

M E M O F O R C A B I N E T
BY THE MINISTER OF TRADE, INDUSTRY & AGRICULTURE

Desalination Plants for Small Communities

Hon. Ministers will recall that in the Cabinet meeting of the 22nd October, 1966 they considered a Memorandum on the Water Supply Position and agreed that a further paper should be prepared for consideration on the feasibility of providing desalination plants for small communities.

2. The world to-day is agog with technological advances in the field of the conversion of saline and brackish waters. But many of the processes are yet under laboratory tests.

3. Theoretically there is no limit of scale of output in desalting water. The whole objective of present research is low cost. It is well known that in engineering production there is an increasing economy as scale of production increases. The first marine distiller produced about 200 gallons per day. Today the largest single unit of multistage flash distillation is about 1.7 million gallons per day. Studies for units of multi-million gallons per day are being followed. In actual fact the smallest land based desalination plant is of 60,000 gallons per day and is installed in Gibraltar. The flash type of land distillers actually installed vary from 80,000 gallons per day in Saudi Arabia. Much larger plants, including ones of 100 million gallons per day, are under study in the United States, U.S.S.R., and Israel.

4. At the United Nations Seminar on the subject of water desalination, which was attended by the Chief Engineer (Water), an interesting concept was presented of a probable development of small plants for small community use such as isolated villages. The bulk of research at the moment is on large-scale plants in view of scale economies and existing population concentrations. There is a tendency in modern town-planning design to decentralize and there are also existing small communities where small plants are or will be required. Development along these small-sized plants will, therefore, in all possibility be pursued with more vigour in future years.

5. Assuming that no alternative and cheaper water is available, desalinated water could either be singly supplied through small units or regionally by grouping villages, etc. Technical advice obtained is to the effect that in the case of the Maltese Islands, where desalinated sea water is for the foreseeable future a supplementary source of water, and where a sufficiently developed storage and distribution system is already in existence, it would seem more economic to integrate the desalination plants to the limits imposed by geography and technical factors. The present circumstances in our Islands offer hardly any conceivable encouragement to the installation of these small community desalination plants.

6. The ideal is, of course, to develop low cost methods of freshwater production. As far as is known, however, none of the processes in use is cheaper than the combined power generation and seawater distillation (the multi-stage flash system) we are constructing in Malta. A break-through in a cheaper method has occurred in the use of atomic energy, but the low-cost effect is in respect of plants producing about 100 million gallons of freshwater a day - a production that is clearly outside any anticipated water demand in Malta.

7. The Manager, Water Works Department, sets great store by the great possibilities, especially for adoption in small islands such as Comino, of solar distillation, but a recommendation made last August for further enquiries in this field has not been countenanced by Finance.

8. Recently my Minister was informed by the representatives of the Lockheed Inc. that, should gas be available cheaply and in sufficient quantities, it would be possible to have small, gas-operated distillation plants producing 50,000 gallons daily.

9. In the circumstances this Ministry has come to the conclusion that, until more concrete results are achieved as a result of current research in this field, it would not be technically and economically advisable to instal small community distillation plants in Malta.

2nd February, 1967
MAPC/308/64

jcp/af