

PD-ABJ-777

12/21/44

**FINAL NARRATIVE REPORT (FNR)**

Grant Number : # 97

Implementing Organization : PAMIR RECONSTRUCTION BUREAU

Project title : Rehabilitation of Karez and  
Chawghai canal.

Target Areas(s):

Province : Samangan (1500)

Districts : Aibak (1501), Hazrat Sultan  
(1505)

Villages : Dari Zindan, Dashti Mazar,  
Khwaja Ismail, Aynaca,  
Karwansaray, Omar Khil,  
Chawghai, Zar Kut, Shei  
Khala and Aqa Khil.

Grant Period : 4 months.

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PRB, Peshawar.

Telephone : 41641

## **I. SUMMARY OF PROJECT**

### **A. General Outcome :**

The project outcome are the 12 km long Karez and 10 km long Chawghai canals cleaned of sediment, the 30 m long intake of Chawghai canal and 45 m long intake of Karez canal basically constructed, and the 60 m long retaining wall of Karez canal and 50 m long retaining wall of Chawghai canal completely achieved.

With the implementation of this project, the volume of water in the canals increased from 1500 lit/sec to 3000 lit/sec in Karez canal, and from 1500 lit/sec to 2500 lit/sec in Chawghai canal. This increase in volume of water in the canals has created a condition capable of increasing the amount of land under irrigation which eventually should result in the advancement of wheat harvest for the year 1994, from 4200 MT to 10640 MT, while still relying on traditional agricultural practices.

### **B. Major Events Affecting Outcome :**

Although the flood coming in the river affected the project work volume, but the impact was not to the extent which hamper the implementation. All the project activities completely achieved and no events affected the project outcome.

The enthusiastically availing of local community from the project induced the PRB staff to further endeavor and apply their efforts towards the project implementation which ultimately result in the successful implementation of the project.

### **C. Community Contribution :**

As it has already been planned, the community took part in removal of sediment from the canals i.e. from the 12 km length of Karez canal and 10 km length of Chawghai canal, only a total of 12 km have been cleaned by PRB employees, while the remaining 10 km length of the canals in addition of the feeders have been cleaned by the community. Moreover, the community did not spare their efforts in making the ground ready for implementation of the project activities from the view point of security and social affairs. The duly entertainment of the community and their tenor of conduct towards the project have been recorded in their benefit for PRB future activities in the area.

## **II. PROJECT ACHIEVEMENTS**

### **A. GOAL :**

To increase the availability of water in the project area, thereby creating a condition capable of increasing the 1994 wheat harvest from 4200 MT to 10640 MT while still relying on traditional agricultural practices.

### **1. OBJECTIVE :**

By the beginning of the fall planting season, the volume of water in the 12 km long Karez canal will have been increased from 1500 lit/sec to 3000 lit/sec, and in the 10 km long Chawghai canal from 1500 lit/sec to 2500 lit/sec, as determined by the field surveys.

### **ACTIVITIES :**

- a. Tools, materials and equipment were purchased and transported to the project site.
- b. Skilled and unskilled labor were recruited and assembled at the project site.
- c. The 12 km long Karez, and 10 km long Chawghai canals were drained in sections in preparation for cleaning.
- d. Thirty-five centimeters of sediment from 12 km long Karez canal and 40 cm of sediment from 10 km long chawghai canal have been excavated and deposited a minimum of two meters from the edge of the canal.
- e. Excavation of foundation for the stone-masonry retaining walls and intake of the canals were performed.
- f. The 60 m long retaining wall of Karez canal has been built up to a height of 4.40 m.
- g. The 50 m long retaining wall of Chawghai canal has been constructed according to the technical drawings.
- h. The 45 m long intake of Karez canal and 30 m long intake of Chawghai canal has been constructed across the Samangan River, thereby raising the water level in the Karez and Chawghai canals to 150 and 120 cm respectively.

- i. The plain cement concrete coping of the stone masonry intake and retaining walls of both Karez and Chawghai canals have been accomplished.
- j. All the stone masonry surfaces have been pointed according to the designated requirements.
- k. Field surveys have been conducted, and the findings have indicated that the volume of water in the 12 km long Karez canal and 10 km long Chawghai canal have been increased from the pre project level of 1500 lit/sec to 3000 lit/sec and 2500 lit/sec respectively.

### **III. UNANTICIPATED ACTIVITY**

Excluding a few changes in the order of execution of the activities, and some additional work due to the unforeseen flood damages, no any other changes or unanticipated activities occurred during implementation of the project. All the activities have been fulfilled according to the designed technical drawings and anticipated manner.

### **IV. OBSTACLES**

#### **A. 1. Unsuccessful or Uncompleted Activity:**

No any activity has remained unsuccessful or uncompleted. All the activities have been carried out successfully and completely.

#### **B. General Difficulties and /or weaknesses:**

Although the project staff were incurred much difficulties during implementation of some activities, but it were not insuperable to hamper the project activities. For example, draining of the river in preparation for excavation of the foundations and constructing the intakes were not an easy task. It had been about achieving, of course with much endeavor, while the flood washed away all the implemented quantity of work. Once again the processes were resumed so that the intakes were constructed. Moreover, draining of the canals in preparation for cleaning created some problems of water shortage for the command areas of the canals which have been solved with much difficulties. PRB has recorded the difficulties of various aspects of the programming environment for future consideration.

## **V. CONCLUSIONS**

### **A.**

#### **1. Project Design :**

Comprehensively speaking of the project, it has been well designed in technical aspects as well as administrative. However, some conceivability and experience have been gained through implementation of the project. In relation of the project design its worth mentioning that a precise and comprehensive survey of the field is necessary for better design and easily implementation of the project. A complete survey will never create any future problem or unanticipated activity. Although it does not mean that we were facing any problem, or our project design had any weakness, but there were a few unconsidered points which have been recorded as an experience of our field staff gained through the project implementation for furthermore betterment of project design in the future.

#### **2. Project Implementation**

Preparation/pre-project activities in the area has been found the most important factor in duly implementation of the project activities. PRB's already established trust and well skilled staff in the area have indicated its sensible effect on successful implementation of the project activities. Hence, the findings of these masteries as well as the other apprehended experiences have been gained through implementation of this project.

#### **3. Project Monitoring and Evaluation:**

Proper monitoring missions were conducted by the assigned monitor as well as the staff. No any major issues which have affected implementation were occurred. Evaluation of the monitoring missions has indicated that if an engineer, instead of a non-skilled person, be assigned to conduct assessment of the situation at the project site, should better result in the project evaluation.

#### **4. Financial Management:**

A proper financial management was put in practice. Money were sent to the project site directly through business man to the Mazar based office and then to the project manager. Money received and actual expenditures in the project have been exactly supervised.

Financial management has been performed according to the IRC/RAP guidelines for managing RAP-Funded projects.

## **D. Recommendations:**

Altogether evaluation of the project indicated that there was no any major shortcoming which affected implementation. All the planned activities have been performed successfully, and the project objectives achieved. But in order to further broaden the benefits and promote the outputs of the project, the conception of an improved seed and fertilizer distribution project is recommended for the area.

## **VI. PROJECT MONITORING:**

### **A. 1. Date(s) of Mission:**

First monitoring mission was conducted on the beginning of July, from 7/1/1993 to 7/10/1993.

Second monitoring mission was conducted on the end of August, from 8/25/1993 to 9/3/1993.

Third monitoring mission was conducted on the end of September, from 9/29/1993 to 10/7/1993.

Forth monitoring mission was conducted on the end of October, from 10/21/1993 to 10/30/1993.

### **2. Project site visited:**

The project site for Karez and Chawghai canal has been visited. The project prior activities, i.e., assemble of labors, purchase of tools, materials, equipment, and its transportation to the project site were the matters monitored by the first monitoring mission. In the following monitoring missions, excavation of foundation, removal of sediment from the canals, construction of retaining walls and head work of the canals have been monitored. Determination of the work quality-control and assessment of the project activities as a whole were the other aspects of the monitoring missions.

### **3. Names and Titles of Monitors:**

The above mentioned four monitoring missions were conducted by the PRB's assigned monitor Abdul Manan. In addition, two monitoring missions, one at the beginning and another at the end of the project, were conducted by Mohd Arif (supervisor) and Shir Alam (engineer), members of the PRB's main office.

## **VII. EVALUATION:**

### **A. Project Impact:**

There are many aspects that the project have benefitted the community. Some immediate outputs have just been carried into execution while some development beneficiaries should have been received in the future. Increasing the availability of water in the project area has empowered the local farmers to bring more land under irrigation and earn more harvest. Increase in the amount of wheat harvest in the area, besides having a great effect on food availability, altogether, lower the prices in the bazaar and benefits the non-farmer families too.

It is also worth mentioning that during the implementation, the project had a good effect on cash income of the project personnel. Although, it is difficult to determine and figure up the beneficiaries of the project at this stage; since it would better be tangible for the year 1994; but as far as the field surveys, conducted by completion of the project, indicated, the project objectives have been completely achieved and the target beneficiaries have been covered successfully.

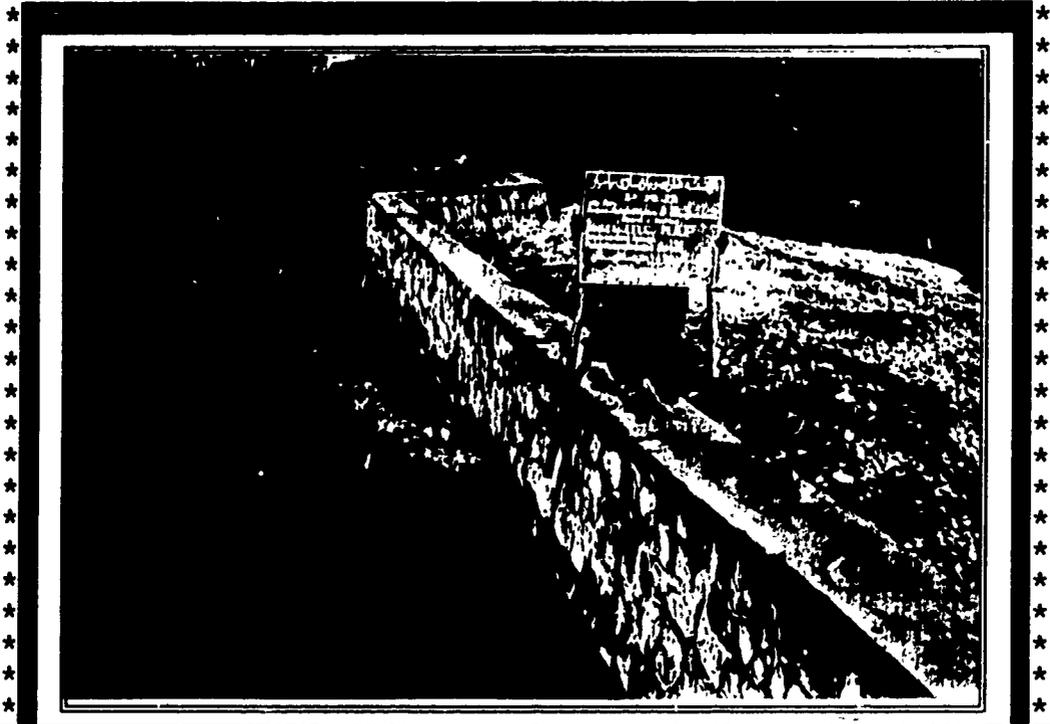
### **B. Methods and Criteria for Evaluation:**

The economic criteria have been used in assessment of the project impact. After completion of the project, it was determined by the conducted field surveys, whether or not the project objectives have been achieved. The findings indicated that the amount of water in the canals have been increased to the extent presumed before implementation, which itself was a proof of success towards approaching the project goal. Removal of sediment, construction of the intake and retaining walls of the canals have completely been achieved, thereby the level of water in the canals have been increased. This increase in availability of water shall increase the amount of land under irrigation which should result in the increase of agricultural harvest and ultimately improvement of living standard of the community.

TABLE OF UNIT COSTS FOR PROJECT INPUTS

DESCRIPTION OF INPUT	UNIT MEASURE	QTY HIRED OR PURCHASED	UNIT COST
Shovel	Piece	95	109.92
Pickaxe	Piece	23	141.46
Wheelbarrow	Piece	20	1585.37
Hammer (large)	Piece	15	512.20
Hammer (Small)	Piece	20	73.17
Bucket	Piece	25	48.78
Basket	Piece	20	207.32
Barrel (Empty)	No	20	243.90
Skilled Labor	Man	765	175.27
Unskilled Labor	Man	4715	93.72
Cement	Bag	3595	149.61
Stone	m3	1991.5	198.58
Sand	m3	615	115.70
Aggregate	m3	10	100.00
Plank	m3	0.75	5000.00
Pole	No	30	150.00
Nail	Kg	10	60.00
Waterpump	No	1	30000.00
Fuel (Diesel)	Litter	200	14.63

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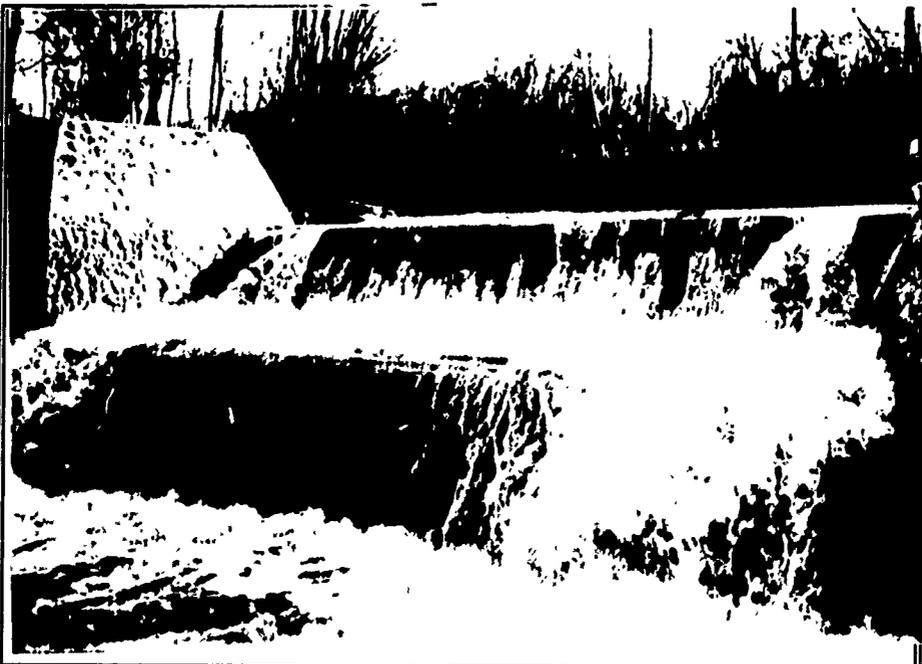


Retaining wall of the intake of Chawghai Canal

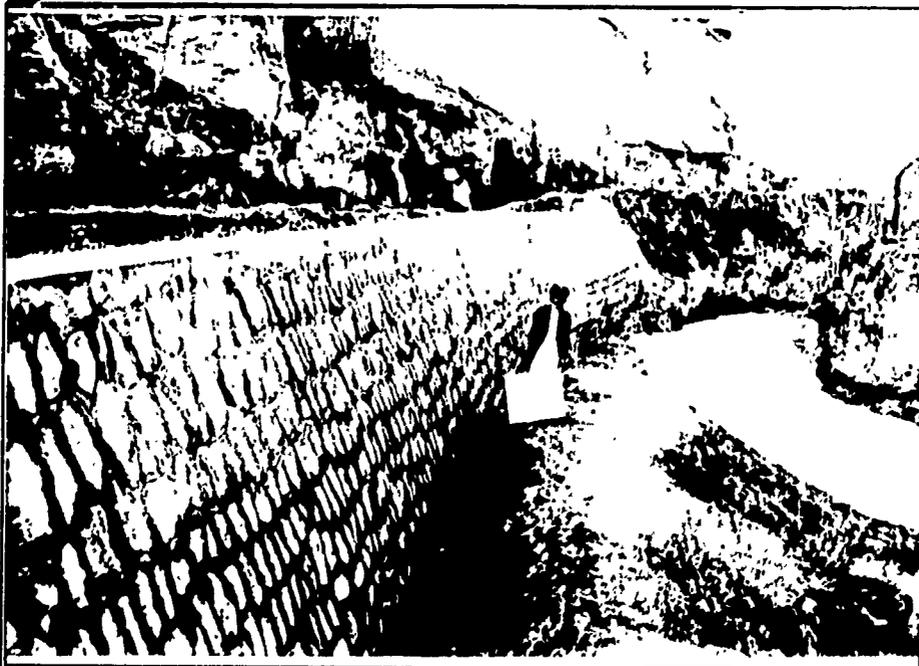
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A scene of the retaining wall of Chawghai Canal at the intake



Front view of the intake for Karez Canal after end of the head works



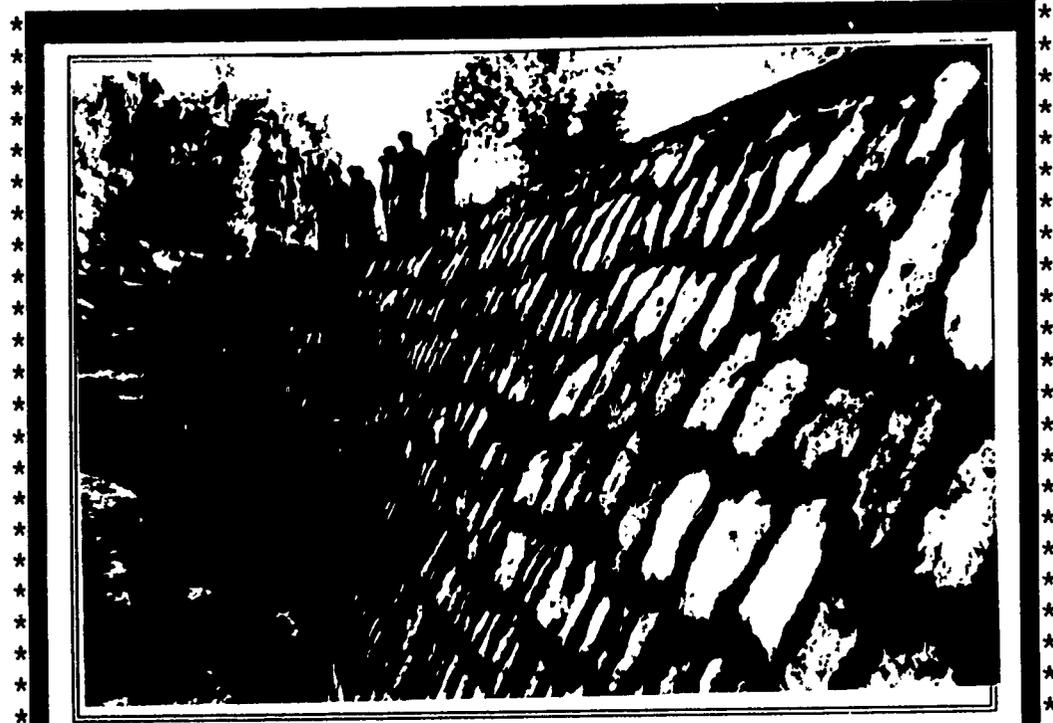
A picture of the retaining wall of Karez Canal at the intake

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Wing wall of the intake of Karez Canal

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A close view of the retaining wall of Karez Canal

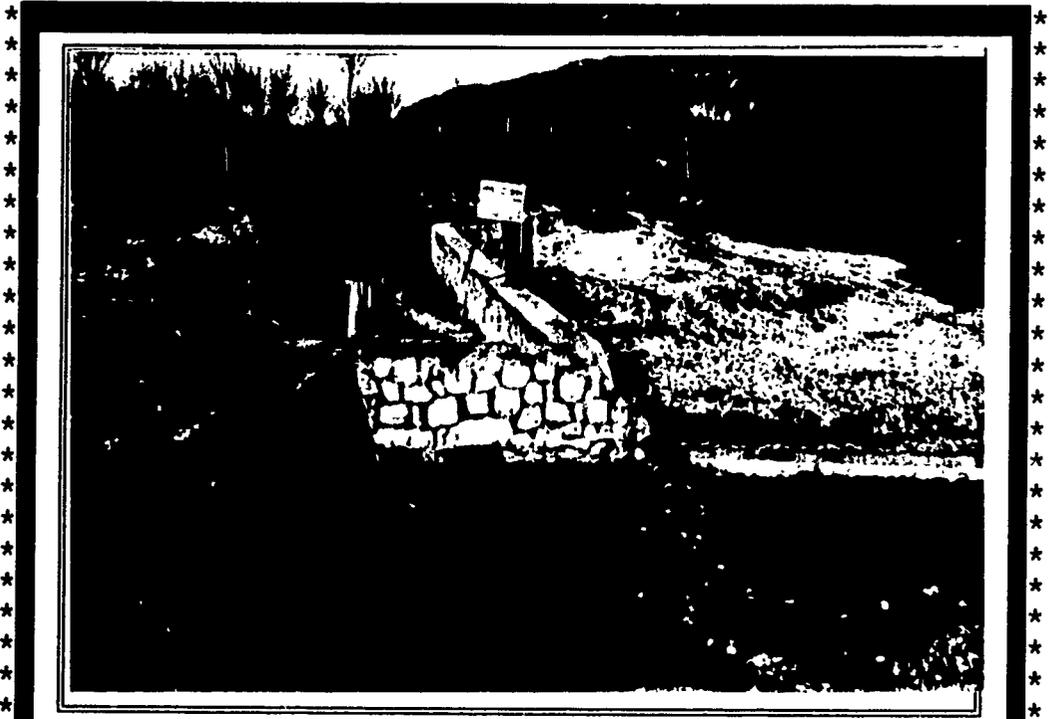
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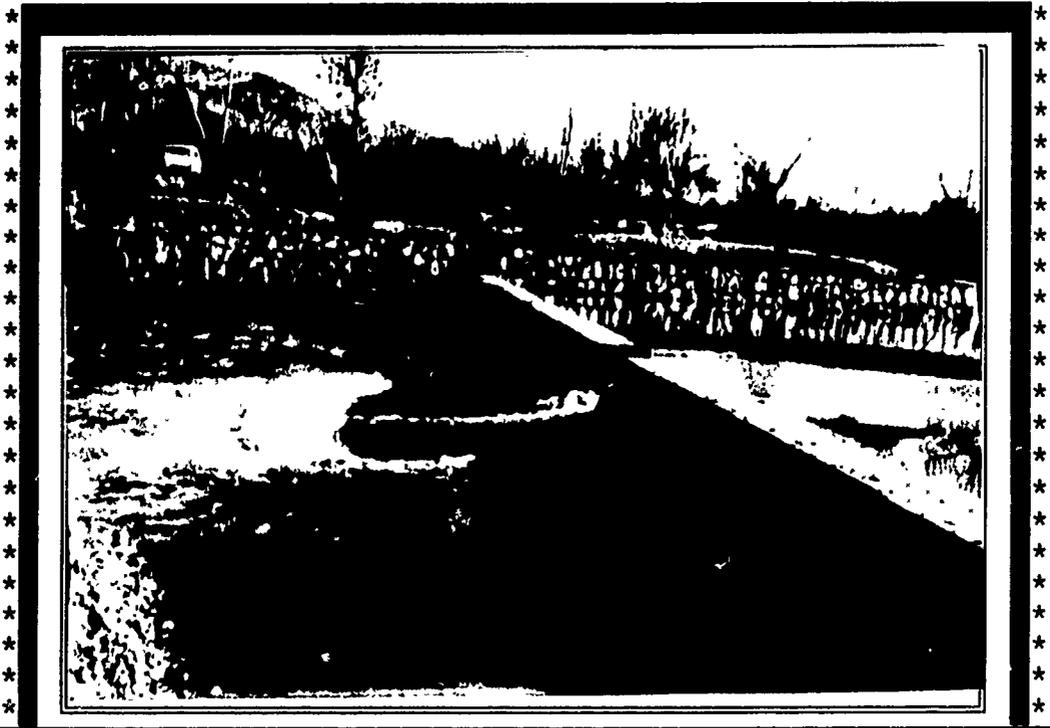
Retaining wall of the intake of Chawghai Canal

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A scene of the retaining wall of Chawghai Canal at the intake

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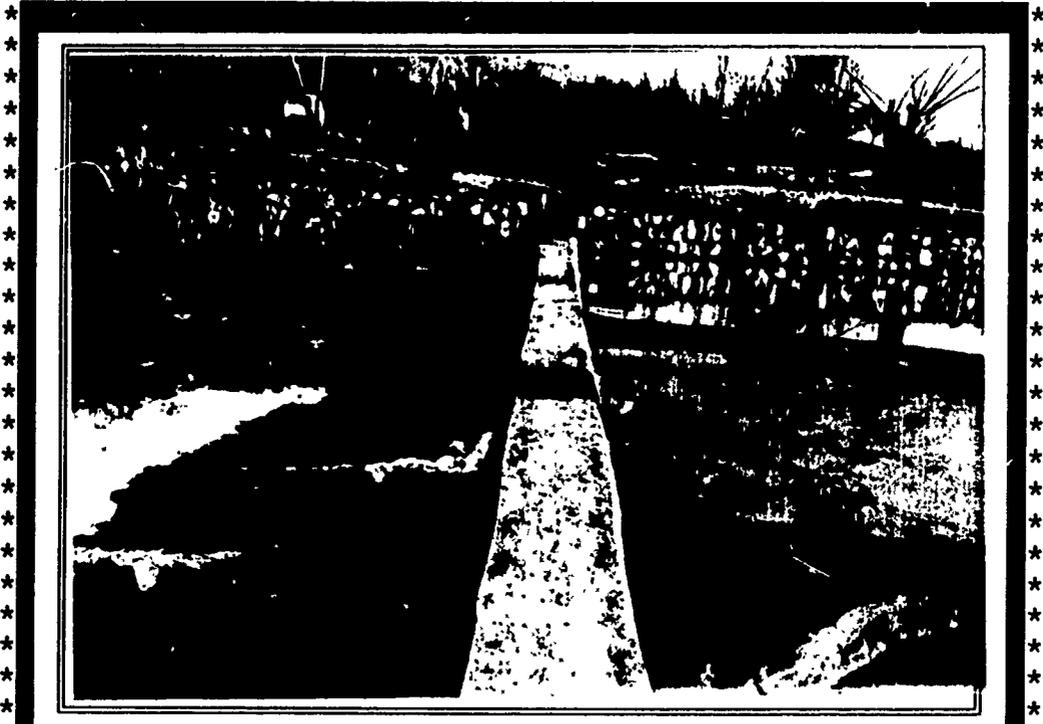
A scene of the intake of Chawghai Canal

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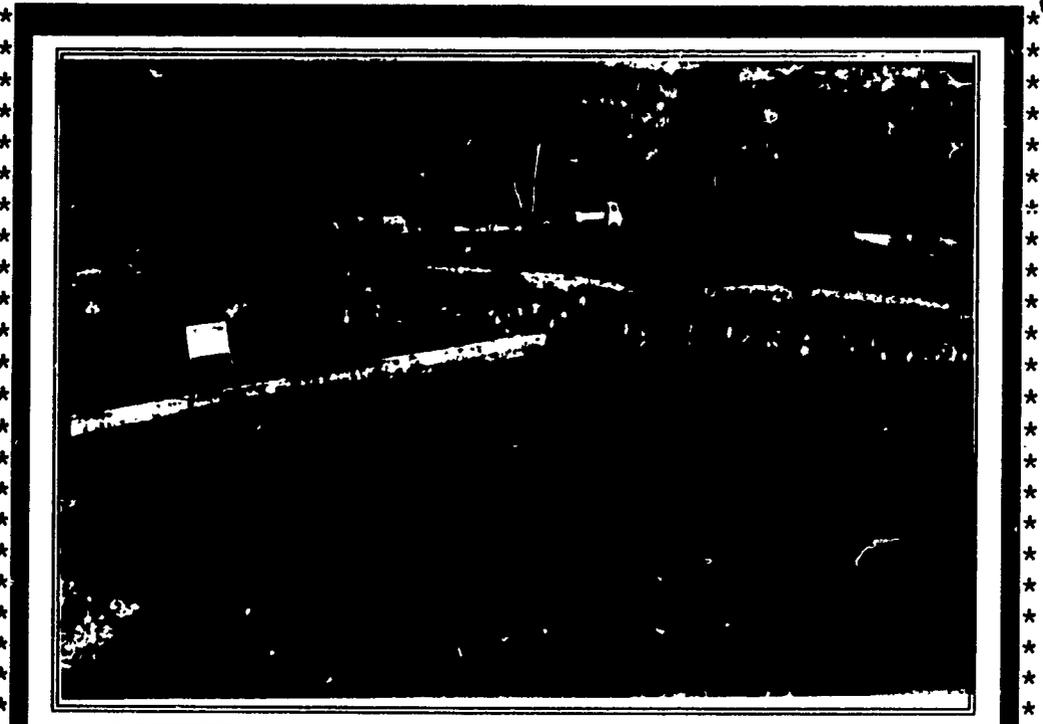
A picture of the retaining wall of Chawghai Canal

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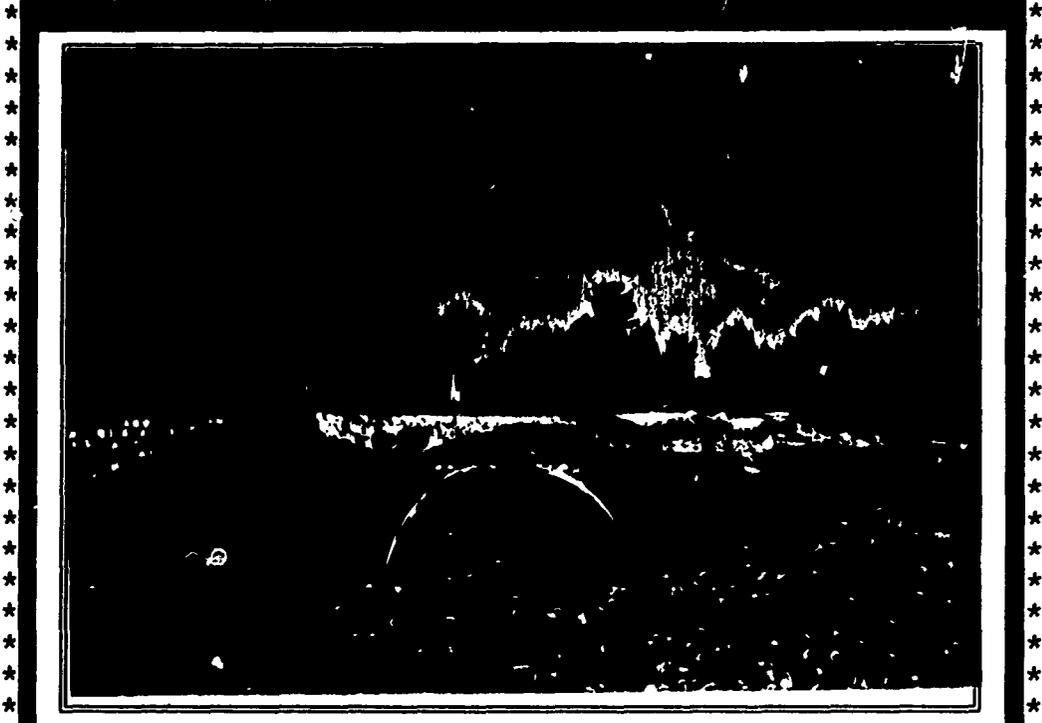
**Weir of the intake of Chawghai Canal**

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**A picture of the intake of Chawghai Canal**

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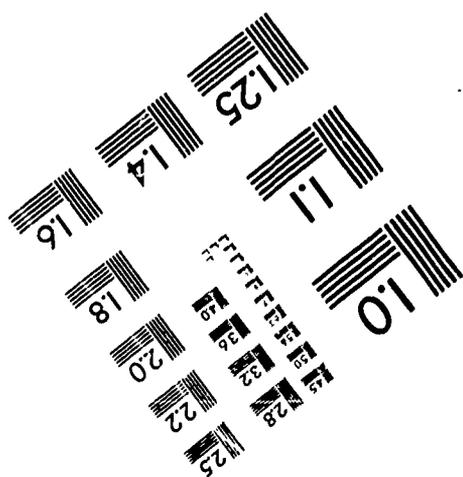
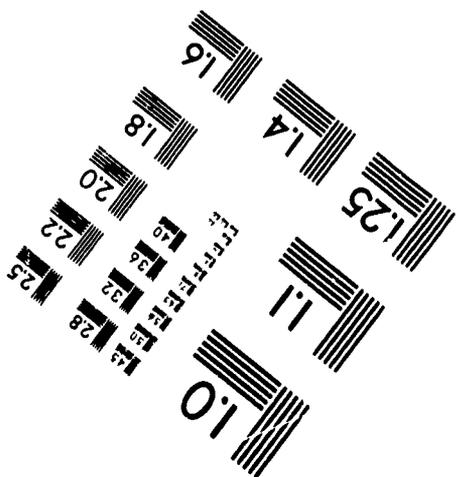
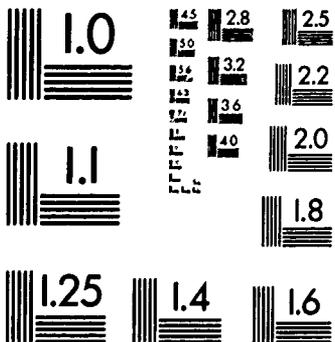
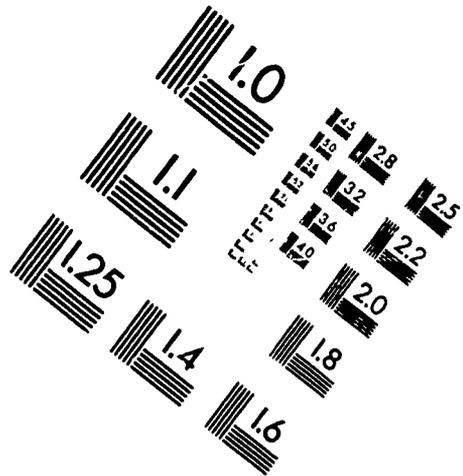
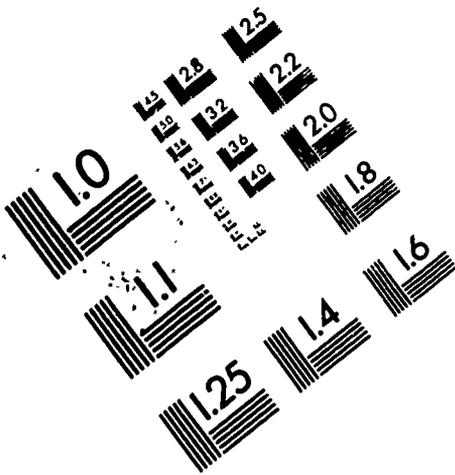
Excavation of foundations for the retaining walls in  
Chawqhai Canal

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Filling process of the excavated foundations in  
Chawqhai Canal

# IMAGE EVALUATION TEST TARGET (MT-3)



**APPLIED IMAGE**  
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