SLOW SAND FILTRATION

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Preface

In recent years there has been a tendency to assume that slow sand filtration is an old-fashioned method of water treatment that has been completely superseded by rapid-gravity and other high-rate filtration techniques.

This idea is definitely mistaken. Under suitable circumstances, slow sand filtration may be not only the cheapest and simplest but also the most efficient method of water treatment. Its advantages have been proved in practice over a long period, and it is still the chosen method of water purification in certain highly industrialized cities as well as in rural areas and small communities. It has the great advantage over other methods that it makes better use of the local skills and materials available in developing countries, and it is far more efficient than rapid filtration in removing bacterial contamination.

Because of the evidence that water treatment designers tend to neglect consideration of slow sand filters when planning new works, the World Health Organization commissioned Professor L. Huisman, an internationally known specialist in water treatment, to visit and report on installations using slow sand filtration in various parts of Europe and to compare costs and performance, particularly with regard to the quality of the treated water. From his original study, Professor Huisman, in collaboration with Mr W.E. Wood, formerly Chief, Community Water Supply, WHO, developed the present book, which describes the construction and operation of modern slow sand filters, the latest developments in operating techniques, the theory of biological filtration, and the application of the principle of slow sand filtration to the artificial recharging of groundwater sources—a technique practised extensively in the Netherlands.

It is hoped that the book will encourage the greater use of the excellent and reliable method of slow sand filtration, especially in developing countries.