess whether PPMU has been successful in delivering what it is supposed to.
11. Based on assessment of PPMU's effectiveness as a divisional level development organization, determine whether or not it can be used as a model for replication in other divisions of Balochistan.
12. Review and assess project efforts to date in terms of private sector development in Makran division, determine adequacy and appropriateness of these efforts and recommend effective measures to accelerate private sector development.
13. Assess degree of local people's participation in decision making and implementing project development activities. Currently, 100% funding is provided for development activities under the project. The team should critically examine rationality of the process of programming project investments and suggest how the project should go about involving local people and seeking contributions in cash, kind, or labor from project beneficiaries.
14. Assess private sector investment climate in Makran with links to Quetta, Karachi and Iran borders and give recommendations for developing a sound private sector development strategy.
15. Assess the adequacy and appropriateness of training and human resources development activities in Makran division. This includes training plans and programs for line agency personnel.
16. Assess the extent to which project outputs have been completed to date, contrasting these with outputs as planned in the Project Paper or as modified during the line of the project.
17. Review and evaluate the effectiveness of data collection and monitoring activities in place and planned for the extension phase of the project.
18. Review the Project Identification Document and/or Project Paper, if completed, for BALAD II and provide inputs and recommendations regarding the proposed strategy to address the Government of Balochistan's current priorities in the context of development of lagging areas. Assess how adequately AID policy concerns of open markets/societies have been addressed in the Project Paper.
19. Assess how efficiently and effectively the C&W department is operating, maintaining and utilizing the equipment provided under the project.

20. Assess the benefits that have started accruing to the project beneficiaries as a result of project interventions.

21. Review purpose level monitoring indicators for the project in terms of relevance to project purpose, baseline data requirements and methods for collecting needed data.

### **CROSS-CUTTING EVALUATION ISSUES**

The following questions should also be addressed by the evaluation team. These questions are general to all AID mid-term and final project evaluations.

#### **A. Sustainability**

1. Which benefits are likely to be sustained after AID funding ends?
2. Identify and make recommendations for sustaining the essential elements of institutionalization addressed in the BALAD project.
3. What has been the performance of the PPMU to date and should it be continued? If so, what, if any, changes in its staffing and activities should be considered? If not, what alternative modes should be pursued if any?

#### **B. Women and Development**

How has the project had an effect on women in Makran? What measures should be adopted to get more women benefitted through this project?

#### **C. Environmental Impact**

To what degree have environmental questions been an issue?

#### **D. Lessons Learned**

1. What specific lessons have been learned which can be applied toward the redesigning of the project?
2. What have been the positive/negative effects of the project?