

The example of the NFIP shows how an insurance system can provide an incentive to improved flood plain management with a potential for reducing losses as well as compensating those affected by floods exceeding the design limits of flood protection schemes. The detailed operation of the NFIP depends greatly on the form of local, State and federal government in the United States and is unlikely to be transferable to other countries. However, the land-use regulations of the NFIP, summarized in table 3, may be more transferable. The NFIP remains an example of the successful use of insurance as a part of the flood plain management strategy and as such should be studied by other countries planning to introduce flood insurance schemes or wider flood loss prevention schemes.

The Canadian Flood Damage Reduction Programme

As in the United States and in other countries, early flood alleviation efforts in Canada concentrated on structural solutions. Indeed, the Canada Water Conservation Act of 1953 offered federal subsidies for flood alleviation structures, while non-structural measures attracted no federal funds. By 1970 attitudes had changed and the Canada Water Act of that year adopted a more comprehensive approach to water resources planning with non-structural flood alleviation solutions being favoured. The act established a mechanism for federal/provincial cooperation in all water resources matters, including flooding. It was felt that the problem of flooding called for a new approach, beyond the traditional one of employing structural works and paying disaster assistance. There was dissatisfaction with several aspects of the old policy: income transfers from the general public to the minority of flood plain dwellers; changing social values, urbanization and economic values; and the apparently endless escalation in flood damage costs, even after building costly flood-control structures. An Environment Canada publication *Flooding of 1993* characterized the old policy as “a classic case of public spending causing further public spending as well as human hardship”.

The Flood Damage Reduction Programme was established in 1975 under the Canada Water Act. It post-dates the United States NFIP and draws on the United States experience. Its operation is governed by agreements between each province and the Federal Government, thus the details of the programme vary from province to province, but there are many common features. There is joint Federal/Provincial cooperation in identifying flood-prone areas, mapping those with the highest development and thus damage potential and making this information available to the public. The Governments jointly

