

Dr. Eaton has raised two important questions on this issue (p. 383). He asks *i)* who will pay for pumping the bad waters and *ii)* how will these be disposed of?

As stated by Dr. Eaton, neither the government nor the farmers will be able to pay for the drainage structures when all the groundwaters have been salinized; certainly, they are better able to do so now when only part of the groundwaters are salinized.

It would be in the interest of Pakistan to install tubewells in the non-saline best quality groundwater areas only. These areas lie in the upper reaches of the Rechna, Chaj and Bari Doabs and along both sides of the rivers in the Punjab and Bahawalpur. Farmers are already installing tubewells in these areas. To keep the groundwater of these areas in good condition, Dr. Nazir Ahmad has suggested that the canal water supply to these areas should be increased during the summer season when there is excess water in the rivers. This would increase the infiltration of fresh water to the groundwater and in this way these areas could be kept fit for pumping for an almost indefinite period.

According to Harza Engineering Company International, the present river diversions into the West Pakistan canals are about 83 MAF per year, 48 MAF in the Northern Zone and 35 MAF in the Southern Zone [9, p. 39]. About 20 MAF of water is lost through seepage and evaporation in the rivers and about 61 MAF goes to the sea mainly during the summer season [9, p. 39]. It should be possible to divert some 10 MAF additional water to the non-saline groundwater areas out of the 61 MAF now going to the sea.

If the capacity of canals is increased and additional water is diverted onto these areas during the *kharif* season, the *rabi* water supply can be withdrawn from these areas. The farmers can install tubewells and meet the full need of the *rabi* crops by pumping groundwater. The *rabi* water removed from these areas can be diverted to saline groundwater areas in the lower reaches of the doabs where tubewells cannot be installed on account of high salinity.

In order to encourage the farmers to install tubewells in the non-saline groundwater areas, electricity should be provided to the whole of this area, and credit should be extended to the farmers for the purchase of tubewell materials.

In the remaining areas of the Punjab and Bahawalpur where groundwaters are relatively more saline, drainage facilities must be provided to remove the salt from the area. However, a basic problem of these areas is the deficiency of irrigation water. The capacity of the canals will have to be increased and addi-