

EXPERIMENTS  
WITH THE  
WATER - FINDER

Department of Agriculture, Bombay.

BULLETIN No. 38 OF 1910.

---

# EXPERIMENTS

WITH THE

# WATER-FINDER

OF MESSRS. MANSFIELD & Co.

IN THE

TRAP AREA OF WESTERN INDIA.

BY

H. K. MEHTA, M.A., B.Sc.,

*Assistant Professor of Physics, &c., Poona Agricultural College.*



BOMBAY

PRINTED AT THE GOVERNMENT GENERAL PRESS

1910

## PREFACE.

THE attached paper by Mr. H. K. Mehta, M.A., B.Sc., gives an account of experiments which he has undertaken during the first five months of 1910, to ascertain whether the Water-finder manufactured by Messrs. Mansfield & Co. of Liverpool, and which seemed to be based on sound principles, was likely to be of value in the Deccan and other trap areas. The importance of the matter is obvious. Wells are the principal source of irrigation water over all this area. They are very expensive to make, costing at least Rs. 800 to Rs. 1,000 each. And there are very many failures,—one estimate made to me indicating forty to fifty per cent. of wells dug never reaching water.

The results so far obtained, though not absolutely conclusive, indicate an almost certain success. Where wells have failed, no indication has ever been found: where successful wells exist, indications are always found: where continuous underground streams are for other reasons supposed to exist, the instrument confirms their presence: and where a stream passes near a well so that percolation may be presumed to take place, that percolation is actually found. This would seem to justify the statement, with all but certainty, that the instrument will detect underground streams of water. For *complete* proof we must await the next dry season, when in two at least of the places, where tests have been made, digging on the lines indicated is to be carried out.

The instrument has several disadvantages. It is expensive,—that used by us costing Rs. 750. It requires very careful use, as if exposed partially to the sun, for instance, during the observations, it will not give correct indications,—and it would be necessary for anyone who wished to use it to have special training with Mr. Mehta or his assistants. Then it is slow. To completely survey even a small field so as to arrive at the best point may take a week. One observation will often take half an hour, and this allows (at six hours a day working) only about seventy observations in a week. So that testing for a well with this instrument is a laborious job.

The instrument, in fact, seems rather one for local boards and authorities, or large landowners to purchase, who can have a man

trained to the job to do the actual survey. Such a man must be very intelligent, as the selection of the best site depends on careful plotting of a series of observations, and not on any particular observation.

If these precautions and conditions be taken into account, the instrument seems likely to be of very considerable service.

HAROLD H. MANN,

Principal,

Agricultural College, Poona.

POONA, August 10, 1910.