

ful purposes under appro-

605 B (XXIV) the General
rged all its members to
r views they might have on
of an international service
urposes under appropriate
ications had been received
he Annex.

of the United Nations
bly's invitation in
paragraph 2

3 April 1970

of such an international service for
e control . . . of the International

ics relating to the establishment of
framework for this activity and, in
ailable to all States Members of the

at this future service for nuclear
international control, which is to be
not be associated with the signing
governing the establishment of the

6 April 1970

in this matter are still the same as
and 24 July 1969, reproduced in

7 April 1970

ies which have been made by the
gy Agency, it does not at this stage

29 May 1970

be potentially useful in very large
e under the IAEA objective of
. prosperity. However, we wish to
ons and on recurrent controversies
ects and after-effects of nuclear
e to predict, let alone control. In
the environment is probably such
completely outweigh any economic
prepared to give tentative support
ons for peaceful purposes.

eneral Assembly has rightly noted,
promoting applications of atomic
alth and prosperity of its member

states. In a world of limited sources, and in particular when concerned with international agencies with resource limitations, Ethiopia feels that the old maxim 'If it is possible, we must do it' must rapidly be replaced by 'Among the many possible things, which ought we to do?' Applied to the IAEA, we feel that a minimum of money and effort (possibly none at all) should be spent on nuclear explosions for any purposes whatsoever, and a maximum on those many projects for which the calculated benefit/hazard ratio is nearly infinite. Let the advanced-technology countries individually take the risk of polluting the biosphere—but not an Agency of the United Nations.

E. Iran

22 July 1970

. . . . in accordance with paragraph 3 of the operative part of the United Nations General Assembly's Resolution 2605 B (XXIV) and the communication by the United Nations Secretary-General PO/134/7 of 9 February, 1970 the Imperial Government of Iran is in favour of establishment within the framework of the International Atomic Energy Agency of an International Service for Peaceful Applications of Nuclear Explosions.

F. Canada

29 July 1970

. . . . Canada stated its views on the procedures the Agency might employ in connection with the use of nuclear explosions for peaceful purposes in a letter . . . dated 29 May, 1969 At that time, it was stated that Canada was of the view that the Agency's initial activities in this field should be concentrated on the exchange and dissemination of information. Canada regards the convocation in Vienna of a panel on peaceful nuclear explosions during 1970 and the proposal for another panel in 1971 and the planned publications related to the technology of peaceful nuclear explosions as important steps in the fulfilment of the Agency's role in this field.

. . . . [The] letter of 29 May, 1969 said that it should be possible to define the boundaries of the role which the Agency could play in the field of peaceful nuclear explosions. The views of the Canadian authorities have not changed. One aspect of the question of the role the Agency should assume is in regard to providing appropriate international observation of peaceful nuclear explosions. The Canadian Government authorities agree that the question of observation is an appropriate matter for discussion in the continuing efforts to define the Agency's role in the provision of peaceful nuclear explosion services and Canada, therefore, would support any intention of the Agency to assemble a panel of experts to discuss this question. Finally, the Canadian authorities still believe that greater clarification is required of the Agency's role in the provision of peaceful nuclear explosion services with respect to the question of devices remaining in the custody and under the control of the nuclear-weapon State performing the service.

Twelve-Nation Memorandum Submitted to the Conference of the Committee on Disarmament: Chemical and Bacteriological (Biological) Methods of Warfare, August 25, 1970¹

1. The international community has, during recent years, been increasingly concerned by developments in the field of chemical and bacteriological (biological) weapons and by the grave dangers posed by such weapons to humanity and the ecological balance of nature.
2. It is now universally recognized that prospects of international peace and security, as well as the achievement of the goal of general and complete disarmament under effective international

¹ CCD/310, Aug. 25, 1970. The document was submitted by the following non-aligned CCD members: Argentina, Brazil, Burma, Ethiopia, India, Mexico, Morocco, Nigeria, Pakistan, Sweden, UAR, and Yugoslavia.

control, would be enhanced if the development, production and stockpiling of chemical and bacteriological (biological) agents intended for purposes of war were to end and if they were eliminated from all military arsenals.

3. The Geneva Protocol of 1925 prohibits the use in war of all chemical and bacteriological (biological) agents.² The General Assembly has, by resolution 2162 B (XXI), called for the strict observance by all States of the principles and objectives of the Geneva Protocol of 1925, condemned all actions contrary to those objectives and invited all States, which had not already done so, to accede to the Protocol.³ The General Assembly has, by resolution 2603 A(XXIV), also made a clear affirmation that the prohibition embodied in that Protocol was comprehensive and covered the use in international armed conflicts of all biological and chemical methods of warfare, regardless of any technical developments.⁴

4. In addition to the existing parties to the Geneva Protocol of 1925 there are other States which are considering accession to or ratification of the Protocol. There are some who have unilaterally and unconditionally renounced one or both types of weapons. These are welcome developments.

5. The Report prepared by the United Nations Secretary-General, in accordance with the General Assembly resolution 2454 A (XXIII) with the assistance of consultant experts, on chemical and bacteriological (biological) weapons and the effects of their possible use,⁵ and the Report of the World Health Organization's group of consultants on health aspects of chemical and biological weapons,⁶ and other studies on the subject, underline the immense importance and urgency universally felt in regard to reaching agreement to halt the development, production and stockpiling of all chemical and bacteriological (biological) agents for purposes of war and to achieve their effective elimination from the arsenals of weapons.

6. It is essential that both chemical and bacteriological (biological) weapons should continue to be dealt with together in taking steps towards the prohibition of their development, production and stockpiling and their effective elimination from the arsenals of all States. It is the conviction of the Group of Twelve that an effective solution of the problem should be sought on this basis.

7. The issue of verification is important in the field of chemical and bacteriological (biological) weapons, as indeed adequate verification is also essential in regard to the success of any measure in the field of disarmament. Reasonable guarantees and safeguards should, therefore, be devised to inspire confidence in the

² *Documents on Disarmament, 1969*, pp. 764-765.

³ *Ibid.*, 1966, pp. 798-799.

⁴ *Ibid.*, 1969, pp. 716-717.

⁵ For the Secretary-General's report, see *ibid.*, pp. 264-298. The G.A. res. appears *ibid.*, 1968, pp. 793-795.

⁶ *Health Aspects of Chemical and Biological Weapons: Report of a WHO Group of Consultants* (Geneva, 1970).

development, production and biological (biological) agents and if they were

prohibits the use in war of all chemical agents.² The General Assembly (XVI), called for the strict measures and objectives of the actions contrary to those that had not already done so, to the General Assembly has, by resolution 2454, stated that the prohibition is comprehensive and covered the use of biological and chemical weapons and their development.

According to the Geneva Protocol of 1925, considering accession to or ratification by some who have unilaterally renounced both types of weapons.

The United Nations Secretary-General's Assembly resolution 2454, which called on chemical and biological experts, on chemical and biological weapons and the effects of their use, and the World Health Organization's report on chemical and biological weapons, underline the importance of the subject, underlining the universal concern felt in regard to the development, production and stockpiling of biological (biological) agents and their effective elimination from the arsenals of all States.

Chemical and bacteriological (biological) weapons must be dealt with together in taking measures to prevent their development, production and stockpiling and their elimination from the arsenals of all States. The Group of Twelve that was established to be sought on this basis. The Group of Twelve is important in the field of chemical weapons, as indeed adequate measures to ensure the success of any measure to guarantee and safeguards against the use of chemical weapons inspire confidence in the

pp. 264-298. The G.A. res. appears

Weapons: Report of a WHO Group of

implementation of any agreement in the field of C and B weapons. Verification should be based on a combination of appropriate national and international measures, which would complement and supplement each other, thereby providing an acceptable system which would ensure effective implementation of the prohibition.

8. The Group expresses the hope that the basic approach, as outlined in the preceding paragraphs, concerning the task before the Conference of the Committee on Disarmament in the field of chemical and bacteriological (biological) weapons would receive general acceptance so that an early solution could be found in regard to the prohibition of the production, development and stockpiling of such weapons and their effective elimination from the arsenals of all States.

United States Working Paper Submitted to the Conference of the Committee on Disarmament: Economic Data Monitoring as a Means of Verifying Compliance With a Ban on Chemical Weapons, August 25, 1970¹

This paper discusses the contribution which might be made by economic data monitoring to the verification of compliance with a treaty banning the production and stockpiling of chemical weapons. Over the past six years, the United States Arms Control and Disarmament Agency has investigated the potential of economic monitoring as applied to chemical weapons. The material in this paper is drawn very largely from the results of this research. In the interests of economy of presentation and because of their importance, the discussion will be restricted to organophosphorus nerve agents only. Most of the research was performed within the context of the US economy. Generalizations based largely on experience in one country only should be treated with reserve.

Operation of an Economic Monitoring System

Economic monitoring of a CW ban would aim at identifying changes or inconsistencies in economic data series that could indicate the development of a CW capability. While there is no pre-established method for utilizing economic data for arms control verification purposes, we have found it useful in the case of the organophosphorus nerve agents to consider how this technique might be used to monitor the production and consumption of materials which could be used to produce these agents. The analysis might proceed as follows.

The group of agents to be examined—in this case all nerve agents—is defined. Our analytical starting point is the molecular structure common to all nerve agents. The basic structure of

¹ CCD/311, Aug. 25, 1970.