

STATEMENT BY MR. SATISH C. MEHTA, COUNSELLOR, ON EFFECTS OF ATOMIC RADIATION (AGENDA ITEM 85) AT THE SPECIAL POLITICAL & DECOLONIZATION COMMITTEE (FOURTH COMMITTEE) ON 17TH OCTOBER 2001

Mr Chairman

Last year, as in the past, India had co-sponsored the UNGA resolution on the work of the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR). India, which has actively participated in the activities of UNSCEAR, is happy to co-sponsor the resolution once again.

2. India appreciates the highly professional work of UNSCEAR and respects its scientific judgements. Last year UNSCEAR had brought out a voluminous report with several annexes detailing the assessment of the sources and effects of atomic radiation. This year it has published its report entitled, "Hereditary effects of Radiation: UNSCEAR 2001 report to the General Assembly". We are reassured by the Committee's conclusion, based on the scientific material before it, that radiation exposure has never been demonstrated to cause hereditary effects in human beings. We believe that advances in molecular genetics and the sequencing of the human genome would contribute to the improved understanding of structural and functional changes in the genes that underlie hereditary disease. Gains have also been made in the evaluation of the risk of multi-factorial diseases such as coronary disease and diabetes.

3. The 2001 report of UNSCEAR contains a forward-looking approach (the double dose method) for calculation of risk. What is even more gratifying is that this approach and the consequent assessment has been endorsed through the independent review by a majority of 10 top internationally renowned geneticists. By this new estimate, for the population exposed to radiation in one generation only, the risk to progeny of the first post-radiation generation was estimated to be 3000 to 4700 cases per gray per one million. This constitutes only 0.4 to 0.6 percent of the baseline frequency of such disorders in human population. Thus, this report contains a highly competent and, perhaps, the best possible assessment of a very complex issue.

4. However, there are still several uncertainties in the estimations of risks especially for low dose exposures attributable partly to the lack of reliable data on the radiation effects at such doses and the complexity of the biological systems. It is possible that with the increasing flow of new information on the sequence of human and other genomes and proteins, molecular analysis of radiation effects will become more objective and help in sorting out some of the uncertainties. It is hoped that these new developments will be reflected in UNSCEAR's future programme of work.

5. The proposed work programme indicates both the continuation of its earlier work on the effects of radiation on cancer and the health effects of the Chernobyl accident as well as the intention to document and evaluate the incoming scientific data on the effects at the level of tissue responses, genomic stability, programmed cell death, epidemiological studies on diseases other than cancer notably cardio-vascular studies, radon in homes and mines and so on. In this connection there is a need to link the sources to the effects which UNSCEAR has appropriately recognised. It may be possible some day to review the effects related to special situations such as exposures from orphan sources. With the dramatic rise in the

availability of advanced medical care, the effects of high doses from radio-therapeutic procedures also need to be addressed.

6. It is also gratifying to note that, in keeping with the spirit of last year's resolution, UNSCEAR has established close collaboration with scientists from the Member States most affected by the Chernobyl accident. This will certainly enrich and update its information base and help in its scientific analysis.

7. India continues to be interested in the health and other effects of high level natural background radiation on human population and other biota living in such areas. These laboratories of nature are a challenge to the spirit of scientific enquiry and a fertile area for the application of modern cellular and molecular technologies. India hopes that such studies will find their rightful place in the annals of UNSCEAR's reports on the relevant aspects.