Water From the Desert

A Japanese has invented a simple device by which water can be obtained even from the desert.

According to Mr. Kobayashi, director of the Japan Electrical Research Institute in Kawasaki City, Kanagawa Prefecture, his invention succeeded in obtaining water from the desert area near Mt. Mihara on the island of Oshima southeast of Tokyo. During his experiments carried out on the "Japanese Desert" on Oshima, he was able to collect one liter of water from one square meter of sand surface during a 24-hour period.

On his way to the international conference on the utilization of new energy sources held in Rome last August under the sponsorship by the United Nations, Mr. Kobayashi carried out a similar experiment at Quetta, an arid area in Pakistan, and was successful in obtaining almost the same results as the tests conducted on Oshima.

Since the experiments have been conducted only in two countries so far, the inventor feels that he must carry out more tests in the deserts throughout the world in order to obtain convincing proof of the success of his invention.

The invention is quite simple; the device consists of only a plate of glass within a square frame lined with adiabatic material. The glass is placed so that the solar rays hit the glass at right angle. Moisture forms on the inside surface of the glass plate and finally becomes drops of water which is then collected.

Underground water is present in any area no matter how dry the surface of ground. This underground water gradually seeps up to the surface through the capillary action, but it evaporates into the air almost instantly in arid and hot districts. However, when this device is used, the water, in the form of vapor which rises up to the surface from deep below the ground, becomes saturated in the box and forms moisture on the inside surface of the glass plate. The water obtained from this moisture is natural distilled water which is entirely free from impurities.

Water can be obtained by the device even at night when the sun is down. This is be-

Israeli Farmers Learn Old Lesson

Farming methods which proved effective in the Middle East 2,000 years ago may be used by modern farmers in the Negev desert, in Israel. Agricultural research workers there are reconstructing ancient desert farms which, from archeological evidence, flourished during the period 200 B.C. to 600 A.D., first under the Nabateans, then the Romans and finally the Byzantines.

The area consists of rugged rocky hillsides, cut by narrow wadis or valleys leading to broad flood plains. The soils on the slopes are very shallow and gravelly, while those at the bottom of the wadis consists of a layer of loamy earth often several metres thick. The ancient desert farmers invented elaborate methods for collecting and spreading run-off water from the hills to irrigate the soil in the wadis and flood plains.

The Israeli researchers have restored two of the ancient farms with their terraces, walls, spillways and channels. They have made detailed studies of rainfall patterns and have started experiments with various crops to test the efficiency of these ancient farming methods.

At one farm, fruit trees and vines were planted in 1958 and, in spite of the fact that two years of drought followed, the trees have grown very well, irrigated by the run-off waters. At the other farm, barley was planted and produced a good crop although annual rainfall was only 40 millimeters. Further north in the Negev desert, barley crops which had 80 mm. of rain failed completely.

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cause subterranean heat still exists at night due to the surface of the ground having been heated by the sun during the day time.

The volume of water obtainable from low areas in a desert is the same as that from higher locations such as sand dunes. This is because the height of the sand dunes is significant compared with the depth where the underground water is located.

This device, which was reported in a conference concerning the utilization of solar energy held recently in Tokyo, caused quite a sensation. It was also reported that it aroused considerable interest among the participants at the Rome conference last August.