

GENERAL ASSEMBLY

THIRTEENTH SESSION

Official Records


**FIRST COMMITTEE 1011th
MEETING**

 Friday, 5 December 1958,
at 10.30 a.m.

NEW YORK

CONTENTS

	Page
Tribute to the memory of Mr. Ahmed S. Bokhari, Under-Secretary for Public Information	319
Agenda item 25:	
Effects of atomic radiation:	
(a) Report of the United Nations Scientific Committee on the Effects of Atomic Radiation;	
(b) Report of the Secretary-General on the strengthening and widening of scientific activities in this field	
General debate.	319

Chairman: Mr. Miguel Rafael URQUIA (El Salvador).

Tribute to the memory of Mr. Ahmed S. Bokhari, Under-Secretary for Public Information

1. The CHAIRMAN invited the Committee to observe a minute of silence in tribute to the memory of Mr. Ahmed Shah Bokhari, Under-Secretary for Public Information.

The representatives stood in silence.

2. Mr. RODRIGUEZ FABREGAT (Uruguay) expressed his sorrow at the death of Mr. Bokhari.

3. Mr. SHAHI (Pakistan) thanked the Committee for its expression of sympathy with his country.

AGENDA ITEM 25

Effects of atomic radiation (A/3838, A/3858, A/3864 and Add.1, A/C.1/L.227 and Corr.1):

- (a) Report of the United Nations Scientific Committee on the Effects of Atomic Radiation;
- (b) Report of the Secretary-General on the strengthening and widening of scientific activities in this field

GENERAL DEBATE

4. Mr. LALL (India) expressed his delegation's regret at the death of Professor Bokhari.

5. Turning to the item under discussion, he said that the report of the United Nations Scientific Committee on the Effects of Atomic Radiation (A/3838) marked an important phase in the development of international co-operation on a scientific problem of great concern to all mankind. In addition to the information it had received from States, the Scientific Committee had had the benefit of the assistance and co-operation of many specialized agencies, as well as the International Commission on Radiological Protection and the International Commission on Radiological Units and Measurements. Unfortunately, however, the Committee, through no fault of its own, had been deprived of information from a large part of the world.

6. Apart from its important findings on levels of radiation, the report was of great value in many scientific fields, for example, that of radiobiology. The attempt made in its final chapter to integrate physical and biological findings with a view to arriving at some probable quantitative estimates of radiation hazards from different sources was the first time such estimates had been made in an international document and, despite their approximate character, they constituted one of the most important aspects of the report. In that connexion, it was relevant to recall that, despite the areas of uncertainty regarding certain radiobiological effects at low doses and the defects of radiation calculations, the report repeatedly emphasized the imperative need to reduce radiation levels throughout the world.

7. The main data of the Committee had been provided by a few countries and, although fairly extensive, were grossly inadequate from the point of view of obtaining world-wide averages. For example, the Committee made the significant observation that strontium-90 was deposited mostly in the northern latitudes between 10 and 50 degrees. The values for strontium-90 deposited in those regions had been reported variously by various countries; there was, in fact, considerable disagreement between the different values obtained. In view of the heavy population density in the area and the consequent need for accurate data, his delegation considered that an intensive effort should be made to collect more data and to review the present findings in their light.

8. His delegation also considered that, at least as long as the testing of nuclear weapons and the radiation effects of such tests continued, it was essential that the work of collecting data and of collating and making them available should also continue. Dr. Barry Commoner had pointed out, in an important paper published in *Science* on 2 May 1958,^{1/} that there had not been enough time, since the discovery of radiation, to explore its effects on life, and on 27 August 1958 the Tenth International Congress on Genetics had adopted a resolution emphasizing the need for increased basic knowledge leading to fuller understanding and control of the effects of radiation. The Secretary-General's report, too, recommended the continuance of the work of the Scientific Committee (A/3864, para. 12).

9. His delegation entirely agreed with that finding and had, with that end in view, joined other delegations in sponsoring the draft resolution before the Committee (A/C.1/L.227 and Corr. 1). The draft resolution commended the Scientific Committee for its work and its valuable report, expressed the General Assembly's appreciation of the co-operation extended to the Committee and requested the Committee to continue its useful work and to continue to report to the Assembly.

^{1/} Barry Commoner, "The Fallout Problem", *Science*, vol. 127, No. 3305.

In the opinion of its sponsors, it was not necessary to state the Committee's terms of reference once again, for General Assembly resolution 913 (X) defined them very comprehensively. On behalf of the sponsors, his delegation commended the draft resolution to the Committee and hoped that it would receive unanimous support.

10. The CHAIRMAN informed the Committee that, because of the scientific importance of the item under discussion, observers from the International Atomic Energy Agency, the World Health Organization, the Food and Agriculture Organization of the United Nations, the United Nations Educational, Scientific and Cultural Organization and the International Labour Organisation would attend its meetings on the subject.

11. Mr. FOURIE (Union of South Africa) said that his Government, which had from the outset co-operated with the Scientific Committee, recognized the value of its work. It agreed with the Committee that the conclusions reached in the latter's report must be subject to revision in the light of increasing knowledge, and it had been particularly impressed by the Committee's finding that any present attempt to evaluate the effects of sources of radiation to which the world population was exposed could produce only tentative estimates and wide margins of uncertainty (A/3838, chap. VII, para. 57). It was important that scientific research and the collection of information should be actively continued and it seemed logical, therefore, that the life of the Committee should be prolonged for a further period. His delegation accordingly supported the recommendation in the Secretary-General's report and the draft resolution just submitted to that effect.

12. His delegation noted, however, that the Secretary-General's report went somewhat further and suggested a widening of the Committee's terms of reference to include such items as additional research projects, the holding of special conferences, symposia and seminars, and so forth. His delegation did not agree that there was any need at present for the widening of the Scientific Committee's activities along those lines. As would be seen from the Committee's report, a great part of the existing hazards derived from various civil, medical, industrial and similar uses of radio-active substances. That was a field in which the International Atomic Energy Agency (IAEA) had a primary responsibility for advising the international community on health and safety standards, as was evident from article III, paragraph A 6, of its Statute. In paragraph 97 of its report, the Preparatory Commission of the IAEA had outlined what the Agency intended to do in that connexion. In fact, the IAEA was already active in some of the fields in which it was now suggested that the Scientific Committee should operate. For example, its 1959 budget made provision for studies in connexion with health and safety standards and waste disposal, and for conferences, research and the supply of equipment and experts. His delegation therefore felt that acceptance of the extension of the Scientific Committee's activities now recommended would lead to a duplication of effort.

13. In order to avoid that waste of effort and resources, it was essential to make a clear decision as to whether the responsibilities for initiating, co-ordinating and working out health and safety standards were to remain vested in the IAEA or to be assigned elsewhere. While the Scientific Committee's concern with

fall-out resulting from military uses of atomic energy was clearly outside the Agency's sphere, radiation from other sources would appear, in the first instance, to be within the Agency's field. For those reasons, his delegation considered, first, that the primary responsibility for co-ordinating and advising on health and safety standards should remain with the IAEA; secondly, that the IAEA must co-operate fully with the Scientific Committee, since study of the effects of radiation must take into account both fall-out resulting from military activities and the dangers flowing from the operation of non-military reactors or other civilian activities in the field of atomic energy. Thirdly, his delegation thought that the Scientific Committee, as a body established by the General Assembly, should naturally report and be responsible to the Assembly; it should not, however, become an operating agency itself and should channel its studies of radiation hazards from peaceful sources through other agencies, in particular the IAEA. That Agency would naturally draw, in its turn, on the knowledge and resources of other bodies with interest in the field.

14. The problem before the Committee was a very complex one. In order that its technical aspects might be explored by experts, it might be useful if the problems at issue were fully discussed during the coming year by the experts of the United Nations and those of the IAEA, at the secretariat level. The views of the two secretariats might then be referred to Governments. In the meantime, the life of the Scientific Committee could be renewed for a further period, with its existing terms of reference. His delegation agreed with the Indian representative that, at least as long as nuclear weapons tests continued, there was a definite and continuing need for that Committee.

15. The draft resolution before the First Committee (A/C.1/L.227 and Corr. 1) accorded in the main with his delegation's own view, and he would therefore be glad to vote for it.

16. Mr. BARCO (United States of America), noting that the Scientific Committee had been established on the initiative of the United States, said that, in support of its work, the United States had helped to set up ninety-four monitoring facilities in fourteen different countries, had analyzed some 25,000 separate samples and had trained individuals from ten countries in monitoring techniques. About 20 per cent of the reports and scientific papers received by the Scientific Committee had come from the United States.

17. The figures given in the table in the Committee's report showing the estimated doses of radiation from different radio-active sources (A/3838, chap. VII, table I) corresponded very closely to the figures contained in the June 1956 report of the National Academy of Sciences of the United States. The report of the Scientific Committee cautioned that efforts, at the present juncture, to evaluate the effects of sources of radiation to which the world population was exposed could only produce tentative estimates with wide margins of uncertainty. Extensive research was being carried out in the United States and elsewhere to help reduce the extent of those uncertainties.

18. In the opinion of the United States, the Scientific Committee's report would serve as an important guide to doctors, scientists, engineers and technicians employing radiation for the benefit of mankind, and to Governments which controlled the sources and pro-

duction of atomic energy. Medical practices in diagnosis and treatment might as a result be even more carefully applied than before; research workers would have an additional source of data; health and safety experts would have more readily available information on which to base regulations and standards; and all Governments now had a better basis on which to make their own evaluations of the problem of atomic radiation. The Scientific Committee confidently expected that continuing research would furnish the knowledge required to master the risks associated with the peaceful uses of nuclear energy, and the United States hoped that it would persist in stimulating research for that purpose.

19. The activities of the Scientific Committee and its report fully justified a decision by the General Assembly to continue it, and the United States had co-sponsored the twelve-Power draft resolution (A/C.1/L.227 and Corr. 1) directed towards that end. It should be noted that the members of the Committee represented a number of scientific disciplines and had worked together in a spirit of scientific harmony. The report of the Committee and some of the suggestions in the report of the Secretary-General (A/3864) indicated broadly the types of activity which the Committee could perform. The Committee should determine its own priorities. It should continue, as in the past, to consult closely with the other agencies and organizations concerned on projects within its sphere of activities, as the draft resolution suggested. That should apply particularly to the IAEA, whose leading position in the peaceful uses of atomic energy was generally recognized. The draft resolution would continue an activity which had contributed significantly to world-wide understanding of a most important subject, and the United States urged its adoption.

20. Mr. GISCARD D'ESTAING (France) said that the Scientific Committee should be asked to continue its work, which had thus far been of a high order, under the terms of reference given it in General Assembly resolution 913 (X) of 3 December 1955 and on the basis of the observations it had made in the course of its studies. The Committee's basic task should be to keep its initial report (A/3838) up to date and clarify those points which remained somewhat obscure; it would probably have to review certain parts of the report in the light of the new standards for permissible exposure levels which the International Commission on Radiological Protection was to establish in the near future. It might monitor possible sources of risk from radiation, foster research in special fields on the effects of radiation, and request national or international agencies to conduct certain studies or take certain measures. However, its terms of reference should not be expanded to embrace new activities which were already within the competence of other agencies, since that would merely result in duplication of labour. He therefore proposed that the Committee's budget appropriation for 1958, which had proved fully adequate, should be renewed for the coming year.

21. The World Health Organization (WHO) was the proper body to study the effects of radiation resulting from medical procedures; it was also qualified to study, in conjunction with the International Labour Organisation (ILO) and the IAEA, the effects of the peaceful industrial and scientific uses of atomic energy. He noted that the Statute of the IAEA empowered it to

propose safety regulations governing the handling of radio-active by-products and wastes, and that the protection of workers against ionizing radiation was on the agenda of the International Labour Conference to be held in June 1959.

22. For the reasons he had just stated, his delegation had joined in sponsoring the twelve-Power draft resolution (A/C.1/L.227 and Corr. 1).

23. Mr. ZORIN (Union of Soviet Socialist Republics) said that, in view of the contamination of the earth's atmosphere and surface as a result of nuclear weapons testing, the report of the Scientific Committee had political as well as scientific significance. The Soviet Union had submitted a proposal at the present session of the General Assembly for the universal, unconditional cessation of nuclear weapons tests for all time (A/C.1/L.203 and Corr. 1), but the Western Powers had refused to accept it. At the talks then proceeding at Geneva, the USSR delegation had submitted a draft agreement on the cessation of tests on 31 October 1958, and, on 29 November, had introduced a revised draft of that agreement which had been circulated in document A/4027.

24. The Scientific Committee had found, after almost three years of study, that there had been contamination of the earth's surface by radio-active materials and an increase in the level of radiation throughout the world, and that the dispersal of radio-active matter as the result of nuclear test explosions was extremely uneven. It was common knowledge that the more heavily populated Northern Hemisphere was subject to much more intensive radiation than was the Southern Hemisphere. At the same time, the nuclear tests conducted by the United States in the Pacific Islands had caused the inhabitants of those islands to absorb large doses of radiation—from rain water, which was their only source of drinking water. For security reasons, the United States conducted its tests during the spring and summer, when the air currents tended to flow towards the continent of Asia; since the surface ocean currents generally flowed in the same direction, Asians suffered the greatest exposure to radio-active contamination. On the other hand, the North Pacific or Honolulu anticyclone protected the United States, particularly during the spring and summer, from direct fall-out of radio-active materials.

25. In the Scientific Committee, the representative of the United Arab Republic, Dr. A. Halawani, had stated on 13 June 1958 that, if the French Government should conduct nuclear weapons tests in the Sahara, the countries of Africa would be exposed to a grave danger of radio-active contamination because of the prevalence of sandstorms in the Sahara region (A/AC.82/SR. 22). Arab scientists had also warned that such tests would contaminate the source waters of the Nile and, consequently, the entire Nile basin. It should be pointed out, moreover, that the inhabitants of the Asian countries, and of others in which cereals such as rice and wheat constituted the staple diet, absorbed far more radio-active strontium than the people of Europe and North America, who absorbed it primarily through milk products from which a large proportion of the dose found in cereals had been filtered out.

26. The Scientific Committee's report stated that even the smallest dose of radiation caused genetic damage, producing mutations which might result in serious

hereditary diseases, reduced mental capacity and lowered life expectancy for future generations. The Committee's findings also indicated that continued nuclear testing at the present rate could result in 3,750,000 cases of leukaemia bone cancer and serious genetic damage alone within a single generation. The Committee had come to the conclusion that it was imperative to halt environmental contamination by nuclear test explosions, although the draft proposal for chapter VII, paragraph 54, submitted by the Soviet Union (A/3838, p. 41, footnote) had made that point more forthrightly than the paragraph adopted by the majority.

27. The Scientific Committee should be authorized to continue its work under the terms of reference laid down in General Assembly resolution 913 (X), which had been shown to be fully adequate. It should remain a scientific body and not be given added functions of an organizational or operational nature. The suggested measures mentioned in the Secretary-General's report (A/3864), such as the establishment of an international monitoring service or an international laboratory and the provision of technical assistance in the form of experts and equipment, would serve only to divert the Committee from its important tasks and cause duplication of the work of other organizations.

28. The Soviet delegation would support the twelve-Power draft resolution (A/C.1/L.227 and Corr. 1).

29. Mr. SIEVERT (Sweden) said that his country, as one of the Member States represented on the Scientific Committee, was particularly gratified by the harmony which had existed in the Committee, due no doubt to the strictly scientific nature of the discussions, and considered that the fact that the Committee had been able unanimously to adopt a scientific report augured well for future co-operation. The divergencies of opinion with regard to paragraph 54 of chapter VII of the Committee's report pertained mainly to the interpretation of the Committee's terms of reference and did not impair its unanimity as regards the scientifically substantive parts of the report.

30. The Scientific Committee had drawn attention to the possibility that further investigations might necessitate a revision of views and conclusions. Already, barely six months after the completion of its report, there was new information on radiation effects and fall-out. For example, recent investigations had cast doubt on the assumption that, even with very small doses of radiation distributed arbitrarily over long periods, even over generations, induced gene mutations would still be directly proportional to the dose received. If, in addition, it could be proved that some somatic effects, for instance the induction of leukaemia, were due to mutations in somatic cells, the significance of long-term irradiation from small amounts of radio-active caesium and radio-active strontium might prove to be negligible. Thus, the Committee was fully justified in emphasizing that any present attempt to evaluate the effects of sources of radiation could produce only tentative estimates with wide margins of uncertainty. Experience during the past few months had also shown that the Committee had been justified in attaching primary importance to exposure from fall-out caused by short-lived fission products and radio-active material from local or tropospheric fall-out. It had been

observed that the fall-out partly consisted of particles of very high individual radio-activity which produced doses capable, within a few hours, of causing total destruction of cells remaining in direct contact with them. Moreover, in Sweden, where unusually large amounts of fall-out had been registered during the past few months, observations of radio-activity in the upper atmosphere had indicated amounts five times greater than the maximum previously recorded, and the Swedish public was justifiably concerned.

31. The discovery of new aspects of the problem underscored the need to keep the data on radiation effects and levels under constant review and periodically to review ideas on the possible future consequences and relative significance of various sources of radiation. In the circumstances, Sweden attached great importance to the continuation of the scientific Committee's work and the strengthening of its activities with regard to the effects of radiation. Research should be expanded in the relevant branches of science, and there should be closer co-operation and greater co-ordination among all international organizations—governmental and non-governmental—interested in radiation effects.

32. In stressing the necessity for future international co-operation on radiation problems, he reviewed the reasons for the lack of knowledge of the effects of small radiation doses. Some two decades of increasing use of ionizing radiation, particularly in medicine, had been necessary to demonstrate that there could be serious long-term effects. Even now progress in knowledge of the harmful effects of small radiation doses had not kept pace with the rapid increase in the use of radiation in medicine and industry, particularly industry using atomic energy. The gap was all the more serious as the effect of small radiation doses was delayed and cumulative. Attempts were being made to bridge that gap by experiments on animals and statistical investigations of radiation-induced diseases and other effects on man. Both methods had limitations and the second, in particular, could not be effectively applied merely through national programmes. Indeed, it was a recognized fact that questions of protection against radiation must be dealt with on an international scale. The rapid development of atomic industry and the expanding use of ionizing radiation had increased the need for co-operation between the International Commission on Radiological Protection, a non-governmental organization having consultative status with WHO, and organizations such as the IAEA and ILO, which had to apply basic principles of protection for practical purposes. With insufficient contacts between international organizations having interests in the field of radiation, there was a danger of misinterpretations of scientific data. Moreover, since there were relatively few qualified specialists in the field, there was a need for the utmost concentration of their work.

33. As a sponsor of the twelve-Power draft resolution (A/C.1/L.227 and Corr. 1), Sweden hoped it would be adopted unanimously. At the present stage, it provided a basis for further international action with regard to radiation problems.

The meeting rose at 1.10 p.m.