PERSPECTIVES FOR A FUTURE COMPREHENSIVE TEST-BAN TREATY (CTBT)

I. Purpose and objectives of a CTBT

Ever since the destruction of Hiroshima and Nagasaki in 1945, nuclear test explosions have served as a constant reminder of the threat to the survival of mankind. For years they were also seen as a manifestation of the nuclear arms race and of the competition between the super-Powers for world hegemony.

Nuclear testing is now on the decline. In 1991, the total number of test explosions was the lowest in 30 years. At the same time, major reductions in the nuclear armories are being planned.

The main argument for a CTBT is no longer the need to halt the arms race among the nuclear-weapon States. Today, the two overriding concerns are:

- the environmental effects of continued nuclear testing;

- the dangers of nuclear proliferation.

These aspects, as well as the military and political implications of a CTBT are discussed in detail in the various chapters of this report. A brief summary of the motivation for a CTBT is given below:

Environmental aspects

One of the central purposes of the 1963 Partial Test-Ban Treaty was to reduce the radiation hazard from nuclear tests. This has been borne out by the experience since then, but nevertheless there are numerous examples of venting of radioactive debris following underground nuclear tests.

Venting has occurred at all the major nuclear test sites, and has in some cases been detected across national borders. In the United States, a particularly serious incident was the venting from the Baneberry test on 18 December 1970, which was also registered in Canada. At the Semipalatinsk test site in Kazakhstan, many people appear to have been exposed over the years to significant doses of radiation after venting. A recent example of venting at the Novaya Zemlya test site in the Arctic part of Russia is the nuclear explosion on 2 August 1987, which caused radioactivity to be detected in Scandinavia.

An almost permanent legacy of underground tests is the inventory of long-lived radioactive elements deposited underground. In terms of health effects, this addition to the radioactive burden is small. However in some cases, as in the Moruroa Atoll, leakage may occur also in the short term. Little is known about the long term effects of such contamination, and this is clearly a case for concern.

Special concern has been expressed in the Nordic countries about the potentially adverse effects of continuing nuclear testing in the fragile Arctic environment of Novaya Zemlya.