

For C. Conrad
UNDCP

DRAFT REPORT

AN ASSESSMENT OF HELMAND VALLEY
WATER CONTROL SYSTEM

PREPARED FOR

THE OFFICE OF A.I.D. REPRESENTATIVE
FOR AFGHANISTAN
U.S. EMBASSY, ISLAMABAD

BY

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INTRODUCTION

BACKGROUND

The 1979 Soviet invasion of Afghanistan and its aftermath have rendered proper management, operation and maintenance of the Helmand Valley's water control system virtually impossible. Major degradation of physical plant and operational capability have ensued. This year, unseasonably heavy rains, together with earlier than expected melting of the heavy winter snow resulted in widespread flooding. The extraordinary flows have exacerbated the condition of an already seriously deteriorated system.

United Nations contacts inside Afghanistan had informed USAID that the diversion structures at the head of Boghra Canal on the Helmand have been damaged by flooding and silting. Other parts of the Helmand Valley water control system were also reportedly at risk due to lack of maintenance, spare parts and lubricants.

The services of an Afghan engineer, familiar with the Helmand water control system was needed, to assess the systems current status, identify actions needed to remedy existing and/or impending damage to facilities and water control systems, with specific reference to site of the Boghra Canal headworks and adjacent areas.

The Consultant (Abdul Tawab Assifi) was approached in California. He agreed to render these services according to the following scope of work:

THE SCOPE OF WORK

In accordance with P. O. No. 306-0200-0-00-1211-00, dated May 20, 1991, Consultant's scope of work is as follows:

1. Meet with representatives of the office of the AID Representative for Afghanistan Affairs, the Office of the UN Special Coordinator for Afghanistan (UNOCA), and VITA in Islamabad and Quetta, Pakistan, to receive briefings and background information on conditions at the locations to be visited in Afghanistan.
2. Assist UNOCA in establishing the terms of a reconnaissance survey of the Helmand Valley water control systems, to be carried out under a Special Service Agreement. If practical and appropriate, given security and other relevant conditions, such terms may include visits to areas and water control facilities whose conditions could have significant bearing on the reported situation at Boghra.
3. Assess the water control situation at Boghra and elsewhere in the system as a result of lack of maintenance and silting, especially in the wake of recent floods.
4. Recommend remedial actions to be undertaken to keep the system minimally operational until security conditions permit more extensive repair and overhaul.
5. Brief representatives of O/AID and UNOCA on findings and conclusions of the reconnaissance effort.
6. Prepare a Draft Final Report.
7. Following receipt of Mission comments, prepare a Final Report incorporating the results of the foregoing tasks.

The Consultant is expected to carry out field work in Afghanistan under a separate special service agreement as a consultant between him and the United Nations, under which his compensation for services will not exceed \$1.

CONSULTANT'S VISITS TO PESHAWAR/QUETTA

The consultant left United States on June 6, 1991, and arrived in Islamabad June 10, 1991. At about 9:00AM the same day, reported to Mr. Curt C. F. Wolters, Program Officer at the Office of the A.I.D. Representative for Afghanistan.

The consultant went for a brief trip to Peshawar on June 11th, met with Engineer Sidiq of VITA, Dr. Wakil and David Garner of DAI. At DAI he studied the LANDSAT photos for the Helmand area.

On June 13th the consultant went with Mr. Curt Wolters to the UNOCA Offices in Islamabad where, he was introduced to Mr. Martin Barber, Mr. Jan Haugland and Mr. Bayisa Wak-Woya of UNOCA. During this meeting the details of UN/UNOCA Mission's trip to Quetta and Helmand Afghanistan were discussed.

The following is a summary of Consultant's travel itinerary:

Los Angeles June 6, 1991
Islamabad June 10, Peshawar June 11, Islamabad June 12 to 19th,
Quetta June 19 to 27th. Afghanistan June 28 to July 6th.
Quetta July 6 to 9th, Islamabad July 9 to 17th. Leave Islamabad
to Los Angeles July 17, 1991.

A detailed diary of Consultant's trip from Islamabad to Helmand and back is included in the Appendix.

The Mission to Quetta and Helmand consisted of the following:

The Consultant, A. Tawab Assifi
Bayisa Wak-Woya, UNOCA Team Leader
Adan Adar, WFP
Dr. M. Rehman, WHO
Mulusew Mamo, UNOCA
Abdul Baqi, WFP/UNCR
Mohammad Yosuf Saba, WFP (Engr.)
Noor Ahmad Laywal, WHO
Mohammad Kabir, MCI (Photographer)

HELMAND RIVER GENERAL

The Helmand River originates in the southwestern slopes of Koh-i-Paghman. The Helmand follows a southwesterly direction through the higher plateaus of Central Afghanistan to the lower plains of Dasht-i Margo and Registan beginning at the village of Kajakai. The Helmand flows in the same direction until it reaches Koh-i-Khanishin which diverts it to a generally westerly direction. The Helmand follows a northerly path after Band-i-Kamal Khan after which it discharges to Hamun-i-Helmand close to Zaranj. The Hamuns are inland lakes. They are located in the lower basin of Nimroz (Seistan). The Helmand waters follow a counter clockwise pattern, filling the Hamuns one after another. That is, Hamu-i-Helmand to Hamun-i-Saberi (partially in Afghanistan and Iran) to Hamun-i-Seistan (in Iran) back to Gaud-i-Zireh (in Afghanistan).

The Helmand River has two tributaries. These are the Arghandab joining at Qala-i-Bost and the Musa Qala joining Helmand River at Sangin. In addition to these two, Helmand has numerous tributary washes which contribute large quantities of water during flash floods.

The sources of Helmand water is snow melt and river bed springs in the upper regions and flood water in the upper and lower reaches, the first providing steady water throughout the year, and second contributing flood water from vast desert plains on the two sides of the river.

The Helmand River flows in its valley, which has been cut down from the desert plains adjoining it. The soils in the river valley are of the silty sandy types, while of the adjacent desert plains are a layer of soil underlain by a layer of conglomerate (cemented gravels and boulders). Both the closer, lower valley lands and the higher desert plains are void of organic matter and are brought under cultivation by diverting the river water by means of diversion dams and conveying it by canals to higher ground.

Agriculture in Helmand Valley is totally dependent on irrigation water from the river. Annual rainfall ranges from about 12 inches in the higher elevations to about 4 inches in the lower elevations. About 90% of this rainfall occurs during the period November through April.

The climate of Helmand Valley is arid. Temperatures range from highs of 115 F. to lows of -11 F. in winter.

PRODUCTIVITY

Helmand River Valley has a climate generally favorable to irrigation agriculture. The long growing season plus relatively mild winters give rise to a wide range of crops and potentially favorable yields.

HISTORICAL BACKGROUND

Helmand River has been known to have sustained large populations historically. Probably the earliest irrigated agriculture in the World may have been in Helmand Valley. The old civilizations of Nimroz and Seistan are well known to historians. The ruins of old towns and irrigation canals are witness to this fact. One who lives in Helmand respects the river's ferocity in times of floods and its low flows in times of drought cycles. It took organized manpower and yearly maintenance to make the River serve the irrigated agricultural civilization. It is also a known fact that, many flourishing civilizations perished due to the loss of manpower and organization as a consequence of war, and subsequent lack of maintenance.

After World War II it was decided to harness Almonds resources for potential production and land settlement. It was necessary to build the Kajakai Dam. The Dam provided flood storage to knock off the peaks from the floods, and store this for future use during the periods of low river flow. It was also decided to build another dam on Arghandab River, Almonds main tributary.

It was also necessary to build two diversion dams and canal intake structures on Helmand. One for the Boghra Canal near Girishk, the other for the Darweshan Canal near Hazarjuft. Later another one was built on the Arghandab River for the Zahirshahi Canal in Kandahar. Extensive canal and drainage systems were built close to 250,000 acres of land were brought under production in Helmand, in the early seventies. The potential of growth in Helmand was estimated close to half a million acres. However, with additional storage capacity on the River, this potential could be as high as a million acres. Once again the Helmand was in an upward swing of its productive potential. Many towns bloomed in the arid desert. A large number of landless farmers from different regions of the Country were given land to settle and make a prosperous life in this part of their country. Their production of wheat filled wheat silos from Herat to Ghazni. Additional capacity and new factories were to be built to process cotton, a crop which was not known to local farmers 20 years earlier. All this required organization of human resources and plant capacity to operate and maintain the facilities and construction capability to bring more land into production.

HELMAND RIVER CHARACTERISTICS

The Helmand River has changed its course many times during its past history. The Helmand river bed shows innumerable oxbows if studied from the air. Some of these changes were of a major character such as Helmand changes at Rudbar, Band-i-Kamal Khan and Kohak. The last was due to a man made cause. This occurred after the construction of the Iranian Diversion Dam at Kohak.

The shift of Helmand River channel periodically occurs during and after big floods. However, the continued process of sediment deposition and river bed erosion builds up to an incipient unstable river channel which can eventually result in drastic changes in the river channel during and after floods. Continued surveillance and maintenance of the river bed can keep the river in a stable course. This also requires proper operation of the storage and diversion dams on the river. Conversely, without proper maintenance and operation of the river channel and the dams the river channel will be subject to drastic changes.

Any change in the river course subjects the adjacent agricultural lands and canal diversion dams and intakes to severe damage. Many times this requires relocation of long stretches of the canals and extensive repair work to the diversion dams and intake structures.

Man made causes, such as wars, and indiscriminate bombardments which cause the destruction of water conveyance structures as well as, human resources and operation and maintenance plant facilities can further exacerbate the destructive process of nature to a state that, the continuance of irrigated agriculture becomes impossible.

Chengis Khan's invading hordes totally eliminated their enemies by, destroying their irrigation headworks and canal maintenance labor forces. The remaining population could not survive. The ruins of old towns, cities and large and complex canal and irrigation systems in the Nimroz and Dasht-i-Amiran area are witness to these facts.

THE PRESENT SITUATION IN HELMAND VALLEY

Generally the condition of the Helmand Valley water control system is very serious. The Consultant visited canal headworks, canals, drains roadway bridges and peoples villages from Lashkari Canal Headworks at Nimroz in lower Helmand, to the Boghra Canal and Nadi Ali in middle Helmand. During the invasion of Soviet Forces and the events following it many villages, canal headworks, canals, canal structures, drops, gates, lifting

mechanisms, turnouts, roads, roadway bridges were severely destroyed. These events forced the local population to abandon their homes and lands and take refuge in the neighboring countries of Pakistan and Iran. It is generally estimated that about 20% of the population remained after these events. A diary of Consultant's trip to Afghanistan and to and from the sites in Helmand Valley is included in the Appendix.

THE 1991 FLOODS IN HELMAND

The Helmand Valley this year was inundated by what appears to be a 100 year flood. The severity of this flood has altered the course of the River channel in many places, washing out canal headworks, canals, agricultural lands, villages and their food supplies. This has left the area in a disaster situation, subjecting the remaining population to migrate from their homes. Therefore, immediate measures to repair or reconstruct the damaged water control and conveyance systems is desperately needed.

GENERAL RECOMMENDATIONS

It is recommended that immediate remedial measures to counter this impending disaster situation be undertaken by UN, UNOCA, WFP, UNDP, WHO, ANDRO, NGOS, and all the friendly countries of the World.

The Consultant estimates that the magnitude of this year's flood in the lower Helmand, was in the range of a hundred year flood. This somewhat compares to a previous flood in 1886, which was estimated by the British Surveyors from high water marks. The difference between the 1886 flood and this year's flood is the presence of two storage dams. Kajakai Dam on the Helmand, and Arghandab Dam on the Arghandab River have considerable effect on the reduction of flood peaks in lower Helmand.

RECOMMENDATION ON RIVER FLOW MEASUREMENT:

The Consultant recommends that a hydrological survey of Helmand and Arghandab rivers be made, to make a closer estimate of the magnitude of 1991 floods. It is also, recommended that UNOCA/UN allocate some funds for the repair of hydrological measuring stations on the Helmand and Arghandab rivers. The absence of river flow data for this period, will be irreplaceable in the future years.

In the past most of the hydrological stations on Helmand and Arghandab rivers were built with US Geological Survey assistance.

FIELD OBSERVATIONS AND RECOMMENDATIONS:

Consultant's observations and recommendations are based on visits to the site, and information and material provided by others.

The order of observations in this report, are based on the order visits to the sites.

LASHKARI CANAL

OBSERVATIONS:

The river channel has not changed its course at the intake. The selection of this site for the intake was sound. This site is one of the most stable sites in the lower Helmand. The canal intake up to the flood control (dike about 200 meters from the intake) has some silt deposit. See photos for further details.

The flood dike's concrete gate structures have been removed and piled on location. The lower part of the canal from this place on looks relatively clean (the lower sections of the canal were not visited). However, since the canal passes through an area which has moving sand, it may need cleaning in that area. All work can be done by hand labor and local materials. Finding the necessary labor force may be a problem for this work. It is estimated that about 4,000 man days of labor with the use local materials. About four times that much, will be needed for the lower sections of the canal.

The use of equipment such as, dozers may be needed if sufficient labor could not be found.

RECOMMENDATION:

Recommend food for work WFP program allotment for this work. The river dike can be made of local materials such as, tree branches, bushes and kaela (a mat woven from tamarisk branches).

GANDO CANAL

OBSERVATIONS:

The river channel has changed some. It has washed some work that was done earlier by WFP, (see photos). It is estimated that about 400 man days of work will be needed to fix this problem.

RECOMMENDATION:

Recommend WFP allotment for this work.

BANDAR CANAL

OBSERVATIONS:

The river channel has changed and has moved closer to southern hill (see photos for details). It is estimated that about a kilometer of the canal may be needed to be repaired and relocated. WFP program is applicable to this project. It is estimated that about 2,200 man days may be required for this job.

RECOMMENDATION:

Recommend WFP allotment for Bandar Canal work.

CHARBURJAK CANAL

OBSERVATIONS:

The river channel has changed drastically and cut about 1.3 KM of the canal. A new canal for a length of about 1.5 KM will be needed. (see photos for further details). There are about 500 families still left after the war, out of a population of about 2,500 families in Charburjak. They can mobilize a labor force of about 200 men. It is estimated that about 5,000 man days of work will be needed. It will take about a month to fix this job. Work can be done for food. This will prevent the remaining population to leave their homes and lands.

PALALAK CANAL

The Consultant did not visit this site however, he has learned that work is needed in about 45KM length of this canal. There also, appears to be labor shortage in the area served by this canal which might necessitate the use of equipment. One of the local NGOS by the name of NRO (related to Commandant Abdul Ghani who escorted us from Dalbandin to the Darweshan), has been trying to register with UNOCA, could be a good candidate for this job. Ghani claims that he can bring some equipment from Iran for this work.

DARWESHAN CANAL

OBSERVATIONS ON THE CANAL:

There was water in the lower most jui (a small irrigation canal) of Darweshan called the Binadir. This was a good sight for Mission's sore eyes who had not seen water in any canal since they came to the lower Helmand Valley. From here on upstream

water was flowing in all canals. There were a lot of silt in canals and drains and broken gates, canal structures and turn outs. However, the Darweshan agriculture in general appeared to be healthier than any area we had visited during our stay in Helmand.

The Darweshan Canal Sta 30+ Drop structure in Mian Pushta has been totally destroyed. The Consultant heard that somebody had built a grist mill, blocking the canal water to get more power to the mill. This together with large quantities of water from the Canal intake during recent floods caused the canal berm to wash out, destroying the canal and the concrete structure. See photos in the Appendix.

OBSERVATIONS ON THE CANAL HEADWORKS:

The Darweshan Canal Headwork Structure and a section of the canal for a distance of 260 meters. The river has cut behind the intake structure forming a pool about 70 meters wide and 260 meters long. See the sketch in the next page and photos in the Appendix.

At present the river flows directly into the canal without any control structure. This condition is dangerous because, high water from a flood can get into the canal. Eventually the canal becomes a river bed. The canal has a capacity of about 1,200 cfs. The designers of Darweshan canal had thought of this possibility and provided a flood control dike and control structure downstream from the intake. In fact this control dike has saved the canal from destruction. Also, without the benefit of the canal intake structure and diversion weir, water can not flow into the canal during low water in the river. Therefore, the immediate repair of the Darweshan Canal Intake is of utmost importance.

The repair of Darweshan intake and the Boghra Canal Intake and diversion dam, are both very urgent. Repair work on these headworks needs to be done about the same time and before next year's floods.

The Consultant has looked into the existing problems of access, security, availability of construction equipment, technical manpower and labor force. These limitations influence construction methods applicable to each area under consideration.

RECOMMENDATION ON METHOD OF REPAIR

The consultant is recommending the use of gabions, hand labor, and agricultural tractors for hauling larger size rock and dirt which fortunately is available in the vicinity.

This method of construction is fortunately applicable to all heavy repair work in Helmand, with the exception of areas close to the Hamuns. Both man power and transport could be hired through WFP food for work program.

The material input such as gabions, may need to be funded by funds available to ANDRO \$15,000, WFP \$45,000, UNOCA \$100,000, and UNDP-OPS, money available for infrastructure repair. (Source, Donini) UN Drug Control Program has \$200,000 available to them.

Since the repair of these structures are of utmost importance to the farmers and people living under these canals, it is quite possible that they sign contracts not to plant poppies in the areas benefiting from these material inputs. Thus making contributions by donors such as US, possibly available for this work.

The repair of Darweshan Canal Intake, is a big job by any standard. It is estimated that it will require the following:

1. 260 long, 18 base, 4 top, 7 meter high dirt dike
2. 8,000 cubic meters of gabions, requiring 4,000(2x1x1m) gabions
3. Purchase of 2x1x1 meter gabions at 850Rs per gabion (Aini/VITA)
4. Transport of gabions to the site at 250Rs per gabion (Aini/VITA)
5. 30,000 man days unskilled labor
6. 20,000 tractor loads at 1.5 cubic meters and 300-500 meters haul
7. The construction of gabion works does not require preparation of complex engineering designs, plans and specifications. Simple plans with horizontal and vertical controls to match the existing Canal alignment and elevations, needs to be prepared. The Consultant has included a sheet as a guide for the engineers who will be responsible for this work.
8. Gabion work can best be done by trained personnel such as, masons or brick layers who have done this type of work before.

RECOMMENDATIONS:

The Consultant recommends that VITA be hired for this job. VITA has personnel with previous experience in gabion work. VITA also has experience in the acquisition and transportation of gabions.

VITA should be also hired to repair the station 30+ (Mian Pushta), and the Darweshan (Hazarjuft) Bridge repair jobs.

DARWESHAN BRIDGE

OBSERVATIONS:

The north abutment of the bridge and the approach road to it is badly washed by the 1991 floods. This wash out and some of the repair work to make passage of vehicles possible can be seen in the photographs included in the Appendix.

RECOMMENDATION ON METHOD OF REPAIR

The Consultant earlier in Quetta had studied copies of a plan prepared for the repair of this bridge by Engineer Waziri of UNDP.

The Consultant believes that instead of the masonry and a reinforced concrete structure for the roadway's retaining walls, a rock gabion retaining wall structure be constructed for this job.

This concept was discussed with Engineer Waziri who could modify the plan for a gabion approach. If VITA is hired for this job, it can revise Waziri's plan for the gabion concept. Waziri's plan is otherwise satisfactory with respect to alignment elevations.

The Consultant recommends the alternative which, allows an overflow section in the approach roadway, instead of pipe culverts under the road.

The repair of the Bridge is estimated to require the following:

1. A roadway 5 m. wide, with of 10 m. base at 8 m. depth tapering to 2 m. depth at 50 m. from the bridge and continuing this depth for a distance of another 150 m., then rising to 3 m. in another 20 meters.
2. This will involve a rock and dirt fill of 4,000 cubic meters.
3. 2,000 (2x1x1) gabions will be needed for this volume.
4. 10,000 man days of unskilled labor
5. 2,000 tractor loads at 1.5 cubic meters per load will be needed.

RECOMMENDATIONS:

As can be seen from the rough estimates this repair job is also a big job requiring the services of a strong NGO. The consultant recommends that VITA be hired for this job also. If VITA could not handle both Darweshan canal intake and bridge jobs, it may be advantageous to hire another NGO who, may chose to go into a joint venture with VITA on the bridge job.

THE BOGHRA CANAL SYSTEM

OBSERVATIONS

The Boghra Canal Intake is about 10 KMS upstream from the town of Girishk, through which the Kandahar-Herat roadway passes.

The Boghra Canal has a capacity of 3,700 cfs, and its length to West Marja Branch is about 75 KMS. The Boghra serves the Nadi Ali, Marja, and Shamalan areas. Nadi Ali is served from turnouts and laterals from the Boghra. Marja is served from two Branch Canals and several laterals. The Shamalan is served by the Shamalan Canal which has a capacity of 750 cfs. and length of 65 kilometers. The Boghra diversion dam is washed out by floods in recent years. This year's 100 year flood has further destroyed the headworks of the Boghra Canal, requiring immediate repair.

The Boghra diversion's sluice gates and the canal intake's control gates have all been broken from cannon and rocket fire.

During the recent fighting (3 weeks ago), rocket fire by government forces destroyed the sluice gate crane structure.

The Consultant was not able to visit this site. The study of some pictures and a map prepared by an HVA engineer is used to recommend a method of repair.

RECOMMENDATION ON THE METHOD OF REPAIR

The repair of Boghra diversion may best be done by a similar method proposed for the Darweshan Canal headworks. This method will involve the use of gabions filled with rock to reconstruct the rock weir section. A sketch of the wash out and repair method is included in this report. A three phased approach is recommended for the repair as follows:

1. Open the diversion sluice gates by either repairing the crane support, or lifting the gates by come alongs or hydraulic jacks.
2. Build a coffer dam in front of the washed out gap in the rock weir. This work will be a replacement for the old dike sections (A-A, C-C, K-K, D-D), shown on the plan 505-10-4. Push the river bed material by bull dozers from two sides to close the gap. The gabions or heavy rip rap can be laid after the gap is closed.
3. Reconstruct the rock weir sections shown above and on the (F-F) section shown on the same plan, with rock filled gabions or large size (2+ cubic meter) rip rap.

The following quantities are estimated for this work:

1. 28,000 cubic meters of rock and dirt.

2. 14,000 (2x1x1 m.) gabions.
3. 36,000 man days labor for loading gabions.
4. Hauling 28,000 cubic meters rock and dirt by available equipment.

Originally these dikes were constructed by the use of heavy rip rap (2+ cubic meters). The rip rap was quarried from the adjacent hills, loaded on to 30 ton dump trucks by shovels, transported and dumped on the site.

The HVA may chose to do the work by the same method. Which ever method is used, the job is big and will require sufficient funds.

NADI ALI AREA

The agriculture in this area was somewhat better than the Marja area. However, canal turnouts, wasteways, drops and siphon structures are in bad condition. Mechanical devices for the lifting of gates are almost all broken or disappeared. The canal system is virtually running by itself. A program of repair and reconstruction is badly needed. Desilting of the canals and drains can be done by WFP food for work program. However, for the repair of mechanical devices special funds and the creation of local mechanical NGOs are needed.

RECOMMENDATIONS:

UNOCA enact policies which will encourage the establishment of local NGOs and seek methods to speed up the process of approval of these NGOs. UN, UNOCA, WFP, allot funds and food for repair works.

MARJA AREA

OBSERVATIONS

The Marja area, being in the lower stretches of the Boghra, is worse off than the rest of the system. When the Consultant visited the site most of the canal laterals were out of water. Marja showed the stresses of water shortage. The Marja Outlet Drain was dry. This showed that Marja is chronically short of water. Like Nadi Ali all canal structures and their mechanical devices were either broken, lost, or in disrepair. Similar action such as discussed for the Nadi Ali area is also needed for the Marja area. A detailed list of necessary repairs in Marja is included in the Appendix.

THE SHAMALAN AREA

OBSERVATIONS

The Shamalan Canal was also dry when the Consultant visited the site. It was learned that this problem was due to river erosion at the by pass intake constructed near Qala Bist few years ago.

The Consultant could not visit this site. However, knowing something about the area, believes that the decision to construct a canal intake at that location was a mistake. This will be continuous problem for the Shamalan Canal.

The Shamalan Canal turnouts and water control structures are in the same condition as Darweshan, Nadi Ali and Marja areas.

RECOMMENDATIONS:

The encouragement and speedy formation of local NGOs for the Shamalan area similar to Darweshan, Nadi Ali, and Marja is strongly recommended. The allotment of necessary funds for the purpose of repairs and reconstruction by related agencies is also recommended.

GENERAL OBSERVATIONS AND RECOMMENDATIONS:

The consultant believes that repair and reconstruction works needed in the Helmand Valley are of an urgent nature.

Any delay in taking necessary and immediate action could result in irreparably consequences.

These consequences may result in renewed migration from the afflicted areas, further aggravating the situation.

The contents of this report show the urgency and magnitude of remedial measures.

The rapid organization of local and outside human resources will be needed.

Immediate action by UN and its related organizations for the acquisition and allotment of necessary funds will be needed.

UN/UNOCA should seriously seek funding from other sources including other friendly countries, and possibly the US.

APPENDIX

1. TRIP TO HELMAND
2. DARWESHAN CANAL HEADWORKS
3. DARWESHAN BRIDGE
4. BOGHRA CANAL HEADWORKS
5. DARWESHAN CANAL AND IRRIGATION SYSTEM
6. MARJA CANALS AND IRRIGATION SYSTEM
7. WHO REPORT
8. WFP REPORT
9. PHOTOGRAPHS

TRIP TO HELMAND

THURSDAY, JUNE 27, 1991

TRIP TO DALBANDIN BALUCHISTAN

- o Left Hotel Lourdes 9:00 a.m. Mujahid commandant Ghani and Zia Mujadadi came to the Hotel. Went to UNOCA's office with them. Met Marilee Kane. Copied these notes upto June 26th. Marilee promised to type the notes and give the Engineer the disk (Word Perfect) for future editing. Went to Ghani's house at 11:00 a.m. to embark on our trip to Dalbandin. All UN/UNOCA trip members to meet at Ghani's house. UNOCA team is late.
- o Had lunch at Ghani's.
- o Left Ghani's at 1:00 p.m., travelled (10KM) then stopped. UNOCA needed to change car without radio to another one with a radio.
- o Left this location at 3:00 (61152). Another car was sent which had a radio.
- o Arrived at Dalbandin arrived 9:00 p.m. (61491).
- o Spent the night at Dalbandin at UNHCR guest house which has beds and bath room (common).
- o The Engineer slept outside in the moonlite. The rooms were too hot.
- o Met Shah Mahmood Sanjarain from Charburjak Nimroz. He is a good friend of Baqi.
- o Next morning paid 50 Rs. rent, bought food and fruits for the trip.

THE TEAM

-	Noor Ahmad Laywal	WHO
-	Abdul Baqi	WFP/UNHCR
-	Mohmad Yosuf Saba	WFP
-	Mohammad Kabir	MCI
-	Abdul Wahid, from Helmand	WFP
-	Dr. Mujeeb Rehman	WHO
-	Adan Adar	WFP
-	Mamo	UNOCA
-	Bayis Wok-Waya	UNOCA
-	Ghani Commandant Escort Team Leader.	
-	Dr. Noor Ahmad Sherzad, Health Officer at Qalai Afzal Khan who works with the Swedish NGO.	
-	Ghani's Assistant who is also his brother.	

FRIDAY, JUNE 28, 1991

- o 8:00 a.m. Bought diesel, food, fruits, drinking water bottles at Dalbandin.
- o Left 10:00 a.m. (614911) Dalbandin
- o Arrived 12:45 p.m. (61551) Posti Commandant Ghanis house.
- o Met his father (Mujahid).
- o Had lunch at Posti. Rested till 5:00
- o Left Posti about 6:00 p.m. (61551) towards the Afghan border.
- o At 6:30 arrived at Pakistan militia border post. Due to Dr. Noor's medical supplies the borderman (possibly a Wazir) delayed departure, called his headquarters? Went up with Ghani to his office. In the mean time we cleaned, washed and prayed.
- o Left the Post about 7:20 p.m. Met Ghani's Assistant with about 20 armed Mujahideen on a Toyota pickup truck at about 7:30 p.m. This group was our escort. Security guard prepared and served us food from here on till we got to Darweshan on July 2nd.
- o At 8:50 (61586) crossed the Afghan Border
- o 9:01 (61601) arrived CHOT. Rested, had tea, at Ghani's field Post (Mujahid commandent).
- o Left Choto 10:00 p.m.
- o 12:45 a.m. (61667) Passed Malik Dokohan (Dokoh) mountains which are Alabaster mountains/mines. Had car trouble with Mujahid pickup (tire problem).
- o Left 2:20 had tire problem again at 2:45 p.m. (61683).
- o At 3:55 a.m. moved again.

SATURDAY, JUNE 29, 1991

- o Got stuck in the big sands in the big wash, tried many times failed, all cruisers had problem. The Mujahideens Black (BTC) Toyota land cruiser pickup saw the Engineer's car, waited after seeing it could not make the dune. Attempted to cross and it too got stuck across a big sand mountain from the first car. Could here the engine. Finally they managed to make it with Mujahid power and a good driver to pull through, and then come to our rescue. The Mujahideen were using their sleeping bags

(quilts) under the tires. They did the same to our cruiser as well as pushing with Mujahid power. Their driver, who is an expert in sand, drove our cruiser across the dune.

- o Passed the big sand about 5:36 (61714). Other cruisers had stopped across the dunes. Mujahid's red Toyota 2 seater (RT2) cruiser had a flat. The RT2 driver is an expert in every thing to do with cruisers. He can probably if needed take the whole thing appart and put it together right there in the desert. He did take BTC's carburetor appart (it was giving a lot of trouble before), put it together. From there on, they had no problem.
- o At 7:00 left the dunes.
- o At 8:45 had tire problem (61743).
- o Arrived at Qala Afzal Khan at 9:45 a.m. (81824). Ghani's Head quarters in Nimroz is called Kilmo. Every body slept exhaustedly.
- o Woke up 1:30 p.m. It was very hot. Thorn house was barely effective. Our escort brought water from the river sprayed it on the thorn. Was relatively cool for about 15 minutes. We preferred the heat to having our Mujahid escort handling water in buckets from the river to keep us cool.
- o Served us food.
- o The Engineer had an upset stomach had to go out to the Helmand River, had a swim, washed myself and my clothes, felt wonderful.

TEAM MEETING, 3:00 p.m.

ATA, BAQI, BAYISA, MAMO, ADAN, DR. REHMAN, KABIR, SABA, NOOR REHMAN AND COMMANDANT GHANI.

The team needed to organize in three areas of interest:

1. Food for Work WFP (Adan, Baqi, Saba)
Assisting two canals one is close to this place one is farther.
2. Health Care WHO (Dr. Rehman and Noor Rehman, and Mamo)
Health Care one clinic close to Qala Fazel one near Charburjak.

3. Assessment of damage to canals systems (ATA, Bayisa, Kabir).

Assessment of damages

It was decided to join group 1 and 3, since food for work would be involved in all future repairs to damages in canal systems. Group 2 will move separately. Each group will have their own escort.

- o Group 1 & 3 will cover:
 - a. Bandi Kamal Khan
 - b. WFP canal, Gaudu
 - c. Charburjak canal, Qala Fateh canal, Lashkari canal at Khwabgah. Bandar Canal, Candu Canal.
- o Leave Kala Fazil tomorrow early morning to cover the above.
- o Group 2 will start today and join the 1 & 3 tomorrow to cover their facilities e.g. in Charburjak.

SUNDAY, JUNE 30, 1991

- o 5:30 a.m. Wake up call. Washed and prayed.
- o 6:30 a.m. had breakfast.
- o 7:15 a.m. (61835) move out of (Kilmo).
- o 7:30 a.m. (61835) left Qala Afzal Khan.
- o 8:20 a.m. (61862) Khijo (Jamiat) M. Fateh Khan Baluch old man (quite a good man).
- o 8:55 a.m. (61873) Guljan Padagi. Jui Bandar has been washed several places. The village Padagi in the lower ground close to the wheat fields was washed away by floods. They have built a new village on higher ground.
- o 9:15 a.m. (61886) Qarar Gah Aame in front of Charburjak village. Shola (Maoist) command post.
- o 9:25 a.m. (61886) Nasir Clinic. Dr. Rehman and Mamo will stay behind with one Mujahid (Ghani) escort.
- o 9:50 a.m. (61895) arrived at Bandar.
- o 10:06 a.m. (61895) leave Bandar. Sholais are tagging along. They have included their men in the party. Gold Qara Kul Hat is the only Baluch among the Sholais. I changed cars here. The car I was riding was given to Dr. Rehman's party.

- o 10:20 a.m. (9440 Ambulance) contact Moallim Karim. Refused to meet because of Sholais.
- o 11:30 a.m. (9468) Diga Dila. Met Nijat Milli, Ghulam Hazrat Mujadadi, and Haji Ayub commandant, in front of Qala Fateh lands.
- o 11:50 a.m. left Dikalila
- o 1:26 p.m. (Afg. time) went to river crossing Lashkari Canal Intake. Saw Lashkari canal:
 1. River crosssection is stable. It is unaffected by the recent 100 yr. floods.
 2. The flood protection dike in the canal was very effective no flood damage is sustained high water marks can be seen. (See photos).
 3. Gates at the Flood Dike are broken (by man), need new gates or repair and reinstall old gates.
- o 3:00 p.m. (Pak time) Recrossed Helmand River from Lashkari Intake.
- o 3:35 p.m. Left Lashkari Canal Intake (9487).
- o 4:35 p.m. (9514) arrived at Gondu. The Intake for the pump needs about 750m³ excavation work.
- o 5:00 p.m. met Moallim Karim at Bandi Kamal Khan construction Camp (9520). Discussed possible projects.
- o 6:00 p.m. left Kamal Khan
- o 7:10 p.m. (9503) arrived at Kan Diker.
- o 7:30 p.m. arrived at Bander (9542) Korkati.
- o 7:55 p.m. arrived at Bandar canal wash out. The canal needs to be realigned for about a kilometer to serve the lands. This about 50 cfs capacity.
- o 9:00 p.m. Guljan Padagi (Ghani's Field Base). Had supper/tea on top of the hill. All were tired and wanted to sleep the night there. Commandant Ghani decided that we move on to Kilmo/Qala Afzal Khan.
- o 11:20 p.m. arrived at Qala Afzal Khan. It was decided to survey the Charburjak Canal next morning.
- o 12:45 p.m. Kilmo (9604).

MONDAY, JULY 1, 1991

- o 8:15 a.m. (61959) leave Kilmo/Qalail Afzal Khan
- o 8:45 a.m. arrive at Qalail Moderi Padshah (61970). Crossed the Helmand river in a rubber boat, floated down. Saw the Charburjak canal wash out. About 1,500 meters need a new canal (120 cfs). Walked all the area. Walked the two sides of the Charburjak canal. The wash out (see sketch) has occurred due to river channel shift. This is a good project for WFP. Haji Fateh Khan is the elder man. Eid Mohammad is the Mirab. He used to be Mirab before also. The party had Sholombi on the other side, good people. Agha Mohammad Tarakhel whose mother is Baluch told me to tell Ghani about some attention towards him. Recrossed the river. Haji Fateh had sheep kabab prepared at the old Qalail Motheri Padshah. Had kabab with Mujahidin (See photo). Left this place towards Kilmo.

- o 12:40 p.m. (9604) (61971) arrived at Kilmo. Rested at Khilmo, talked to Abdul Rahim Lalzed (good intelligent commandant speaks Pushto, Baluchi, Farsi).
- o 8:00 p.m. (61983) left Kilmo towards Darweshan. It was decided to drive to the big sand, rest the night, then go forward early in the morning.
- o 11:20 p.m. (62095) stopped before the big sand. Slept on the ground on a small hill. There was a good breeze all night.

TUESDAY, JULY 2, 1991

- o 5:35 a.m. wakeup call.
- o 6:00 a.m. (62095) left about .
- o 7:15 a.m. (62149) crossed Khan Nishin Mountains (see photos).
- o 7:30 a.m. (62187) at Bagat, stuck in sand.
- o 9:00 a.m. unstuck.
- o 9:30 a.m. (92196) Binadir stopped, bought grapes, washed, flow of water from Darweshan Canal's lowest lateral.
- o 10:30 a.m. (62205) had flat tire. Fixed tire, moved again.
- o 11:00 a.m. (62224) we were at Safar. Drank Sholombey at Kizhdis (nomads) (Mom Suny Baloch)

- o 11:35 a.m. (63737) arrived at Laki, The Darweshan drain and lateral both functioning, Drain needs cleaning. Water is flowing full in the ditches. The Darweshan Canal System is delivering water to its lower laterals. The area looks prosperous, agriculture is flourishing.
- o 12:40 p.m. (62254) arrived Broken drop. See Photos (6) [34-36]
- o 12:45 Mian Pushta drop at station 30+. Some body built a Grist Mill. Blocked the flow of the canal to raise water level for the mill. High water flow in the canal washed out the berm. Drop is totally broken. Berm is fixed by UNOCA/WFP wheat for work program. Needs much more work on location upto 1 Kms upstream and some distance down.
- o 1:30 p.m. (62269) canal station 18+350. Met Eddy UNOCAs field officer at Lashkargah. Also met Mr. Harith and Mr. Sherjan, both UNOCA officers at Lashkargah. Had food at Mowlawi Mohammad Khan's guest house. Met Mowlawi Mohammad Khan. UNOCA Reps. discussed previous ruling of Moulawi, regarding Adan's (WFP) non travel status in their area. This item was agreed and the ruling lifted. I asked Moulawi about our travel into Shomalan, Marja, Nodi Ali then to Kajakai. He suggested we discuss this matter with Akhtar Mohd Akhund and/or Haji Sidiqi and Mullah Rasul Akhundzada. He indicated certain limitations regarding movement into Boghra Diverison and to Kajakai. He said we do not need escort in these areas and can move freely to do our work. Started to depart towards Darweshan intake, our escort provided by commandant Ghani, took a receipt for our delivery from Mowlawi Mohammad Khan. Ghani escort, Sher Mohammad Driver, Mohammad Aiwarz Mujahid from Qalai Best. (He is the son of Enaitullah of Kariz) left us to go back to their base at Posti. Visited Darweshan intake took pictures, it is in critical condition, big work for a strong NGO. See plans marked for this purpose.
- o 6:30 p.m. arrived at clinic at Hazar Asp Block # 3. The foreign component of UNOCA team is going to Lashkarga with Sherjanand Eddy. Some other will go with them. I will stay at Mujahid Command Post with Noor Ahmad and Kabir and driver Haji Surgul. The group is guest of Commander Ustaz Baridad and Khaligdad his younger brother Mulla Baz Mohammad (Jamiat) and Akhund Baz Mohammad Mujahid (Popalzai) who will personally attend and protect the Engineer for the next several days.

WEDNESDAY, JULY 3, 1991

Hazar Asp: Block # 3 Mujahidin Command Post (Jamiat)

- o 5:30 a.m. wake up call wash, pray, breakfast. Research information about project condition:

Shamalan canal is dry, Water does not come from intake. Bogha Diversion is washed out. The secondary diversion from Helmand to shamalan canal is washed out. Crops (wheat) has ripened, some places it is cut, some not. Labor shortage is critical. Rust has spoiled a lot of wheat, it is not worth cutting 80% of wheat grains destroyed. Some places (rarely) corn, okra, atfalfa can be seen. The continuance of water shortage will hurt.

There is struggle for power between Mula Mohammad Rasul and his opponents Haji Ata Mohammad and Hizbis. This has affected Nowzad Moosa Qala and Sangin. Looks like party may not be able to cross through there to Kajakai.

The commission of Mr. Antony Donini will come this morning, at about 9:00 a.m. by plane from Kabul to Lashkargah and join the Quetta group in the field clinic at Hazar Asp. Blk # 3. At about 10:30 a.m. will have a general meeting of the Mission.

11:00 A.M. MISSION/TEAM MEETING, SHURA/UNOCA AT SHAMALAN HAZAR ASP BLOCK # 3, HEALTH CENTER

Attended by: Anthony Donini, the Engineer (A.T.Assifi), commandant Khaliq Dad and team members, Engineer Fazel M. from Harith and Sherjan. Ghulam Siddiq Harith (former HVA Agriculture officer) stayed with our group last night. He wants to know our plans (Harith doesn't like when I talk about the Communist/Najeeb's Government). Commandant Khaligdad, Ustaz Baridad/Commandant's brother who is now in Dari Jangal.

Anthony Donini:

1. Decide about the input from different sources.
2. People with different backgrounds e.g. commandant, and a Mission from Afghanistan come in February 22nd to assess flood damages. Emergency repairs where needed, canal repairs needed, Shamalan canal had washed in 3 places, many placed silt had blocked the canals. The condition is bad.

Boghra canal is worse hit, some work is done by WFP. We would like to see both in-puts from Kabul and Quetta. We operate with the understanding of both sides. We got machinery from HAVA will give it diesel, lubricants etc., HVA has constraints, cannot get lubricants. We need their help in moving freely, we haven't had difficulty so far. Need commandants to allow HVA machinery move to work on irrigation system, e.g. did it in Boghra canal. Afghanistan is one it does belong to the Afghans.

MISSION/TEAM MEETING (Cont'd...)

Commandant Khaligdad:

We can guarantee this upto some time in the Nawa Area.

Anthony:

We have one Afghanistan one UN. We do not take.

sides we do not take part in politics.

The Engineer commented:

1. Asked Engineer Fazil about flood peak estimate (about 5800 m3/sec = 205,000 cfs at Lashkargah Bridge)
2. Regarding the comment suggest "one Afghanistan one UN". It is not correct because UNOCA is divided for example UNOCA Islamabad and UNOCA. The country is also divided the people in the country versus the Regime in Kabul.
3. "UNOCA doesn't take part in politics." Your office is in Lashkargah is in an area controlled by Kabul Regime. For UNOCA neutrality you need to have an office in Mujahidin controlled or liberated areas also.

The UNOCA Mission who came from Kabul were:

1. Anthony Donini - Chief, UNOCA office Kabul introduced his party that came from Kabul:
2. Barkers Summer, Deputy
3. Steve Lyons (ANDRO) UN Disaster Relief Organization based in Gevena. Which has been established after the Earthquake in the north and floods in the south for emergency purposes.
4. Chantal Le Baton, UNOCA office Kabul, has worked in Quetta/Kabul, will carry on in Anthony's absence.

Fazel Ahmad Engineer, your old colleague, is a key man, can travel in and out. He is a UN employee has been playing an important role in the next step in Helmand?

"Donini said that the following resources are available for work in this area:"

MISSION/TEAM MEETING (Cont'd...)

WFP

2000 tons available in Mazari Shareef
500 tons wheat in Quetta
100 tons sugar
25 tons oil

UNDRO

Money available

\$150,000 cash - WFP/ITSH. (Internal Transport Moving and Handling)

\$45,000 cash spare parts Kamatsu tractors to be repaired. HVA will use it UN will decide where they will use 3 DT-71, tractor dozers.

UNOCA

Funds for renovation of Staff House in Lashkargah

80 million Afghanis = \$100,000

Soviets promised heavy bulldozers T-17 2 dozers and one grader.

UNDP OPS QUETTA

Money available for infrastructure repair

UNDP Kabul

Fesibility study for the whole scheme.

Will your report enhance USAID and other donors to participate?

UNOCA welcomes contribution from other donors e.g. World Bank.

If UN can stop further deterioration of the facilities, until more attention and negotiations make more resources available.

WHO Quetta and Kabul

UNOCAS: Considerations

1. Sustainability of efforts
2. Movement freely in province
3. Benefits to go to the people who need assistance
4. Committed to build up economically which will help reduce the drug problem (which the US is equally interested).

Poppy has been cropped by now. My contention is that for the present we can not tell people not to grow poppy.

UN drug control program

Has \$200,000 has funds (what are the conditions attached to it). They do community infrastructures.

Took pictures with the commission, before they went back to Lashkargah.

12:30 p.m. the Commission went to Lashkargah. Kabir went with them to take pictures of the Boghra diversion. I can't go there because Kabul Regime has invaded that area. It is not safe for us. I explained the plans and where to take pictures to Kabir, Bayisa and Adan.

Our group ATA, Baqi, Fazel Ahmed (Engineer), Engineer Saba, Noor Rehman stayed at the clinic. Our plan is to visit Darwasha Intake. Eddy was supposed to bring Darwasha Diversion plans. Engineer Fazel says the plans are not available? Eddy told me earlier that he has plans in his office (did Eddy know what he had? or somebody did not allow the plans).

The Engineer (ATA) commented that there is large scale devastation to villages, Dams, Canals, irrigation and drainage systems due to:

1. Soviet Forces and bombardment.
2. Lack of maintenance due to war and destruction of human resources and man power.
3. Natural causes such as the recent heavy floods. The Helmand River has changed its course in many areas destroying diversion dams canal intakes, canals and irrigation systems and people villages and agricultural lands. At present an extreme emergency situation exists and urgency of action is needed: Due to reason
 - a) People were forced to leave their lands due to war.
 - b) Their water systems further deteriorated. Generally about 20% of the population remains in many areas. The devastating floods of 1991 has put the remaining 20% in a precarious critical position. If emergency and urgent measures are not taken to repair the water systems in mid and lower Helmand that we visited the remaining people cannot survive and will be forced to leave their lands. This will result in another influx of refugees into neighboring countries of Pakistan and

Iran. A large scale effort is needed to prevent large scale destruction. I recommend that we use simple and effective engineering concepts for designs and plan for reconstruction works. Time does not permit other wise. The methods of reconstruction should not rely on the use of heavy equipment, more labor intensive methods is recommended. The use of gabions for Darweshan canal intake, Dawershan Bridge and Boghra Diversion is recommended. The use of food for work (WFP) for these and other canal work is recommended. Went to Darweshan Intake to plan the repair work.

- o 6:35 p.m. (62395) intake.
- o 7:35 p.m. surveyed (see page for the sketch)
- o 9:50 p.m. returned to Hazar Asp clinic/camp. Baz Mohammad s/o Fahim of Nawa village (Popalzai) went with us. Baz Mohammad served me during two nights of our stay a Hazar Asp, he was a body guard also. The commandant here is Ustaz Baridad, his brother Commandant Khaliqdad s/o Haji Fateh Khan took care of us. He is organized, clean and gentlemanly (A Barakzai). Mullah Baz Mohammad Akhund is also our host. Engineer Fazel Ahmed stayed this night with Engineer's group, he also went around the Marja and Nodi Ali Projects with this group. He left after the survey of Nodi Ali was finished.

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THURSDAY, JULY 4, 1991

- o 8:20 a.m. (62448) left Hazar Asp (camp/clinic) towards Marja. Baz Mohammad accompanied the Engineer as a guide/escort.
- o 9:55 a.m. (62485) Arrived at Marja at Block B, at the High School Building which is Haji Sidiq's Head quarters. Haji is in Pakistan. Akhonzada Abdul Qayum is in charge. He took care of the group. Had lunch and prayed. Moved around Marja. Marja has been dry, Marja drain is dry showing lack of drainage water. It has been blocked at the end for irrigation. Canals have silt, drains sand silt and tullies. As the party moved to West Marja Branch Canal, some water came, about (5 cfs). As the party moved to East Marja Branch Canal more water about (8 cfs) was flowing in Boghra. This section of Boghra Canal West to East Marja laterals has been cleaned by HVA excavator (A shovel). The Engineer visited the Grist Mill site which was designed by the engineer many years ago. Three of the four mills were operating. The structure is in good shape. Somebody has bought the facility?! One third of the people have left Marja. If water can't be made available the remaining may be

forced to leave. Afghan Planning Agency Engineer Amir Mohammad had made a survey of the Marja irrigation system [CHECK THIS] took sample gates [see notes at end of book] etc. but, nothing has been heard of them. It is suggested that people who don't follow their work and promises should not be allowed to go to these areas. Empty promises are disappointing to the people who have suffered a lot. It may also be damaging to future attempts.

o 12:00 noon the party left the Marja Mujahidin camp to see the Marja project about at . We were at Seistani about 1:00 p.m. (62508). All canals in West Marja are dry. At Statoon 75+00 Seistaini there was about 20 cfs of water. Small amounts of water has been delivered from Boghra Intake to Nodi Ali and Marja. People in Marja don't even have drinking water. The Marja Main Drain was dry, meaning that, Marja as whole is in a dry spell. There were sporadic wheat crops evidenced. People grow some crops whenever water becomes available.

o 1:15 p.m. (62513) arrived at East Marja Lateral canal. Mowlawi Hafizullah (Nijat) [Wasefi's relative]. Showed one of the villages (Ali Kozai) close to this turn out. At this time the Boghra East Marja Lateral had about 100 cfs water. Coming by East Marja lateral we saw the grist mills as explained before. The Engineers party was back at Mujahid Haji Sidiqi's Head Quarters at about 2:00 p.m. In Marja Many people, learning the Engineer was there, came to visit. Ustad Mowladad (Kamal Tarzi's former driver) now a Mujahid commandant, is taking care of the Marja court. We also saw the following Mowlawi M. Zareef (Nijat) member and chief of the Marja Committee of Justices/court Amin Gul of irrigation system. Ghulam Ghous Khan Chief Water Master in Marja (These are some Guys the Engineer had trained years ago), Juma M. Khan, his assistant also one of the old ditch riders the Engineer had trained. These two guys have kept the irrigation system alive with all its problems. See report of the problems, attached.

o 3:45 p.m. (62525) leave Marja to Nodi Ali

o 5:25 p.m. (62544), the party is in Nodi Ali

NODI ALI

The Boghara Canal and its lateral and irrigation/drainage system in Nodi Ali is as bad as Marja. However, Nadi-Ali has not suffered the water shortages Marja has been suffering for several years. The water supply in Nodi Ali is in short supply. Only wheat and okra in some areas and alfalfa is rarely observed. Fruits and vegetables have not been planted, if they were planted they burnt. The Boghra has siltation and vegetation growth problem. The capacity is reduced to about 50%? The Boghra Headworks washout is critical.

The Government seized the intake about a week ago. The Engineer could not visit the site. However, the UNOCA team Bayisa, Adan, Mammo, and Eddy were sent to the intake with Kabir the photographer (MCI) to observe the conditions. Will look at the pictures and analyze their report. Few years ago HVA repaired the central part of the diversion Dike with concrete slabs, (stupid idea), it has washed out again (no wonder!).

The Engineer instructed Engineer Fazel on how the diversion can be repaired by the use of gabions. In the latest attack by Government Forces the frame holding the sluice gate lifting mechanism (crane) has been hit by Government rockets (40 barrel launcher). Told Fazel how sluice gates could be lifted by "come-alongs" or hydraulic jacks. The repair of Boghra Diversion is critical for all the downstream areas of Malgeer, Nadi Ali, Marja, Shamalan. The Mujahidin strategy should be to wait and see if the HVA is going to repair the intake.

DIVERSION REPAIR STRATEGY:

The repair of dikes of canal berms could be made by hand labor and gabions. For a detail of the repair of Darweshan Diversion intake, Darweshan Hazarjuft Bridge, and Boghra Diversion/Intake see separate plans and sketches provided in this report.

The recommendent method of repair is independent of who holds the facility at the time the Mujahidin or the Kabul Regime. The gabion/hand labor, agricultural tractor combinations is flexible enough and can be implemented by the Muj or Government. On the contrary the equipment intensive method can only be implemented by the Government therefore, it will be totally dependent on it. If the facility changed hands the repair can not be implemented any more.

KAJAKAI DAM:

On the basis of consultation with Akhundzada Abdul Kayum and Akhundzada Farahi, the responsible personages for Harakat at Marja and Nadi Ali and Mula Mohammad Rasul's emisaries in this area it was decided that, the Kajakai trip via either Sangeen or Musa Qala/Nowzad is not safe for the Mission. Therefore, the commission decided to move out of Afghanistan via Darweshan, Binadir, Dalbandin to Quetta, instead of Kajkai, Arghandab dams Kandahar Chaman to Quetta.

The commission split into the following groups with destination 6:00 p.m. on July 5th at the Darweshan Court House.

1. The Engineer, Noor, Kabir, Baqi, Haji Soorguls car who will go the Said Abad Health Clinic and proceed to Marja stay the night of July 4th at Marja, proceed the next day to Darweshan.

2. Bayisa, Mamo, Adan, Dr. Rehman, Engineer Saba with two cars to Lashkargah then, next day to Darweshan.

Engineer's Party Left Nodi Ali, Zarghoon Qalai towards the village of Sayed Abad.

7:30 p.m. arrived at Sayed Abad. Noor Rehman saw the clinic took its records, we prayed. Akhundzada Abdul Kayum (AAK) is no where to be seen. Sayed Mahmood Tajdar/Assistant commandant of Sayed Abad Village Mujahideen post. Was advised to stay the night under his protection. Because the Government's defensive line posts are about 3 Kms. away and they or theives might hold up the road at night. The Engineer requested that he talk by radio to AAK because the party was under his protection at this time. He did so consulting with AAK. AAK had motorcycle problem, he said he will join the party. Tajdar should go ahead prepare food for the night he will join the group later.

This Mujahid Post is unique. It is composed of Hazara/Jaghuri Mujahideen of Shiaa Sect. These young men under the leadership of Sayed Mohammad Tajdar who is also the village medical person tending to the health clinic. The commandant is Abdul Ghani Kazimi, quite and impressive young man. These people are devoted to Jihad. Ayatullah Sayed Muhsini is their leader, who is one of the Ayatullahs not under the influence of Iranian Ayatullahs. AAK joined us for food. After supper Sayed Mahmood Tajdar who's father was a religious (Shia) Sayed in Helmand. Suggested we stay for the night and convinced AAK.

Beds were stretched on top of the post roof. A nice cool night breeze under the stars made it nice.

At about 3:30 a.m. machine gun fire from outside and response to it from the post woke the group. In a short time Tajdar while commanding his post efficiently, and talking by radio to adjacent posts was handling the situation quite well. They were preparing for a Government attack. In the morning they found out somebody had shot at jackels who were preying on farm animals.

FRIDAY, JULY 5, 1991

After prayer call at 5:30 a.m. breakfast at 8:00 a.m., the group started to move to Marja. AAKs motor cycle couldn't be fixed. He rode with us to his command post at Marja.

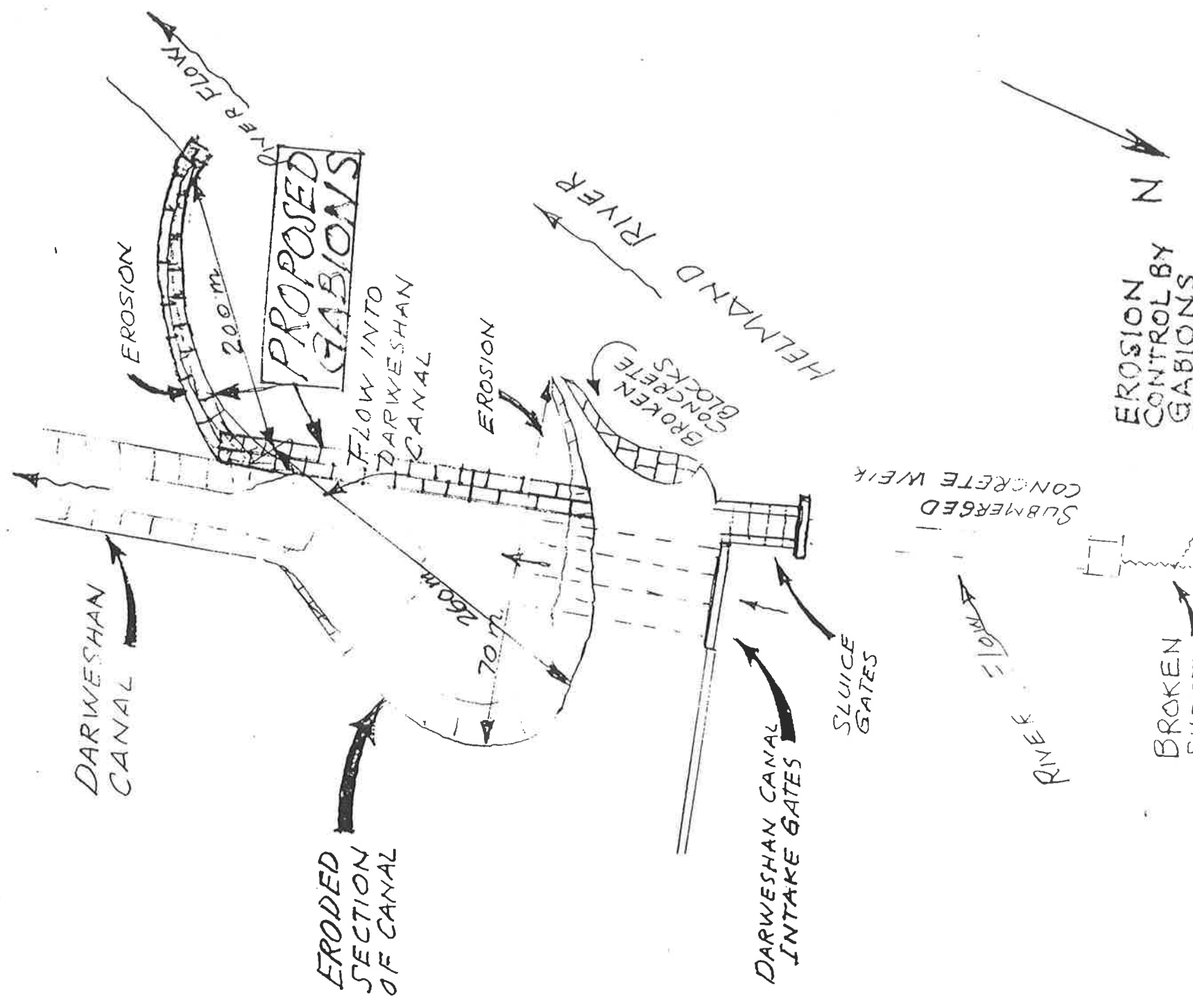
Some old friends of the Engineer had learnt the Engineer was there, they joined him at breakfast at Nodi Ali and later others at lunch in Marja. People were overjoyed to see the Engineer. He seemed to convey the memories of an era of peace. They remembered, the good old times with tears in their eyes. They all seemed very happy to

see the Engineer, remarked about his grey beard which showed his age. They made jokes about this fact. They believed now that the Engineer was there, their problems would be solved. The Engineer kept telling people that he was on an engineering mission regarding their water supply and systems not on a political mission. When asked how the problem of Afghanistan will be solved, he told them his own solution to the problem.

The group left Nodi Ali at 9:15 a.m. (62588), arrived at Marja 10:20 a.m. (62612). Went to a fair, where people were selling and buying things, bought cucumbers and melons for the road. Went to the camp, had lunch with AAK. Left Marja 5:00 p.m. (62612) with a motor cycle escort, got stuck at the bridge (62650). The rest of the commission's two cars joined the first. They, got stuck too.

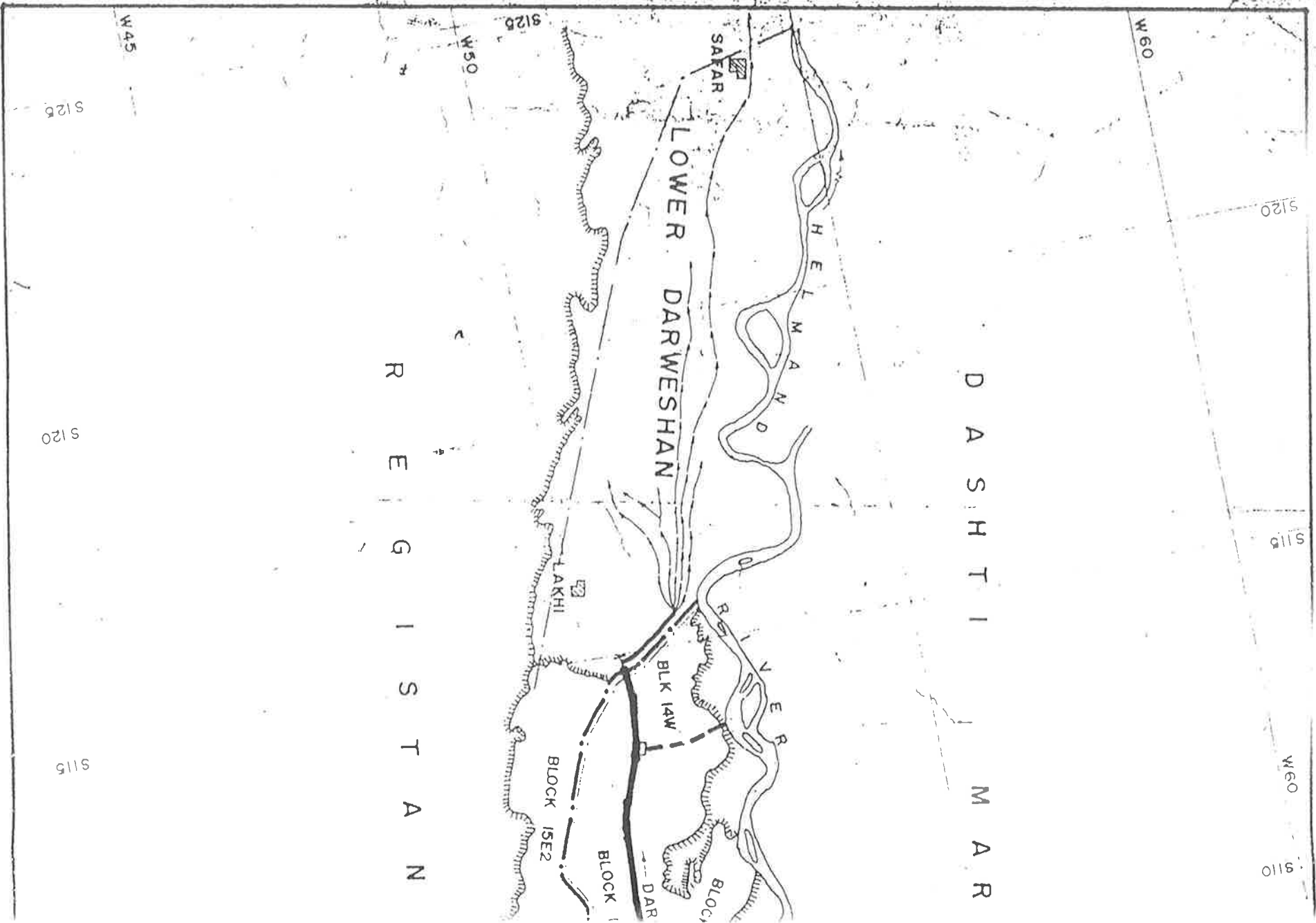
Finally found a way to mount the bridge by passing the bigtruck stuck on the roadway ramp to the bridge.

Moved Hazarjuft, then to Mahkame arrived 7:30 p.m. at Mowlow, Mohammad Khan's Post. Rented a pickup for the night's trip and Mujahid escort to Pakistan. Had supper with Moulavi Mohammad Khan (Commandant's) assistant. After a big political discussion about the future of Afghanistan left for Binadir at 11:00 p.m. Travelled all night arrived at Choto at 7:15 a.m. on 6th

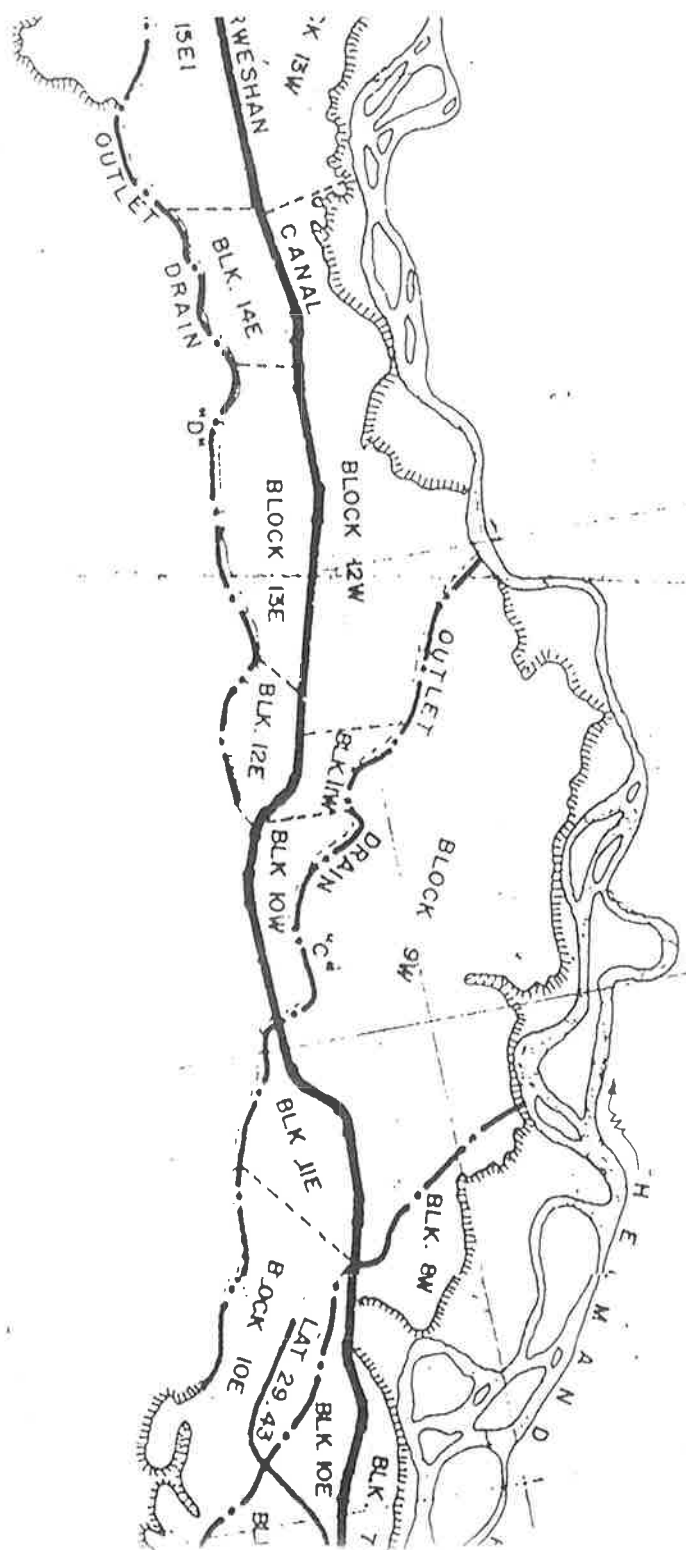


EROSION CONTROL BY GABIONS

A SKETCH OF DARWESHAN CANAL HEADWORKS DATA/1991



G O



D E S E R T

0115

W40

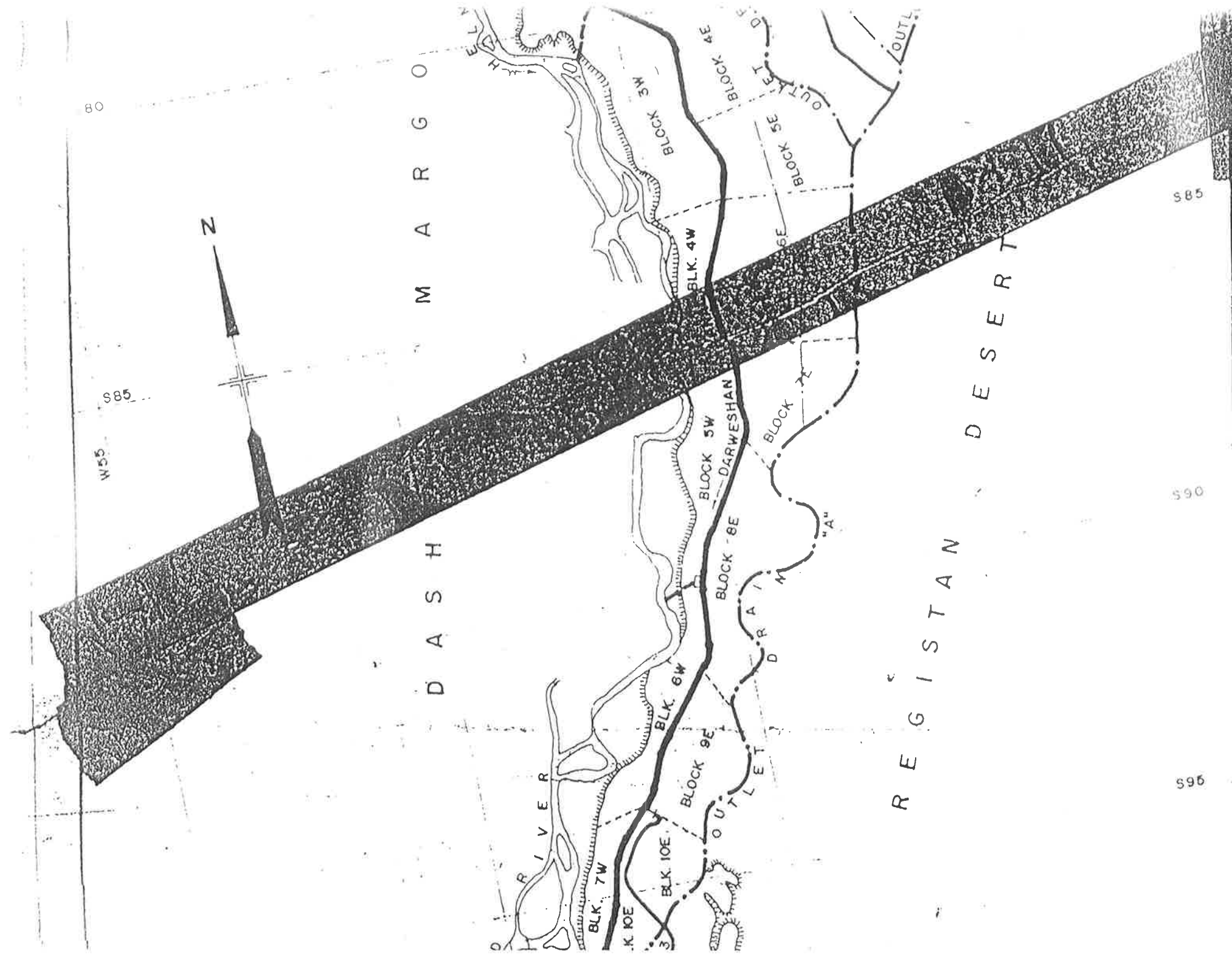
5105

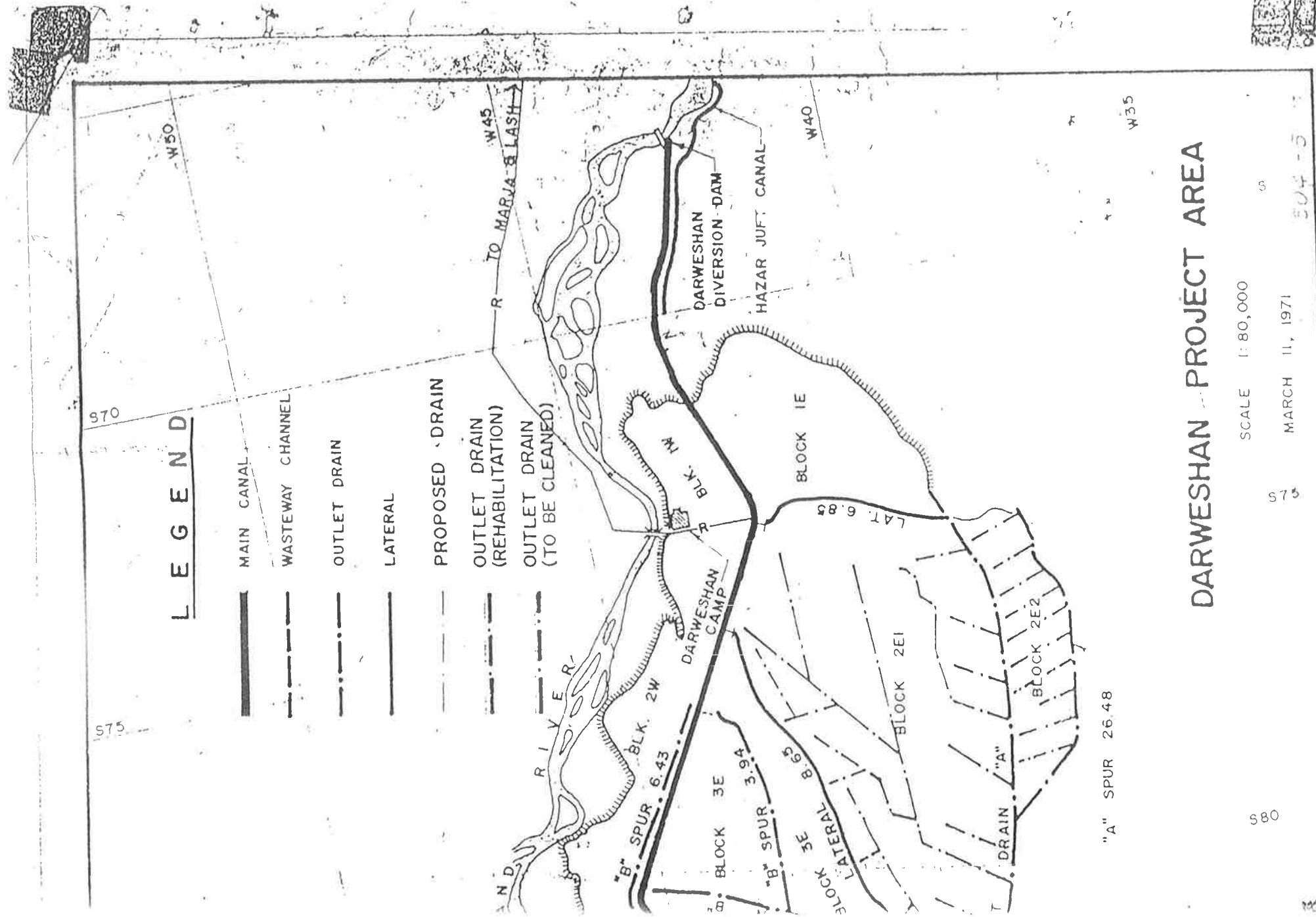
0015

5105

5100

5105





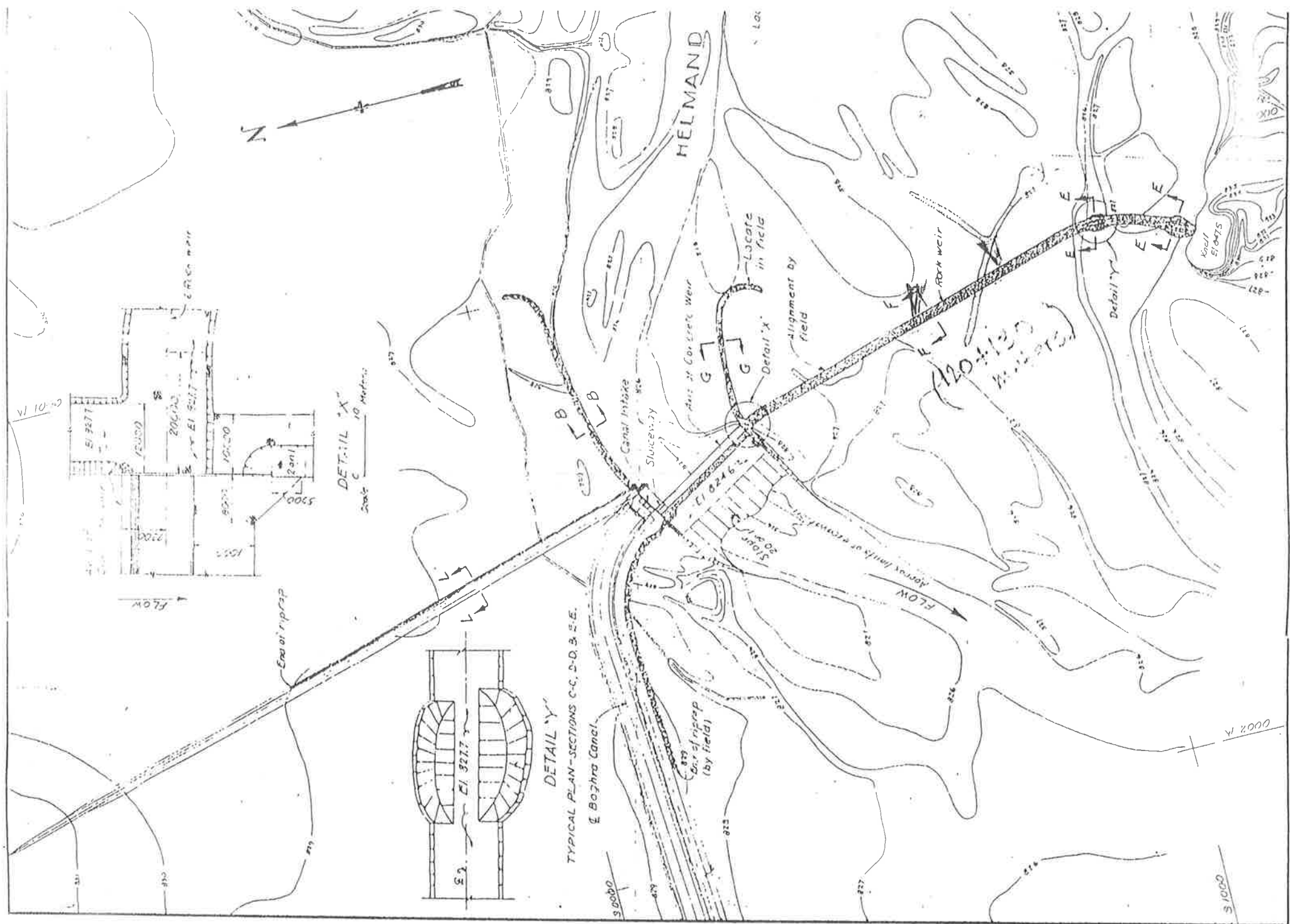
DARWESHAN PROJECT AREA

SCALE 1:80,000

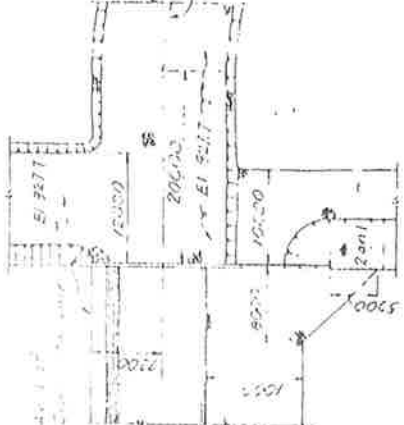
MARCH 11, 1971

580

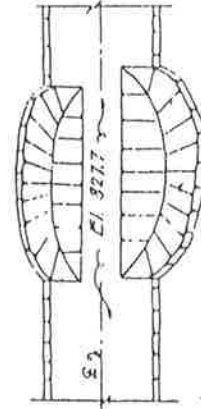
504-5



VI 10-10



DETAIL 'X'
Scale 1:10 Meters



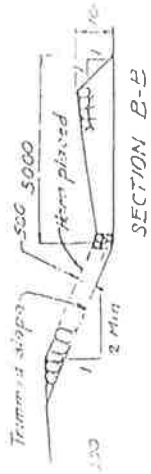
DETAIL 'Y'
TYPICAL PLAN SECTIONS C-C, D-D, B, E-E.
E Boghra Canal

HELMAND

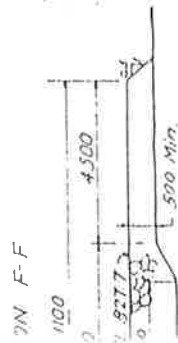
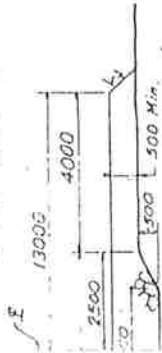
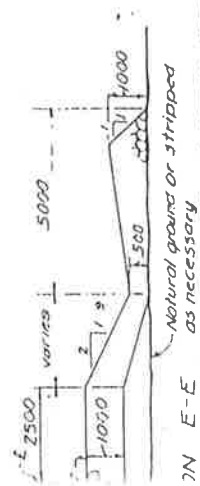
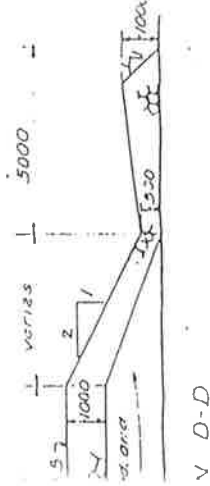
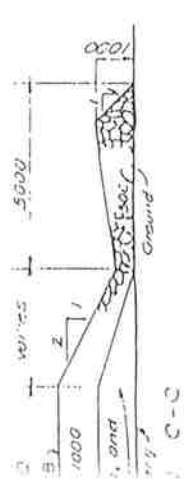
1204190
1204190

0002 A

0002 A



FLOW



except as noted.
 Pipes to consist of stones weighing 100 lb. or more.
 Areas in old channel to be stripped as
 in foundation for Sections C-C, D-D, & E-E.
 All ends of embankments determined in field.

1 2 3 4 5
 meters - Sections

100 200 Meters - Plan

INTERNATIONAL ENGINEERING CO. INC.

BEHIND RIVER PROJECT

GURUSHI-SHAMALAN IRRIGATION SYSTEM

BOGHRA CANAL
 HEADWORKS
 DAMS AND REVETMENTS

INTERNATIONAL ENGINEERING CO. INC.

W.A.H.

S.H.L.

OK'D. *[Signature]* SUBMITTED *[Signature]*

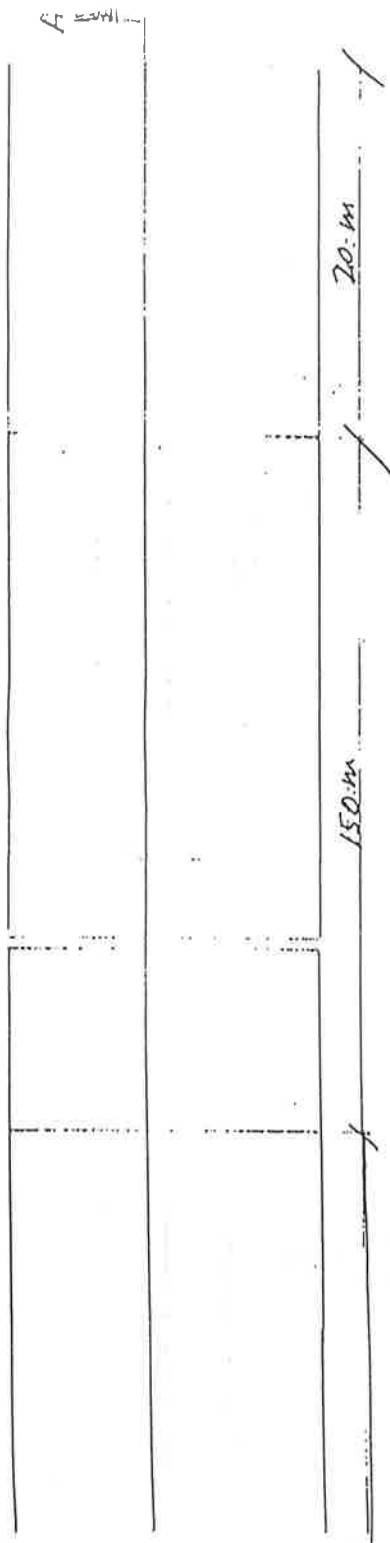
REV. E.M. *[Signature]* ACCOUNTS

MANAGER *[Signature]* APPROVED *[Signature]*

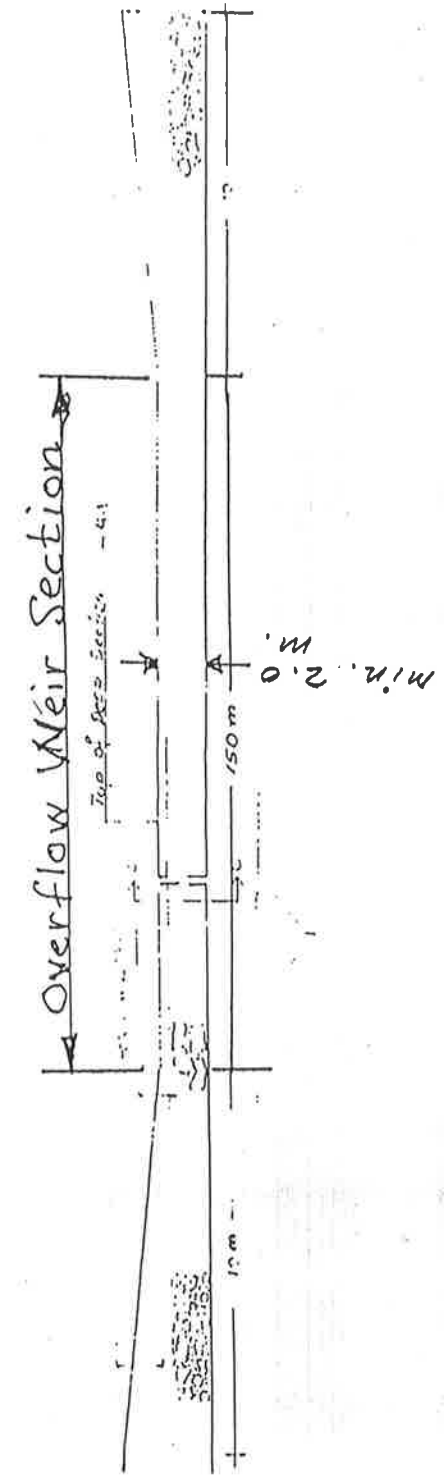
DENVER, COLO.

DATE APR. 23, 1948

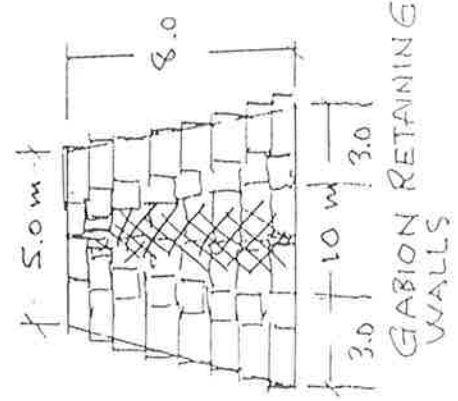
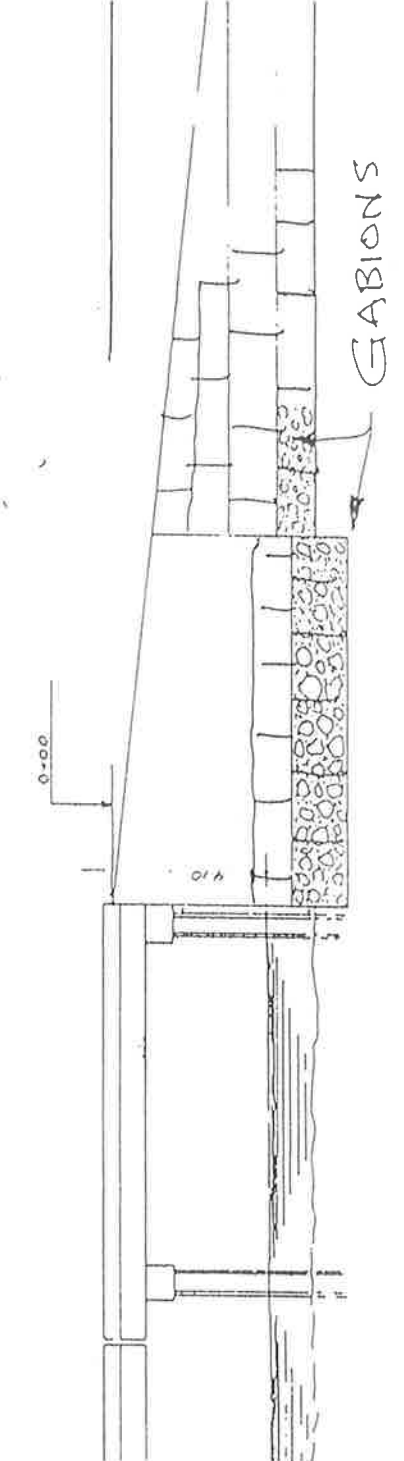
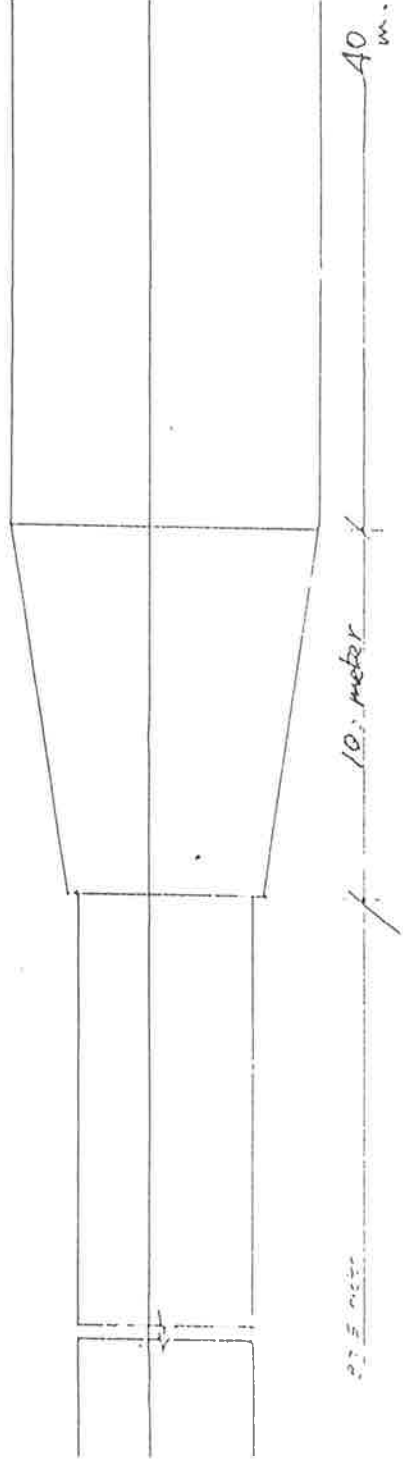
505 - 10



Darweshan Bridge Dike Plan.



DARWESHAN BRIDGE
 ABUTMENT AND ROADWAY
 REPAIR BY GABIONS (Sketched by ADA/
 BASED ON PLAN PREPARED BY WAZIRI (UNDP/OPS/APO) QUETTA



WHO, WFP, UNOCA Joint mission to Nimroz and Helmand WHO Report

WHO Afghanistan program supporting many NGO's for their health activities in Pakistan and within the Afghanistan and maintains a health information Database. This database explicit a lot of information about health facilities and health workers are currently active interior in the Afghanistan.

The information in WHO Health Information System (HIS) is updating continuously with the WHO monitoring and assessment mission reports, cooperation of UN Agencies and other NGO's reports dealing with the health structure within the Afghanistan.

The Health Information System (HIS) is a direct WHO implemented project commenced its activities since July 1989 and utilizing longstanding efforts by the WHO field staff. This program integrates the health sector goals within health manpower development, training, management process as well as health surveillance and survey. This very crucial program represents the cornerstone for planning and implementation.

1. Health Manpower:

Currently there are over (5065) Afghan health workers within the database who are functioning within Afghanistan. The placement and access of these personnel is available from WHO-HIS upon request.

2. Health Facilities/Structures:

This includes (731) health units (C-1, C-2, C-3 + Mobile units) and (56) hospitals (H-1, H-2, H-3) which are active within Afghanistan. (For the classification of these facilities, please refer to the attached classification chart).

In this UN Agencies joint mission to NIMROZ and HELMAND we got the opportunity to monitor the following areas, but unfortunately we were not allowed freely to monitor because of security situation in the area.

The team of mission were comprising 2 persons WHO, 3 persons WFP and 3 persons from UNOCA.

WHO team were doing the survey, monitoring and assessment of health facilities and health workers and information about disease and health situation of people in the visited areas.

1. NIMROZ PROVINCE

This province is located in southern-west of Afghanistan. According to the report of NGO's there are 4 clinics were listed in WHO database, but we monitored 2 in Charborjak district of nimroz province. Other 1 clinic was not traceable

and 1 clinics in Chakhansoor district which is 1 1/2 day journey from Charborjak district (NIMROZ) / Derweshan (HELMAND).

The estimated 1990 population of this province - 139,850, of which at home population - 50,810 and refugee 89040. According to WHO standardization its the poorest province in regard of health activities. But they are more cooperative than other provinces.

We visited surrounding area around the clinics of Charborjak district and served people by that clinics. As this district was washed out by flood in late February 1990 and poor health situation, one half of the people were suffering from the various diseases. The information about percentage of diseases from the estimate of Health workers working in the area and their daily patient register book and our observation, we found the percentage of following crippling diseases.

<u>Disease</u>	<u>#/100 Summer</u>	<u>#/100 Winter</u>
-Diarrheal diseases, Gastroenteritis, Dysentery (Amoebic, Bacillary) and Vomiting	30%	10%
-Respiratory diseases, (bronchitis, common colds, pneumonia, etc.)	10%	30%
-Malaria	30%	5%
-Eye disease (trachoma, conjunctivitis, etc.)	10%	5%
-Skin diseases	10%	15%
-Gynecological problems	10%	15%
-Nutritional problems	20%	15%
-Various symptoms (dizziness, headache, arthritis, weakness)	20%	20%
-Mine and War injuries	1%	1%

2 HELMAND PROVINCE

This province is located in southern west of Afghanistan. according to the report of NGO's there are 23 clinics were listed in WHO database but we monitored 6. Out 6, one MCI supported clinic was not exist in the area.

The estimated 1990 population of this province : 541,550, of which - at home population - 278,210 and refugee 263,340. According to WHO standardization 23 clinics can normally serve the area. But unfortunately some clinics are not really run well. In Helmand we visited the following districts:

A. Derwishan is a district with the population 44698 . This area is densely populated but unfortunately no clinics no health worker are serving in this are.

B. Nawae Barakzi is a district with the population 16,619. There is one clinic supported by IMC, which is very active and efficient attending 150 patient/day. They need one MD Doctor one Lab-Technician and a lot of equipment except (Microscope, stethoscope and Blood pressure machine). This clinic is also serving the people of neighboring districts. More health facilities are needed in this district. People are very cooperative in respect with MCH and EPI, if we provide.

C. Nade Ali is a district with the population 32,516. We visited 5 clinics in this area. There are Three active. Rest two clinics are not active (One is under commander - no medicine, no Health worker and no equipments) and rest one clinic (MCI clinic which suppose to provide Dental + Lab. + OPD service) which is not traceable in this district.

The percentage of the disease in this area according to the Health workers working in this area and their daily Patient register book and our observation are as following:

<u>Disease</u>	<u>#/100 Summer</u>	<u>#/100 Winter</u>
-Diarrheal diseases, Gastroenteritis, Dysentery (Amoebic, Bacillary) and Vomiting	35%	10%
-Respiratory diseases, (bronchitis, common colds, pneumonia, etc.)	15%	30%
-Malaria	35%	5%
-Eye disease (trachoma, conjunctivitis, etc.)	10%	6%
-Skin diseases	16%	15%
-Gynecological problems	10%	10%
-Nutritional problems	25%	25%
-Various symptoms (dizziness, headache, arthritis, weakness)	20%	20%
-Mine and War injuries	4%	4%

WHO team members:

- 1.D.M. Rahman
WHO Health trainer
- 2.Noor Rahman Liwal
Lead programmer
Health information System

CLASSIFICATION OF HEALTH FACILITIES

DESCRIPTION OF THE FACILITY	Regional Hospital	Province Hospital	District Hospital	Comprehensive HC	Basic H. Center	Basic H. Post
	H - 1	H - 2	H - 3	C - 1	C - 2	C - 3
HEALTH PERSONNEL						
- M.D Doctors	Many	3 +	1-3	1	---	---
- Surgeons	1 +	1 +	Maybe	---	---	---
- Advanced Mid-level	Yes	Yes	Yes	Yes	1 +	Maybe
- Mid-level HWS	Yes	Yes	Yes	Yes	1 +	---
- Basic H. Workers	---	---	Maybe	Maybe	Maybe	1
- TOTAL HEALTH STAFF	16 - 20	12 - 16	8 - 12	4 - 8	2 - 4	1 - 3
HEALTH FACILITIES						
- Operation Theatre	Speciali	Major	Minor	---	---	---
- Laboratory	Supervsr	Refferal	Field	Field	---	---
- X-Ray	Yes	Yes	Yes	---	---	---
- Inpatient Beds	50 - 100	20 - 50	10 - 20	3 - 5	---	---
- Specialized Progs. (TB, Malaria, etc)	Supervi-	Yes	Planned	Maybe	---	---
- Medical Records	-sory	Yes				
- Transport (Referrers)	Yes	Yes	Pt Card	Pt Card	Pt Card	Varies
	Yes	Maybe	Maybe	---	---	---
COVERAGE						
	3-6 prov	1-2 prov	1-3 dist	30-50000	5-30000	500-5000
	inces	inces	tricts	Popula.	Popula.	Popula.
SERVICES PROVIDED						
	Initial	Refreshe	DAI	---	---	---
	Training	Training	Training			