

HEALTH ASPECTS
OF
CHEMICAL AND BIOLOGICAL
WEAPONS

Report of a WHO Group of Consultants



WORLD HEALTH ORGANIZATION

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GENEVA

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1. INTRODUCTION

On 29 January 1969, the Secretary-General of the United Nations requested the Director-General of the World Health Organization to co-operate with the United Nations Group of Consultant Experts on Chemical and Bacteriological (Biological) Weapons in the preparation of a report on this subject. WHO was asked to provide such information as the Organization considered useful for the United Nations report, which was to be transmitted to the Eighteen-Nation Committee on Disarmament,¹ the Security Council and the General Assembly, if possible by 1 July 1969, as requested in Resolution 2454 A (XXIII) adopted by the General Assembly on 20 December 1968 (see Annex 7).

In order to help WHO in this task, the Director-General appointed a number of consultants. In addition, liaison was maintained with the Disarmament Affairs Division of the United Nations (which serviced the Group of Consultant Experts appointed by the Secretary-General), the Food and Agricultural Organization of the United Nations (FAO), the Stockholm International Peace Research Institute (SIPRI), and the Pugwash Organization, in order to avoid unnecessary overlap in their respective contributions.

The possible development and use of chemical and bacteriological weapons and their destructive potentialities have been matters of concern to WHO for several years. In 1967, the Twentieth World Health Assembly, on a recommendation of the WHO Executive Board, adopted a resolution (see Annex 8) welcoming Resolution 2162 (XXI) of the United Nations General Assembly and calling upon all Member States of WHO to exert every effort to implement it. The Director-General was therefore glad to meet the request to assist the United Nations in this matter, and in late May 1969 an interim report was completed and forwarded to the Secretary-General. Some of the information contained in the WHO submission was incorporated into the final report of the United Nations Group of Consultant Experts on Chemical and Bacteriological (Biological) Weapons (hereafter referred to as "the United Nations report"),² which was released to the public on 2 July 1969 and transmitted to the Eighteen-Nation Committee on Disarmament for discussion during the summer of 1969 before being

¹ Renamed on 26 August 1969 the "Conference of the Committee on Disarmament".

² United Nations (1969) *Chemical and bacteriological (biological) weapons and the effects of their possible use. Report of the Secretary-General*, New York (United Nations Publication, Sales No : E.69.I.24).

considered at the Twenty-fourth session of the United Nations General Assembly later in the year.

The relatively short period of time available for the preparation of the WHO submission to the United Nations did not permit the health and related scientific aspects of chemical and biological warfare to be covered to the extent and in the depth merited by the importance of the subject. For this reason and in pursuance of resolution WHA22.58 (Annex 9) adopted by the Twenty-second World Health Assembly in July, 1969, a further study of the problem was undertaken with a view to expanding and revising certain sections of the interim report.

2. COMPARISON OF THE WHO AND UNITED NATIONS REPORTS AND THEIR CONCLUSIONS

The United Nations report presents a comprehensive review of the problem, and includes consideration of military aspects, plant and animal diseases, ecology, and economic and security aspects, along with implications to human health. The report was intentionally written in a style that would be easily understood by governments and by the lay non-specialist reader, and it does not attempt to present highly technical information or to provide a detailed analysis of public health considerations and medical effects.

The present WHO report, on the other hand, attempts to deal with the subject of chemical and biological warfare on a more technical level and to make quantitative estimates; it is addressed particularly to public health and medical authorities. Thus the WHO report and the United Nations report are complementary. Both arrive at essentially the same technical conclusions, although inevitably there are some differences with respect to the choice of emphasis and the assessment of possible effects on public health, which reflect the differing approaches and technical orientations of the groups that prepared the WHO and United Nations reports. It is hoped, therefore, that the present document will provide the Member States of WHO with the technical information that will enable them to appreciate more fully the public health implications of the possible use of chemical and biological weapons.

The following main conclusions emerge from the WHO analysis :

1. *Chemical and biological weapons pose a special threat to civilians. This is because of the often indiscriminate nature of such weapons, and because the high concentrations in which they would be used in military operations could lead to significant unintended involvement of the civilian population within the target area and for considerable distances downwind.*

2. *The large-scale or, with some agents, even limited use of chemical and biological weapons could cause illness to a degree that would overwhelm existing health resources and facilities.*
3. *Large-scale use of chemical and biological weapons could also cause lasting changes of an unpredictable nature in man's environment.*
4. *The possible effects of chemical and biological weapons are subject to a high degree of uncertainty and unpredictability, owing to the involvement of complex and extremely variable meteorological, physiological, epidemiological, ecological, and other factors.*
5. *Although advanced weapons systems would be required for the employment of chemical and biological agents on a militarily significant scale against large civilian targets, isolated and sabotage attacks not requiring highly sophisticated weapons systems could be effective against such targets in certain circumstances with some of these agents.*

These conclusions are in harmony with the conclusions of the United Nations Group of Consultant Experts on Chemical and Bacteriological (Biological) Weapons and with the hope for further action to deal with the threat posed by the existence of these weapons, as expressed by the Secretary-General, U Thant, in the foreword to the United Nations' report.

3. AIM AND SCOPE OF THE WHO REPORT

The present report attempts to analyse the health effects of the possible use of chemical and biological weapons on civilian population groups at different levels of social and economic development, and the resulting implications for WHO and its Member States. The assessment is confined to civilian populations, and no attempt is made to consider the purely military aspects of the problem, except insofar as they may relate to civilian populations as possible targets for attack. The military aspects of chemical and biological warfare are considered in the United Nations report and in a report being prepared by SIPRI. The report also makes qualitative and quantitative estimates of the health effects of selected chemical and biological agents employed under specified hypothetical conditions.