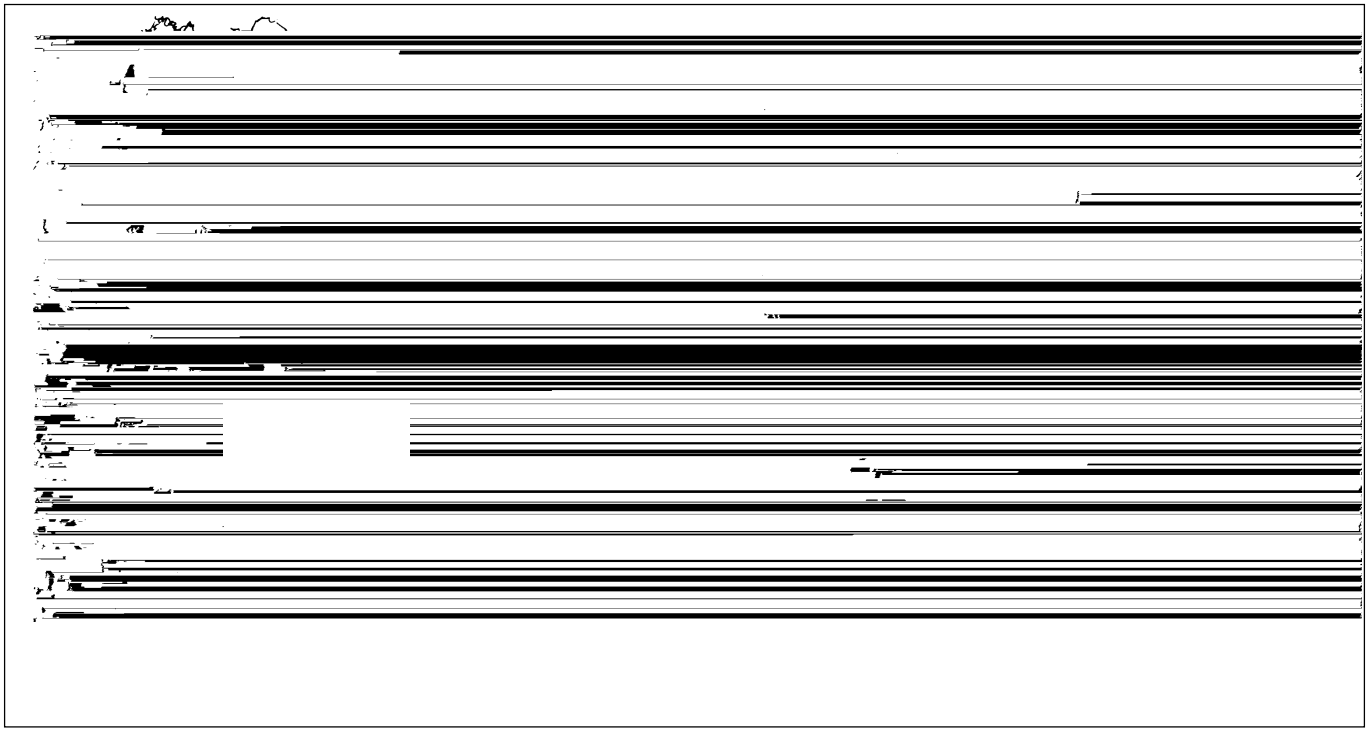
Wherever possible, a community should avoid the health risks which result from using contaminated pond water, by using an alternative, good-quality source. (Groundwater or rainwater sources will usually produce water of much better quality.) If a pond is the *only*



Collecting water without entering the pond

People can only be discouraged from entering the pond if alternative methods for collecting water are provided:

Platforms, steps or ramps (Figure 2) can be used to bring people close enough to the water for them to bend down and fill a bucket, but contamination deposited on these structures can enter the pond, especially when it rains. If the pond level varies considerably, platforms will need to have floating sections to keep the access close to the water. Alternatively, people can draw water by bucket and rope. **Bank-mounted devices** (Figure 3) which keep people well away from the water are ideal, but if a handpump is to be used it must be sustainable. Spilt water should not be allowed to flow back directly into the pond, and is best disposed of into a soakaway.

Figure 2. Allowing people near the water

Figure 3. Keeping people away from the water

□□

The water near the surface of a pond, and away from its edges, usually contains less suspended solids than anywhere else in the pond. There are some advantages, therefore, in using a **floating intake pipe** (Method 1). A coarse strainer (such as a **perforated pipe**) will keep out amphibians and plants. A floating **strainer box** has a larger surface area which may permit the use of a finer strainer (such as woven mesh) to exclude the smaller water creatures. Both types will need to be cleaned periodically, although the strainer box is, to some extent, self-cleaning, since debris is likely to fall off the mesh when water is not flowing into the box (especially if the surface water is disturbed by wind).

Instead of drawing water straight from the pond, it is much better to collect it after it has passed through existing sandy soil (Method 2), or through **sand filters constructed in/on the bed or bank** of the pond (Method 3). Over a period of time, filters in/on the bed are likely to become blocked due to the accumulation of settled suspended solids in and on the filter. Bed filters can only be renovated if the pond is drained to allow their partial or complete reconstruction. It is possible to construct a sloping sand filter down the side of the bank to the pond (Figure 4), but this is rare. With such a filter, some of the filter media can be cleaned or replaced when the water level in the pond drops substantially at some stage.

Man-made filters on the banks (such as horizontal roughing filters and slow sand filters) **or at home** (Methods 4 and 5) can be used to improve the quality of the pond water considerably, and good, well-maintained designs can remove all faecal bacteria, and most viruses. Such filters can be drained down to allow for the regular cleaning of the sand or gravel, or for it to be replaced. A well-trained, dedicated caretaker is needed to supervise the proper running and cleaning of such filters.

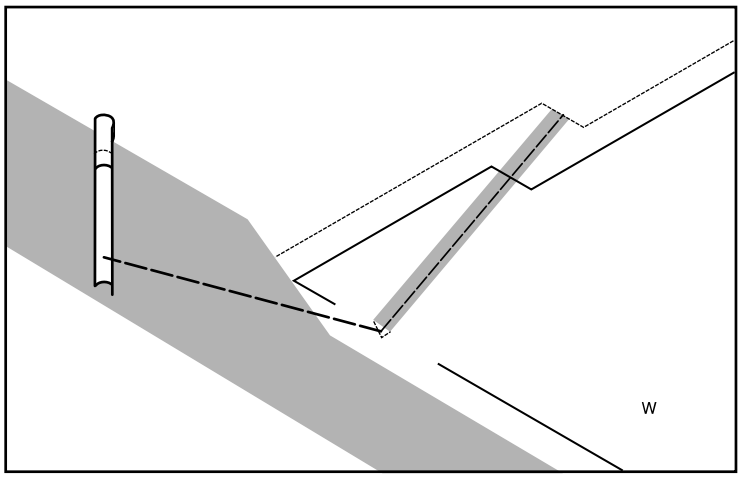


Figure 4. Sloping sand filter on a bank

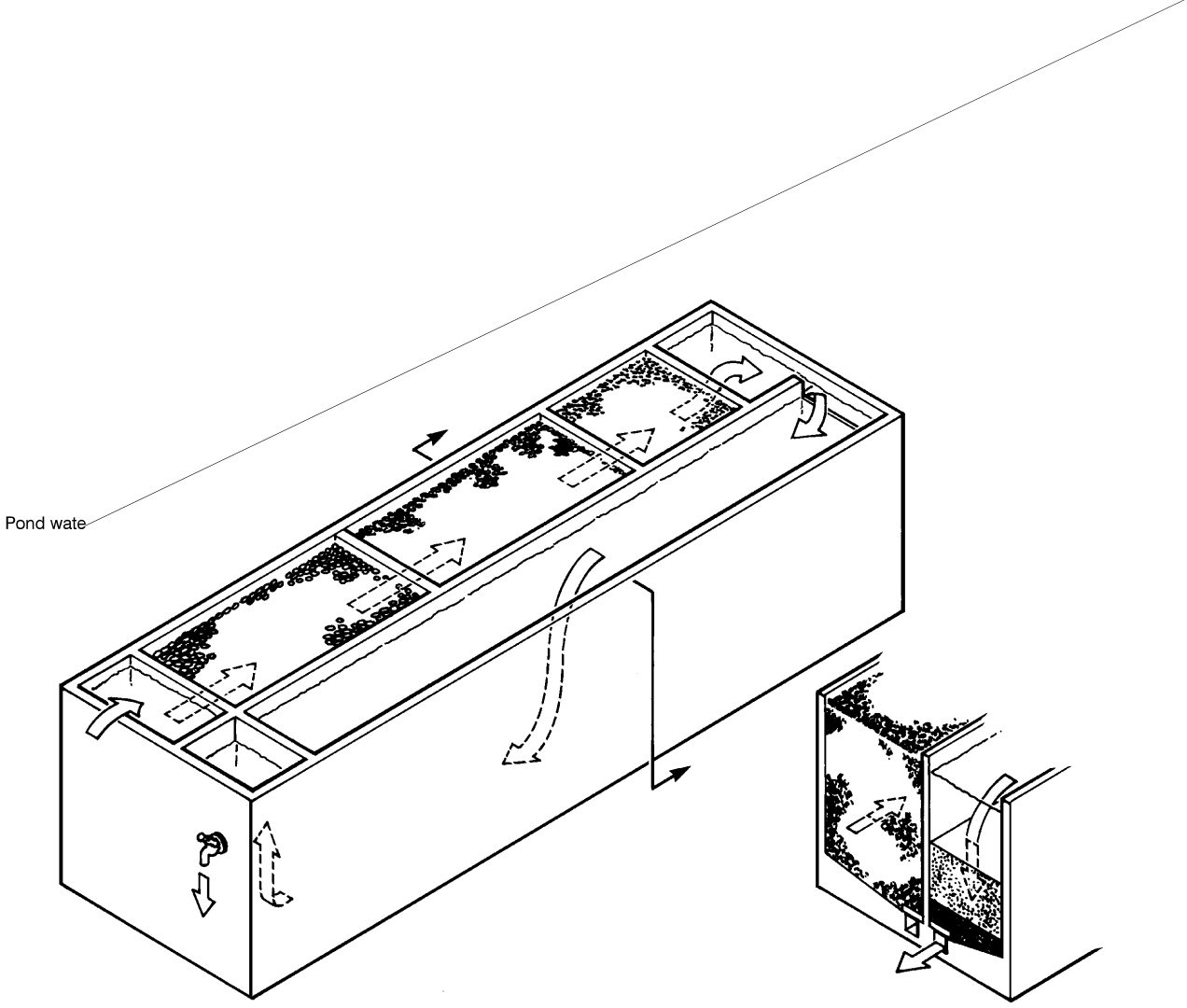


Figure 5. Pond-water filter used in India

Further reading

AIIHPH (1993), *Proceedings of the Workshop on Sanitary Protection and Upgradation of Traditional Surface Water Sources for Domestic Consumption*, All India Institute of Hygiene and Public Health, Calcutta.

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