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**Scientific and technological developments and their impact  
on international security**

**Report of the Secretary-General**

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\* A/44/150.

## I. INTRODUCTION

1. On 7 December 1988, the General Assembly adopted resolution 43/77 A entitled "Scientific and technological developments and their impact on international security", the operative part of which reads as follows:

**"The General Assembly,**

"

"1. **Requests** the Secretary-General to follow **future scientific and technological developments**, especially **those which have potential military applications**, and to evaluate their impact on international **security**, with the assistance of qualified consultant experts, as appropriate, and to submit a report to the General Assembly **at its forty-fifth session**)

"2. **Invites** Member States to establish panels at the national level to monitor and evaluate **such** developments and disseminate the assessments provided by the Secretary-General

"3. **Also invites** all Member States to communicate to the Secretary-General their views and proposals as well as the evaluations of the national **panels;**

"4. **Requests** the Secretary-General to submit to the General Assembly at its forty-fourth session a report on the implementation of the present **resolution;**

"..."

## II. ACTION TAKEN BY THE SECRETARY-GENERAL

2. Pursuant to **paragraph 1** of General Assembly resolution **43/77 A**, a consultative meeting **was** held at United Nations Headquarters on 31 May 1989 to assist the Secretary-General in identifying the broad areas of scientific and technological developments relevant to the purposes of the resolution.

3. Qualified consultants will be invited by the **Secretary-General** to prepare individual **assessments** in their **specific** areas of expertise covering the following broad **fields**: information technology, biotechnology, **materials** technology, space technology and nuclear technology. **These** assessments will be discussed by a wide group of experts and the outcome will be included in the Secretary-General's **report** to the General Assembly at its forty-fifth session.

4. In a note **verbale** of 8 February 1989, the Secretary-General drew the attention of the Member States to paragraphs 2 and 3 of the resolution. To date, the Secretary-General has received replies from Finland, the Federal Republic of Germany, Ghana, Mexico and the **Union** of Soviet Socialist Republics which are

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contained in **section III** of the **present** report. Any further replies will be issued as addenda to the **present document**,

### III, INFORMATION RECEIVED FROM **GOVERNMENTS**

#### **FINLAND**

[Original: English]

[28 July 1989]

1. In Finland there **exists** no national panel whose sole **task** is to monitor and evaluate **scientific** and technological developments **and** their **impact on** international **security**. However, the Advisory Board for Disarmament at the Ministry for Foreign Affairs, established in the early 1970s, is entrusted, among other things, with the **task** of promoting relevant **research** and of suggesting ways to apply their results **for the purposes** of disarmament. There are also other institutions with wide expert and **political** representation that deal with issues brought **up in General Assembly** resolution 43/77 A. Thus, the **Government** of Finland does not **consider** it **necessary** to **establish** a new panel at the national level for this purpose,

2. With reference to paragraph 3 of the **said** resolution, the Government of Finland, after having consulted the **Advisory** Board for Disarmament, would like to **state** the following:

It is **obvious that scientific** and technological development in **the** field of armament will **continue**. Its future **course** is difficult, almost impossible, to **foresee** even in the medium **term**. In the field of nuclear technology, both relevant techniques, that is, fusion **and fission**, are already applied to arms production. Thus, although more flexible nuclear weapons **may** be developed, a completely **new type of nuclear weapon seems** improbable. Chemical **weapons may** experience rapid development. However, the **destructive capacity** of existing weapons and **nerve gases** is **already** so high that no **major** technical inventions are probable **in this** field. The destructive **effects** of biological weapons appear slowly and their use involves **risks** that are far **from** controllable. That is why biological weapons lack direct **military** significance. However, future developments in the field of gene technology presently represent an unknown factor.

The Government of Finland considers it urgent that the achievements of scientific and technological research be used in a positive way for the **common** benefit and well-being of mankind. International **efforts** for arms limitation and unequivocal commitment to disarmament by all States is indispensable in the reallocation of resources and in the redirection of **the** fruits of scientific and technological development. In the field of arms production, attention should be placed on non-provocative, defensive **arms systems** and the elimination of such **side-effects** of arms that are random and directed at civilians. The development of comprehensive and reliable verification

**procedures at the national and international levels represents a challenging task that effectively serves the commonly agreed purposes of international security,**

**GERMANY, FEDERAL REPUBLIC OF**

[Original: English]

[27 July 1989]

1. **General** Assembly resolution **43/77 A** entitled "**Scientific** and technological developments and their impact on international **security**" correctly emphasises the importance of dealing with the qualitative **aspects of arms control**. The Government of the Federal Republic of Germany shares the view that a merely quantitative approach to arms control and disarmament **is** insufficient.

2. The resolution goes on to caution against the negative **impact** on security and disarmament that technological **progress** will have if applied to military purposes. The Government of the Federal Republic of Germany finds **it hard to** follow the reasoning that **technological advances in themselves are negative** in terms of arms control and disarmament.

3. In fact, **technology as** such is neutral. It is certainly true that improvements in the **capabilities** of weapons - including such **systems** that are of particular relevance for defensive purposes - require scientific **research** and development. But it is equally true that advanced technology **can, and does, assist** arms control and disarmament **efforts**) examples would be advanced satellite technology **for** verification, or sophisticated analysing equipment **for** monitoring compliance with a ban on chemical weapons.

4. Thus, the **task of** halting the **arms** race is not solved by banning technology **altogether, or** banning its military application, since technology may even promote arms control and disarmament. The real issue is in the field of political decision-making.

**GHANA**

[Original: English]

[16 June 1989]

Ghana voted positively for General Assembly resolution **43/77 A** of 7 December **1988** because of its general objectives. **As** a developing country, however, Ghana has no programmes **for** converting scientific and technological developments for military purposes. The goal of the Government of Ghana is, and continues to be, the harnessing of its national **resources**, including the results of any scientific and technological developments, for the social and **economic** advancement of its people.

**MEXICO**

[Original: Spanish]

[19 May 1989]

1. **Mexico** has traditionally **taken a keen interest in matters** relating to world peace and **disarmament**; for that **reason**, it has striven to ensure that all advances in science and technology **are used to the good** of mankind, as a means of assuring its existence, not to attain **more** critical levels of **mass** destruction.
2. **Nevertheless**, Mexico notes with **concern** that such encouragement as **has been** given to **scientific research** has been in **the** field of **weapons** development **instead of being** channelled **towards** medical **research, improvements** in agricultural output or educational support, among other items necessary to people's development.
3. Disarmament has been described within the United Nations as a **process consisting** in reducing **the strength of armed forces** and the associated expenditure) to attain this objective, Mexico believes **it** is necessary to go **to** the root of the problem and not use scientific and technological advances in the **arms race**, since any **refinement** to military **arsenals** represents a risk to international **security**.
4. Investigators in new fields of **research** should ensure that their **work** is used to benefit mankind, avoiding making improvements to **weapons at** all costs. **In this** context, **Mexico is of the view that** any scientific or technological advance should be pursued with caution, and its use in military applications should be condemned. **Hence it** also believes that outer space should **be used for** the good of **the** international community and **not** as a strategic defence **system** which self-evidently cannot be certain of attaining its objectives. Likewise, nuclear tests **for** the purpose of refining nuclear weapons should be halted once and **for** all.
5. Finally, Mexico **urges** the international community, **first** to get down **to serious** discussions of the qualitative aspect of **the arms race** and, second, to take cognizance **of** the fact that scientific and technological advances used for military purposes adversely affect international security and constitute a severe setback to Previous **disarmament** efforts.

**UNION OF SOVIET SOCIALIST REPUBLICS**

[Original: Russian]

[23 August 1989]

1. In the opinion **of the** Soviet Union, the task of checking the **arms race** and turning the incipient process of real disarmament into something permanent serves to indicate the importance of immediate **moves** by the world community to impose controls on **the use of** scientific and technical advances to military ends. **Science** and technology should be used to the full in the service of peace, confidence-building and the creation **of** a new model of **security**.

2. At **the** third special session of the **General** Assembly devoted to disarmament, the Soviet Union argued for a systematic evaluation of **scientific** and technological advances with a view to the timely preparation of recommendations on preventing the **use** of new technology in weapons manufacture. Initially, this should apply to **laser, genetic** and electromagnetic research. The Soviet proposal to ban the **creation of** non-nuclear weapons based **on** new physical principles, but similar in their destructive capabilities to nuclear or other weapons of mass destruction, remains valid.

3. Specific initiatives in this direction are being put forward by many countries and by large numbers of scientists, politicians and public figures. The USSR **is** favourably **disposed** to the suggestion by **members** of the **Non-Aligned** Movement to halt and prohibit the use of scientific and technological advance: in the development and manufacture of new **generations and** types of **wcapons of mass destruction** and **new types and systems** of **conventional** weapons. It supported the proposal by India and other countries for the creation under the authority of the **Secretary-General** of a panel to evaluate and forecast military applications of new technology.

4. The Soviet Union hailed **as a major** step the adoption at **the** forty-third session **of the General** Assembly **of resolution 43/77 A**, "Scientific and technological developments **and** their impact on international **security**", which called for **the establishment** of national panels to monitor scientific and technological developments with potential military applications.

5. The Permanent Mission of the USSR to the United **Nations is authorized** to announce that, in accordance with this **recommendation**, the Soviet Union has established a national expert panel to evaluate and forecast military applications **of scientific and technological advances**; the panel will study the effects of such advances on **international** security, periodically **bringing** its findings to the attention of **the** Secretary-General of the United Nations and disseminating the **Secretary-General's evaluations within the USSR. The panel, which** includes eminent **Soviet** scientists, will **work** in close contact **with the Committee of Soviet Scientists for Peace** and against the Nuclear Threat headed by **R. Z. Sagdeev**.

6. It **is** believed by the Soviet **Union that** this move will help to foster **fruitful** collaboration under United Nations **auspices in the** imposition **of** restrictions on the manufacture of ever **more** destructive and dangerous weapons and weapon systems, and a shift from pointless and dangerous military rivalry to the strengthening of peace and international security on a comprehensive basis.

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