

~~10 February 1999~~

To: Mark Pont, MCI/Quetta

From: Dick Scott, MCI/Lashkar Gah

Subject: ~~Flood in the Boghra, Damaged Siphon and Blown Embankment~~

Following the rain on 5, 6, 7 February there were flood conditions in the region. The HAVA heavy equipment parking area near the Lashkar Gah bridge was under 3 to 4 feet of water. The many gravel dikes and channels in the area north of this bridge built by HAVA at considerable effort and expense were washed flat. A small wedge of long compacted earth was eroded out of the western approach to this bridge next the first support beam, endangering this approach for this coming flood season. The foot bridge across Chan-i-Anjir wash was knocked down. (This is perhaps the most devastating result of the flood, especially for women and children, since it is the only crossing for this wash that flow much if not all the year.) Flood water coming out of the desert at a site where there is no underdrain (just north of Siphon 39+830 or "shovel" siphon, topped the Boghra Canal in at least one place causing minor damage. And because the Boghra Canal gates were not closed for this Helmand River flood, the canal was flooded with a great surge of flood water. This damaged at least one check gate at drop 52+850 which is now jammed closed, submerging one of our hand-labor work areas. The jammed gate held and was topped by the flood but farmers in the area stood a night watch in case the flood surge topped the embankment at this point. It was within two feet of topping. And finally, where the Boghra Canal branches to east and west Marja, at damaged Siphon 73+962.5, the canal's left bank embankment was breached and a section of unknown size of Marja was flooded. A local watermaster (Mirab) Ghulam Ghoust organized a local work party to repair the damage. The breach was 20 to 30 feet wide. They were putting the final touches on the repair in the afternoon of 10 February with hand labor and three tractors. The government apparently made no attempt to help with this repair. Most of their equipment was either busy working trying to save the Lashkar Gah bridge, was partly under water or was in a state of disrepair. The cause of the breach was the damaged siphon, previously reported on, having been damaged some 5 to 7 years ago by an explosive. There are a variety of stories as to how this happened. In short, the damaged and partially blocked siphon does not swallow as efficiently as originally designed. The flood surge backed up and blew out the left bank wall where it had blown out on at least two other occasions, i.e., a weak spot.

What this tells us is, first, the Boghra irrigation system is a fragile system badly in need of repair and maintenance that can

easily be damaged by flood after years of neglect and abuse. Repair is beginning but at a slow pace given the massive job to be done. We can only blunt the tip of the iceberg, as it were.

Second, the Boghra intake gates need to be put in good working order (see my gates memo) and manned 24-hours a day by efficient staff at least during the winter season. The gates custodian, a very experienced individual, was away at the time of flood and did not return until 2 or 3 days later at which time he closed the gates or at least opened the diversion gates taking pressure off the system. Obviously one individual cannot man the post 24-hours a day, 7-days a week, all year long, which is his present, nearly unpaid, schedule. This issue would have to be taken up very carefully with the government to potentially protect the job of this one experienced individual. Had he been there, he would have closed the gates.

Third, it would be useful to have some early-warning check points along the river but this will have to await a slightly different era.

As a final note, this emphasizes the earlier point I have made about the potential dangers of attempting to flush out some of the canal with a surge of water. The system was designed with certain capacities in mind. Obviously it was designed to withstand stress that exceeds these normal capacities. In its present condition, however, we cannot be certain of the maximum stress the Boghra Canal can withstand, and each flood through the system adds new weak points.

Water control through an irrigation system is one of the keys to its long life. The Boghra Canal was exceedingly well designed and constructed.