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Balochistan Area Development Project: (BALAD):

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Project Assistance Completion Report

(391-0479)

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Acronyms

ACE	Agriculture Commodities & Equipment
BALAD	Balochistan Area Development Project
BNM	Balochistan National Movement
BRP	Balochistan Road Project
C&W	Communication & Works
CDSS	Country Development Strategy Statement
COP	Chief of Party
GOB	Government of Balochistan
GOP	Government of Pakistan
GSP	Geological Survey of Pakistan
NGO	Non-Governmental Organization
NWFP	North West Frontier Province
OFWM	On-farm Water Management
P&D	Planning and Development
PACD	Project Activity Completion Document
PID	Project Identification Document
PP	Project Paper
PPMU	Project Planning & Management Unit
SDA	Special Development Activity
SDP	Special Development Plan
TA	Technical Assistance
USG	U.S. Government
Vo-Tech	Vocational Technical Training Program
WID	Women in Development

Executive Summary

The Balochistan Area Development (BALAD) Project was initiated in the early 80's, approved in 1982 and terminated on June 30, 1992 after completing a life of 7 years and 10 months.

Motivation for BALAD was primarily to improve the living conditions of the people of Makran. It was closely associated with nation building and political considerations to promote the economic and social integration of this historically neglected and backward area with the economic and social advancement of the rest of Pakistan.

The strategic location of Makran, sharing borders with Iran and Afghanistan, provided special reason for intensified attention to the province. Secessionist sentiments and ethnic ties with Baloch populations of Iran and Afghanistan were a source of apprehension for the GOP. The Project demonstrated the concern of the government by addressing the needs of the people and by providing the critical infrastructure to the area.

The needs of Makran were very basic - communication, water and human resources. The project paper identified three main areas of activity: (1) road construction, rehabilitation and maintenance; (2) improving agriculture and the efficiency of existing water facilities through construction of small and medium scale diversion structures and dams; and (3) strengthening the capacity of the GOB and Makran Division to plan, prioritize, select and implement development projects.

Because of the uniqueness of Makran's state of political and economic development and its isolation from rest of Pakistan, a flexible approach was required for design, contracting and implementation, to ensure responsiveness of identified priorities activities to local conditions and to encourage maximum local participation.

After a very slow start under isolated and difficult conditions BALAD established for itself an important place in the Makran. Various elements of BALAD may be judged to have reasonable prospects of yielding a continuing stream of benefits. These include the dam spills to recharge aquifers which will last for many years with little or no maintenance, and the karez and korjo improvements which by and large will be maintained by the private owners. The use of improved practices by farmers will continue. The trained BALAD & GOB staff could continue to apply the acquired skills in various ways to improve the Makran and other parts of Balochistan. Roads widened, contoured and shingled will continue to provide better service than previous dirt tracks, even with poor C&Wmaintenance.

The Project successfully established the credibility of American assisted development in a remote and underdeveloped region. Early in the Project, BALAD built a building complex and initiated development activities. The Ketch River bridge and approach road was completed in December 1990. The bridge provides an all weather link to Turbat and provides a highly visible and politically important project which is in line with the original rationale of the Project. Similarly, a major road bottleneck between Turbat and Gwadar was removed by improvement of the Talar Gap pass. Under the Small Development Activities component many useful projects were undertaken. Roads were rehabilitate and maintained, water projects constructed and improved agricultural practices and new plant varieties were introduced with a high degree of receptivity and cooperation from the farmers.

The Project also: developed the human resources of the line agencies and the private sector; constructed schools, and a maternity home; developed a computerized project management information data base; trained C&W staff in equipment management; and trained farmers and agriculture extension workers in vine pruning, vine propagation, date pollination, date bunch thinning and other topics such as the use of fertilizers and plant spacing.

The objective of strengthening and institutionalizing the Government of Balochistan's planning and management of limited resources were achieved to a limited extent.

Decentralization of planning and development was initiated and a framework for regional planning established for Makran.

BALAD did not reach expectations as the project underwent major reduction in 1991, as USAID responded to the Pressler Amendment. However, many valid outputs will continue to provide benefits and an impressive number of solidly based development opportunities are being left behind.

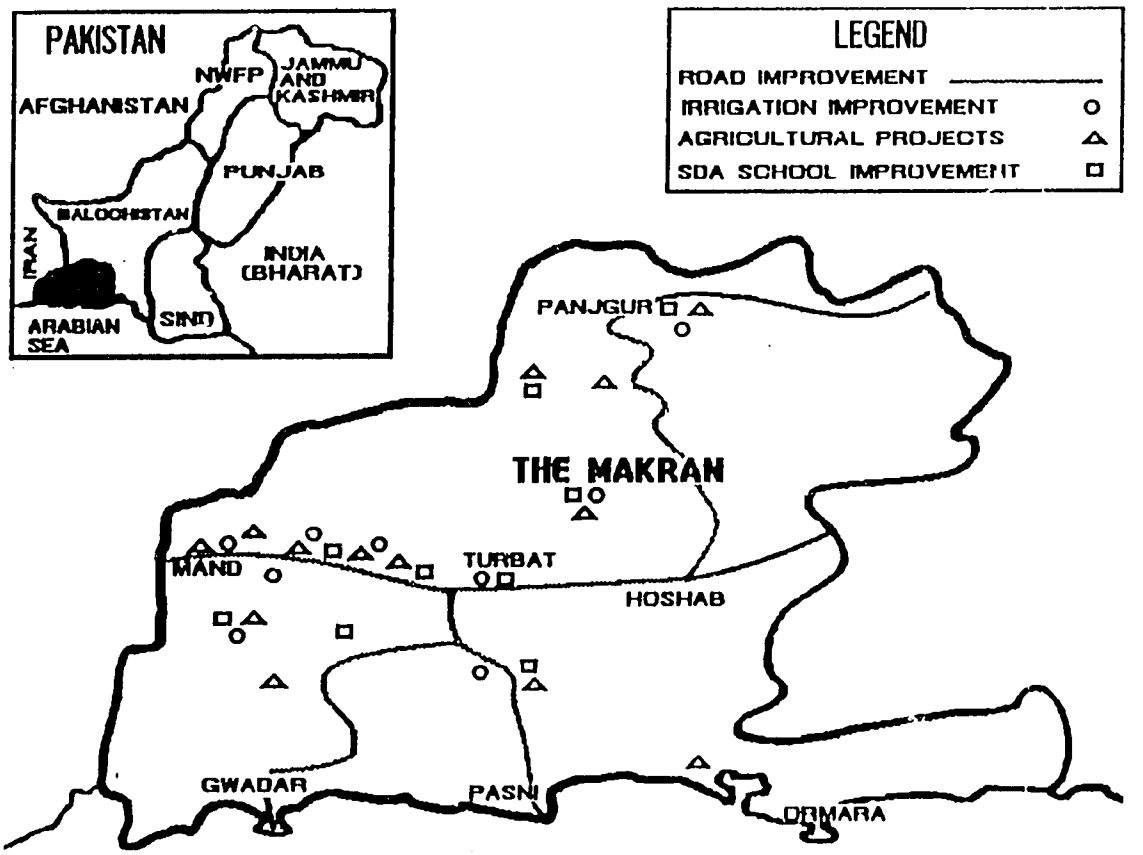
One Year After

Almost exactly one year after the BALAD Close Out a follow up trip was arranged to evaluate the project interventions. The team comprised from USAID: the Chief - Office of Development Resources, the Senior Advisor - Rural Development, the Senior Roads Engineer, the Project Officer, and Program Specialist - Rural Development, and from the GOB, the Deputy Director Project Planning and Management Unit (PPMU). Extensive discussions were held with the Commissioner of Makran, heads of the line agencies and farmers. I am reproducing some of the comments made by the team members and others:

* *"The ground is set for NGO related work through the National Rural Support Program (NRSP) and the Balochistan Rural Support Program (BRSP)."*
* *"There is no hostility towards USG but the area is still remains highly charged with activists and politics."*
* *"Any donor getting into Makran area will need to focus simultaneously on: training, maintenance of structures built earlier, support existing health and education institutions, and concentrate on communications improvement like the roads sector."*
* *"It was satisfying to observe that the engineering projects constructed under the project have sustained, are being reasonably maintained and are serving the purpose for which they were constructed."*

* *"The US did a lot for us but now that you have left we feel that the government is not making use of the infrastructure and know-how which you left behind." (Referring to the BALAD compound).*
* *"If it was not for that 'father of dates' (Dr. Zidan) we would have been worse off than we are because he knew everything there is to know about dates; and he helped us put in place the date research farm."*
* *"We have a long way to go towards district and divisional level planning, with your help it might have been possible with a sustained pressure from an outsider; without that ... little hope."*

BALAD ACTIVITIES IN THE MAKRAN



Basic data

1. Country : Pakistan
2. Project Name : Balochistan Area Development
3. Project Number : 391-0479
4. Project Dates
   a. First Project Agreement : August 30, 1984
   b. Final Obligation : September 24, 1987
   c. Project Assistance Completion Date : June 30, 1992

5. Amount Authorized : $45,000,000

6. Project Funding

   US A.I.D. Bilateral Funding
   ESF Grant Obligation : $45,000,000

   Deobligation due to
   Pressler Legislation : $11,500,000
   Deobligation after PACD : $ 4,367,454
   Net Obligation : $29,132,546

7. Life of the Project : 7 years 10 months

8. Project Officer : A. Karim Nayani

9. Name of Implementing Agency : Planning and Development Department, Government of Balochistan.

I. Background

A. Relationship to AID strategy and other AID Projects

During the August 1981 negotiations, both the Government of Pakistan (GOP) and United States Government (USG) agreed to give special emphasis to Balochistan and the NWFP which lagged behind the other two provinces in development terms and which, because of their proximity to Iran and Afghanistan, were the first areas in Pakistan to be affected by political developments in those countries.

BALAD was designed as part of the lagging areas strategy. The project was with Tribal Areas Development Project, marking the first time a major donor attempted to design and implement a development project aimed exclusively at these regions. The overall core of the project was fairly circumscribed from the beginning to make limited, visible intervention in order to further promote integration of these areas in the economic and social mainstream of Pakistan.

The Balochistan Area Development (BALAD) Project was a principal means by which the Mission planned to "improve the economic status of the least developed rural areas", in this instance Makran. This is one of the long term objectives of the US economic assistance program to Pakistan, as stated in the Mission Country Development Strategy Statement (CDSS).

The project was also consistent with the Mission's major objectives in the agriculture sector, which were to "enhance production and income generation by concentrating assistance in the areas of food security, irrigation, water resources management, agriculture science and technology, human resources and institutional development and roads" (CDSS).

The Government of Pakistan's support for the development of Balochistan was clear. The Sixth Five Year Plan 1983-1988 included a special chapter on Balochistan stating that "Efforts would be made to redress past neglect and draw Balochistan into the main stream of the national economy". The Special Development Plan (SDP) for Balochistan, developed in early 80's shows the importance Government of Pakistan attaches to the development of the province. The SDP is supplemental to the Annual Development Program.

Thus the rationale for major development efforts in Balochistan was closely associated with nation building and political considerations and the need to incorporate historically neglected areas into the body politic of Pakistan. The proximity of Balochistan to Iran and Afghanistan provided a current and special reason for intensified attention to the province.

Balochistan's state of political and economic development, and geographic isolation dictated a unique strategy for its development. Balochistan, particularly the Makran Division, is well behind other part of Pakistan in term of its physical and human infrastructure, its range of economic activities, and its participation in development activities. The low level of public and private investments, limited access to markets for the few products of Balochistan and the markedly high cost of importing into the province combined to limit the economic and social progress to a greater degree than any other province. Because of these circumstances any strategy for the development of Balochistan had to be based on special political, economic, technical and administrative considerations.

More specifically, the Balochistan Area Development Project was primarily motivated by the need to integrate Makran Division more closely into the administrative and economic fiber of Pakistan. Secessionist sentiments and ethnic ties with Baloch population of Iran and Afghanistan were a source of apprehension to the Government of Pakistan, specially at the height of the war in Afghanistan. The Project was inspired politically and demonstrated the concerns of the government for the strategically located area and the needs of the neglected population, by providing critical infrastructure.

B. Implementation

The prospects for economic development in Balochistan are characterized by a number of historical and geographical disadvan ges, of which the most immediate were sparseness of both human and natural resources, inaccessibility and isolation.

Development planning started by looking at what was already there, specially in local skills, values and ambitions. Even with this limitation, in Balochistan the problem lay not in finding viable projects but in choosing amongst the hundreds of projects, for which feasible proposals in some form already existed and working out a way of executing them that would be appropriate for local interest, national priorities and US policies, leading towards positive impact on the standard of living of the greatest number of people.

Special arrangements were required for the implementation of BALAD by both the Government of Balochistan and USAID. The project officer was located at Quetta, the provincial capital, from where he directly managed the project. In addition, this officer was charged with a responsibility of coordinating other AID financed project activities which were being carried out in Balochistan. In this way, continuous, on site management attention, would be given to the successful implementation of both the Balochistan Area Development Project and the entire Mission projects portfolio in Balochistan.

The conditions in Balochistan required a flexible approach to project design, contracting, and project implementation to ensure that the identified priority activities were responsive to local conditions and encourage maximum local participation. Furthermore the hands-on technology transfer nature of the proposed low cost interventions required that the project staff have adequate authority and responsibility to adjust inputs promptly and sensitively to the evolving project situations.

The project tried new approaches to better use existing resources and support, not replace, community initiative. Individual components provided for upgrading, maintaining and constructing roads; water sector improvements, including the construction of small dams and the improvements of karez well and watercourses; and manpower training to strengthen management and administration in the area.

The project was the center piece for AID funded development activities in Balochistan. Its emphasis on water and rural infrastructure responded directly to priorities shared by provincial and federal planning officials.

C. Description

The project paper identified three main areas of activity: (1) road construction, rehabilitation & 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 Makran Division to plan, prioritize, select and implement development projects.

Conditions of the original Grant Agreement included the formal establishment of the Project Planning and Management Unit (PPMU) at Turbat, appointment of a Project Director, and provision of a site for the Project Head Quarters. Project mobilization required well over a year. The long term Technical Assistance Team contract was signed in September 1985. The full TA Team was established in the country by April 1986 with the last arrival of the planned core team of four long term expatriates.

The project assisted the Communication & Works (C&W) Department to improve nine hundred km of trunk road, widening roads, easing curves, improving water crossings and realigning roadways. The hundred and ten (110) kms mountainous roads from Bela to Awaran was (and still is) the major traffic bottle neck from Makran to Karachi. Sections are

impossible in rainy weather and must be realigned and paved to allow year round transportation to this remote area. The BALAD and C&W staff of the roads component of ranging from foreman to Executive Engineer were trained in drainage design and construction, general construction practices in the field, quality control, planning and maintenance of roads and operation of equipment. The project also helped the C&W improve its overall planning and operation techniques. Technical consultants trained management staff in planning road maintenance and development, generating income or increasing budget resources, and introducing cost affective drainage techniques.

II. History

The BALAD project agreement was signed on August 30, 1984. Funding for the proposed five year effort was $ 40 million with an additional imputed value from the Government of Balochistan estimated at approximately $ 5.8 million in equivalent rupee. An additional $5 million were obligated in 1988 for the design of road extension to Turbat, bringing up the total funding level to $45 million.

Construction of the project head-quarters compound in Turbat began in December 1985 and was completed in April 1987. Technical Assistance from Louis Berger International was in place by 1986. The team consisted of a planner, a water engineer and a road engineer besides the Chief of Party.

Mainly because of extended delays in mobilization on the part of the contractor under an USAID direct contract for the construction of 56 kms Bela-Awaran Road, there was little else to show by way of accomplishment. Improvement of this road and planned extension (from the initial 56 kms to 101 kms and the subsequently to 376 kms) to Turbat was widely perceived as the main contribution USAID could make to development in Makran.

The delayed activity contributed to growing local criticism of USAID and the project. Because of potential agitation by the students wing of the Balochistan National Movement (BNM), new activities which could be implemented quickly and have high visibility were added to the project. These included construction of the Ketch River Bridge near Turbat, the paving of selected Turbat town roads, and the implementation of a vocational technical (Vo-Tech) training program which largely replaced the original training program described in the Project Paper (PP). Under the Special Development Activity (SDA) component an active program of building school class rooms and related structures was quickly initiated, mainly for political reasons. Activities under the SDA component were originally designed to follow the main infrastructure activity rather than precede it.

As might be expected under the conditions in Makran, fuel shortages and the break-down of equipment as well as local contractors' absences, non-performance or inability to meet schedules and standards were continuing problems.

The First Interim Evaluation of the Project took place in December 1987. The main observations were:

* institution building was impossible due to lack of Government of Pakistan counterparts;
* the Makran Training Program was well received;
* SDA schemes, although well received and providing benefits at the community level had limited visibility;
* long term maintenance of construction activities would be difficult;
* the collection of social economic data of Makran had been completed but was little used;
* high visibility projects were desired both for the administration and the local community in Makran.

The Evaluation recommended that:

* the Vo-Tech program should be continued;
* USAID/Islamabad should, on major construction projects, review its tendering process for securing higher quality bids from better qualified firms;
* efforts should be made to continue and expand SDA and water resource activities;
* if BALAD II was to be undertaken, the main feature should be completion and/or continuation of major infrastructure activities initiated so far-in particular the Bela-Awaran-Turbat Road.

In late 1988 it was only through the intervention of the Chief Minister of Balochistan and US Ambassador that the Project was not terminated. The GOB assured USAID that the PPMU would be fully staffed and that rational planning would be decentralized and institutionalized at the Divisional and local level.

In 1989 the project shifted from infrastructure construction to agriculture production and rural development planning. In June 1989 a long term agronomist was also added to the Technical Assistance Team. The Agriculture and Rural Development Division of USAID took over responsibility for the project from the office of Engineering and Office of Project Development and Monitoring and in mid 1990 assigned to Quetta a senior Project Officer as its representative to oversee operations and maintain liaison with GOB authorities. This change meant more delegation and better project control and refocussing 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. However there was now 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 could be planned and managed by local and provincial authorities.

The technical assistance contract was extended for another year to particularly emphasize agriculture development and institutionalization of the activities undertaken since the inception of the project.

School building activity was suspended in early 1989 since a large Primary Education Project was launched in Balochistan, part of which was to 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 boring, delay action dams and other interventions.

Construction of the Bela-Awaran road continued to be behind schedule and the contract was eventually terminated in June 1990.

The concept Paper of BALAD II was prepared by the PPMU, by no means a mean achievement, and presented in a Work Shop at Karachi in May of 1990. The proposed BALAD II Project included the construction of the 376 kms stretch of the road between Bela-Awaran-Turbat. A Project Identification Document (PID) was subsequently reviewed in Washington (Jan. 1991) and resulted in the major road component of the Awaran-Turbat road, for which preliminary design had been completed, to be separated off from BALAD to become a separate Balochistan Road Project (BRP).

The activities proposed for the extension put a more balanced emphasis on institutional development and training and 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 was to build C&W capabilities and to plan, design, and maintain a good road system.

The second Interim Evaluation took place in 1990. The evaluation made the following principal recommendations:

* A much larger commitment of personnel and funds was needed on the part of C&W;

* All water related activities (delay action dams, infiltration galleries etc.) should be postponed until a comprehensive study of ground water resources and the impact of project intervention on these resources was available. However, those activities already approved for the construction of siphons, channel linings and other karez improvements should continue, provided karez owners share in the cost;
* a strategy for agriculture marketing needed to be developed in view of the importance of date and food crops to the economy;
* to support activities which promote the role of women in development (WID);
* funding should be conditional upon local participation and contribution under SDA and WID activities;
* PPMU's mandate should be defined and include all development activities in the Division not just those of BALAD. The Director of the PPMU should be of a senior rank and a level of authority and should be appointed as regular government appointees;
* planning should be done on a district basis and directly involve the villages and the union and district councils in identifying local priorities and self help resources. The University of Balochistan should be involved to train community organizers to assist the people in conducting surveys, identifying priorities and mobilizing local resources;
* develop a strategy to enable private sector to take advantage of business opportunities that exists and opportunities that may emerge.

As a result of this evaluation BALAD underwent formal redesign process involving the GOB, PPMU, USAID, the Technical Assistance Team and other interested parties e.g. representatives from the Chamber of Commerce and Industry, the private sector, the University of Balochistan, and persons representing interests of women.

In September 1990 the TA contract was amended to allow continuation of activities through December 1992, with an option for extension through September 1993, subject to extension of the PACD.

The overall scope of work for this phase of the project focused mostly on institutionalization of regionalized planning in the Makran and on activities which served to strengthen planning capabilities in the line agencies working with each of the project sectors.

At this point a detailed Work Plan was developed, which capitalized on the work accomplished and aimed at institutionalization of project activities within line agencies to ensure the sustainability of the work carried out by the project. The Work Plan was presented to USAID and the GOB at a workshop and subsequently to the Project Steering Committee at Quetta in early January 1991. The Work Plan was approved by GOB and USAID in January 1991. Unfortunately, implementation of the work plan was adversely affected by two events: (1) The expatriate consultant team was informed on the same day that the Work Plan was approved, that because of the crisis in the Gulf, it was to be evacuated from Pakistan. The Team departed on January 8 and was not allowed to return until May of that year; (2) While the expatriate team was not in country, imposition of the Pressler Amendment forced the Mission to cut the project back drastically, to reduce the level of effort and funding (from $45 to $33.5 million) and to inform the contractor it would not exercise the optional nine months extension.

In May 1991, half of the expatriate team was allowed to return to Pakistan. The two engineering positions were abolished. Upon the return of the COP and agronomist the TA team developed a truncated work plan covering activities to be carried out through the end of the year and presented a schedule of closeout activities and staff demobilization. Activities under the work plan were scaled back and emphasis was placed on completion of ongoing activities. Specific activities carried over from the June 1990 work plan included: development of an organizational framework for planning in the Makran; completion of the

inventory of all karezes and wells in the Division; completion of Traffic Counts and a Road Condition Survey on all primary roads of the area; an electro-resistivity survey of Gwadar District; remedial works on roads and structures; on-farm demonstrations and two agriculture marketing studies.

Continuing activities included development of a regional plan for Coastal Makran and initiation of two local-contribution water development projects.

The close out activities included: phasing out the staff; preparing and handing over inventory and property to the GOB; insuring project documentation was complete and in order; and preparation of individual and project closeout reports.

The Project PACD was extended for six months, from January 1992 to June 1992, to address sustainability issues, to impart training, and to complete training-related documents.

III. Implementation of Project components

A. Roads

1. Description

General:

The poor condition of the road network in Makran was always viewed as one of the major constraints to development. Of some three thousand (3,000) km roads in Makran, less than one hundred (100 km) were paved and most of them lacked drainage structures. For the most part, roads consisted of shingle tracks. The purpose of the roads component was to upgrade and maintain important roads to increase the flow of goods and services and stimulate economic growth.

The center-piece of the road component was to be the construction of difficult stretches between Bela and Awaran. Also included was rehabilitation and maintenance of gravel roads to ensure access within Makran. Other road improvement activities were subsequently added to the project, including a major bridge over the Ketch river in Turbat and paving of town roads.

The Bela Awaran Road:

The planned construction of Bela-Awaran road was widely perceived as the main contribution USAID could make to development in Makran. Road design, including drainage structures, was completed on schedule and NASA was selected as the construction contractor on the Project.

The $ 16.4 million contract was signed in August 1987. The total construction period was to be 30 months. The contract was terminated for default in February 1988 but reinstated two months later. The contract was fully terminated for convenience on May 29, 1990.

Ketch River Bridge:

The bridge on Ketch river stands out as the most impressive construction project ever undertaken in the Makran. It consisted of two approach embankments connected in the center by a reinforced concrete pile bridge. The bridge provides easy year-round connection of Turbat to the Mand-Turbat-Awaran road and served the purpose of a highly visible intervention associated with the U.S.

The Engineering contract was signed in April 1986 and the invitation for construction bids were issued in February 1987. A construction contract was signed with a local firm, Saadullah Khan Brothers. There were inevitable delays and the mobilization had to be extended. The bridge was inaugurated in February 1991 by the Chief Minister, Balochistan, Mr. Taj Mohammad Khan Jamali.

Road Rehabilitation:

Rehabilitation involved road widening, cutting down vertical curves to provide safe sight distances, widening the radius of horizontal curves, improving approaches to low water crossings and realignments of short lengths of roads. Referred to as Stage I rehabilitation, it satisfied the need for quick action and visible progress.

Subsequently, in mid 1989, road rehabilitation standards were significantly raised adopting the classic elevated crown road bed with side ditches. This standard was referred to as Stage II rehabilitation: road width was increased from 8 meters under Stage I to 10 meters and where necessary a layer of gravel was placed on the road bed as a wearing surface.

Road constructed to Stage I standard were seen only as temporary, and since the roads were still lower than the surrounding terrain, the roads tended to act as canals when it rained. Under Stage II the roads were upgraded, both to decrease travel time, and to make them more resistant to weathering. Over time, maintenance cost was expected to be less.

Designed for a speed of 80 kms per hour, Stage II roads cut travel time to half of that of Stage I and significantly reduced wear and tear of vehicles.

Road Maintenance:

Improved road maintenance was to be accomplished by strengthening the institutional capacity of C&W through technical assistance and by providing operational funding. Maintenance operations consisted of three motor graders 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 operated on most of the roads selected for improvement. The road maintenance activities were started in August 1987 and suspended in March of 1989. The decision was taken because it was felt that the C&W must take responsibility for the maintenance if it was to be continued after the project ended.

Road Equipment:

Road construction equipment worth over $2 million was initially provided from Agriculture Commodities and Equipment (ACE) program. An additional $1.5 million worth of equipment was procured for Stage II under BALAD.

The equipment transferred to the C&W Department. was rented out to the Project. The rental were based upon the average estimated cost of equipment operation including maintenance. A separate account was maintained under this head to insure that the moneys generated from the rentals were used on the maintenance and repairs of the equipment which were assigned to the project.

2. *Planned outputs*

The planned outputs were (1) the rehabilitation and maintenance of 600 kms of Category I roads and 900 kms of Category II roads with thirty drainage structures. Category I included

all roads connecting districts and divisional headquarters, road connecting populated areas on settlements and agriculture production centers with Karachi and any other road with high volumes of traffic. Category II covered roads with low volume of traffic, connecting outlying towns and agriculture areas with district centers. (2) Construction of 55 Kms of Bela Awaran road: Subsequently it was decided to pave the entire 101 kms all the way to Awaran.

In the PP only the design of the Ketch River Bridge was planned to be completed, but subsequently it was decided to construct it as well.

3. *Accomplishments (Actual outputs)*

The most visible accomplishment is the Ketch River Bridge which handles over 700 vehicles per day.

The Bela-Awaran road at the cost of $ 8 million never approached what had been originally planned. At the time of termination of the NASA contract, the estimated percentages of completion of road works, were 70% of the embankments, 18% of the stone sub-base and 12% of base course foundation. Approximately 19% of the work relating to bridges and culverts was done, but not a single structure was finished. NASA was paid a total of $ 3.8 million.

Approximately 1,575 kms of Makran roads were improved and maintained. In addition about 330 kms were rehabilitated to Stage I standards and 69 kms to Stage II standards. Fifty-nine drainage structures were constructed which consisted of low water crossings culverts and siphons.

The link road connecting the main Turbat Town Bazaar road was also constructed to join with the approach road to the Ketch River bridge.

Major improvements in the alignment of two section of Talar Gap were also undertaken under the project. These included widening of the road and improvement in the drainage and horizontal and vertical alignments.

The project also introduced improved methodologies through the preparation of the following programs and documents: a) road classification system; b) Geometric Standards; c) road rehabilitation concepts and methodologies; d) improved road rehabilitation monitoring system; e) kilometer post system; f) road condition rating system; g) traffic count system; and h) equipment preventive maintenance program.

4. Lessons learned

No further investment in strengthening C&W Department should be made without having a firm commitment from the C&W of its human and monetary resources.

The frequent changes and transfers of C&W personnel and the personnel of other line agencies do not help project implementation nor carrying out of the new methodologies.

As part of an effort to deflect criticism that BALAD was "doing nothing", it was decided to pave some sections of the road in the Turbat-town area, although there was little justification, as the municipality, unlike the rural areas is able to raise revenue for such improvements.

5. Development Opportunities

The construction of the Bela-Awaran-Turbat Road and the Coastal Highway which would link Makran to the market center of Karachi is still considered to be the most important factor in opening up Makran.

With the commissioning of the Gwadar deep sea port, the Pasni Fish Harbor and the possibility of Gwadar being declared a free port or an export processing zone, the development opportunities would expand. But transportation for goods to destinations would need a good roadway system. The feasibility of a road linking to the Central Asian Republics seems an attractive proposition.

216 C&W workers were trained in machinery operation and maintenance.

B. Water and Agriculture

1. Description

Water is the principal limiting resource in the Makran. Another limiting resource is the availability skilled farmers and agriculture workers. These are the primary constraints to improvement of the living conditions in Makran.

Karezes are long horizontal underground tunnels carrying water. They provide water to 90% of the irrigated area of Makran. Some 200 karezes are concentrated in the vicinity of Turbat and another 150 in the Panjgur oasis. An additional 5% is irrigated through korjos which are open ditches that carry water diverted from usually dry water courses during times when water is flowing. Tube-wells furnish water to the remaining 5%.

Project interventions focussed on activities related to:
(1) underground water utilization and karez improvements;
(2) retention, storage and use of surface runoff;
(3) on-farm water management.

The quality of construction was generally good, considering the remoteness of the area and lack of skilled personnel and equipment. Earlier construction had some design shortcomings.

As the contractor gained experience the quality standard showed marked improvement.

The work plan after the two evaluations reflected a reassessment of water sector activities and increased emphasis on water management planning and monitoring.

Because of sparse rainfall, the dams which were constructed could not be evaluated for their benefits but it was likely that they could produce an increase in ground water and karez flow.

Two water structures, the Kil Kaur dam and the Gobered Diversion structures, were canceled because of opposition of downstream water users. Capping of karezes was also abandoned because of local resistance.

From 1989 more attention was given to agriculture and on-farm water management activities which were linked to the ongoing program of irrigation improvements. The long term expatriate agronomist arrived in June 1989 on an initial assignment of just over a year, to prepare a plan having short term focus. A year later, and with good chance that project would be extended until the end of 1991, he was able to plan some long term activities.

2. *Planned outputs*

The following outputs were envisaged in the PP: Vertical bores drilled in 95 karez mother wells; capping of 95 karezes; construction of 35 gabion small delay action dams; construction of 12 earthfill delay action dams; improvement of 144 water courses and land levelling of 4,175 acres under the On-Farm Water Management (OFWM) activities; construction of Kil Kaur dam and of Gobered Diversion structure; and establishment of a rolling water management process.

In the course of the project implementation and in view of the evaluations, several basic changes took place in these objectives and while some work continued, others were put on hold till the benefits were evaluated. These included construction of check dams and delay action dams.

The agricultural plan that was initially prepared was qualitative in nature and included the following elements: On-Farm Demonstrations; introduction of new crops and methods of maximizing yields; improvement of on-farm water management; training and other support for the development of date processing; introduction of appropriate farm mechanization; compilation and completion of a karez inventory.

3. *Accomplishments (Actual outputs)*

Twenty three karezes and korjos were improved through construction of infiltration galleries, installation of pipes in the karez tunnels underneath nullahs, extension of karezes, deep channel lining and construction of aqueducts over the crossings. Forty four watercourses were improved by lining and installing siphon and pipe aqueducts. Ninety five karez mother-wells were drilled to tap deeper artisian aquifers. Sixteen delay action dams were constructed. A gabion flood water diversion dam was constructed to divert flood water runoff into a korjo. Fifty acres were developed where the flood water runoff slowed down and spread out over a large area through the construction of a series of bunds and associated land levelling. A comprehensive inventory of all karezes and well was also prepared.

BALAD proposed and created a Water Management Advisory Committee in the Makran to address the urgent need to control exploitation of limited ground water resources of the region in light of the availability of electricity from the Pasni Power generation plant established under ODA funds.

An electro resistivity survey of the Gwadar District was carried out to identify areas in the district which showed the greatest potential of much needed ground water development.

BALAD carried out its first project requiring significant beneficiary contribution in the construction project for improvement of Basol and Sarchupi karezes.

Water engineers carried out a study of the impact of the proposed Mirani dam in the Dasht area and offered an alternative design.

BALAD planned, organized and carried out 153 On-farm demonstrations at various locations throughout the Turbat and Panjgur districts. These demonstration included introduction of improved varieties of wheat, barley, sorghum, alfalfa, oil seeds, melons, okra, cabbage,

onions etc. and demonstration of the positive effect of chemical nitrogen fertilizer on date palm.

Appropriate mechanization was also introduced at two levels (1) the use of power tiller hand tractors and; (2) the use of hand pushed seeds and vegetable planting.

The project provided 594 learner days of farmer training. These included field days, farmers' study tours and many one-day training sessions focussing on specific topics such as date palm pollination, date bunch thinning, grape vine pruning and propagation.

The project directed two agriculture marketing studies one on the marketing of dates and the other assessing the potential for marketing fruit grown in the Panjgur district.

4. Lessons learned

Early on the project concentrated on assessing the reliability of water data, collecting additional data and designing and implementing prototype water development schemes. Progress was slow and delays were caused in mobilizing sub-contractors and staffing the PPMU. This was compounded by local resistance to the foreign presence and resulted in vandalization of many of the weather and water flow monitoring stations installed by the project. However this prototype phase of water sector activities was successful and sufficient understanding of the hydrology of Makran was gained to facilitate the design and implementation of useful interventions.

The second phase involved concentration on physical works including the design, construction and monitoring of many water structures. At the time of the second evaluation, increased exploitation of water was questioned and doubts expressed on the affect it would have in the future.

A comprehensive study of the existing water resources, including annual withdrawal and replenishment, is crucial to determine the water balance. This could entail a hydro-meteorological monitoring network to gather rainfall and runoff data.

The involvement of the line agencies was critical to the long term sustainability of project activities. However, it was difficult to maintain their attention if the project scale was small and their role was limited.

The farmers were receptive to innovative ideas that addressed real problems, when introduced with their participation and with the commitment to helping them improve their production. Low cost agriculture development can be achieved through a well planned program of on-farm demonstrations, if farmers have a stake in the development progress. Demonstrations should be held on farmers land and not on government farms, and should include major contributions from the farmers. Project, should concentrate on basic inputs such a seeds, fertilizer and ideas, with the farmer preparing the land to apply the treatments etc. This method can be carried out inexpensively. However, the motivation to plan and conduct such training is not easily available.

The extension services of the Agriculture Department is largely ineffective as an agent of change in the Makran. Reasons for this need to be investigated.

Participation of a qualified and, more important, a highly motivated and designated local counterpart can increase effectiveness substantially.

Improvement of agriculture production in a oasis is an extremely complex undertaking. The traditional practices used in these areas are considered unproductive and obsolete. However there is value in the experience that has led to the use of these systems. Rational recommendations for crops improvement to increase farmer income requires sustained

research not only in a single crop but also on inter-relationships of crops found on any one property. This information can only come through a systems approach to farm research.

Training programs in date cultivation, pollination and harvesting, and grape vine pruning and propagation were very successful. Training was a felt need in the area.

5. *Development Opportunities*

A hydro-meteorological study should be undertaken for a rational development of the water resources. The particulars of the network was prepared under the Project and is available for implementation.

There is scope for community involvement in water projects and the response to beneficiary participation was positive. Any future project should be based upon their contribution. Participation of the beneficiary in the selection and implementation is critical towards sustaining projects. Projects perceived as a government hand-out mar the already established institutions (e.g. karez owners' associations) and can be harmful and deter existing sustainability.

Based upon the findings of the electro-resistivity survey of the coastal area, a Master Plan for development of water resources should be developed for implementation.

Establishment of an auction market for dates being produced in Makran is likely to have the greatest impact on the income of Makran date growers. The auction house would introduce marketing by bringing the buyer and sellers together at a central site in the Makran.

The Marketing Study conducted by a short term consultant strongly recommended introduction of fig cultivation in the Panjgur district. The market demand, both local and

international, and the flexibility afforded by this fruit makes its expansion an attractive prospect.

The farming system research approach is ideally suited for the Makran. Basic research on an oasis farming system is needed. From a research stand point, oasis are small enough to study effectively and efficiently.

C. Planning, Management and Human Resource Development

1. Description

Planning and Management and Human Resource Development:
Decentralizing and strengthening the capacity to plan, prioritize, select and implement development projects was recognized as the most difficult and the most important long term component of the project. It included technical assistance and staff support to the Planning and Development (P&D) Department in Quetta; establishment of a PPMU in Makran; and a special fund for Special Development Activities (SDA) complimentary and designed to improve performance of staff in irrigation, agriculture and communication and works in Makran;

The PP noted that the Commissioner for Makran had authority to direct all activities in a division but lacked the means to exercise full authority without any nation building departments (e.g. water and Power Irrigation, Communication & Works) staff attached to his office.

Project Planning and Management Unit:
The difficulty was to make the Commissioner's authority over district officials a reality, and to assure participation of line departments in the project. The principal decision was to establish a Project Planning and Management Unit (PPMU) as the Commissioner's primary means of exercising authority in development matters. It was planned that PPMU would have appropriate authority and staff to work with the line agencies and the private sector to plan, coordinate, monitor and in some cases, manage inputs. The PPMU was envisaged to become a model of how regional planning can be institutionalized at the divisional level.

Special Development Activities:

The Special Development Fund was planned to provide prompt response to opportunities which developed during implementation of the project. The selection criteria for the activities required that these should be: consistent with the 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 the local social practices or technical skills; enhance the GOBs ability to provide services; contribute to strengthening the private sector; be socially and technically sound and be economically justified.

2. *Planned outputs*

The component aimed to:

* improve the GOBs capability for designing, implementing, monitoring, and evaluating development projects;
* establish a prototype divisional P&D unit at Turbat;
* provide training:

Planned Training Outputs

Participants	Description
4	Long-term academic training
6	Short-term technical training in the U.S.
6	third-country Agriculture & Engineering training
30 Agriculture Extension Field Assistants	on-the-job training
12	In-country undergraduate training in Agriculture and Engineering
50 from line agencies and PPMU personnel	In-country & on-the-job training in project planning, design, appraisal and implementation techniques
4 Makranis	Graduate level in economics, planning and hydrology
10 per year - leading farmers and appropriate government officials	Travel fellowships to observe improved farming techniques in other locations.

3. *Accomplishments (Actual outputs)*

Of particular importance was the ***BALAD: Planning in Makran*** studies of October and December 1991. These studies presented a blueprint of the organizational structure, terms of reference, and staffing profiles. It explained how planning could be institutionalized in Makran within the context of the existing P&D structure. The study recommendations were presented at the Planning Conference in Quetta on October 8, 1991. The conference, attended by GOB officials and others, unanimously indorsed these recommendations.

A computerized information management cell was established and equipped at Quetta in the P&D Department. Preparation of the Annual Development Budgets was fully computerized and systems were initiated for computerized monitoring of development projects.

To its credit, the PPMU prepared the selection criteria of projects under the Special Development Activities and contributed substantially in the preparation of the Concept paper for the proposed follow-on BALAD.

Under the SDA, fifty two schools (36 boys' and 16 girls') were extended, one maternity health center was constructed, three potable water schemes were completed, Turbat town roads were paved. Small interventions in the water sector were also undertaken which are more adequately dealt with under the relevant section.

For various reasons the training plan in the Project Paper was modified corresponding to the field conditions.

Actual Training Outputs

Participants	Description
45 Makranis - 37 - 8	Vocational training in U.S. - 2 year certificate course - non-degree technical program
680 learner days	farmer training
20 farmers	Study tour to date growing areas in Sindh
250 C&W workers	Trained in machinery operation, maintenance and equipment management.
3 senior staff, C&W	AIT, Thailand. Short term training in rural roads management.
5 men, 2 women	Course on Rural Physical Infrastructure Development
2 senior staff, P&D Dept.	International Institute for Rural Reconstruction, Manila. Course on Managing Rura' Development
2 men, 2 women	Northern Pakistan. Study tour of rural development activities of the Aga Khan Rural Support Program.
7 men, 1 woman. Very senior officers of the Government of Pakistan	Thailand. Study tour of rural development projects.

4. Lessons learned

Limited sectoral planning and even less regional planning had taken place in the Makran before BALAD. There was a lack of basic data. BALAD tried, and partially succeeded, in filling this gap with its general planning publications and its sectoral studies.

Institutional development takes time and much cooperative interaction, both formal and informal. The Government of Balochistan's policy direction of moving towards decentralized

regional planning, requires an agreed-upon framework, institution building, line agency integration, local accountability and greater local resource control. The Government of Balochistan over a period of years, has provided minimal budgetary and staff support to the building up of the planning capability at the provincial and divisional levels due to a lack of high level commitment by political leaders and senior administrators. Consequently the TA Team had to design, implement and monitor almost all projects under the Project. PPMU's function had been limited to administrative aspects of the projects. These included the identification of sub-projects, the processing and submission of PC-1 proposals to P&D and assistance in the tendering of contracts.

The inclusion of special development activities in the project was valuable in overcoming the initial resistance to the foreign presence in Makran. Construction projects in very remote villages were hard to monitor and supervise, and the contractors often expected that the quality of their work would be compromised. However, one of the interesting and noteworthy elements was that when the contractor came from the village where work was being undertaken, there was a reasonably good quality of work, confirming that when the community feels ownership they have a vested interest in the quality and success of the undertaking.

The SDAs have the highest promise of sustainability when initiated by local self help programs under the participation of the community organizations or under an indigenous NGO. Political motivations often overshadowed real development needs. In certain cases, such as the Maternity Health Center, the facility provided is yet to be used and staffed.

5. *Development Opportunities*

The ground-work for organizing communities for participatory work was strengthened under the project. The opportunity exists for establishment or extension of an indigenous Non-Governmental Organization (NGO) with limited financial and technical support.

The planning framework which was finalized under the Project can be adopted by the GOB but will require some technical assistance, equipment and training to make decentralized and rational planning a reality. Adoption of decentralized planning will require not only commitment at the provincial level but will also require a full-time senior planner who can manage, mobilize line agency and private entities and represent divisional interest at the provincial and federal forums.

D. Private Sector

Initially BALAD followed a public sector development approach. In the later stages, as referred to in the History Section, BALAD began gradually to give more attention to planning, and development through the private sector.

Private sector support organizations in the Makran and elsewhere in Balochistan are weak, and institutional mechanisms are lacking through which donors such as USAID could work.

There are private sector investment opportunities in Makran but human resources and physical constraints are serious. Additional studies are required before deciding whether major investment is feasible. Appendix A exhibits a list of studies, including those pertaining to the promotion of the private sector, which were undertaken under the project.

In the coastal Makran, the fishing industry is capable of further expansion both in terms of the catch and value added. Additional facilities for storage and processing of fish would supplement current incomes of the local residents.

The construction of the Pasni Fish Harbor and the Gwadar mini port would definitely go a long way in improving the living conditions of the people along the coast. However, a greater efforts would need to be made for the development and improvement of coastal Makran.

The creation of a cell for market research and feasibility studies within the Balochistan Chamber of Commerce and Industry is under active consideration. This may help in the identification and realization of the development opportunities.

Another possibility would be development through a Private Voluntary Organization (PVO) or an NGO. However there are few of these in the Makran and they would require substantial resources to assist in their establishment and operation.

IV. Summary of Lessons Learned

A. Institutional Development

In spite of BALAD's provision of substantial technical assistance, training and equipment over the years, there was little improvement in the performance of the government departments in the Makran. Equipment provided by USAID is not being maintained to realize its useful life. Implementation of a coherent strategy for undertaking projects still works on an ad-hoc basis.

Frequent postings and transfers of government employees do not promote the cause of the project nor of the training which is and no continuity can be developed.

B. Sustainability

The political decision to emphasis visible outputs in the earlier phase of BALAD meant that institutional development was given lesser importance. The BALAD design incorporated in the December 1990 work plan, integrated physical outputs with institutional ones, including training. This was designed to stress sustainability. However, due to the Pressler Amendment the 1990 work plan had to be drastically cut back, compromising the major objectives.

The karezes and korjo improvements by and large will continue to be maintained by private owners.

The use of improved practices by the farmers will continue.

V. Summary of Development Opportunities

A. Infrastructure Development

The development opportunities which have been identified in the Makran are numerous. They would however require assistance from an outside donor. BALAD developed and began application of many modern methods of road classification standards, surveys and traffic counts; these would hardly be owned by the government unless they are put into practice and proved to be better than the current ad-hoc practices. Also the maintenance management, equipment management capital improvement and training would be beneficial and provide development opportunities.

During the course of the project implementation the weaknesses of the C&W Department were made obvious. One of the alternatives which was considered for any future assistance to C&W or in the infrastructure development was to constitute a public authority responsible for road construction, rehabilitation and maintenance.

In the water sector, development opportunities have been identified in the projects: divert runoff waters into carefully designed bunded and levelled areas; the formation of the water management advisory committee; implementation of small water development activities which require a strong beneficiary participation in their identification and construction.

A hydro-meteorological monitoring network must be established to collect data of rainfall and runoff. A ground water monitoring system, as outlined in the karezes and well inventory of Makran, also must be initiated. Data gathered from these two activities can be analyzed through computer modelling to predict the amount of replenishment. Planners can use the information derived from these activities in decision making about development and regulation of ground water.

In accordance with the recommendations of the electro-resistivity study of the Gwadar District, undertaken by the Geological Survey of Pakistan (GSP) under a sub-contract to PPMU, new sources of potable water and bore holes can be identified and drilled.

B. Institutional development

Regional planning is a practical tool to help the government and others evaluate and compare interventions.

As a result of the Pressler phase-out an amount of $ 11.5 million was deobligated thus reducing the life of the Project funding from $ 45 million to $ 33.5 million. Naturally this had serious implications on the planned future activities and eliminated possibility of BALAD

II which was planned and focussed on sustainability, participatory development, role of Women in Development and private sector in development. The shift of emphasis had already occurred without departing from original purpose, that is, the integration of the Makran into the political and economic mainstream of Pakistan.

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