

Indication of Underground Water Source for Drilling of Bore Wells by Some Trees

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Research Article

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ABSTRACT

From ancient period, while digging well or drilling bore well, it was unsure for getting underground water source. Now it is possible to find the point where you get an underground water source. With the experimental evidence it is found that, some of the trees present on the ground surface indicate the direction along which the water flow is available. This will be the surprise package for the farmers around the world.

INTRODUCTION

Ground water is defined as underground water found in the pore space of rocks. Ground water does not stay underground forever, and it does not lie still waiting for us to draw it from a well. Ground water moves as part of the hydrologic cycle; the endless circulation of water from the atmosphere onto the surface and into the subsurface regions of the earth and then back from the surface to atmosphere^[1,2,3,4,5].

The process by which water from rainfall and melting snow seeps into the soil and percolates into the saturation zone is called recharge, When this water reappear at the ground surface, this is called discharge.^{4,5,6} The level below which all the pore spaces in the ground are filled with water is called the water table.⁴ The entire region below the water table is called the saturated zone and water in this saturated zone is called ground water^[4,5,6].

The farmer of India has mainly depends on rainwater for Irrigation purpose. Due to uncertainty of rain, now farmer has to depend on ground water sources such as canal, wells, bore wells etc. In rainy season, the water table is high, due to this canal and wells gives better amount of water. But in summer season, as water table goes down, we have to depend on bore wells.

Whether you are thinking about drilling water bore well on your land you would like to the potential for drilling bore well. There are no simple solutions, no detail maps of ground water presence and no guarantee. Therefore it is quite confusing to take a decision about whether to drill or where to drill⁴. This publication discusses a new way for finding ground water stream for drilling of a bore wells.

Traditional Way to Locate Water in Underground Streams

Locating underground water streams is both an art and bychance³. Generally there are many methods, vary widely; most dowsers (also called diviners or water witches) probably still use the traditional forked stick, which may come from variety of trees. Other dowsers may use keys, wire, coat hangers, pliers, wire rods, and pendulums etc.^{1,2}

Dowsing, the use of two sticks or a forked “Y” stick is considered by many people to be the best indicator of water. The dowser or receptive person using the sticks can sense or “feel” underground water through the stick. Many people feel dowsing is a fake or made up something like a magic trick. But some people have a specific talent as we all have “gifts”. The percentage of people that can effectively sense underground water stream is quite low [1,2,3].

New Technique for Getting Sure Underground Water Stream

There are some trees in the nature; they indicate the presence of underground water stream. The trees such as Neem, Acacia, Tamarind etc. shows their some bunches of twigs are bending downward in a straight line direction as shown in figure 1. The bunch of twig which is bending, they are pulled downward with constant force as compare to other twigs which are in upward direction towards light that of the same tree. It is found that there diameter reduces and length from one sub branch to other sub branch increases as compare to unbend twigs. This is due to presence of underground water flowing along that direction. In some trees it is found that there are more than one bunches of twigs which are bending along a straight line but with different direction¹. We can combine them as point for the drilling of the bore well as shown in figure 2. This figure2 shows that, there are two bunches of twig which is bending along a straight line. The one bunch is bending parallel to the plane $ABB'A'$ and other bunch is bending parallel to the plane $CDD'C'$. The side AA' of first plane indicates the direction of stream and the side DD' of second plane indicates the direction of other stream. If we extend the lines AA' and DD' so as they cross each other. The crossing point of these two lines is the point for drilling of bore well that is point 'E'.

Figure 1: The photographs of Tamarind and Neem tree’s bunches of twigs bending downwards.



Case Study

After much experimentation which I have performed got the water source for every drilled bore well by this technique. This technique was applied to Shri Vaijinath More’s land at post Tulshi Tq. Madha Dist. Solapur. The bore well point was fixed by this technique and after drilling a bore well sufficient amount of water source was available. Since from October 2011 this bore well is giving a discharge of 90 liter per minute (lpm) all times. The photographs of the Neem tree and drilled bore well are as shown in figure 3 and 4.

Figure 2 Calculation of the Cross Point of Two Twigs for Drilling of Bore Well.

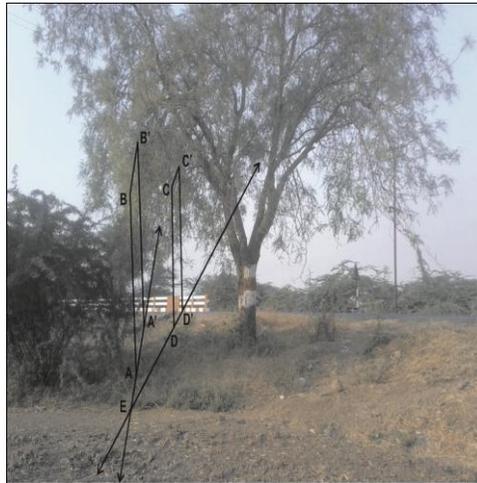


Figure 3: The Photographs of Neem Tree Which was used for Case Study on the Lands of Shri Vaijinath More.



Figure 4: The photograph of drilled bore well on Shri Vaijinath More's land.



RESULTS AND DISCUSSIONS

The bore well points fixed by this technique are giving 90% of success rate for getting underground water source. By this technique presence of underground water stream is confirmed but the depth of the source available is not sure. Many times it is found that the depth varies from less than 100 feet or sometimes maximum up to 600 feet.

This method is useful for every farmer who can analyze his farm simply by observing the trees present on his borders of land. Out of all these trees some of them will definitely indicate the presence of water source and their direction.

CONCLUSIONS

This technique of searching of ground water stream is useful to everyone which wants to drill a bore well. It does not require a specific sense or feeling for finding a ground water source.

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