

Contribution to the study of water leaks in dams: case of Foum El Gherza dam (wilaya of Biskra)

In this work, we treated the problem of water leaks in dams. In addition to the loss of valuable and scarce water, this problem presents threats to the stability of hydraulic structures.

We began this work by a literature on dams which have a serious problem of water leakage, then we dedicated this study to Algerian dams in general and to Foum El-Gherza dam located east of Biskra city in particular. This book, despite its economic importance in the agricultural point of view in the region, since it provides irrigation for over 300,000 date palms, palm groves of Sidi Okba, Seriana, Gartha and Thouda, is amputated every year by leakage of an average volume estimated at five (5) million cubic meters of water through these banks.

Thus, our aim in this study is to find a reliable and effective method to treat this problem to minimize (maximum) these water losses, since the study of this tricky issue and the highlight of its impacts, are a preliminary and essential step to provide adequate and cheaper remedies and to this phenomenon.

The results show that water leakage problem is complex and requires the involvement of several disciplines and techniques. However, the condition of Foum El-Gherza dam is worrying because of the increased leakage from one year to another, and this for the same gauge of the lake.