

# CONFERENCE OF THE COMMITTEE ON DISARMAMENT

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12 August 1975  
ENGLISH

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FINAL RECORD OF THE SIX HUNDRED AND EIGHTIETH MEETING

held at the Palais des Nations, Geneva  
on Tuesday, 12 August 1975, at 10.30 a.m.

Chairman:

Mr. G. Hamilton

(Sweden)

PRESENT AT THE TABLE

<u>Argentina:</u>	Mr. S.N. MARTINEZ
<u>Brazil:</u>	Mr. M.T. da SILVA
<u>Bulgaria:</u>	Mr. R. NIKOLOV Mr. B. GRINBERG
<u>Burma:</u>	U NYUNT MAUNG SHEIN
<u>Canada:</u>	Mr. W.H. BARTON Mr. P.E. McRAE
<u>Czechoslovakia:</u>	Mr. V. SOJÁK
<u>Egypt:</u>	Mr. A. OSMAN Mr. N. ELARABY Mr. S. ABOU-ALI
<u>Ethiopia:</u>	Mr. G. DEMISSIE
<u>German Democratic Republic:</u>	Mr. G. HERDER Mr. M. GRACZYNSKI Mr. B. RÖNSCH Mr. M. SCHNEIDER
<u>Germany, Federal Republic of:</u>	Mr. G.J. SCHLAICH Mr. J. BAUCH Mr. K. HANNESSCHLÄGER
<u>Hungary:</u>	Mr. D. MEISZTER Mr. I. KÖRMENDY
<u>India:</u>	Mr. B.C. MISHRA Mr. P.R. SOOD

Iran:

Mr. M. FARTASH  
Mr. H. AMERI  
Miss C. TAHMASSEB  
Mr. D. CHILATY

Italy:

Mr. N. DI BERNARDO  
Mr. G. VALDEVIT  
Mr. A. BIZZARINI  
Mr. A. PIETROMARCHI

Japan:

Mr. M. NISIBORI  
Mr. A. YATABE  
Mr. H. OKA  
Mr. H. OKITSU

Mexico:

Mr. A. GARCIA ROBLES  
Miss A. CABRERA  
Mr. M.A. CÁCERES

Mongolia:

Mr. M. DUGERSUREN

Morocco:

Mr. S. RAHHALI

Netherlands:

Mr. C.A. van der KLAUW  
Mr. A.J. MEERBURG

Nigeria:

Mr. B.A. CLARK  
Mr. M.G.S. SAMAKI

Pakistan:

Mr. M. YUNUS  
Mr. K. SALEEM

Peru:

Mr. L. CHÁVEZ-GODOY  
Mr. G. CHAUNY

Poland:

Mr. E. WYZNER  
Mr. S. TOPA  
Mr. A. CZERKAWSKI  
Mr. H. PAC

Romania:

Mr. C. ENE  
Mr. G. TINCA  
Mr. D. APOSTOL

Sweden:

Mr. G. HAMILTON  
Mr. U. REINIUS  
Mr. A. HERNELIUS  
Mr. R. ÅNGSTRÖM

Union of Soviet Socialist  
Republics

Mr. A.A. ROSHCHIN  
Mr. Y.K. NAZARKIN  
Mr. N.V. PESTEREV  
Mr. L.N. ANISIMOV

United Kingdom:

Mr. M. ALLEN  
Mr. J.G. TAYLOR  
Mr. A. WHITE  
Mr. C. McCOLL  
Mr. A.G.P. WOOD

United States of America:

Mr. J. MARTIN, Jr.  
Mr. W. GIVAN  
Mr. S. COTTMAN  
Mr. D. MALBERG  
Mr. W. CRAYSON  
Mr. R. EINHORN

Yugoslavia:

Mr. M. LALVIĆ  
Mr. M. MIHAJLOVIĆ

Zaire:

Mr. LUKABU-K'HABOUJI

Acting Representative of the  
Secretary-General:

Mr. R. BJÖRNERSTEDT

Communiqué of the meeting

The Conference of the Committee on Disarmament today held its 680th plenary meeting in the Palais des Nations, Geneva, under the chairmanship of H.E. Ambassador G. Hamilton, representative of Sweden.

Statements were made by the representatives of Mexico, Bulgaria, Iran and the United States of America.

The delegation of Mexico submitted a "Letter dated 6 August 1975 from the Leader of the delegation of Mexico to the Acting Representative of the Secretary-General to the Conference of the Committee on Disarmament" (CCD/464).

The delegation of Sweden submitted a "Working paper on short list of methods to influence the environment for hostile purposes" (CCD/465).

The next meeting of the Conference will be held on Thursday, 14 August 1975, at 10.30 a.m.

Mr. GARCIA ROBLES (Mexico) (translated from Spanish): Mexico was one of the three non-nuclear-weapon States -- the other two being Sweden and Yugoslavia -- which at the twenty-eighth session of the United Nations General Assembly took, together with the three nuclear-weapon States depositaries of the Treaty on the Non-Proliferation of Nuclear Weapons, the initiative which led to the adoption of resolution 3184 B (XXVIII), which made it possible to bring to a satisfactory conclusion the preparatory work needed before holding the review conference provided for in article VIII (3) of that instrument.

My delegation was also able to make a modest but steady contribution to the three sessions held by the Preparatory Committee, the first two in 1974 and the third and last one early in 1975.

Lastly, it was we who had the good fortune to open the general debate at the Review Conference itself, when I personally had the honour of acting as spokesman for the Mexican delegation, on 6 May 1975.

I think this sufficiently explains why, this being the first time I have taken the floor since the close of the Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons -- to give it its official title, though I shall continue to refer to it, as in the past, as the Review Conference -- I feel it necessary to devote this statement entirely to some of the more salient features of the work of the Conference and to certain conclusions to be drawn from it.

I should like to start by stressing that in our view it cannot be claimed that the Non-Proliferation Treaty has been strengthened by its first test. A clear sign of the disillusion caused among non-nuclear-weapon States by the nuclear Powers' unwillingness to fulfil their obligations under the Treaty itself was the fact that only 55 of those States, that is to say less than two-thirds of those which are Parties to the Treaty, were represented at the Conference.

That disillusionment became impatience, sometimes bordering on indignation, at the attitude of authoritarian patriarchalism assumed in certain instances by some representatives of the nuclear Super Powers; indeed, there were times when those representatives even claimed that the fact that the non-nuclear-weapon States had put forward suggestions for increasing the efficiency of the Strategic Arms Limitation Talks (SALT) amounted to "unacceptable interference".

It was necessary to bring down to earth some people who seemed intoxicated with the spirit of times now happily gone by, to remind them that in four successive resolutions adopted by the General Assembly on the subject of the World Disarmament Conference, two of which were approved unanimously and the other two by consensus, the Assembly had stressed that "all peoples of the world have a vital interest in the success of disarmament negotiations" and that "all States should contribute to the adoption of measures for the achievement of this goal".

Mr. Garcia Robles (Mexico)

The Third-World States also recalled in one of the documents they submitted to the Conference that it had been none other than the Foreign Minister of one of the Super Powers who stated emphatically during the Assembly's general debate last year that: "The supreme interests, not only of the peoples of the Soviet Union and the United States, but also of the peoples of the whole world, require that the Soviet Union and the United States, possessing the colossal might of nuclear weapons, should make every effort to achieve appropriate understandings and agreements" (NPT/CONF/18, p.2).

It was impossible, however, to bring about a change in the openly negative attitude of the two Super Powers -- to which the third nuclear-weapon State depositary of the Treaty appeared to lend its tacit support -- towards everything which meant the acceptance of commitments for supporting, through the adoption of tangible specific measures, the provisions of the Non-Proliferation Treaty, particularly those relating to "the discontinuance of all test explosions of nuclear weapons for all time", and "the cessation of the nuclear arms race at an early date and to nuclear disarmament", not to mention those relating to the conclusion of a treaty on general and complete disarmament under effective international control.

If it was just possible to prevent the Conference from ending in complete failure, that was so largely for two reasons: first, the constant and praiseworthy efforts of the President of the Conference -- Mrs. Inga Thorsson, head also of the Swedish delegation to the CCD -- who, in view of the inability of the committees to reach agreement, prepared a draft declaration; and, second, the spirit of co-operation of the Third-World States, which formed the majority of those participating in the Conference and, as a token of their high appreciation of the President's efforts, agreed under certain conditions not to oppose the consensus needed, under the rules of procedure, for the draft declaration to become the "Final Declaration" of the Conference. That conciliatory attitude was, however, subject to the conditions and interpretations which I had the honour to explain on behalf of the States members of the Group of 77 participating in the Review Conference, at the closing meeting, on 30 May last.

In that connexion I should like to recall that, so far as concerns the provisions of the Declaration relating to the application of the tenth paragraph of the preamble to the Non-Proliferation Treaty and of article VI of the Treaty, dealing respectively with the discontinuance of nuclear-weapon tests and nuclear disarmament, the States I have just referred to went on record as stating that those provisions should be interpreted -- in matters relating to the position of those States regarding them -- in the light of the contents of working papers NPT/CONF/17 and NPT/CONF/18, both constituting draft additional protocols to the Treaty.

Mr. Garcia Robles (Mexico)

That is why my delegation deemed it opportune to request that the texts of both working papers should be reproduced and circulated as a CCD document (CCD/464), so that the Conference -- which, it should be remembered, prepared the draft which became the Non-Proliferation Treaty -- has them in its files for whatever useful purpose they may serve in its future discussions.

Since the introductory notes contained in the two drafts are sufficiently explicit as regards the reasons behind them and the objectives they seek, I shall confine myself to making a few observations of a general nature. Let me begin by recalling that the co-authors of the two protocols took as their point of departure in drafting them two truths which they considered axiomatic:

The first is that the fate of the Non-Proliferation Treaty will, in the last analysis, depend on its achieving universality or coming as close to universality as is possible.

The second is that universality cannot be achieved unless those nuclear-weapon States Party to the Treaty and, in particular, the so-called nuclear Super Powers, demonstrate their readiness to back up with deeds the declarations of intent in which the Treaty abounds, and which have never been honoured. This would be needed, above all, in connexion with the cessation of the nuclear arms race and with gradual but effective nuclear disarmament.

These two proposals are in no way extraneous, because the Treaty was conceived from the first as an instrument that should be based on a balance of mutual responsibilities and obligations. The horizontal proliferation of nuclear weapons is certainly fraught with danger, but more serious, more numerous, and far more incalculable are the consequences of uncontrolled vertical proliferation which we have witnessed over the last ten years, and which have brought about the situation of "overkill" whose alarming shadow may be illustrated by a few facts selected at random which more than speak for themselves, such as the following:

According to the most authoritative calculations, the cost of nuclear submarines increased by more than 700 per cent between 1968 (when the Non-Proliferation Treaty was opened for signature) and 1975. This alone is an eloquent indication of the enormous increase in their destructive power. According to the same calculations, there has been a 400 per cent increase in the number of nuclear warheads for intercontinental or submarine-launched ballistic missiles and in the number of bombs at the disposal of long-range bombers, and a 50 per cent increase in military expenditure, which, according to the most conservative estimates, will amount to about \$250,000 million for the current year. Far from coming to an end, as was envisaged in article VI of the Treaty,



(Mr. Garcia Robles, Mexico)

the nuclear arms race has gathered momentum to such an extent that the arsenal of the two nuclear Super Powers is today estimated to be the equivalent of 1 million bombs of the type which in 1945 dealt death to more than 100,000 people at Hiroshima. This means that this arsenal would suffice to wipe out 100,000 million human beings, or more than 25 times the total population of our planet.

The intention of Additional Protocol I, which initially would be open to the three nuclear-weapon States Depositories of the Non-Proliferation Treaty, is to bring about the declaration of a moratorium on all underground nuclear weapon tests by the three Depository States of the Non-Proliferation Treaty. This moratorium could subsequently lead to the conclusion of a multilateral treaty for the final discontinuance of such tests by all States possessing nuclear weapons. As stated in the introduction to the draft, the sponsors are convinced that its entry into force "would in no way undermine the security of the depositary States, since the extent of the lead in nuclear war technology and the enormity of the nuclear arsenals of the United States of America and the Union of Soviet Socialist Republics are such that, even if they were to suspend all nuclear weapon tests for half a century, it is absolutely certain that they would continue to maintain an indisputable superiority" (CCD/464, p.4).

As to Additional Protocol II, which would be open to the two nuclear Powers participating in the bilateral SALT negotiations, its objective would be to achieve certain automatic parity reductions both in the strategic nuclear vehicles envisaged in the Vladivostock agreements, and in the number of strategic ballistic missiles belonging to both the Super Powers which, under those agreements, can be equipped with multiple independently targetable warheads (MIRVs). Just as in the case of Protocol I, the co-sponsors have expressed their conviction that entry into force of the proposed instrument could not act to the detriment of the security of either of the two partners in the SALT discussions, since: "On the one hand, the reductions suggested would in no way affect the system on which are based the proportions that they freely accepted in the Vladivostock accords. On the other hand, the extent of their lead in nuclear war technology and the enormity of their nuclear arsenals are such that, even after they had carried out the parity reductions called for in the Additional Protocol, the

(Mr. Garcia Robles, Mexico)

number of nuclear weapons and delivery vehicles which each one would maintain would still be much superior to that which might be at the disposal of all the other nuclear weapon States taken together" (CCD/464, p.9).

In this connexion it must be emphasized at the same time that as an additional safeguard for the security of the Powers, the provisions of the Non-Proliferation Treaty relating to withdrawal would apply to both Protocols as well, which would mean that each of the Parties to either of the latter would have the right to withdraw, "in exercising its national sovereignty", should it at any time reach the conclusion that its supreme interests so required.

The Final Declaration of the Review Conference included provisions taken from a draft resolution (NPT/CONF/L.1), introduced by Mexico and co-sponsored by twenty States, on the basis of which a request will be made for the inclusion in the provisional agenda of the thirty-first session of the General Assembly, in the autumn of 1976, of an item entitled: "Implementation of the decisions adopted by the first Review Conference of the Parties to the treaty on the Non-Proliferation of Nuclear Weapons". A second Conference will also need to be held for the same purpose, for which a Preparatory Committee will have to be set up as and when necessary, as in the case of the first Conference.

The proceedings of the first Review Conference certainly represent a lesson whose significance, let us hope, will be thoroughly grasped by the two nuclear Super Powers, since it is our belief that the time separating us from the thirty-first session of the General Assembly, which takes place next year, constitutes almost the last opportunity -- the period closing with the second Review Conference scheduled for 1980 being the final chance -- for the Depositary Governments of the Non-Proliferation Treaty to prevent this instrument from bursting noisily asunder.

Ten days ago, in his address to the summit meeting of the European Security Conference which has just ended in the Finnish capital, the President of one of the nuclear-weapon States which exercise co-chairmanship of the CCD stated forcefully:

"the people of all Europe, and I assure you, the people of North America are thoroughly tired of having their hopes raised and then shattered by empty words and unfulfilled pledges. We had better say what we mean and mean what we say, or we will have the anger of our citizens to answer".

(Mr. Garcia Robles, Mexico)

The above words are fully applicable to the commitments under the Non-Proliferation Treaty concerning total prohibition of nuclear-weapon testing, cessation of the nuclear arms race, and nuclear disarmament. The only difference is that the peoples growing impatient and indignant are not in this case those of Europe and the United States alone, but of the whole world.

Mr. NIKOLOV (Bulgaria): The policy of détente has achieved these days a new remarkable success. The leaders of the States taking part in the historic Conference on Security and Co-operation in Europe have adopted in Helsinki the instruments that had been worked out by their representatives here in Geneva. Among these instruments the Declaration on Principles Guiding Relations between Participating States and the Document on Confidence-Building Measures and Certain Aspects of Security and Disarmament are of special relevance to the CCD. These developments mark a turning point in the life of our continent, which has been a theatre of two world wars in the first half of this century.

Assessing the outcome of the European Conference from the high rostrum of the Helsinki Summit, Mr. Todor Zhivkov, the First Secretary of the Central Committee of the Bulgarian Communist Party and Chairman of the State Council of the People's Republic of Bulgaria, emphasized, inter alia, that:

"In the years to come the results of the Conference will have a powerful impact on the acceleration of the ongoing profound process which by our common efforts we should make irreversible. This requires us to continue our endeavours to create an elaborate system of security and co-operation in Europe.

One of the key objectives of our future activities will undoubtedly be to supplement political détente with military détente. Further steps along this line could consist in undertaking a series of measures designed to halt the arms race, to reach an agreement on the reduction of the armed forces and armaments in Central Europe and gradually to overcome the division of Europe into military blocs."

The new situation in Europe characterized by strengthened security and increasing co-operation cannot fail to favourably influence the political climate of the whole world. Better objective premises have been created for progress in the field of disarmament.

(Mr. Nikolov, Bulgaria)

The Final Act of the European Conference confirmed with renewed vigour the interest of all participating States "in efforts aimed at lessening military confrontation and promoting disarmament which are designed to complement political détente in Europe and to strengthen their security". The participating States, a number of which are also represented here, reaffirmed their commitment to the final objective of achieving general and complete disarmament.

For the first time in history, at the European Conference were adopted such measures as prior notification of major military manoeuvres, exchange of observers at military manoeuvres, etc. This is, of course, no disarmament. It is a new type of collateral steps, confidence-building measures whose aim is to contribute to increasing stability and security in Europe by reducing the dangers of armed conflict and misunderstanding or miscalculation which could give rise to apprehension among European countries. The implementation of these new commitments will certainly be a good basis on which to build in the future additional and more important measures both in this area and in the field of disarmament. The results in Helsinki are already giving us ground to look with confidence to the prospects of the Vienna talks on the reduction of armed forces and armaments in Central Europe. We are confident that the success of these talks will further strengthen security in Europe and throughout the world and will be in the interest of all countries.

We realize how difficult is the quest for better international relations and for disarmament. At this very moment when we are congratulating ourselves on the recent outstanding achievements of the policy of détente and co-operation in Europe, we are also reminded by the declarations of some highly placed public figures in the West that the new positive trends in international relations are not gaining ground without opposition from some quarters, in particular the military industrial complex. We are also aware that the slow and sometimes tortuous pace of the disarmament negotiations is a reflection of the complexity of the problems of security. That is why, while it would be wrong, in our view, to be complacent about the present state of affairs in the field of disarmament, it would be equally wrong to ignore or

(Mr. Nikolov, Bulgaria)

underestimate the steady although limited progress which has been achieved over the last years in this area. At this juncture several bilateral and other negotiations are taking place on different important problems of arms limitations and disarmament, and it is our hope that further substantial progress will not be slow in coming.

Let me turn now to some of the most important problems in the field of nuclear disarmament which are before us.

While the danger of a nuclear war has receded during the last years, it cannot be ignored, however, that the arms race, including the accumulation of nuclear weapons, is still going on. The recent NPT Review Conference was an appropriate occasion to awaken world opinion to the risks of proliferation of nuclear weapons and the urgent need to strengthen the non-proliferation régime. We consider that the Conference made a substantial contribution towards the attainment of these objectives, but nonetheless the danger of a further spread of these weapons of mass destruction continues unabated.

It is within this context that I would like to make some comments on the results of the informal meetings with the participation of experts on PNEs. One of the merits of these meetings is that many aspects of the problem have been clarified, and we will be now in a position to submit to the General Assembly a substantive and useful report in accordance with its resolution.

We consider that the thorough and wide-ranging review of the problems pertaining to PNEs has not revealed any new elements which could challenge the generally accepted premise of General Assembly resolution 3261 D (XXIX) that "it has not yet proved possible to differentiate between the technology for nuclear weapons and that for nuclear explosive devices for peaceful purposes". It is exactly because of this situation that the NPT was conceived as an instrument seeking to prevent the proliferation of all types of nuclear explosive devices, be they for weapon or non-weapon purposes. The NPT Review Conference in May confirmed the correctness of this approach and provided for the extension of PNE services, under the conditions of article V of the Treaty, to non-nuclear States not Party to the Treaty. This decision

(Mr. Nikolov, Bulgaria)

offers to any such State not Party to the Treaty the possibility of making use of the potential benefits of PNEs without having to acquire independent PNE capability, with all the arms control implications that such capability entails. In this respect it is worth recalling that the Review Conference in its Final Declaration once more stressed that "access to potential benefits of nuclear explosions for peaceful purposes" should "not lead to any proliferation of nuclear explosive capability" (NPT/CONF/35/I/Annex I, p.6).

Developments since May tend to substantiate the fears which underlie these important decisions. Some recent commercial transactions dealing with the sale of complete nuclear fuel cycle facilities, which have been assessed by many sources as potentially carrying high risks of nuclear proliferation, have confirmed the necessity for continuing vigorously and with a sense of urgency the efforts aimed at the strengthening and universalization of the NPT -- a system which fully meets the requirements of States willing to secure for themselves the benefits of PNEs, while at the same time taking appropriate precautions to eliminate the risks of proliferation.

It is because of these considerations that when we examined the thought-provoking working papers presented by different experts during the meetings devoted to the question of PNEs, we were not in a position to agree with some of the views contained in them.

As has already been noted by other representatives, some conclusions raise particular doubts. For instance, we question the wisdom of the idea of seeking a solution to the PNE problem outside the framework of the NPT and IAEA, i.e. outside the already tried and proven system of safeguards against nuclear proliferation. Having in mind the arms control implications of the PNEs, we firmly believe that the arrangements for the conduct of PNEs should be part of the existing NPT system, and that IAEA, as indicated in the Final Declaration of the NPT Review Conference, is the appropriate international body through which potential benefits from peaceful applications of nuclear explosions could be made available to any non-nuclear State.

(Mr. Nikolov, Bulgaria)

The cessation of the nuclear arms race, which presupposes the conclusion of a CTB agreement, is not possible without the constructive efforts and co-operation of all nuclear Powers. The lack of such co-operation, and in certain cases the outright opposition to the very idea of a CTB by some States, is a serious handicap, and there is hardly any use in disregarding or minimizing the significance of this fact. That is why every passing year brings into sharper focus the need for the involvement of all nuclear-weapon States in the disarmament negotiations and the adherence to the existing treaties in this field of those among them which have not yet done so. Under the present circumstances, the convening of a World Disarmament Conference would no doubt help in the achievement of these objectives. We hope that the General Assembly at its next session will succeed in finally overcoming the obstacles which are still hindering the realization of this very timely initiative.

As is known, by virtue of resolution 3264 (XXIX) of the General Assembly, adopted on the initiative of the USSR, this Committee was requested to proceed to the elaboration of a Convention on the prohibition of action to influence the environment and climate for military and other purposes incompatible with the maintenance of international security, human well-being and health. In pursuing this task last week, the CCD completed its series of unofficial meetings with the participation of experts, which proved very useful. We note with satisfaction that the exchange of views between the experts revealed much common ground and, above all, general recognition of the grave potential dangers involved in the development of techniques of climate and environment modification in the absence of appropriate international regulation of these matters. We would like to join the other delegations in thanking both the Swedish delegation, on whose initiative these meetings were held, and the experts who participated in them.

Now, on the basis of the deliberations of these problems in the CCD, one could, in our view, draw the following conclusions.

First, there is general agreement that a number of such weather and environment modification techniques can be developed and perfected as very dangerous weapons to serve military or other hostile purposes.

Second, some of the reported techniques are said to be yet insufficiently understood or still hypothetical. Enough is known, however, for us to be able to foresee that much more significant modifications may soon become possible as man's scientific and technical knowledge increases. This illustrates both the promise and the threat for the future.

(Mr. Nikolov, Bulgaria)

Third, the need has been acknowledged for immediate measures to prohibit by international agreement any action to influence the environment and climate for military and other hostile purposes before such new weapons have been developed and brought about an extension of the arms race into new fields. The lack of sufficient clarification of some aspects should not be a reason for delaying the general solution of this problem.

Fourth, it has been emphasized that international regulation of this matter should in no way constitute an obstacle to the development and use of weather and environment modifications intended for purely peaceful purposes.

The fact that a common understanding on these and some other important aspects is about to be reached encourages us in the belief that the problem before us is getting ripe for solution. We think, therefore, that it would be possible for the CCD to work out next year a formal instrument on the basis of the ideas already set forth in the draft international convention submitted by the USSR.

The present session of the CCD will be rather noted for the abundance of expert meetings on various subjects. We are looking forward to the submission of the study on nuclear-weapon-free zones whose elaboration is now being completed by the Group of qualified governmental experts under General Assembly resolution 3261 F (XXIX). Since this study is not yet finally adopted, it would be premature to make any definitive comments on it. However, it would be safe to anticipate as of now that the experts, regardless of their divergent views on some aspects, have succeeded in identifying large areas of common approach and agreement which is essential for the promotion of the idea of the establishment of nuclear-weapon-free zones in various parts of the world, as an additional effective means of strengthening the NPT system.

As in the case of the experts on PNEs and climate and environment modification, we are confident that the results of the efforts of the experts on denuclearized zones will also greatly facilitate the successful implementation of our tasks.

Mr. FARTASH (Iran): Last week we had the opportunity to discuss with the eminent experts present the important and highly complex problem of prohibiting action to influence the environment for military or hostile purposes. The Swedish initiative in proposing those meetings, suggested also by the Canadian delegation, was certainly a timely one. On this subject especially, our work must be accompanied by expert advice so that we may give a sensible and informed orientation to our undertaking.



(Mr. Fartash, Iran)

The subject of environmental modification has in recent years become the concern of many States and of various international organizations as well. It has numerous aspects and varied levels of urgency. The purpose of our meetings was to concentrate on the military implications of the subject, especially how to forestall the use of environmental modification in support of warfare.

We are tackling once again a preventive measure. As has already been pointed out, through experience we have learned that it is easier to stop at the outset the development of new means of warfare than to wait until these means become entrenched in military practice. This same preventive approach resulted in the Sea-Bed Treaty and the Biological Weapons Convention. Now we are dealing with methods of warfare which, for the most part, do not yet exist; but which are potentially so devastating that every possibility for their military use must be blocked.

The very expressions "weather war" or "environmental modification for military purposes" already carry with them the horrors of a new type of inhuman activity. We are considering a potential instrument of warfare of the most unconventional kind which could cruelly affect the lives of human beings of present as well as future generations. As with other unconventional weapons, the hostile use of weather modification techniques or the more far-reaching environmental changes would not discriminate between civilian populations and military targets; it would not distinguish between neutral and belligerent countries; and its long-term effects would in many cases be impossible to predict. Thus we can have no doubt as to our purpose. As science and technology maintain their rapid rate of progress, we must be on our guard against the possible diversion of these achievements to evil ends.

The subject of environmental modification for military purposes has been under discussion for several years. Specifically in the arms limitation context, we have two avenues open to us, hopefully two avenues which converge. In their joint statement of July 1974, the United States and the Soviet Union agreed to discuss limitations on military use of environmental modification techniques. Three bilateral meetings have apparently been held and presumably a certain amount of the work which we will have to undertake in this Committee has already been started. For our immediate consideration we have before the CCD the Soviet draft convention on the prohibition of action to influence the environment and climate for military and other purposes incompatible with the maintenance of international security, human well-being

(Mr. Fartash, Iran)

and health, which was submitted to the twenty-ninth session of the General Assembly. Therefore, we look forward to hearing from the United States and Soviet delegations about their work and where they have met the greatest problems.

One of the most immediate tasks before us, and one which perhaps has already been started bilaterally, is the definition and classification of the various methods of environmental warfare. A first practical distinction, as suggested by the representative of the United Kingdom at our 659th meeting, might be made between techniques which are within the realm of possibility today and those which still lie far in the future, but whose development could already be impeded. A very useful and pertinent step has already been taken in this direction by the approach suggested in Canada's document CCD/463.

Although military research is probably investigating many different aspects of environmental modification, it would seem that to date the only possible methods of environmental warfare are in the area of weather modification, and even here the possibilities are still very restricted. It would seem that weather modification has been studied in roughly four main categories: precipitation enhancement, fog dispersal, hail suppression and hurricane modification. Some measure of success has apparently been achieved in the first two areas, and considerable advance has been reported by the Soviet Union in the area of hail suppression. However, only the technique of fog dispersal seems to have attained a certain degree of efficacy. "Rain-making", which is perhaps the best known of weather modification methods, because it has apparently already been used in support of military activity, seems to be still in a relatively early stage of development.

According to the latest statement issued by the World Meteorological Organization, in May of this year, which was circulated last week to the members of the CCD, weather modification is "still largely at the research stage" and any operations should be undertaken "... on the understanding that the desired end results may not always be achieved". It is also noteworthy that present methods of weather modification, including fog dispersal, can be used only on a limited scale. An official United States statement has termed very large-scale weather modification as "wholly theoretical", and apparently stimulation of precipitation over large territories has not yet been successful in the Soviet Union.

(Mr. Fartash, Iran)

In terms of our arms limitation objectives, we are thus in a good position. For use as reliable instruments of warfare, the various techniques of weather modification are as yet undeveloped. As the military use of weather modification is most likely to be in support of other means of warfare, its application in conflict would have to be predictable, but this is far from being the case. On the other hand, considerable research has been done in these areas. We should therefore, with the aid of expert advice, be able to elaborate certain practical proposals to prohibit entirely the development of such terrible means of warfare.

Beyond these specific methods of manipulating the weather, many other possibilities for influencing the environment for hostile purposes have been explored. A list of such possibilities is contained in the Soviet draft convention. It is difficult, however, as a non-specialist, to know which of these activities have any immediate relevance and which ones are in the realm of sheer conjecture. And in this respect the careful and comprehensive analysis made in the Canadian working paper could be of significant assistance. If a list of more or less feasible techniques could be agreed upon, we would have a good beginning to our work. If subsequently we could establish more general categories for the less imminently dangerous methods, our task would be facilitated.

There are some organizational problems involved in this subject which were already pointed out by the Swedish delegation during the debate at the twenty-ninth session of the General Assembly and again by the delegations of the United Kingdom and the Netherlands at the 659th and 662nd meetings of the CCD. They noted the importance of differentiating between environmental measures undertaken with hostile intent and those undertaken for peaceful purposes which may inadvertently cause damage elsewhere. The involuntary effects of experimentation in the environment for peaceful purposes have been a concern of the UNEP. In terms of research into the peaceful uses of weather modification, the WMO is also undertaking programmes which will include studying the impact of its experiments on the environment. At the same time we must take note of the discussions at the Diplomatic Conference on the Reaffirmation and Development of International Humanitarian Law Applicable in Armed Conflict which were directed towards the prohibition of certain methods of warfare. Thus it is important to identify clearly the aspects of the problem which come under the jurisdiction of the CCD and continue to consult the work done by the other bodies for its pertinence to our own endeavours.

(Mr. Fartash, Iran)

Within the area of arms limitation itself we will have certain overlapping concerns and we must be aware of them even though there is probably no harm in treating the same problems under two headings. The Soviet draft convention covers certain adverse effects on the environment which could result from chemical warfare. The consideration of this danger will also be included in our discussion of chemical weapons and will hopefully be eliminated by a complete ban on chemical weapons as well as by still wider adherence to the Geneva Protocol. Similarly, the use of nuclear explosives with hostile intent to modify the environment is really part of our overriding concern with nuclear explosions. A fundamental reason for our commitment to nuclear disarmament is precisely because of the environmental contamination brought about by nuclear explosions and their inhuman and long-term effects.

This leads to the final problem I would like to raise today. This is the difficulty of detecting violations of a convention. We seem to face here a problem similar to that involved in our consideration of peaceful nuclear explosions. In many cases, only the intent will establish the peaceful or military nature of a programme to change weather or other geophysical processes. May be certain activities will be readily identifiable as hostile. Sometimes, however, the act of triggering the environmental change may be unobservable and a hostile intent would only be felt. These complications would indicate the need for increased co-operation in this area, including perhaps international registration of environmental experimentation.

In the light of these comments, Mr. Chairman, I would like to emphasize the fact that the subject before us is vastly technical and complicated. During the meetings of last week we can only hope to have analysed some of the relevant factors. But this should not deter us from trying to plan for the time to come and to organize the course of our future work. We must bear constantly in mind that in addition to the danger of the stockpiles of weapons which are already operational, we are also faced with the imminent problem of the means of warfare that have yet to be produced or even conceived.

Mr. MARTIN (United States of America): During the past week we have conducted a series of informal meetings with experts in the field of environmental modification in order better to acquaint ourselves with the problems involved in developing limitations on the use of environmental modification techniques for military and other hostile purposes. As I said during my introductory remarks at these meetings, my delegation regarded their purpose as primarily educational and, in my view, that objective was in great measure achieved. I should like to express my thanks to the delegation of Sweden for its initiative in proposing this most interesting and useful series of meetings. I should also like to express my thanks to all those delegations and experts who participated.

We have carefully reviewed the presentations made by participants in the informal meetings, as well as the responses to the questions put to several experts.

I would like to summarize briefly what my delegation believes we have learned about the possible means of modification of the environment for peaceful as well as hostile purposes. These means relate to four main subdivisions of the environment; the atmosphere, the oceans, the solid earth and the upper atmosphere.

Atmospheric behaviour over the short term can already be modified to some degree on a local scale. The successful dispersal of cold fogs is now carried out operationally. Other techniques, some of which are carried out on an operational basis, are on less certain scientific footing; however, while their possibilities are still very limited, they do have potentially important economic benefits. For example, the modification of precipitation (i.e. rain and snow) to enhance water supplies or to reduce damage by droughts or floods obviously could have major importance throughout the world. Despite intensive study, prospects to date are still uncertain. Individual clouds can undoubtedly be altered by seeding. Precipitation can indeed be modified locally up to perhaps 50 per cent under certain limited conditions. Research efforts continue, but too little is yet known about the detailed processes involved to permit us to draw any definite conclusions about the efficacy of this technique, particularly as it might be applied on a large scale. At present, attempts to increase precipitation have sometimes actually resulted in a decrease, and on other occasions have had no clearly identifiable effect at all.

Mitigation of severe storms such as hurricanes, and suppression of hail are the subject of study around the world. Results to date are encouraging, but still largely indeterminate, since too little controlled experimentation has been carried out to provide definitive evidence of positive results.

(Mr. Martin, United States)

Climate modification amounts to producing very long-term changes in weather patterns. Many hypothetical techniques have been advanced that might influence regional climate. However, no reliable, predictable techniques for climate modification are yet known. It should be recognized that self-correcting forces in the earth's atmosphere tend to smooth out any short-term, local perturbations, however violent.

Ocean modification might involve changing major currents, or perhaps producing tidal waves. Man does not yet know how to predict with confidence the results of any scheme to divert ocean currents. With the large and poorly understood forces involved, however, the effects of any attempt might well be catastrophic and irreversible.

Modifying the solid earth by, for example, deliberately producing earthquakes is not yet possible on a significant scale. An underground nuclear explosion cannot trigger an earthquake which releases more energy than the explosion itself unless such an earthquake is already imminent in the vicinity of the explosion. Lubrication of faults by pumping in fluid under high pressure can apparently trigger small local quakes, but a weapons use of such a scheme seems almost inconceivable. Elaborate equipment and hundreds of millions of gallons of fluid would be required, and it would not be possible to cause an earthquake in an area remote from the injection site.

Modification of the upper atmosphere might be possible by, for example, modifying the ozone layer to affect transmission of ultraviolet radiation. Again, however, there would appear to be mitigating, self-correcting effects, for example due to horizontal diffusion. Moreover, the basic scientific facts with regard to the upper atmosphere are insufficiently understood, so that the effects of attempts to modify it would necessarily be highly unpredictable.

It is evident that most of the techniques for modification of the environment that were described or hypothesized by the experts last week lie in the future. Nevertheless, we now understand enough about the potentially disastrous consequences that could follow from the use of techniques to modify the environment for hostile purposes to permit us to say that the present time is the proper time for us to give full attention to the arms control implications of this danger. As several of the participants pointed out during the course of the discussion, it is far easier and more sensible to work out measures for the control of new methods of warfare before those methods have been firmly established, rather than after considerable time, energy, and funds have been invested in their development and in the search for countermeasures. My delegation fully supports this point of view.

(Mr. Martin, United States)

In carrying out this effort, it is important that we attempt to draw from our informal sessions a common understanding of precisely how we are to define the concepts of, first, environmental modification and, second, the use of environmental modification techniques for military purposes. It is also important to attempt to derive a common understanding of what these concepts do not imply, that is, to delimit as well as possible the subject matter at hand with a view to proceeding in the work that lies ahead for our Committee.

My delegation considers, and I think this view is shared by other delegations, that environmental modification refers, in the arms control context, to the deliberate manipulation of the natural processes of the environment. We take the term "environment" in the universal sense, i.e., what is encompassed by the planet Earth, its surface and subsurface, its waters, its atmosphere, and its living things, and outer space.

The use of techniques for modifying the environment for military or other hostile purposes then becomes the deliberate manipulation of these natural processes for the purpose of causing damage, destruction, or injury to another State. I might add that on the basis of our discussions last week, it seems clear that such use could have widespread, long-lasting, or severe effects harmful to human welfare, and that there accordingly is a need to impose effective limitations upon them.

It has become apparent in our discussions that there are types of weapons and military activities other than environmental modification techniques which can also cause environmental damage -- bombs leave craters, the movement of men and equipment leaves traces on the earth's surface, and vehicles emit exhausts which can contribute to the pollution of their surroundings. It is clear, however, that these effects are not what we should call hostile uses of environmental modification techniques. Much as we would like to see the scourge of war eliminated completely, limitations on the use of environmental modification techniques for military and other hostile purposes should not be extended to cover these cases of incidental environmental damage.

Another aspect of the question of delimiting the scope of possible prohibitions which was raised during the course of the informal meetings concerned civilian modification activities carried out for peaceful purposes, but which nevertheless have an adverse impact on another State. The problem undoubtedly arises of where to draw the line in the regulation of such activities. I believe that, once we have

(Mr. Martin, United States)

worked out effective limitations on the military uses of environmental modification techniques, an appropriate régime to govern peaceful activities not already covered by existing international law could, if necessary, be examined in an appropriate forum. I see no reason to believe that such a régime would not interface in a satisfactory manner with the limitations on hostile use which we are able to achieve in the CCD.

The nature and scope of current efforts in research on and development of environmental modification techniques, and of current operational activities in this area, were clarified during our informal meetings. I was impressed with the much larger efforts that are continuing in the basic environmental sciences which are a prerequisite to any type of modification capability. One of the important aspects of current research and development activity in this field is the inability to distinguish between activities intended for peaceful and for hostile purposes. Therefore it seems to us that, with respect to research and development activities, we must take care that we do not inhibit those activities which are necessary and proper for the eventual development of techniques to modify the environment on a significant scale for peaceful purposes.

In conclusion, my delegation believes there are several goals in the field of environmental modification that should be pursued: first, to prevent the emergence of the dangers inherent in the exploitation for military ends of environmental modification activities; second, to preserve for mankind as a whole the natural environment; third, to preserve and to promote international co-operation in understanding how the environment works and how its components interact, and fourth, eventually to facilitate the possibility of modification of the environment on a significant scale for peaceful purposes should such modification prove feasible and valuable.

I believe our informal meetings with experts have served these goals well.

The meeting rose at 12.15 p.m.