

# Small dams need better management

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Many small dams around the world are poorly maintained and represent a safety hazard, according to Pisaniello et al. Better oversight of small dams is needed, the authors argue. The researchers reviewed literature, conducted case studies in four states in Australia, and developed policy benchmarks and best practices for small dam management.

Small dams, often just several meters high and typically privately owned by individual farmers, have historically caused major damage when they fail. For instance, in China in 1975, 230,000 people died when two large dams failed because of the cumulative failure of 60 smaller upstream dams. In the United States, in 1977 the 38 feet (12 m) high Kelly Barnes Lake dam failed, killing 39 people. Many other small dam failures around the world have resulted in casualties and severe ecological and [economic damage](#).

Dam [management practices](#) vary between and within countries; though in many places, few regulations exist to require farmers to maintain their dams at safe standards, the authors note. In their case studies, the researchers found many dams that were unsafe because they were improperly designed, poorly maintained, or had spillways that were blocked by [natural vegetation](#) or deliberately blocked by farmers to retain extra water. The authors argue that [government regulation](#) and education efforts, which can include the use of insurance mechanisms and cost-effective technology, are needed to get individual dam owners to bring dams up to a safe standard.

**More information:** Appropriate small dam management for

minimizing catchment-wide safety threats: International benchmarked guidelines and demonstrative cases studies, *Water Resources Research*, [doi:10.1029/2011WR011155](https://doi.org/10.1029/2011WR011155) , 2012

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