

## **2. What is a subsurface dam?**

### **2-1 Concept and principle of a subsurface dam**

A subsurface dam is a system to store groundwater by a “cut-off wall” (dam body) set up across a groundwater channel.

It is similar to a "surface dam" in its function of water storage by a dam body, but is different in the following areas:

(1) A system to store groundwater

In contrast with a surface dam that stores surface water (river water), a subsurface dam stores groundwater. In general, it stores shallow ground water because a subsurface dam to store deep groundwater needs huge-scale construction.

(2) Storage in geological strata

Groundwater is stored in geological strata. In other words, a subsurface dam is a system that artificially recharges natural aquifers.

(3) A dam constructed under ground

To store groundwater, a dam is constructed under ground. However, in the case of a dam to store very shallow groundwater like underflow in the current river sediment, part of the dam is sometimes exposed above the ground surface.

(4) Necessity for water-pumping facilities

The reserved groundwater level is lower than the ground surface because the dam is constructed under ground. Therefore, for using the reserved water, water-pumping facilities are essential.

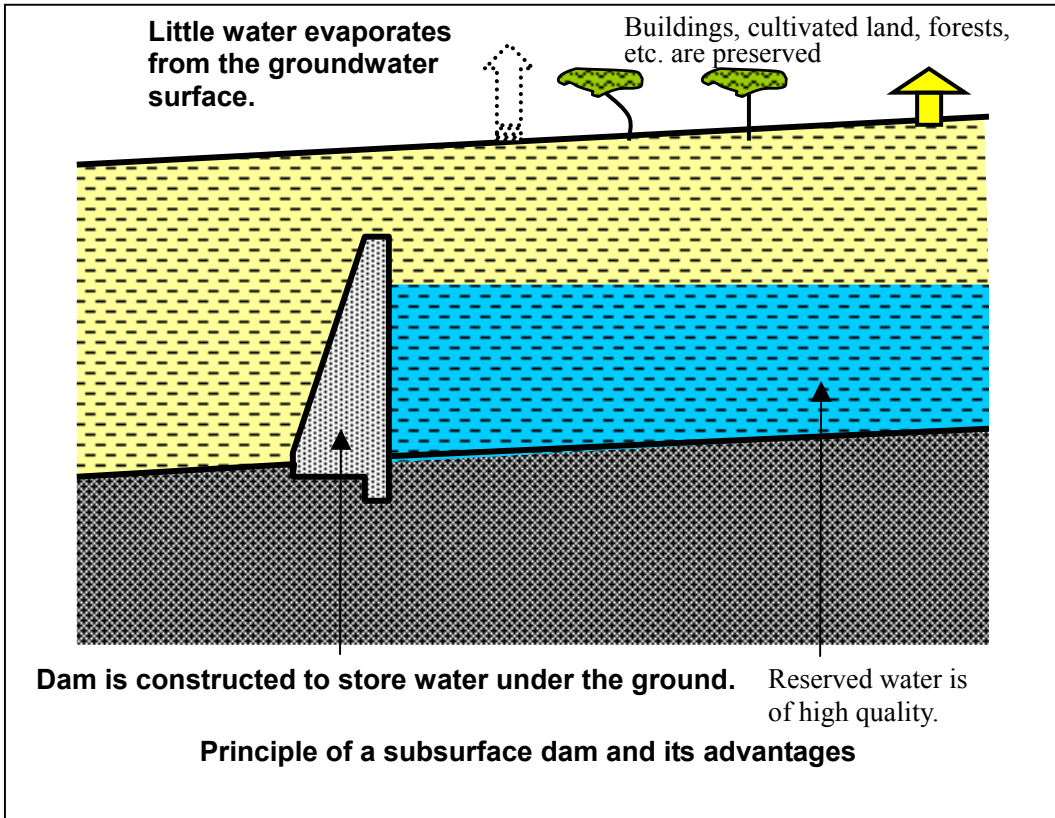
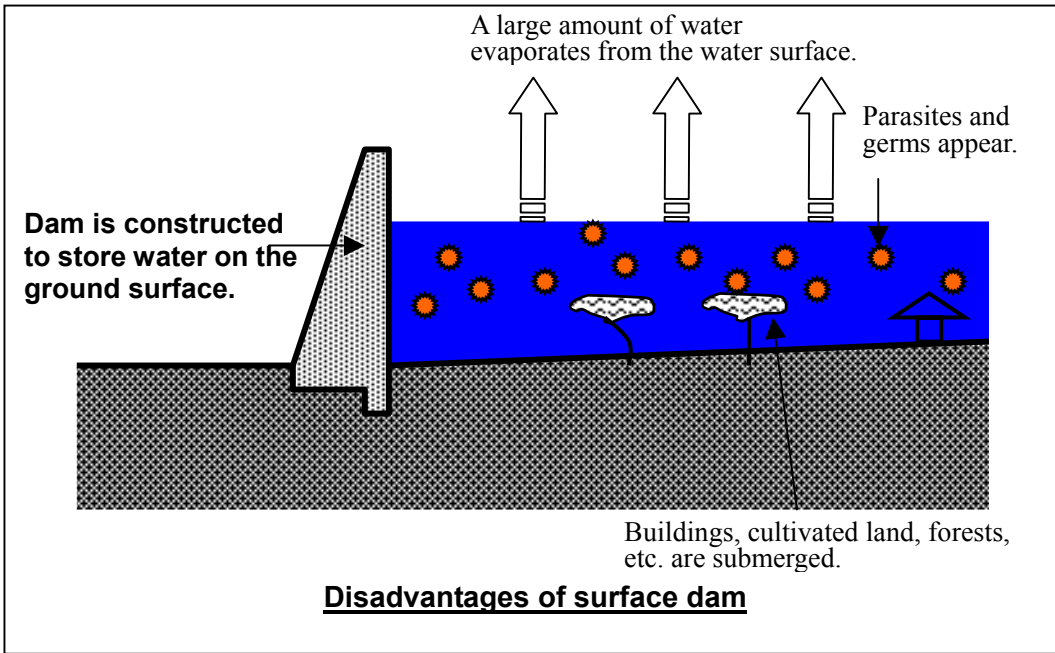


Fig. 2.1: Principle of a subsurface dam