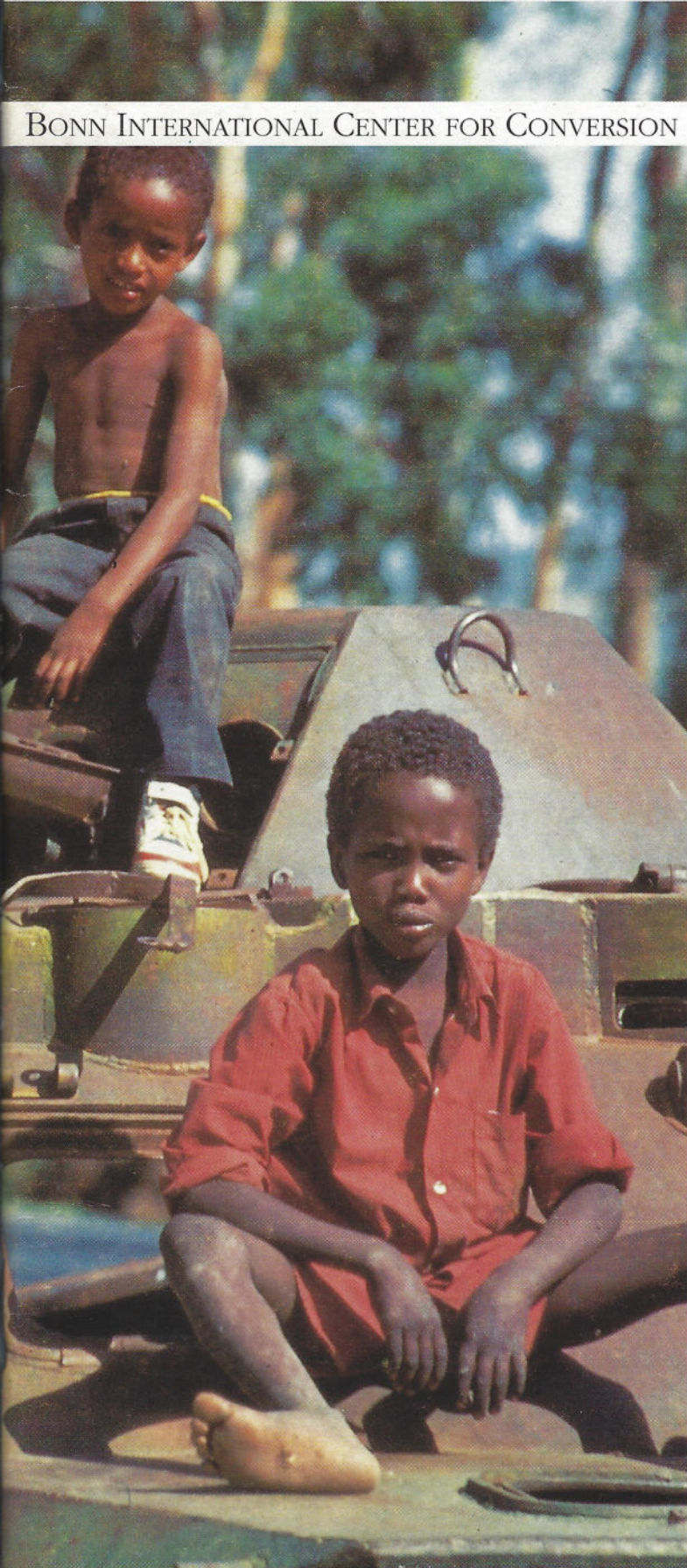




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BONN INTERNATIONAL CENTER FOR CONVERSION · INTERNATIONALES KONVERSIONSZENTRUM BONN



report 5

Military Conversion for Social Development

*Report on BICC Panel Discussion at the
World Summit for Social Development,
Copenhagen, 8 March 1995*

july 95

**Michael Brzoska, Kees Kingma
and Herbert Wulf**

Zusammenfassung Summary in German	4
Preface	6
Conclusions	7
Conversion for Social Development	
● Introduction	8
● Elements of a Comprehensive Concept of Conversion	11
● Benefits and Costs of Conversion	17
● Redistributing Resources through Conversion	21
● Reorientation of Science for Social Development	27
● Security Aspects of Conversion	31
● Summary: Military Conversion for Social Development	35
References	37

**Excerpts from Presentations
of Panelists**

Dr. Herbert Wulf <i>Conclusions of BICC panel on conversion and social development</i>	7
Minister Anke Brunn <i>Comprehensive conversion concept</i>	8
Professor Essam El-Din Galal <i>Summit</i>	9
Dr. Lutz Bähr <i>Resources, science and security</i>	9
General Olusegun Obasanjo <i>Demilitarization and responsibility</i>	14
Professor Thomas R. Odhiambo <i>Emigration of professionals</i>	15
Dr. Herbert Wulf <i>Benefits and costs</i>	18
Dr. Oscar Arias <i>Demilitarization Fund</i>	22
Professor Essam El-Din Galal <i>Away from financial approach</i>	23
Dr. Vladimir Kryuchonkov <i>The International Science and Technology Center</i>	27
Professor Thomas R. Odhiambo <i>Role of scientists</i>	28
Minister Anke Brunn <i>Reorientation of R&D</i>	29
Dr. Oscar Arias <i>Arms Register</i>	31
Dr. Herbert Wulf <i>Slow change</i>	32
General Olusegun Obasanjo <i>Human security</i>	33

This report summarizes the panel discussion on Conversion and Social Development, which was

organized by the Bonn International Center for Conversion (BICC) as one of the special events at the United Nations' World Summit for Social Development, held 6–12 March 1995 in Copenhagen. Together, the panel and audience considered the contributions military conversion could make to social development, and covered several principal issues: the reallocation of financial resources from military to civilian use; the reorientation of science for social development; and the national and human security aspects of conversion. The essay is based on a background paper prepared by BICC for the meeting. In addition, the report contains key excerpts from the presentations made by panel members. The conclusions of the panel discussion, presented in the plenary session of the Summit on Thursday, 9 March 1995, have also been incorporated into the report.

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Cover photo:
**Ethiopia, May 1994, near
Alem Maya, Harar Region.
„Destroyed tanks dominate
the scenery.“**



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and Herbert Wulf, editors*

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Zusammenfassung Summary in German

Das BICC führte am 8. März 1995 im Rahmen des Weltsozialgipfels der Vereinten Nationen in Kopenhagen eine Veranstaltung mit führenden Experten aus allen Teilen der Welt zum Thema Demilitarisierung und Konversion durch. Der vorliegende Report dokumentiert die für diese Veranstaltung von Mitarbeitern des BICC erarbeitete Studie sowie zentrale Aussagen der Podiumsteilnehmer. Das BICC hatte als eine bei den Vereinten Nationen akkreditierte Nichtregierungsorganisation die Gelegenheit, am 9. März 1995 im Plenum des Weltsozialgipfels wesentliche Ergebnisse der Podiumsveranstaltung vorzustellen; die Zusammenfassung dieser Ergebnisse ist ebenfalls in diesem Report abgedruckt.

Neben einer Reihe empirischer Daten zur Entwicklung der weltweiten Militärausgaben, neuen Daten zum Beschäftigungsabbau in der Rüstungsindustrie sowie zur Demobilisierung von Streitkräften stehen vier Problembereiche im Mittelpunkt dieser Arbeit: die Umverteilung der in den Militärhaushalten eingesparten finanziellen Ressourcen, Konversion als Management der Abrüstung, die Rolle der Wissenschaft sowie der Zusammenhang von Sicherheit und Entwicklung.

Die Umverteilung der in den Militärhaushalten eingesparten finanziellen Ressourcen

■ **Seit Ende der achtziger Jahre sind durch Abrüstung umfangreiche Ressourcen freigesetzt worden.** Diese Mittel sind nicht einfach mit den Einsparungen in den Militärhaushalten gleichzusetzen; denn ein Teil der Mittel steht nicht zur Verfügung, wie beispielsweise in Rußland, wo das Bruttosozialprodukt kräftig gesunken ist oder in den USA, wo die Einsparungen zur Verringerung des Haushaltsdefizits verwendet werden. Auch müssen zusätzliche Ressourcen in die Abrüstung investiert werden. Dennoch ist die Friedensdividende keine Illusion: Heute wird ein wesentlich geringerer Teil des Weltsozialproduktes für das Militär aufgewendet als auf dem Höhepunkt des Kalten Krieges.

■ **Ein Teil der Friedensdividende, die durch Abrüstung erzielt wurde, sollte umverteilt werden.** Diese Umverteilung würde der weltweiten Entwicklung und Sicherheit zugute kommen. Um den Nutzen der Konversion zur Verminderung der Armut, der Schaffung von Arbeitsplätzen und der Erhöhung der menschlichen Sicherheit zu optimieren, sollte die Friedensdividende in Bereiche geleitet werden, in denen der soziale Nutzen am größten ist.

■ **Die Umverteilung kann sowohl von Nord nach Süd wie auch von West nach Ost erfolgen.** Zwar gibt es keinen perfekten Transfermechanismus, aber ohne eine Umverteilung profitieren die hoch entwickelten Länder von der Abrüstung mehr als die Länder mit großen sozialen Problemen.

■ **Ziel der Umverteilung muß es vor allem sein, Maßnahmen der Konversion, der friedlichen Konfliktbewältigung und den Friedensprozeß in Entwicklungsländern zu unterstützen.** So kann die Dynamik für weitere Abrüstung und Konversion erzeugt werden, ohne die internationale Sicherheit zu gefährden.

Konversion als Management der Abrüstung

■ **Die Nutzung der freigesetzten Ressourcen hängt von der Qualität des Managements des Konversionsprozesses ab.** Oftmals sind staatliche Unterstützungsmaßnahmen erforderlich um industrielle Konversion, die Reorientierung von militärischen Forschungs- und Entwicklungseinrichtungen, die Demobilisierung und Reintegration von Soldaten, die Verschrottung von Waffen und Nutzung freigezogener Standorte effizient zu organisieren.

■ **Abrüstung kann kurzfristig hohe Kosten verursachen – langfristig aber wird ihr Nutzen überwiegen.** Kurzfristig sind die Kosten des Abrüstungsprozesses dominierend; zum Teil sind langfristige Anpassungsprozesse erforderlich. Investitionen in Konversionsprogramme können diesen Prozeß verkürzen und die Transformation beschleunigen.

■ **Zusätzliche Anstrengungen zur Koordination von Konversionsprojekten sind erforderlich.** Lehren aus den positiven wie negativen Erfahrungen in Konversionsprojekten tragen dazu bei, Fehler zu vermeiden.

Die Rolle der Wissenschaft

■ **Viele Wissenschaftler und Forscher die ehemals im militärischen Bereich tätig waren sowie deren Know-how stehen heute für zivile Aufgaben zur Verfügung.** Nicht alle Wissenschaftler finden aber auch Beschäftigung in der zivilen Wirtschaft. Abrüstung unterstützt den Prozeß, knappe Forschungs- und Entwicklungsmittel für nicht-militärische Aufgaben verfügbar zu machen.

■ **Besondere Aufmerksamkeit sollte der Möglichkeit zugewendet werden, wissenschaftliches Know-how für Konversion zu nutzen.** Die Wissenschaft kann von der Umorientierung hin zu nicht-militärischen Zwecken profitieren und umgekehrt kann der Konversionsprozeß vom wissenschaftlichen Know-how im Rüstungssektor profitieren.

Der Zusammenhang von Sicherheit und Entwicklung

■ **Konversion ist eng mit Aspekten der internationalen Sicherheit verknüpft.**

Sicherheit ist mehr als national und militärisch orientierte Sicherheit. Es besteht weiterhin die Notwendigkeit militärische Bedrohungen zu vermindern und die menschliche Sicherheit zu erhöhen. Konversion hängt im wesentlichen von Abrüstung ab, Abrüstung ist eine Funktion von Sicherheit. Fortschritte bei der Konversion können aber auch zu erhöhter Sicherheit und Frieden beitragen.

■ **Die gleichzeitige Beschränkung der Rüstungstransfers und der Militärausgaben würde die internationale Sicherheit erhöhen.** Exzessive Rüstungsexporte sind für die Konversion konterproduktiv.

Dies gilt nicht nur für neu hergestellte, sondern auch für die durch Abrüstung überschüssig gewordenen Waffen.

Ein umfassendes Konversionskonzept

■ **Konversion, Entwicklung und Sicherheit müssen als ein umfassendes Gesamtkonzept begriffen werden.**

Um die Wirkungen von Konversion auf soziale Entwicklung zu erhöhen muß der Begriff von Sicherheit weit gefaßt werden. Konzepte wie kooperative oder menschliche Sicherheit, die über die militärisch orientierte Sicherheit weit hinausgehen, schließen wirtschaftliche und menschliche Entwicklung als Kriterien mit ein. Erhöhte menschliche Sicherheit ermöglicht weitere Abrüstung und Konversion. Beschleunigte Abrüstung und Konversion wiederum macht Mittel für soziale und wirtschaftliche Entwicklung frei.

Das BICC will sowohl mit der Expertenrunde auf dem Weltsozialgipfel als auch mit der für den Gipfel erarbeiteten Studie einen Beitrag zur Vermeidung sozialer Probleme durch Abrüstung leisten. Denn wenn ausschließlich aufgrund wirtschaftlicher oder sozialer Probleme der Abbau der Rüstungsindustrie und der Armeen behindert wird, ist die nach dem Ende des Kalten Krieges in Gang gekommene Abrüstung bald am Ende. Gelingt es jedoch, die durch Abrüstung frei werdenden Mittel sinnvoll in zivile Projekte zu investieren, wird damit nicht nur wirtschaftliche und soziale Entwicklung gefördert, sondern auch die Sicherheit der Menschen erhöht. Konversion ist zwar kein Allheilmittel, sie wird im BICC aber als praxisorientiertes Management der Abrüstung, als Methode zur effektiven Bewältigung des notwendigen Umstrukturierungsprozesses von Rüstungsindustrie und Streitkräften, und insofern auch als friedenspolitischer Prozeß verstanden.

About the Authors:

The authors are all staff members at the Bonn International Center for Conversion (BICC). Dr. Michael Brzoska is head of the research department, Kees Kingma is project leader of demobilization and demilitarization projects, and Dr. Herbert Wulf is the director of BICC.

Preface

This report summarizes the panel discussion on Conversion and Social Development, which was organized by the Bonn International Center for Conversion (BICC) as one of the special events at the United Nations' World Summit for Social Development, held 6–12 March 1995 in Copenhagen. Together, the panel and audience considered the contributions military conversion could make to social development, and covered several principal issues: the reallocation of financial resources from military to civilian use; the reorientation of science for social development; and the national and human security aspects of conversion.

This report includes an updated version of a background paper prepared by BICC for the meeting (*BICC paper 1*). In addition, it contains key excerpts from the presentations made by panel members and incorporates the conclusions of the panel discussion.



Peace and development . . .

We know that most of the armed conflicts with which the United Nations now have to deal are being waged within nations and that the majority have obvious economic and social causes, once again demonstrating the indissoluble link that exists between the promotion of development and the preservation of peace. I should like to seize this opportunity to remind you here of the importance I attach, in this context, to the need for democracy. Democracy is, as it were, the missing link between peace and development: it is a guarantee of peace and no lasting social development is conceivable without it.

UN Secretary-General Boutros Boutros-Ghali at the opening of the World Summit for Social Development in Copenhagen, 6 March 1995.

Demilitarization and security . . .

Just as demilitarized zones may serve the cause of preventive diplomacy and preventive deployment to avoid conflict, so may demilitarization assist in keeping the peace or in post-conflict peace-building, as a measure for heightening the sense of security and encouraging the parties to turn their energies to the work of peaceful restoration of their societies.

UN Secretary-General Boutros Boutros-Ghali, 1992, *An Agenda for Peace*, p. 33.

The panel consisted of the following members:

- **Chair: Minister Anke Brunn**, Minister for Higher Education and Research, Government of North Rhine-Westphalia, Germany; chairperson of BICC's International Board
- **Dr. Oscar Arias**, former President of Costa Rica, Nobel Peace Prize Laureate
- **Dr. Lutz Bähr**, United Nations
- **Prof. Essam El-Din Galal**, University of Cairo
- **Dr. Vladimir Kryuchonkov**, Acting Director, International Science and Technology Center, Moscow
- **General Olusegun Obasanjo**,* former Head of State of Nigeria
- **Prof. Thomas Odhiambo**, Director, Randforum, Nairobi
- **Dr. Herbert Wulf**, Director, BICC

*General Olusegun Obasanjo Detained by Military Regime

Upon his return to Nigeria after attending the Social Summit, General Olusegun Obasanjo was arrested by the military regime. On 22 March, he was released but placed under house arrest and not allowed to have any outside communication. On 13 June, he was picked up from his home and taken to an undisclosed location. As this report went to print, it became known that he had gone on trial before a Special Military Tribunal in connection with an alleged coup attempt in March 1995. Since his initial detention, no public charges have been filed against him. According to Amnesty International, it is widely believed that the coup plot was fabricated to justify the detention and possible execution of certain government critics, particularly those within the armed forces. BICC immediately protested against his detention and along with several eminent persons from many countries demands his immediate release.

Conclusions



Dr. Herbert Wulf

Conclusions of BICC panel, presented in the plenum of the World Summit for Social Development, 9 March 1995.

Some of the benefits from the release of resources from military use should be redistributed from North to South and from West to East. Such a redistribution would benefit human development and security worldwide. An important mechanism for such a transfer has been reiterated at our panel by Dr. Oscar Arias, the former President of Costa Rica. A global demilitarization fund—as suggested by him—should be directed first of all at measures to support conversion, peaceful conflict resolution and peace-building in developing countries.

The panel discussion concluded that the impact of the peace dividend depends on proper management of the conversion process. This process often needs considerable investment to bear fruit.

Disarmament will create short-term pain, but there will be long-term gain. In the short-term the costs of disarmament are dominant, but in the long-term benefits emerge. In certain sectors, lengthy adjustment periods are necessary.

The panelists and the audience agreed that there is a special role for the scientific community. Large numbers of scientists, and their know-how, have become available for civilian purposes. Disarmament facilitates the release of scarce resources in the field of research and development. With the resources freed from military R&D, new and old problems can be tackled. The scientific community should develop a new vision of a civil society. It was stated at our panel that it was essential to create an environment to enable scientists to contribute to development.

The panel called for a parallel decrease in arms transfers and military expenditures. Such an effort would increase international security. Efforts should be made to strengthen the United Nations Register of Conventional Arms and to prevent the flow of surplus weapons—weapons no longer

needed in one country—into other countries with still ongoing conflicts. The establishment of the Arms Register was the first step. We now must take the next step. We advocate an international convention on the curtailment of the arms trade.

It was emphasized by the panelists that conversion and demilitarization are closely linked to international security. Security is more than national security or military power. Progress in conversion will contribute to improvements in social development, thus increasing human security.

The panel agreed that the social benefits of conversion should be seen in a broader and comprehensive concept of security. As the United Nations already agreed by consensus in 1987 (and I quote): “Security is an overriding priority of all nations. It is also fundamental for both disarmament and development. Security consists of not only military, but also political, economic, social, humanitarian, and human rights and ecological aspects. Enhanced security can, on the one hand, create conditions conducive to disarmament and, on the other, provide the environment and confidence for the successful pursuit of development.”

The panel concluded that security and conversion can reinforce each other:

- Improved security enables more disarmament.
- Conversion, if managed well, channels resources to productive activities, leading to increased employment, social justice and decreasing social tensions.

I trust that on the basis of these findings the disarmament process can be fully utilized for the aims of this high-level meeting, through the process of well-managed conversion.

“As the director of the Bonn International Center for Conversion and on behalf of Minister Brunn, the chairperson of the International Board of our Center, I am pleased to report on the conclusions of a special panel discussion here at the summit addressing the issue of disarmament and conversion. Disarmament and demilitarization—if properly managed through systematic conversion efforts—could help achieve some of the aims at the center of the deliberations at this Summit: attacking poverty, strengthening solidarity and creating jobs.

With the reduction of global military expenditure in recent years and the end of the East-West arms race, major opportunities for conversion exist. Conversion is often looked upon as a narrow problem of retooling arms factories for civilian production. In fact, the reduction in military activity that resulted from the Cold War has many more facets.

The findings of our panel concentrate on the following three areas: the peace dividend, the role of science and security implications.

Considerable resources have become available through disarmament since the end of the 1980s. The peace dividend is real. Using a lower percentage of GDP in the military sector frees resources for non-military investment which in turn drives socio-economic development.



Introduction

When the Soviet Union collapsed and the East-West confrontation ended, there were predictions of a huge and long-awaited 'peace dividend.' It was hoped that military spending and weapon stocks could be reduced, military research and arms production reoriented to peaceful purposes, armies demobilized and military barracks handed over for civilian use. Disarmament and demilitarization, if properly managed through systematic conversion efforts, could help achieve some of the aims at the center of the deliberations at the World Social Summit: attacking poverty, building solidarity and creating jobs. Five years later, the elusive 'peace dividend' has not materialized to the extent that optimists had predicted. In fact, in some countries there have been large costs associated with reductions in military resources. Nevertheless, to conclude that there are no net benefits from conversion is premature. Such a judgment would be based on an incomplete understanding of conversion and a narrow policy approach that ignores the possibilities arising from a redistribution of gains and costs. There is good reason to conclude that the resources freed in the military sector are beneficial for improved social and economic development.

Unfortunately, conversion has not been a guided process—neither by the priorities of economic or science policy, nor by those in charge of security planning. This is one reason why contributions to social development have so far been limited. To date, most of the post-Cold War conversion efforts do not stem from concrete formulations of arms control and disarmament policies or from a conscious assessment of national and international security. Financial constraints on national budgets, rather than international disarmament or peace policies, have been the driving force behind demilitarization and conversion

efforts. Because the changes in the international system after the political upheaval in the former Soviet Union were so drastic and required little interpretation, minimal attention was paid to the nature of the linkages between larger issues, such as economic development and international security, and the conversion effort taking place at the national, regional or local level. However, these linkages are real and must be addressed.

An overview of the concept of conversion and the benefits and costs deriving from it will be followed by discussions of the 'peace dividend' and its reallocation, the contributions of science, and the relationship of conversion to security. This paper will then draw conclusions on how conversion may be used most effectively and efficiently for social development worldwide.



Minister Anke Brunn.
Minister for Higher Education and Research, Government of North Rhine-Westphalia, Germany

Comprehensive conversion concept . . .

“Overcoming the narrow, piecemeal approach—in favor of a comprehensive and globally oriented concept of conversion essential to the management of disarmament and demilitarization—may contribute to the utilization of a 'peace dividend' for socio-

economic development. Such a comprehensive concept of conversion has several fundamentals:

- The issue must be broadened beyond the issue of industrial conversion.
- Conversion has a distributive element. If left to the market alone, conversion can produce unwanted results. Through proper management, conversion can instead contribute to improvement in economic and social development.
- Conversion and security will have to be linked. The commodities and activities which are the focus of the conversion effort (military bases, armies, weapons, budgets, production facilities, weapon laboratories and so on) are the product of national and international decisions related to security.
- In order to facilitate the proper management of conversion, another element is important, namely the role of science. Large numbers of 'the best and the brightest' worked on military projects in the past. Many of them can now contribute to socio-economic development. Scientists can help make the most out of the conversion process.





Professor Essam El-Din Galal.
University of Cairo



Dr. Lutz Bähr.
United Nations

Summit . . .

“ This particular conference may be even more important than the other UN conferences because, in the final analysis, our concern with development, security, environment, and all these global issues only has relevance and importance in as far as it ultimately serves the interest of the human individual. This is the yardstick by which to measure the relevance of these efforts.

”

Resources, science and security . . .

“ Among the various aspects of conversion, three seem to be of great relevance to the topics of the World Summit for Social Development:

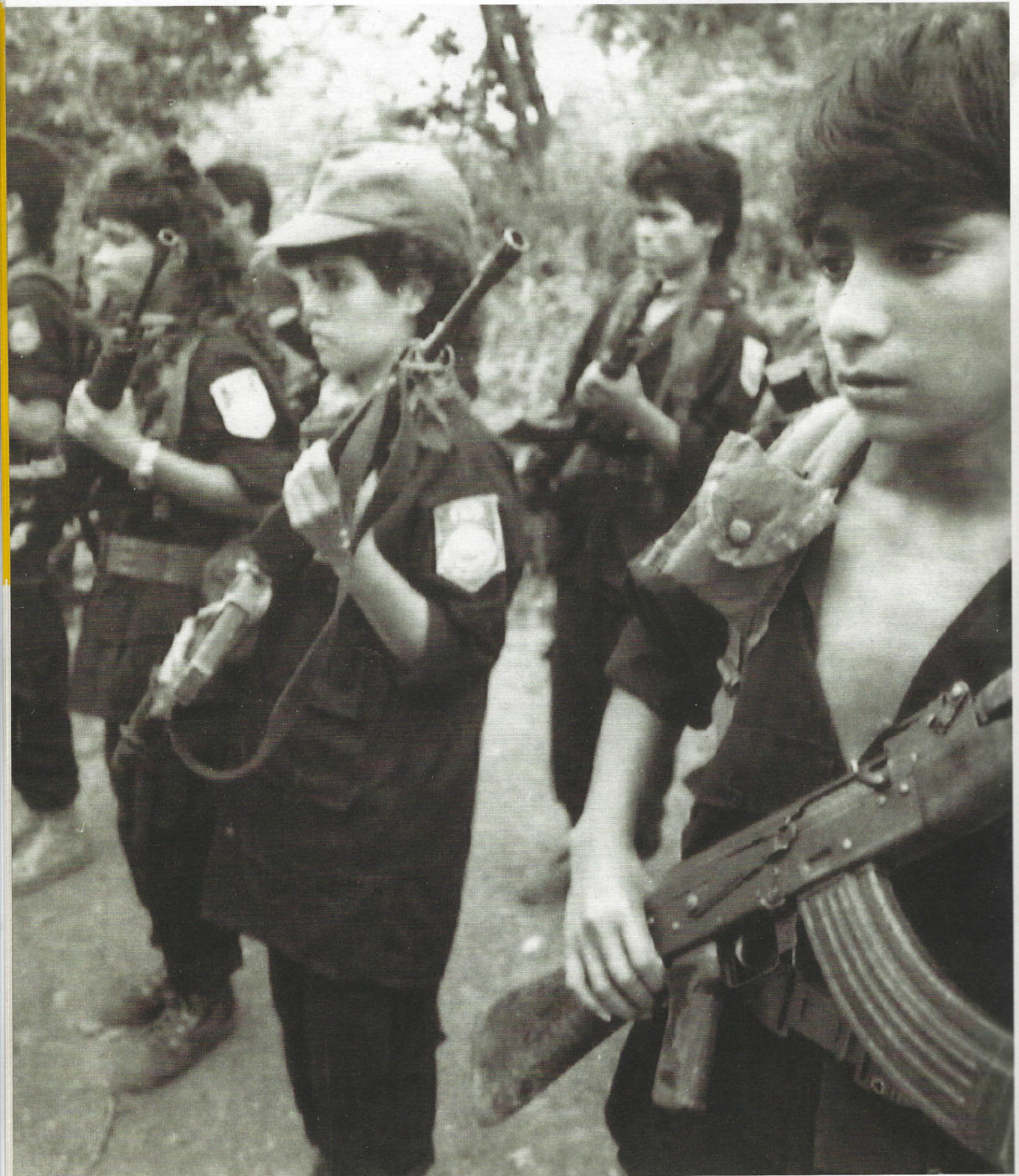
- The reallocation of financial resources from military to civilian uses. One of the greatest problems in attacking poverty is the lack of resources in the areas where they are most needed. Speakers from the developing countries have repeatedly demanded increases in the North-South transfer of financial resources. Great hopes were extended in the past for a 'peace dividend' pay-out in the event of large-scale disarmament. Little of this seems to have reached poor countries. One important aspect is the economic implication of resource reallocations, especially the potential for job creation.

- The reorientation of science for social development. The arms race has swallowed up, in addition to financial resources, a large measure of scientific expertise and creativity. With the end of the Cold War, at least some of this potential is being released and may be used toward the goals of improving the chances for social development, attacking poverty and creating jobs. There is obviously

a great need for more scientific activity for social development. The reorientation of science is largely a question of the perceptions of priorities, of a 'conversion of the mind.' Science needs to be redirected towards the true social needs through increased participation of the beneficiaries and bottom-up processes of priority setting. A greater awareness must be created for the role of science in development and conversion as a source for such an increased role.

- National and societal security aspects of conversion. Disarmament is only possible, and justifiable, when security is enhanced. For the credibility of conversion it is important to make clear that it can be an important contribution to the enhancement of security. An extension of the security concern with conversion is that of humanitarian assistance during and after times of war. If conversion can contribute to the alleviation of the suffering of victims from the use of weapons then it has an additional justification.

”



Elements of a Comprehensive Concept of Conversion

Although most countries of the world and many different sectors of the economy are affected, the debate over conversion (whether, when, and how to do it) is usually narrowly confined to conversion of the arms industry in industrialized countries. This is understandable given the major resources invested in this sector and the problems involved in reduction of arms production. Prominent among them, and directly related to the topics of the World Social Summit, is the issue of employment in the arms industry.

Employment in arms production worldwide decreased dramatically in the early 1990s—from about 16 million to not more than 11.5 million in a five year span. While the data presented are in many instances rough estimates, the general trend is well established. The loss of employment in arms production is a serious problem in only a few countries and has been most manifest in Russia. In fact, job losses in Russia alone account for more than 60 percent of the estimated global job loss in arms production. Much lower absolute job losses have occurred in the United States, Western Europe, Eastern Europe and a number of developing countries. In several countries (such as Argentina, Belgium, Brazil, Germany, Poland and Slovakia) the arms industry has made deep cuts, though compared to total industrial employment in these countries the numbers are relatively small. The consequences of job losses differ widely, depending primarily on the general capacity of the economy to create demand for civilian goods.

A larger number of countries are going through another form of disarmament, namely the reduction of the number of personnel in the armed forces. The size of global armed forces has dropped from more than 26 million in 1990 to less than 23 million in 1994. This downward trend has been most pronounced in the European NATO countries and in Russia (the upward trend for 'other European countries'

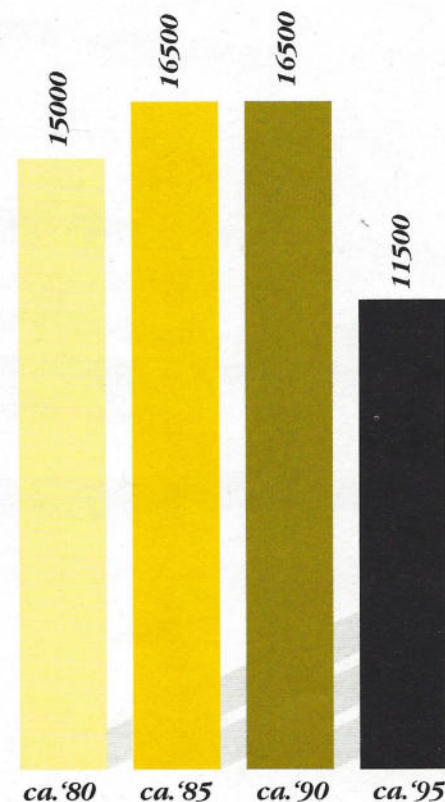
is a result of the classification of European, non-Russian CIS countries in this category from 1992). Little reduction has occurred, on the other hand, in the Middle East and Central Asia. There is a clear link between the level of conflict and demobilization. In Africa, the end of a number of wars has contributed to a decrease in the number of people under arms.¹ The consequences of demobilization differ widely and, as in the case of job losses in the arms industry, depend to a large extent on the general state of the economy. Developing countries with weak economies (such as Mozambique, Eritrea, Nicaragua, El Salvador and Cambodia) have greater difficulties in coping with the costs of demobilization and in reaping the benefits of the reintegration of soldiers into the economy than do industrialized states with large demobilization programs.

1 Due to the integration of former 'opposition forces' in national armies and the inclusion of the Eritrean army, the reductions are not fully reflected in the totals.

Employment in the arms industry

Estimates in thousands

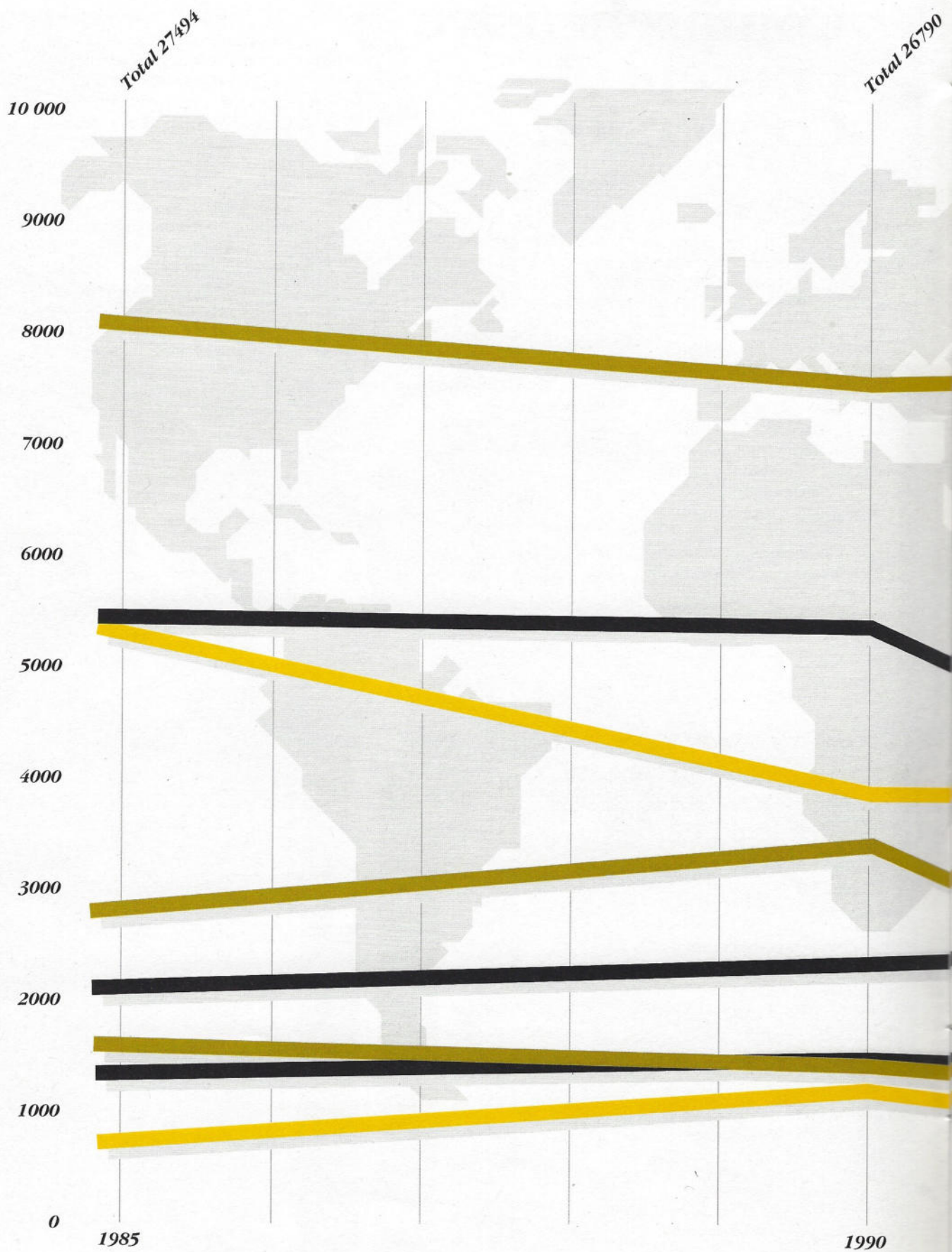
Source: BICC estimates based on, among others: Wulf 1993; Brzoska 1994; GRIP 1993; Gonchar 1994



◀ **Former combatants of the FMLN prepare to turn over their weapons to United Nations observers at a guerrilla camp north of San Salvador.**



Associated Press



Total 25542

Total 24555

Total 23477

Total 22894

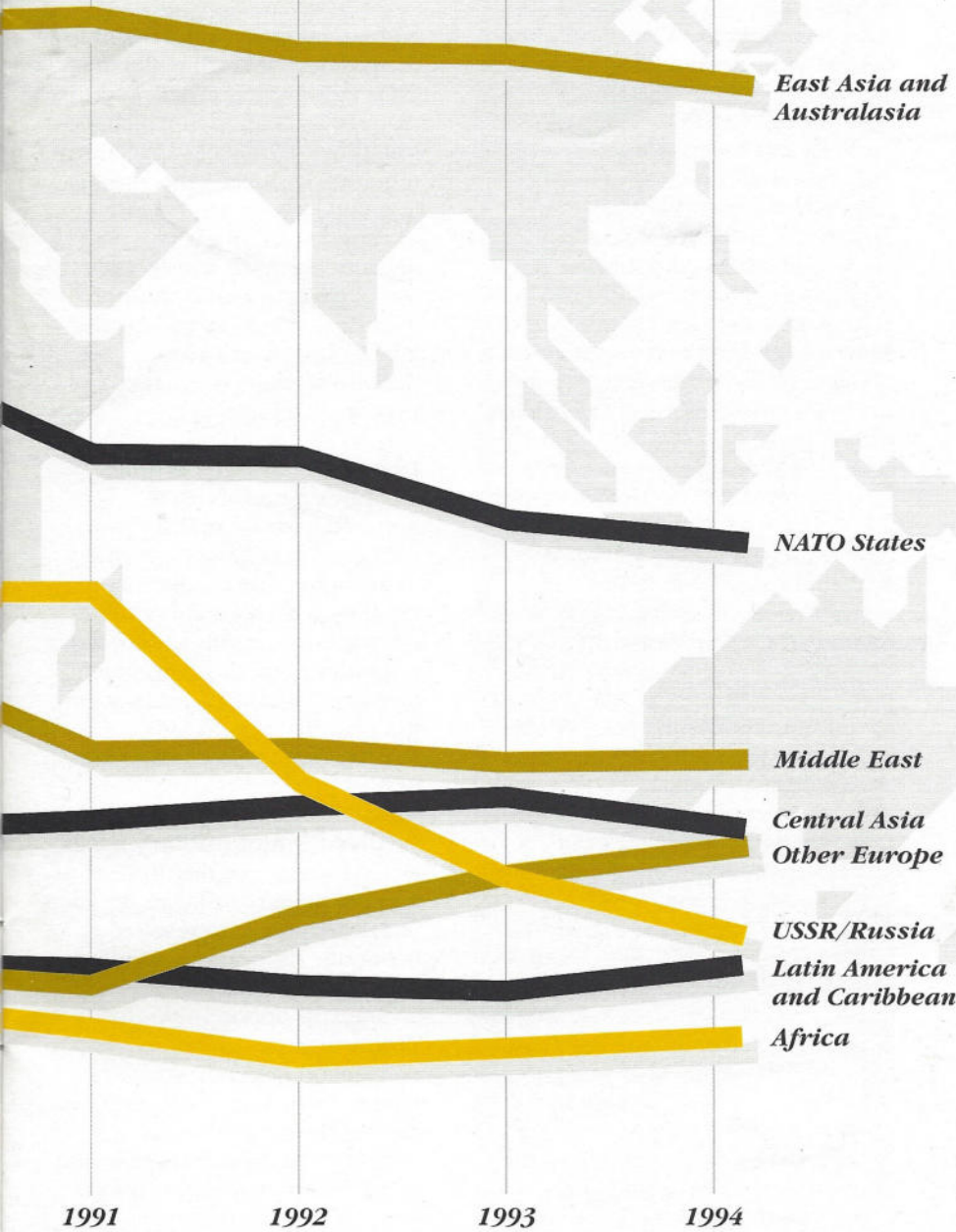
Development of armed forces, 1985–1994

Estimates in thousands

Sources: BICC estimates based on, among others: IISS, several issues

Notes: 1. Figures for 1985, 1990 and 1991 in the row "USSR/Russia," include all the regular armed forces of the former Soviet Union; for 1992, 1993 and 1994 only figures for Russia are included. The armed forces of the other newly emerged states of the former USSR are included for 1992, 1993 and 1994 in the columns "Other Europe," and "Central Asia.."

2. Paramilitary forces and opposition forces are not included; they numbered approximately 4.6 million and 0.8 million respectively in 1990, which brought the total of military personnel in 1990 to over 32 million.



demobilization



General Olusegun Obasanjo.
former Head of State of Nigeria

Demilitarization and responsibility . . .

“The Nigerian army expanded from about 15,000 to 300,000 at the end of the civil war. From 1970 to about 1976, nothing was done because the leader was afraid. But within three years, I set up a demobilization program reducing the number to about 150,000. We prepared a program for training in about half a dozen trades—carpentry, masonry, welding—simple trades they can learn within the year, where one can give them their tools and toolboxes and demobilize them. When they had acquired a skill and a tool, we paid them their entitlement for demobilization. They were in fact eager to be trained and move into the rural areas. Some of them became chiefs in their localities while others decided to remain in the urban areas.

Conversion, if handled well, can therefore serve as a means of enhancing social welfare, well-being and the totality of human security. The greatest security that developing nations, particularly in Africa, need is human security, which makes spending on state security unnecessary—especially where the so-called state security is for the personal and political protection of the political leader.

Cash-strapped developing countries would do well to embark upon demilitarization, which must lead to conversion and the diversion of resources—material and human—to the civilian sector for economic and social purposes. It is then that these countries may have the moral right to request other countries to contribute to the improvement of their living conditions and quality of life. If one does not uphold justice and equity within one's own country, demanding that justice and equity should be done to one by others may not be taken seriously.

Whether we are citizens of the world living in the North or the South, we must be seized with the social problems and responsibilities that our common humanity imposes on us. We must impress on scientists and politicians in our different societies that the social burden we now bear demands comprehensive and sustained conversion to deliver adequate resources to the social sector. We all have a responsibility, a duty and a challenge to bring about change and we cannot afford to fail in our duty.

While industrial conversion and demobilization exercises capture much of the international attention devoted to conversion, they are but part of the consequences of the shift of resources out of the military sector. The broadening of debate and practice to include all dimensions of conversion is a critical step in generating the level of attention and resources required to maximize net benefits for human development. A first step in this direction is to grasp the various forms that disarmament and demilitarization, and thus conversion, may take. A broader conversion agenda includes at least the following six processes:

- **Reallocation of financial resources.** If the process of disarmament continues, there is a substantial potential for savings.

The true ‘peace dividend’ is the opportunity to reallocate resources to productive activities.

- **Reorientation of military research and development (R&D).** Programs for the reorientation of military R&D may contribute to research in a number of different fields, including two of the major global challenges: human development and environmental management. Furthermore, science has a role in promoting, facilitating and supporting practical conversion efforts.

- **Industrial conversion.** Within the past few years, the global arms industry has rapidly reached a situation in which radical ‘down-sizing’ of capacities is required. Reduced arms production and large overcapacities are a consequence of military budget cuts. To make constructive use of excess capacity for non-military production and to offer job opportunities to redundant defense workers is a major conversion challenge.

- **Demobilization of armies.** Manpower adjustment is required both for military personnel and civilian employment in the armed forces. Short- and medium-term social instabilities are not unusual during demobilization periods. Supporting reintegration into the civilian society is a principal task in order to remove barriers to demilitarization.

- **Reallocation of military bases.** Base closures and the dismantlement of military installations are usually expected to result in economic dislocations. However, conversion of military sites offers a variety of opportunities for productive use. The success of conversion depends on many factors, especially the general state of the economy and the overall condition of the base and its surrounding neighborhood.

■ **Alternative use or scrapping of surplus weapons.** In Europe, the numbers of weapons in many categories are being reduced substantially. In other areas of the world, the end of wars or reduced levels of conflict have allowed similar steps. Different methods for managing surplus weapons are available to governments. Scrapping of surplus weapons is often costly, while export is the cheapest but most counter-productive method. Availability of surplus weapons may contribute to the aggravation of tensions and reduce the likelihood of disarmament and conversion.

All six of these dimensions of the conversion effort are related in a critical way to economic development. In the short-term, the economic dimension of conversion may be of purely local or national concern. This may be seen as states decide to reduce military activities primarily as a result of short-term budgetary constraints flowing from poor economic conditions. Such financial constraints have led to policies which do not effectively manage the drawdown. Since the shrinkage is not based on a rational security, arms control, disarmament or peace policy, but rather on a fragmentary approach to cope with economic difficulties, the possibility of improved economies may reverse the momentum towards conversion. Successful long-term disarmament requires a more stable foundation than merely a lack of funds.

As an initial conclusion, one finds a need for a comprehensive conversion approach to enable a more functional and institutional linking of socio-economic, scientific and security elements of the conversion process, especially among states and the evolving international security and economic system.

Peace-building and reintegration . . .

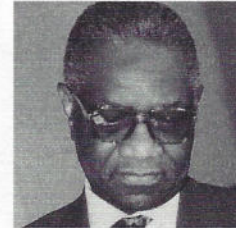
Peace-building is a matter for countries at all stages of development. For countries emerging from conflict, peace-building offers the chance to establish new institutions, social, political and judicial, that can give impetus to development. Land reform and other measures of social justice can be undertaken. Countries in transition can use peace-building measures as a chance to put their national systems on the path of sustainable development. Countries high on the scale of wealth and power must hasten the process of partial demobilization and defence conversion. Decisions made at this stage can have an immense impact on the course of their societies and the international community for future generations. . .

The reintegration of combatants is difficult, but it is critically important to stability in the post-conflict period. In many conflicts, soldiers have been recruited at a very young age. As a result, the capacity of former combatants to return to peacetime society and make a living is severely compromised, thereby undermining society's prospects for development.

Effective reintegration of combatants is also essential to the sustainability of peace. Credit and small-enterprise programs are vital if ex-combatants are to find productive employment. Basic education for re-entry into civilian society, special vocational programs, on-the-job training, and education in agricultural techniques and management skills are key to post-conflict peace-building. To a certain extent, some technical skills learned by soldiers can be important to national reconstruction.

UN Secretary-General Boutros Boutros-Gbali,

1994, An Agenda for Development, pp. 6-7.



Professor Thomas R. Odbiambo.
Director, Randforum, Nairobi

Emigration of professionals . . .

“ The major conflicts now in Africa are largely ethnic—and are increasingly made worse by religious fundamentalism in some areas. Conflicts arising from competition in the natural resource area, including water resources, may well become an important feature in the next decade. In any case, the many wars (international, sub-regional, inter-state) added to refugee problems arising from ecological and economic crises, have led to a growing volume of emigration of a large number of some of the best-trained people in Africa:

- By 1987, Africa was losing about 70,000 high-level human-power a year (mostly scientists, engineers; doctors, and other professionals) representing 30 percent of the brainpower stock of the continent.
- About 5 to 8 percent of all professional immigrants to North America have consisted of African professionals since the early 1980s.
- By the mid-1980s, some 17 percent of doctors, 30 percent of engineers, 45 percent of surveyors and 20 percent of all university academic staff had emigrated from Sudan. By 1985, some 500,000 highly trained Sudanese were living abroad.

In all this, socio-psychological and political factors played a significant part. These factors need special consideration when mounting specific conversion programs in Africa.





Benefits and Costs of Conversion

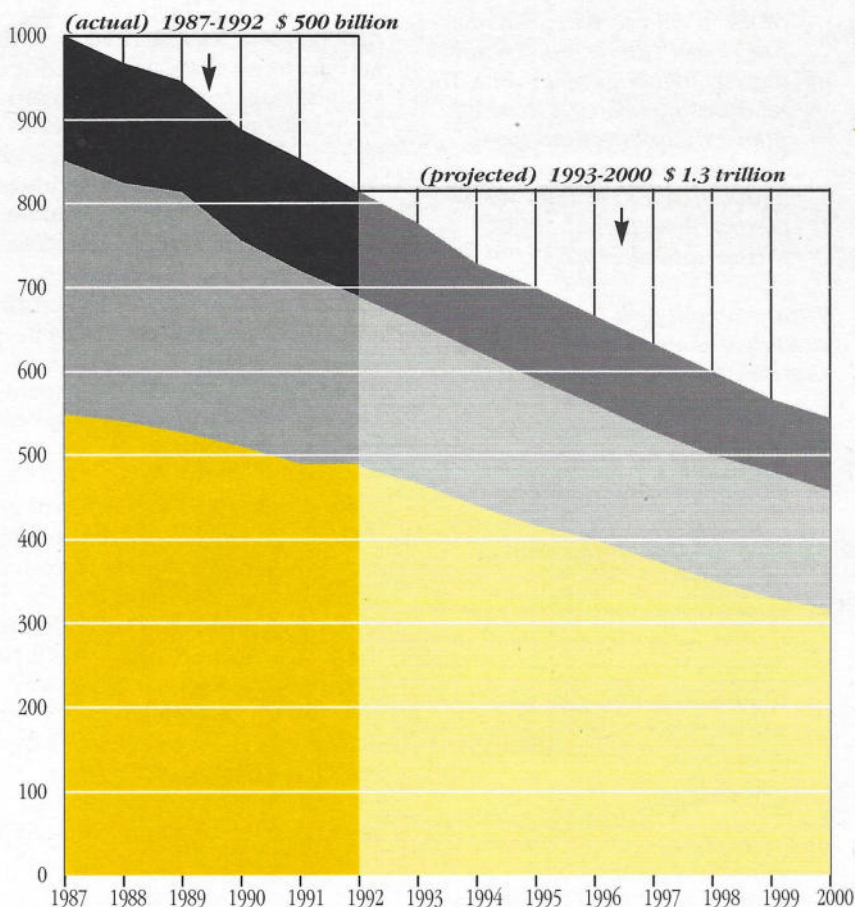
The magnitude of conversion now underway is unprecedented in modern history. Since conversion is a truly global issue, states must interact and coordinate their policies if the investment is to come to fruition. A major question is the actual extent of the benefits and costs of conversion.

In the first few years following the end of the Cold War, there were great hopes for a 'peace dividend.' Many competing claims were made for the resources freed through disarmament. An important early attempt to capture the potential of the 'peace dividend' was the estimation of worldwide savings from military expenditures (UNDP, 1992 and 1994). Using a method similar to calculations of 'rents,' actual expenditures may be compared with projections of a constant expenditure on a high level. Given the historic high of global military expenditures in 1986 as the starting point, actual savings in military expenditures of US \$500 billion for 1987-1992 may be estimated. From the much lower starting point of 1992,² an additional savings of US \$1.3 trillion for 1993 to 2000 may be projected, assuming constant trends.

There are numerous claims on the additional resources available for civilian purposes. For instance, in Germany the costs of unification—more than US \$100 billion per annum—have more than consumed decreases in military expenditures. In the United States, reductions of military expenditures are occurring at a time when the budget deficit is being attacked. In some countries, parts of the savings are illusory. For instance, the Soviet/Russian Gross Domestic Product (GDP) declined dramatically during the period 1986-1994. It would not have been possible for Russia (or the Soviet Union) to maintain its 1986 level of

2 There is a lack of accurate, recent data on military expenditures. Presentation of actual global spending is limited to the year 1992; data after 1992 are projections based on the trend 1990-1992.

◀ *Abandoned Russian military site in Nobra near Weimar, Germany.*



Military expenditure (1987-1992) and the peace dividend, actual and projected

Figures in US \$ billion
Source: Laurence et al., 1995, p.11

Developing countries
Other industrialized countries
NATO

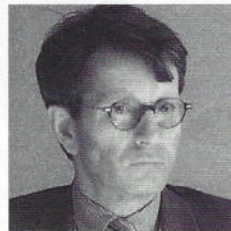


Deutsche Presse-Agentur

military expenditures for many more years. In other countries, there were similar parallel reductions in military expenditures and GDP. In addition, savings in military expenditures led to losses in income for those formerly employed in arms industries and the armed forces. A difference exists between the budgetary and the macroeconomic view of the subject. From a budgetary view, savings in military expenditures are more or less free resources that may be put to other uses—for instance, increased transfers to developing countries. From the macroeconomic point of view, savings in military expenditures must be offset by increases in other types of demand if the level of income is to remain stable (Hartley et al., 1993). Transfers to other countries therefore represent transfers of income from one country to another.

A measure of savings that partly takes this problem into account is the reduction in the 'military burden.' The military burden is defined as the share of military expenditures in GDP. The global military burden declined substantially between 1986 and 1992, the period for which data exists. Rather than 5 percent of global GDP in 1987, only 3.7 percent of global GDP was used for military purposes in 1992. An additional 1.3 percent of world GDP was available for non-military purposes in 1992. If trends in military expenditures and GDP growth continue, as they did in the years 1990–1992, by the year 2000 an additional 1.5 percent of world GDP could be spent on civilian purposes.

Potentially, longer-term benefits from disarmament and conversion are much larger than short-term benefits. This is the basic argument of classical economics since the time of Adam Smith: expenditures on the military are not productive. There is very little contribution to the future production of goods through investment into machines or people.



Dr. Herbert Wulf.
Director, BICC

Benefits and costs . . .

“ Shifting resources to civilian use can produce benefits beyond savings in military expenditures:

- There will be more investment in productive economic activities.
- Demobilized soldiers may have skills useful for the civilian economy.
- Base closures may free valuable land holdings.
- Highly qualified scientists may become available for civilian research.
- The reduction in tension may result in an increased savings rate, lower interest rates, and thereby higher growth rates. The relationship between reduced international tensions and increases in savings rates is well established for the Cold War period (Russett et al., 1994; Russett and Slembrod, 1993).

Disarmament and conversion lead to budget savings and may stimulate increases in income, but they also produce additional costs:

- Disarmament treaties, such as the Chemical Weapons Convention, require costly verification and destruction of weaponry.
- Demobilized soldiers may be eligible for early retirement or severance pay, or they may need re-training or reintegration subsidies; when most of the demobilized soldiers are old, sick or disabled (which often is the case in Africa) the public health system or the communities and families will have to take on additional burdens.

- The environmental clean-up of former military bases proves to be very costly; the cleaning up of the military bases in the United States that have been or will be closed before the end of the century is projected to cost more than US \$8 billion in the period 1990–2001.
- Arms industries and research laboratories may need government assistance for transformation and conversion; former employees may need unemployment benefits.

Some of these costs, such as assistance to arms industries in transition, are investments and are designed to result in future economic growth. Others, such as early retirement pay, are consumptive.

” The balance of costs and benefits in the various aspects of conversion may be shaped by the quality of the management of the process. Good management may increase benefits and decrease costs. The absence of such management is likely to produce sub-optimal results, as does an ignorance of market forces. Good conversion management occurs in a large number of countries—in the context of, for example, demobilization programs in some African countries, base closures in Europe, and arms industry conversion in Western Europe. Good local and regional conversion management is necessary to translate the effort into human development.

Yet, an exclusive focus on local and regional conversion management misses important aspects of conversion. One of these aspects is the role of science, which will be addressed in the next section. The other is the distributive aspect of conversion. The costs of conversion occur predominantly in those countries that had large military sectors. For instance, loss of employment in arms production is concentrated in

a few countries, as are the costs of environmental clean-up of bases and of scrapping weapons. Particularly in the short run, some countries bear high conversion costs.

The benefits from conversion, at least in the short- and medium-term, tend to accrue more than proportionally in countries that have comparatively small military sectors (Leontief and Duchin, 1983; Arora and Bayoumi, 1993). Such countries tend to have more flexibility to profit from shifts in demand for civilian products, since they generally were more competitive in civilian sectors anyway. Likewise, reductions in interest rates that may come about with decreases in military expenditures benefit mostly those companies that are best suited to expand civilian production. These are, in all likelihood, companies already engaged in civilian production. Companies highly dependent on military sales need time and money for restructuring and conversion.

These benefits are only partly offset by the increased availability of resources—for example, experienced scientists or trained workers—in countries that used to have large military sectors.

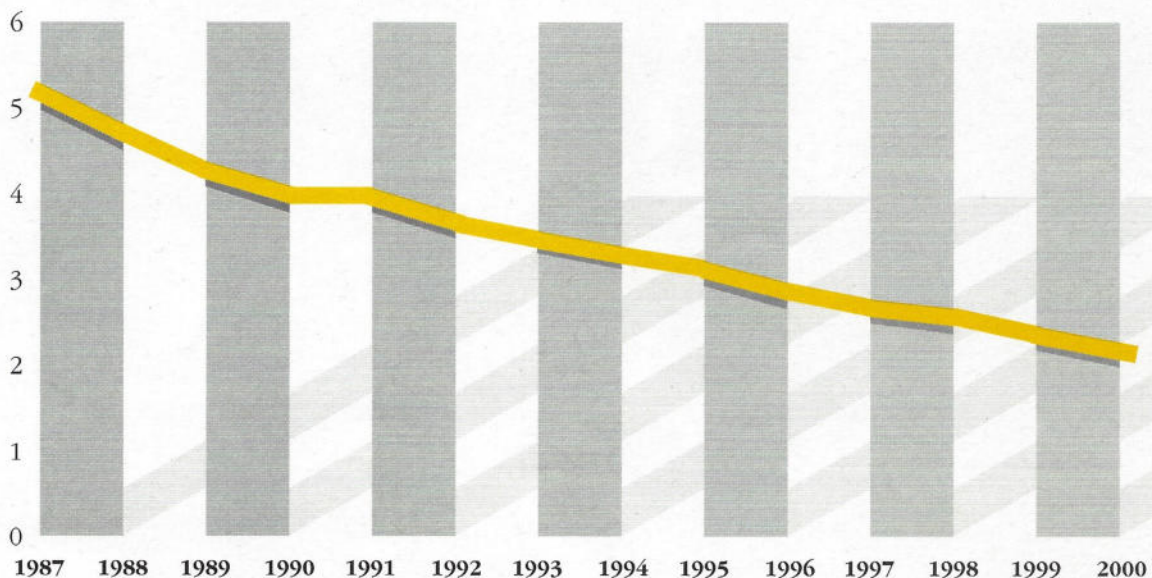
To the extent that conversion leads to an unbalanced distribution of costs and benefits, it has counterproductive consequences. If left to market forces alone, conversion has the tendency to depress economic activity in countries with large military sectors and to foster economic activity in countries with small military sectors. On the other hand, not all of the countries with high costs of conversion have difficulties in coping with these costs. Industrialized countries with growing economies and good regional conversion management have comparatively few problems, even if the scope of conversion is as demanding as it is in Germany. Nonetheless, the European Union (EU) resolved to arrange for some transfer of funds for conversion within the EU in the framework of the KONVER program, with Germany as the largest beneficiary.

The issue of distributing the gains from peace has received much attention in the past, as shown in the next section. One conclusion of this section is that such gains exist—not so much in the form of immediate savings from budgets, but rather because benefits outweigh costs in the longer-run. From this it may be inferred that there is some room for the international transfer of resources for social and economic development, but that such transfers cannot be separated from general questions of North–South resource redistribution. A second conclusion is that the benefits and costs of conversion are not equally distributed. This implies that an international resource transfer to facilitate conversion, in cases where there are high costs of conversion, is justified.

World military expenditures actual (until 1992) and projected

(% of world GDP)

Source: Laurant et al., 1995; BICC projections of GDP based on: World Bank.





Redistributing Resources through Conversion

Internationally, several claims on the 'peace dividend' exist. The resources previously used for military purposes could indeed make considerable contributions to sustainable human development in a safer world. World-wide military expenditure in 1992 stood at approximately US \$810 billion, while the flow of Official Development Assistance (ODA) from OECD countries in that year was US \$55 billion (OECD, 1994b). A meeting of leading thinkers on environmental and development issues in the Hague in November 1991 recommended that all countries, industrial and developing, commit themselves to reducing military expenditures in the 1990s by at least three percent a year (Pronk and Haq, 1992, p. 19). They suggested that a sizable part of the resulting 'peace dividend' would have to be mobilized for sustainable development. The 'Agenda 21,' adopted in Rio in 1992, constitutes a major commitment in this direction. Despite these high-level official recommendations and commitments, however, developing countries have not benefited financially from the end of the Cold War. The additional resources promised in the Rio Declaration have not yet been channeled to environmental clean-up and development activities in those countries. According to the chairman of the OECD Development Assistance Committee (DAC), "there is little evidence that ODA flows will respond to the commitment made at the Earth Summit in Rio de Janeiro

in 1992 to work towards the 0.7 percent target" (OECD, 1994b, p. 7). In fact, ODA from OECD member countries declined by 8 percent in 1993 and the trend continued in 1994. A further reduction of ODA would supplement experiences of earlier decreases in international tension, such as in the early 1970s. It would reinforce the impression that ODA was to some degree an issue of power competition.

Several mechanisms have been proposed in the past to use the resources freed by the demilitarization process for social development. As early as 1950, a UN General Assembly resolution emphasized the need to restrict the use of scarce human and economic resources for military purposes by Member States and to invest instead in the welfare of developing countries. In 1974 a report was published suggesting the reduction of the military expenditures of the permanent members of the Security Council by 10 percent in order to fund development assistance. Several such initiatives were brought forward by individuals and governments, culminating in 1978 with the French Government's proposal to the Special Session of the UN General Assembly on Disarmament to create an International Disarmament Fund for Development (United Nations, 1981; Thee, 1981; Fontanel and Guilhaudis, 1988). There was not much enthusiasm for the French proposal. A major objection was that it would only create another international bureaucracy in charge of distributing funds.

The South Commission, chaired by Julius Nyerere, former President of Tanzania, expanded on the French proposal with its proposal in 1990 to create a Peace and Development Fund. The Fund would contain a substantial amount of the resources to be released by the reduction in

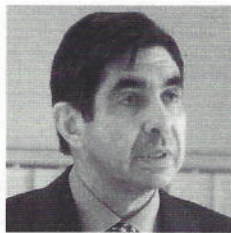
defense budgets in the industrial countries. "A significant proportion of the Fund's resources would be applied to assist developing countries meet their needs through wide-ranging programs for expanding their stock of skilled manpower through: scholarships; fellowships; the establishment and expansion of higher education facilities, including centers of excellence; on-the-job and in-firm training; and contacts between scientists and technologists and institutes of higher learning" (South Commission, 1990, pp. 265-266).

Another approach was suggested by the Brandt Commission in 1980 (Independent Commission on International Development Issues, 1980). It proposed the introduction of a tax on arms transfers. This idea was echoed in several subsequent proposals, but has not gathered much international acceptance, partially because data on arms transfers are still too unreliable. They would tend to become even less reliable if such a tax were introduced. A more fundamental argument against such a tax is that a positive correlation would then exist between the amount of finance mobilized for development and the value of weapons exported and imported. The positive aim of development would thereby be linked to the criticized transfer of arms. It makes more sense to seek agreement for parallel reductions in arms exports and limitations of military expenditures in recipient countries.

◀ *Massawa, Eritrea, January 1995.*



Hagemeyer/Transparent



Dr. Oscar Arias.
former President of Costa Rica,
Nobel Peace Prize Laureate

Demilitarization Fund . . .

“ For many years now, I have been proposing the establishment of a Global Demilitarization Fund. In brief, the idea is to create a fund with voluntary contributions resulting from reductions in military spending that will allow the world to take advantage of the peace dividend. This fund could stimulate the current decline in military spending by linking the reduction in military expenditure to the consolidation of world peace. The nations of the world, both rich and poor, should commit themselves to at least 3 percent per annum reductions in their military spending levels over the next five years. The rich nations should then agree to earmark at least one-fifth of these savings toward a demilitarization fund, which is under international jurisdiction. Developing countries

should also agree to contribute a fraction—perhaps one-tenth—of these savings toward such a fund. In this manner, a portion of the peace dividend would be committed to promoting global demilitarization. By demilitarizing, we empower our people's minds and potential instead of training them to pull a trigger or lay a mine. We free resources to address the problems of poverty and want. We can contribute to the collective defense of human security by promoting this Fund in the following ways:

- First, we should demand that arms sales and military aid be reduced. When wealthy nations sell or give arms to poorer ones, they perpetuate an outdated Cold War mentality based on global military competition. I believe that the chief cause of most of today's military threats is the industrialized nations' insistence on supplying the vast majority of the developing world's arms.
- Second, we should advocate the forgiveness of the bilateral debt of those developing countries that have demonstrated substantial progress in democratization, respect for human rights, and the reduction of military expenditure. No developing country should be asked to spend more than 3 percent of its GNP, or 10 percent of its export earnings, on debt service. This treatment should be linked to direct reinvestment in effective efforts for environmental conservation and projects contributing to human needs, such as health, education, and low-cost housing.

■ Finally, we must review our concept of collective security. As a citizen of a small and unarmed nation, I understand how small, demilitarized nations will depend upon collective security. However, we must look at our systems from a new perspective, one which sees international peace and security as the defense of human dignity in addition to the security of nations and borders. We must attempt to bring all nations into the fold of collective security, regardless of the number of soldiers they can contribute. Their defense of a righteous cause will serve as a signal of hope and unity to our global neighborhood.

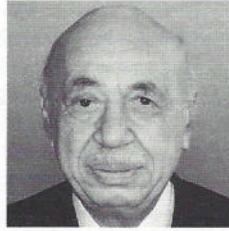
”

For several years, Oscar Arias, Nobel Peace Prize Laureate and former President of Costa Rica, has been proposing the establishment of a Global Demilitarization Fund (UNDP, 1994, p. 59). The proposed fund is to reward primarily, but not exclusively, the demilitarization efforts of developing countries, and could further stimulate the current reduction in military expenditure by linking it to the consolidation of world peace. In a special section of UNDP's 1994 Human Development Report, Oscar Arias proposed that leaders gathered at the World Social Summit should decide on the management of this Global Demilitarization Fund; a decision, however, was not made by the heads of state at the meeting in Copenhagen. The designated institution should have sufficient capacity and authority to administer the funds justly and efficiently. The proposal does not specify where the resources would be used and how the allocation would have to take place. Using 1994 as the base year, the Arias proposal would yield about US \$85 billion during the period 1995–2000, an average of about US \$14 billion per year (UNDP, 1994).

The Arias proposal has been further developed by Michael Renner in a recent paper of the Worldwatch Institute (Renner, 1994). Renner sees the fund as serving three purposes: 1) assisting countries which lack adequate resources for coping with the legacies of war; 2) financing the destruction of weapons and economic conversion; and 3) building an effective, alternative global peace system.

The Commission on Global Governance also expanded upon the Arias proposal. It argued that "to provide positive incentives for reductions in military spending, a Demilitarization Fund should be established to provide assistance to developing countries in reducing their military commitments" (Commission on Global Governance, 1995, p. 126).

According to the Commission, such a Fund should focus its financing on defense conversion activities in developing countries, which mainly implies the disarmament and demobilization of armed forces.



Professor Essam El-Din Galal.
University of Cairo

Away from financial approach . . .

“The proposed valuation on current conversion proposals should shift away from the financial fund approach, moving from the already-liberated resources of implemented disarmament and conversion to partial or transient redundancies. Instead of penalizing conversion, we aim at encouraging it by solving constructively the problems of redundancies and unemployment and ensuring the most appropriate and efficient way of utilizing the resources, which is not always assured by the traditional methods of financial bilateral aid and fund management. Also important are entrenching the practice of cooperation and common responsibility both in design and implementation, establishing mutual mechanisms to identify social priorities, targeting the most needy, and putting all concerned in touch with the realities of social menaces—to the greatest degree accommodating the budgetary and financial constraints of the donor by shifting from scarce financial resources to the less challenging area of assistance in redundant kind.



Obviously, proposals to redirect the gains from peace have attracted interest from a wide range of individuals and institutions. Our short review indicates a gradual shift in the preferred resource allocation from broad development and environmental rehabilitation purposes to the more narrow issues of conflict resolution, peace-keeping, demobilization, demilitarization and post-war rehabilitation—all related to conversion. This shift concurs with this paper's earlier argument for transfers of funds to facilitate conversion in countries which lack the resources to make the investments necessary for reaping the potential benefits from conversion. However, as was argued earlier, there is also room for transfers of funds for larger socio-economic goals.

Despite their initial attention, none of the ideas for the institutionalized transfer of resources has made much headway. A number of conceptual and practical issues have not yet been addressed convincingly:

- **Link to the reduction in military expenditure in the contributing countries.** Most proposals foresee contributions as a fixed share of defense cuts, but automatic and mandatory contributions are very difficult to negotiate. Also, there is the question of how countries with very low GDP per capita should be treated. They will probably be recipients of fund allocations. Countries with simultaneous decreases in GDP, such as Russia, would have little capacity to contribute to a fund. Finally, such a mechanism might even work as a disincentive to disarm. "The endeavor might come to be regarded as a 'tax' on disarming, when the activity that should be 'taxed' is arming" (Renner, 1994, p. 53).

Mandatory contributions would also require considerable improvements in the transparency and reliability of military expenditure data. An alternative would be to make contributions voluntary. But what would then be the difference from existing types of development assistance? Ultimately, the question is one of North-South resource transfers in general, and brings us back to the debates on the 0.7 percent commitments for ODA. It may make the most sense to leave the discussion in that framework. The scope for increases in resource transfers is obvious when more civilian GDP is available—both because of the decrease in the share of military expenditures in GDP and because of more productive use of resources and thus growth of GDP. The argument that countries with small military sectors may benefit most from disarmament and conversion in the short term adds additional caution to linking contributions to a fund too closely to reductions in military expenditures.

■ **Scope of the activities funded by the mechanism.** The many issues on the table at the Social Summit demonstrated the need for additional development assistance, as well as the need for improvements in its management. Funding conversion efforts in developing countries, whether they be demobilization, industrial conversion or scrapping of weapons, has an increasing level of attraction for donor countries. What should be the balance between these activities?

The scope of the activities to be financed would obviously depend on the size of the fund. If the fund was relatively small, funding of the disarmament, demobilization and reintegration of ex-combatants could be the first priority, serving several objectives at the same time. If these exercises are managed well, they would free up financial and human resources for more productive activities and would improve human security. Other early priorities could be de-mining and other efforts to eliminate or control small arms and other weapons. This might include assistance in funding international arms control institutions, such as the Organization for the Prohibition of Chemical Weapons (OPCW) in the Hague. Additional funds might be used for further measures, such as activities on conflict resolution, war prevention and peace-keeping.

Care must be taken to avoid the impression that military- and war-related activities are privileged over civilian problems—for instance, spending on post-war reconstruction over humanitarian relief and development activities in poor countries without a legacy of armed conflict. This leads to the larger issue that

measures related to conversion must be integrated into broader development and environmental rehabilitation programs. In the end, all conversion problems become development problems, but it may make sense to concentrate on conversion problems as an initial step within the scope of a limited fund.

■ **Criteria for allocation of the funds.** If the funds are to be used for activities at the national level, principles for allocation will have to be decided. Foremost would be the criteria for need. Poorer countries which lack the resources to support development efforts would be entitled to receive more per inhabitant than richer countries. Criteria would also be required to have the transfer function as an incentive for further cuts in military expenditure. Of course, genuine security interests of countries should not be denied. The establishment of criteria for allocation of resources will face the dilemma that countries with the largest conversion challenges at this moment are in the former Soviet Union and Eastern Europe. In these countries, the largest number of people are affected by conversion and the issues play a considerable role in general economic policy. However, that does not automatically imply that these countries will receive the most extensive support. In poorer, developing countries the conversion issues are often smaller, relative to the overall development challenge, but governments of these developing countries have less resources with which to address them.

Institutional framework in which the resource flow will be managed.

A major obstacle to earlier proposals has been the fear that donors will set up an additional bureaucracy. However, it should not be assumed that such a funding mechanism necessarily requires a separate institution to manage the resource transfers. If substantial financial resources became available for human development in developing countries, the countries generating these resources might well decide themselves about the way they would like to channel these resources. This could occur through the UN development agencies, the International Development Association (IDA) of the World Bank, their own bilateral programs or NGOs. Most of these organizations already have considerable experience in the support of activities aimed at human development and security. Some have already begun to support the demobilization and reintegration of ex-combatants. Of course, there is a significant need to improve the responsiveness and efficiency of many of these organizations. The allocation of the resources should then be handled through improved coordination, based upon agreed national allocations.

If the focus is on narrower conversion activities—peacekeeping and non-violent conflict resolution—a strengthening of international institutions dealing with these issues might be required. Yet again, with improvements in communication and coordination much could be achieved. The establishment of one or a few institutions to which governments, NGOs or private enterprises in developing countries could turn if they require assistance in the field of conversion may foster such efforts. A modest beginning has been made by the Bonn International Center for Conversion (BICC), which has been established as a clearinghouse of information on conversion issues.

One conclusion in this section is that, while there are many valid conceptual and practical objections to a fund for demilitarization, conversion, peace, or whatever it might be called, it is basically a good idea. This is true for both the donor and the recipient side. At a minimum, the fund will keep up the moral pressure on rich countries to commit at least a portion of the benefits from conversion to developing countries. In recipient countries, it highlights needs that are not sufficiently addressed by current ODA policies. A second conclusion is that such a fund is more likely to come about if it is voluntary, does not create much bureaucracy and is clearly linked to demilitarization and conversion in developing countries. Arguments in favor of demilitarization and conversion are not intended to belittle the security problems that exist in many parts of the world. Resources previously spent on security will most often still have to be spent on security; nevertheless, these expenditures should be increasingly directed toward conflict prevention and peace-building, rather than toward the means of

settling conflict violently. Upstream prevention of conflicts requires less resources than dealing with them once they have become violent, and a general reduction in the means for violent conflict resolution increases the security of all.

Finally, the above discussion should not detract from the fact that using the gains from peace for social development implies much more than simply channeling funds through some central mechanism to development projects. First of all, peace as such tremendously increases the way people can develop and express themselves. Second, confidence in stability is a key condition for investment and employment creation. Third, all resources saved from the military budget, even if not explicitly transferred to social purposes or to other (poorer) countries, are more productively used than before.



Reorientation of Science for Social Development

Science and technology were an integral part of the arms race during the Cold War period. They were both an engine for new weapon developments, such as new generation nuclear warheads and laser technology, as well as an instrument in the hand of strategists requiring additional capabilities (Long and Reppy, 1980; Gleditsch and Njølstad, 1990). The end of the Cold War has not halted efforts in the laboratories to develop new weapons. Internationally agreed limits on military R&D currently exist only for biological and chemical weapons, and in the non-nuclear states that have ratified the Nuclear Non-Proliferation Treaty.

During the Cold War, OECD countries and the Soviet Union together conducted the bulk of military R&D, or about 95–98 percent of global military R&D (Brzoska and Lock, 1988). Unfortunately, little data are available on recent trends in military R&D—even less than on other military activities. The best data are available for OECD countries. Their expenditure on military R&D declined, but military R&D as share of total government-sponsored R&D remained at high levels in a number of countries, such as the United States, the United Kingdom and Spain. R&D spending has been more resilient than other types of military activity, at least in a number of major Western industrialized countries.

Regarding the number of scientists and engineers working in military R&D, even less firm data are available than on expenditure. A conservative estimate at the end of the Cold War put the number at 1.5 million. Other estimates were considerably higher (Thee, 1990). New data

that have become available on the Soviet Union suggest that in that country alone more than 1 million persons worked in military R&D in the late 1980s (OECD, 1994a, pp. 62–63). This number includes persons with a wide range of qualifications.



Dr. Vladimir Kryuchenkov.
Acting Director, International
Science and Technology Center,
Moscow

The International Science and Technology Center . . .

“The International Science and Technology Center (ISTC) is an intergovernmental organization by international agreement. It develops, approves, finances, and monitors science and technology projects. The initial parties to the agreement were the European Union, Japan, the Russian Federation, and the United States. Recently, Finland, Sweden, and the Republic of Georgia acceded to the agreement. The Center has three administrative bodies:

- The Governing Board, consisting of representatives of the initial Parties
- The international Scientific Advisory Committee (SAC)
- The Secretariat, located in Moscow, which includes the Executive Director and three Deputy Directors

The main objectives of the ISTC are:

- To provide weapons scientists and engineers in Russia and other interested states of the CIS opportunities to redirect their talents to peaceful activities
- To contribute thereby to the transition to market-based economies responsive to civil needs
- To support basic and applied research and technology development for peaceful purposes
- To promote the integration of scientists and engineers from Russia and other CIS states into the international scientific and engineering communities

To help achieve these objectives the Center assists in matching former weapons scientists and engineers from Russia and other CIS states with foreign colleagues who have similar interests in research and development for peaceful purposes.

The total number of projects approved since the opening of the Center in March 1994 is 55, representing a total contribution of approximately US \$31 million. The smallest project is worth US \$37,000 and the largest US \$3.1 million. The projects will sponsor more than 3,500 scientists and engineers for periods of up to three years. Projects have been approved in such fields as nuclear reactor safety, radioactive waste management, medicine, and laser technology. Several projects could provide direct support to developing technologies related to international efforts in verification of nuclear test ban treaties, destruction of weapons of mass destruction, and environmental monitoring.

OECD and CIS countries remain by far the largest spenders on military R&D. Nonetheless, there have been large reductions in CIS countries, the most pronounced in Russia. According to official statistics, the

◀ **Drawdown of US armored cavalry regiment from Fulda, Germany.**

share of R&D in total military expenditures (which also decreased substantially) dropped from almost 20 percent in 1989 to just above 10 percent in 1992 (OECD, 1994a, p. 63). Because of the deep economic and fiscal crisis in Russia, civilian R&D was reduced at a similar pace. The share of military R&D in total R&D therefore seems to have remained at about 70 percent (OECD, 1994a, p. 62–63, 165). Because of the lack of opportunities to move out of military R&D into civilian research, many Russian scientists, despite poor incomes, remain in military R&D establishments. Thus, the decline in official employment figures has not been as pronounced as would be expected from data on R&D spending, or as it has been in military production in Russia (Gonchar, 1994).

In some OECD countries, smaller decreases in military R&D spending have been accompanied by simultaneous declines in the share of military R&D in total R&D spending. Even in these countries, however,

scientists have not always found appropriate employment in civilian R&D or industry. To some extent, this is a repercussion of the specificity of military R&D. Military R&D tends to be highly secretive, leading to compartmentalization of the know-how and capabilities of scientists and engineers. In the past, military R&D was often generously funded with little regard to cost, and inventions and products in the military sector are judged by their performances rather than their performances in relation to costs. Thus, cost consciousness is often not well developed. Military R&D is concentrated around a number of high technologies that are not always useful for civilian purposes. For instance, 'hardening' of computers against nuclear-explosion-induced Electro-Magnetic Pulse (EMP) through the use of special chips has never been a concern in civilian industry. Civilian aircraft do not need to be 'stealthy,' now a major military capability, but fuel-efficient, a lesser criterion for military planners.



Professor Thomas R. Odiambo.
Director, Randforum, Nairobi

Role of scientists . . .

“ The science and technology community has a major responsibility for a culture of peace—including the prevention of war—as do other communities in the society. They have a special responsibility in their own professional field of contributing to the management of conversion. In bringing this special responsibility to a successful realization, one needs to remember that scientists work best when a goal is clearly set for them by the society or the geo-political leadership—a goal which is intriguing

Military research and development expenditures, selected countries

Percentage share in total government budget appropriations or outlays on research and development.

Source: OECD database on research and development

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
France	33%	33%	34%	36%	37%	37%	40%	36%	35%	34%	n.a.
Germany	10%	12%	12%	13%	12%	13%	13%	11%	10%	8%	n.a.
Italy	8%	10%	9%	7%	10%	10%	6%	8%	7%	6%	n.a.
Japan	n.a.	n.a.	n.a.	n.a.	5%	5%	5%	6%	6%	6%	n.a.
Netherlands	3%	3%	3%	2%	3%	3%	3%	4%	4%	4%	3%
Norway	10%	10%	7%	8%	8%	7%	6%	6%	5%	5%	n.a.
Portugal	n.a.	n.a.	0%	0%	0%	0%	0%	0%	0%	0%	n.a.
Spain	7%	7%	6%	9%	13%	19%	18%	17%	15%	13%	11%
Sweden	22%	24%	26%	27%	24%	25%	24%	27%	24%	n.a.	n.a.
Switzerland	n.a.	n.a.	17%	n.a.	21%	19%	20%	19%	n.a.	n.a.	n.a.
UK	48%	49%	47%	45%	43%	44%	43%	45%	43%	45%	n.a.
USA	66%	68%	69%	69%	68%	65%	63%	60%	59%	59%	59%

and challenging to their intellectual and scientific curiosity. Military conversion will only succeed on a continuing basis where there is a combination of an R&D challenge and a concurrent entrepreneurial linkage in the economic and management field.

The scientific and engineering aspects are important elements of the conversion program—that of conversion of military equipment and facilities for industrial or civilian uses. The most difficult part, where there are few successful models, is the integration—in a useful and productive way—of military personnel that have been demobilized into civil society. The necessary education of the society regarding its responsibilities to the newly demobilized personnel is great, expensive and long term. The necessary re-training and re-tooling of the newly demobilized staff must be designed intelligently, and creating jobs for this new cohort will require imagination. Self-employment is one of these avenues. Demobilization can add to the strains in the job market, where unemployment and under-employment are already rampant.

”

The specificity of military R&D is not only a problem for many individual scientists who try to find employment in civilian research, but also a more general phenomenon with economic consequences. It has reduced the applicability of inventions in the military sector to civilian purposes, which is often called 'spin-off' from military R&D. Recent micro- and macro-economic studies have demonstrated that such spin-off is limited. On the other hand 'spin-on,' or the use of technology first developed for civilian applications—such as personal computers or new types of diesel engines—for military purposes, has become increasingly common (United Kingdom, 1991; Alic et al., 1992; Gummett and Reppy, 1987). Despite characteristics that make

military R&D specific, there can be no doubt that substantial human capital exists in the military sector and that much know-how becomes available with reductions in military R&D. Scientists have received an education that rarely is specifically oriented towards military needs, and they have continued to absorb information and knowledge. Teams have developed productive divisions of labor. Laboratories have been equipped with advanced installations.



Minister Anke Brunn.
Minister for Higher Education and Research, Government of North Rhine-Westphalia, Germany

Reorientation of R&D...

“ Obviously, there needs to be a determination of which of the types of technology that come out of the redirection of military R&D are useful for civilian purposes. The market is a powerful instrument in making these selections in the interests of the users and consumers of such technologies. However, markets are not sufficient in making the selection:

- In cases where there is no sufficient effective demand, for instance in poor countries or for the needs of socially underprivileged groups
- In cases of future needs that are not related to current effective demand
- In cases of markets that are deemed inappropriate, such as the market for nuclear weapons

The market approach must be complemented with selection based on other, societal criteria, such as

international security (in the case of nuclear proliferation), social needs and future possibilities. Scientists are often called upon to contribute to the formulation of such criteria and to assist in the selection of technology that must be made by societies, especially when it comes to future needs and possibilities. Conversion provides an additional opportunity for scientists to exercise that role. Scientists can contribute to the formulation of conversion policies, the identification of areas where research would have major impact and the specification of how resources released from military R&D can best contribute to the attainment of the established goals.

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Of course, scientists are also important in the conduct of conversion. Some, such as environmental experts, industrial engineers and economists, are already engaged in practical conversion work. A larger contribution from science, including social science and management science, would improve the efficiency of practical work.

The voice and support of the scientific community would also be useful on the larger issues of conversion, such as the abovementioned transfer of financial benefits to where they are needed or the most appropriate use of accumulated know-how released from military R&D. They may contribute to the improvement of a comprehensive concept of conversion and advise on the feasibility of operational strategies. Of course, it is not just a question of the scientists getting their act together, but also a challenge for scientists to initiate a dialogue with all other possible stakeholders. In earlier times, scientists were well-respected advisors on military strategy and the development of new weapons. Now they are in the position to contribute to conversion and social development through creative thinking, open dialogue with all segments of society, and international exchange.



Security Aspects of Conversion

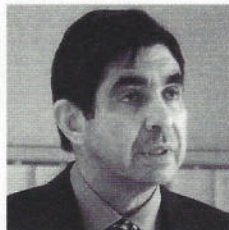
In a comprehensive concept of conversion, and in order to assess the impact and potential of conversion for social development, conversion must be seen in its relation to security. The importance of the link to security may be illustrated by the following practical examples:

- If demobilized soldiers are not reintegrated into society, they might retrieve their guns at home or abroad.
- If weapons become 'surplus' after a peace treaty has been signed between warring parties, they need to be dismantled or at least controlled in order to prevent their transfer into ongoing conflicts in the region or elsewhere.
- Control over nuclear weapons made redundant by arms control agreements becomes an important security issue.
- Arms exports are seen by interested groups as a remedy to oversized arms production facilities and a safety net against job losses.
- Unemployed nuclear scientists may well facilitate nuclear proliferation.
- Under-utilized weapon laboratories and design bureaus tend to intensify lobbying for weapon modernization, thus fueling an arms race.

All these examples represent conversion challenges. The international security element in these and many other cases is important because increases in interstate tension—real or perceived—may reverse the process of down-sizing of military activities. In the short- and medium-term, conversion takes

place within national boundaries, based on private enterprises and local, regional or national governments acting in their own interests. In the longer run, however, conversion is tied to the perception of threats to national security. Security considerations should therefore be integrated into the conversion effort.

One good example of a concerted effort to link conversion and security would be a parallel decrease in arms exports and military expenditures by recipient countries. Resources that are now used for military purposes could be freed without fear of reductions in military security. Instead, the security of all would increase. An arms-exporting country cutting sales would not be punished through increases in arms exports of other countries. All could benefit from increased demand for and sale of civilian goods. The spiral of escalation that is now often set in motion through the export of arms could be broken. Currently, limiting the export of weapons made surplus through disarmament is particularly important. If this is not done, these fruits of disarmament may become the seeds of new arms races elsewhere.



Dr. Oscar Arias,
former President of Costa Rica,
Nobel Peace Prize Laureate

Arms Register . . .

“An institution that must be strengthened is the United Nations Register of Conventional Arms. This Register has suffered from an unfortunate lack of commitment. Currently, almost 60 percent of

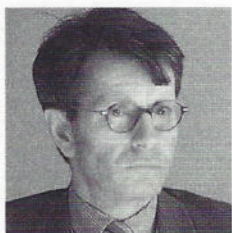
arms importers are not participating in the Register. Reports of arms exports and imports are inconsistent, indicating less-than-accurate reporting on the part of some nations. The Register's structure must also be improved. A clear definition of an arms transfer must be offered, local production and procurement should be included in the Register, and certain categories of arms that have previously been ignored—such as small arms and ground-to-air-missiles—must be taken into account in the reporting of arms transfers. The Arms Register should also indicate the cost of arms transfers, as well as the number of arms transferred.

The Arms Register was initially created to monitor arms transfers. Today, this function should be expanded to establish transparency in military holdings, as well. Sources of conflict such as arms races will only cease when the size of each nation's arsenal and arms transfers are made public.

The establishment of the Arms Register was a first step in establishing transparency in arms transfers. We must now take the next step. We must advocate an international convention on the curtailment of the arms trade. This convention will ensure that signatory nations accurately report their arms transfers . . .

The Social Summit presents us with the opportunity to institute worldwide policies of conversion. We cannot afford to allow this opportunity to pass. I urge you to continue to support the concepts of conversion and demilitarization, but also to think creatively and design new policies that will promote a true and lasting peace in our world. We have at our disposal the resources and the intellect to rectify our mistakes, achieve our goals, and craft a better world for our posterity. Let us do so. Let ours be the first generation to surpass the sirens of war, poverty, and pain, and to reach the continent of peace and prosperity.

◀ **Collecting explosives for destruction (United Kingdom).**



Dr. Herbert Wulf.
Director, BICC

Slow change . . .

“The principal reason for the continued high level of military spending and the hesitant emergence of the conversion process is the slowness of reform in security policies in most countries and military alliances. Despite the changes in the world political climate which call for new structures and mechanisms for peace and security, few have yet been realized. Three factors have contributed to this slow pace of change:

- **Parochial interests.** *The armed forces are slow in adjusting for fear of loss of privileges. In addition, there is the economic self-interest within the arms industry and the weapon laboratories.*
- **Maintaining defense capabilities.** *Two types of genuine security consideration play an important role in maintaining existing military capabilities. First, the emergence of new conflicts (particularly ethnic and territorial conflicts in Europe, but also the experience of the Gulf War) have led to the formulation of new threat perceptions, and UN peace-keeping operations also require military capabilities. Second, there is concern in some of the major arms-producing countries that reduced arms development and production will lead to a loss of what is considered to be an essential 'defense industrial base.'*

Continued confusion and inertia in security policy.

Although many governments have begun to rethink their security policy, this process has had only a limited effect on force structures and procurement planning. To do a little less of the same is the overriding principle of governments' policies.



Conversion processes would clearly benefit from increased clarity of the concept of security. Security and conversion can reinforce each other. The relationship between conversion and security may be seen in two ways:

- Improved security and security perceptions enable more disarmament, which in turn allows conversion to make these resources available for civilian activities.
- Conversion, if managed well, channels resources to productive activities, leading to increased employment and social justice and decreasing social tension. Scrapping or controlling 'surplus weapons' increases the security situation directly by preventing their eventual disposition into the wrong hands.

This report will not discuss the development of different concepts of security, but will illustrate that clear shifts have taken place over the past decade or so in how security should be perceived and defined. In broad terms, there has been a shift from the security of states ensured by military means to the security of people through prevention of conflicts and other threats. This shift is largely the result of the end of the East-West conflict, changes in economic and military power balances, increased environmental awareness, and—last but not least—an increasing recognition that people should be the ultimate beneficiaries of security and development policies.

Traditionally, the concept of security has dealt with the protection of sovereign states (national security) and their people against external attacks. This concept has a strong emphasis on protecting the state by military means (military security). More recently, the concepts of common security and collective security have been developed and used. The term common security was used in the report of the Palme Commission (Independent Commission on Disarmament and Security Issues, 1982). At the time—during the heyday of the Cold War—NATO and the Warsaw Pact threatened each other's populations with 'mutually assured destruction.' The Commission emphasized that security cannot be achieved against an adversary, but only together with him. In retrospect, however, the concept was developed mainly to address the large threats in a bipolar world.

In a collective security system, governments of all states accept that the security of one state is the concern of all, and they agree to join in a collective response to aggression or coercion to gain advantage. The UN Charter aims to establish a system based on this concept. If peaceful means fail to adequately address a threat to the peace, breach of the peace or act of aggression, the UN Security Council is allowed to authorize other means in accordance with Chapter VII of the UN Charter. The 'Agenda for Peace' presented by the Secretary-General in 1992 was an effort to map out paths towards a collective security system (Boutros-Ghali, 1992). A true system of collective security would have a major impact on conversion, since it would allow for considerable disarmament (Laurance and Wulf, 1995). Nevertheless, political and security developments over the past five years show that basing current conversion policies on a blueprint of collective security might not be useful (Roberts, 1993).

A more recently developed concept is that of cooperative security. The major objective of cooperative security is to move from a security system based on deterrence to one based on reassurance. It emphasizes the process required to change the present military-based security concept. The concept has several phases in which confidence-building and risk reduction proceed along with disarmament and restructuring of defense capabilities (Forsberg, 1992). Cooperation, transparency, gradual disarmament, industrial conversion, demobilization, demilitarization, even humanitarian intervention—all these processes are part of cooperative security. It takes current anxieties seriously, allows for a gradual process of reform, enables changes to and a decrease of military activities, and envisions a world in which military force no longer plays a dominant role.

Over the past decade an increasing number of arguments to include environmental security in the concept have been proposed. The Brundtland Commission noted in 1987 that “the whole notion of security as traditionally understood—in terms of political and military threats to national sovereignty—must be expanded to include the growing impacts of environmental stress—locally, nationally, regionally and globally” (World Commission on Environment and Development, 1987, p. 19). It has been argued that national security should be redefined in order to include all the threats that come from environmental changes such as increasing population pressure, depletion of non-renewable resources, genetic erosion, soil degradation and climate change (Mathews, 1989). Environmental degradation is already proving to be an important factor in the development of several conflicts around the world.



General Olusegun Obasanjo.
former Head of State of Nigeria

Human security . . .

“The point has been made that demilitarization without conversion could amount to a waste of resources and a source of insecurity to citizens through an increase in the crime rate. We have seen this in a number of places where demobilization has taken place without proper conversion, especially the conversion of people into gainful employment. We have already heard that conversion involves industrial conversion and the reallocation of finances. The issue I want to dwell on more comprehensively is that of security.

In military terms, conversion must enhance state security before it can be seen as credible and acceptable. In other words, if conversion does not emanate from or lead to confidence-building, greater harmony and the elimination of fear and threats between states, then it will not serve the cause of state security and will be an illusion. The security of a state will not be enhanced at the expense of an adversary or competitor. Conversion, to endure and serve the cause of state security, must lead to common, cooperative or collective security. We knew in the Cold War era of leap-frogging—you have one gun, I have two; then I have three, you have four; then I have five, you have six. We had fear, we had intimidation, but we never had peace, in the real sense of the word, and we never really had security.

Downsizing of military outfits and diversion of savings and resources to civilian production and the social sector should enhance the other aspect of security—human security. Human security is an all-encompassing concept, including food and nutrition security, health and environmental safety, personal, family and community security, and security from crimes, repression and violation of fundamental human rights. Can a poor, hungry, oppressed and harassed individual feel secure within a so-called military secure state? I definitely say no. Thus, one must really conceptualize security more in terms of human security than in terms of state security.

Professor Odhiambo talked about the situation in Africa—of conversion, of demobilized people and how we are not achieving much success. A greater problem is what we have done in the wars that he mentioned—in the wars in Nigeria itself, the wars that are going on now in Sudan or Angola, the wars that have just been concluded in South Africa and Mozambique, or the war that we witnessed not too long ago in Rwanda. One important aspect of these wars is the destruction of the values and culture in young people at the ages of 11, 12, 13. These children are made to carry weapons, and to see things they should not even as adolescents; some of them are destroyed virtually for life.



The Human Development Report has recently made an effort to contribute to the redefinition of the concept of security from the perspective of people and their communities (UNDP, 1994). It suggested the notion of human security as an all-encompassing concept. The concept includes economic security, environmental security, food security, health security, personal security, community security and political security (UNDP, 1994, pp. 24–25). “It means safety from the constant threat of hunger, disease, crime and repression. It also means protection from sudden and hurtful disruptions in the pattern of our daily lives—whether in our homes, in our jobs, in our communities or in our environment” (UNDP, 1994, p. 3). As presented, the concept does not provide links to the more ‘traditional’ security threats, from a state sovereignty perspective; in our view, however, it allows for a link with the concept of cooperative security.

National security, based on military means, was the guiding principle of the Cold War period. A combination of the concepts of cooperative and human security may be the underlying guide in the post-Cold War world. Such a broader concept of security corresponds well with the comprehensive concept of conversion. Security requirements shape conversion in certain ways, stressing its contribution to global human development while not ignoring issues of national security. These new security concepts help demonstrate the link between conversion, social development and security. As phrased by the UN Secretary-General in his *Agenda for Development*: “Arms control and disarmament reduce the threat of destruction, economic decline and tensions that lead to war. A world of lower military expenditures, reduced military establishments, smaller stocks of weapons and less environmental destruction by military-related activities is not only desirable in itself, but propitious for development” (Boutros-Ghali, 1994, p. 9).

Conversion is a process that is part of security policy, since it contributes to building confidence and allows resources to be shifted to more productive purposes—creating employment, cleaning up the environment, redirecting research to new environmentally friendly technologies and so on. It contributes to addressing the root causes of conflict rather than deterring aggression. Thus, security policy based on a broad concept may act as a guide for conversion as well.



Summary

Military Conversion for Social Development

With the reductions of global military expenditure in recent years and the end of the East–West arms race, major opportunities for conversion exist. Conversion is often viewed as a narrow problem of retooling arms factories for civilian production. In fact, the reduction in military activity that resulted from the end of the Cold War has many more facets. Conversion, if broadly defined, may contribute to the goals of the World Social Summit in a number of ways. In addition to proposing the application of a comprehensive and broadened concept of conversion, four interrelated aspects may be highlighted: financial resources from disarmament and their distribution, the management of this process, the role of science and scientists in conversion, and the link between conversion and security. The findings may therefore be summarized as follows:

Redistribution of financial resources

- **Considerable resources have become available through disarmament since the end of the 1980s.** These resources cannot simply be equated with the savings in military expenditures. Some of these savings are illusory, because national income has decreased concurrently with military expenditures. Others must be balanced against the costs of disarmament, including investments in conversion. Yet the 'peace dividend' is real. Using a lower percentage of GDP in the military sector frees resources for non-military investment, which in turn drives socio-economic development.
- **Some of the benefits from the release of resources from military use should be redistributed.** Such a redistribution would benefit human development and security world-wide. The costs and benefits of conversion are not equally distributed. In some areas, costs will be larger than direct benefits. To optimize the contribution of conversion to the reduction of poverty, creation of jobs and increase in human security, the financial gains from peace should be channeled to those areas where they create the largest social benefits.
- **There are opportunities for redistribution of some of the gains from peace from North to South and from West to East.** No transfer mechanism is perfect, but without any provision for transfer of resources it is likely that well-to-do countries will benefit much more from disarmament and conversion than countries in dire need of resources for human development.
- **This redistribution should be directed first of all at measures to support conversion, peaceful conflict resolution and peace-building in developing countries.** In this way, the momentum for further disarmament and conversion may be maintained without decreasing international security. The resources should also be made available for more general human development goals.

Conversion as the management of disarmament

- **The quantity of these resources depends on proper management of the conversion process.** This process often needs (government) investment in order to bear fruit. It usually makes sense to provide capital from the outside if it is not available within the country—for instance, for industrial conversion, demobilization and reintegration programs, weapon destruction, environmental clean-up and reorientation of military R&D.
- **Disarmament will create short-term pain, but there will be long-term gain.** In the short-term the costs of disarmament are dominant, but in the long-term benefits emerge. Lengthy adjustment periods are necessary in certain sectors. The investment in conversion programs and the proper management of these programs has the potential to shorten the transition time, promote economic growth and reduce social hardships.
- **Additional efforts should be made for the coordination of and communication about conversion.** In this way, costs may be kept low, benefits maximized and transfers channeled. Lessons of good and bad management are learned worldwide. Their comparative compilation, within or outside the UN system, may facilitate the success of conversion. Science and research are an important source for both advice and practical support of conversion.

Role of science

- **Large numbers of scientists, and their know-how, have become available for civilian purposes.** Disarmament facilitates the release of scarce resources in the field of R&D. With the resources freed from military R&D, new and old problems may be tackled with more resources. Many of those researchers and scientists that used to work on military projects may now be put to work in civilian projects.
- **A special effort should be made to use scientific resources for conversion.** Science can profit from conversion and conversion can benefit from science. It is not only through reallocation of R&D funds and re-employment of scientists from military to civilian research that scientists can contribute to conversion. They may also help in the improvement of conversion management. Most importantly, they are in a good position to help balance market imperfections in the allocation of finances and human resources coming out of disarmament and conversion.

Security and development

- **Conversion is closely linked to international security.** Security is more than national- or military-based security. There is a continuing need for reductions in military threats and increases in human security. Conversion largely depends on disarmament, and disarmament is a function of security. Again, progress on the conversion front will contribute to improvements in peace and security.

- **A parallel decrease in arms transfers and military expenditures would increase international security.** Excessive exports of armaments are counterproductive to conversion. This concerns not only newly made weapons, but increasingly also weaponry made surplus through disarmament. Efforts should be made to prevent weapons retired in one country from contributing to the build-up of armories in another country.

A comprehensive concept

- **Conversion, development and security make better sense if they are understood comprehensively.** In order to improve the impact of conversion on social development, broad and dynamic concepts of security must be used. Concepts such as cooperative and human security—which have links to broad concepts of development—are a good starting point. These will help optimize the contribution that conversion can make to confidence-building, employment creation, social justice and environmental improvement. Increased security on the basis of these concepts allows for more disarmament and conversion, which again makes additional resources available for social development. In order for conversion to make contributions on a number of fronts by providing financial resources, scientific know-how, incentives for further disarmament and more security, it needs to be understood in all its aspects.

Copenhagen Declaration

Commitment 9 . . .

We commit ourselves to increase significantly and/or utilize more efficiently the resources allocated to social development in order to achieve the goals of the Summit through national action and regional and international cooperation.

To this end, at the national level we will . . .

(g) Undertake to explore new ways of generating new public and private financial resources, inter alia, through the appropriate reduction of excessive military expenditures, including global military expenditures and arms trade, and investments for arms production and acquisition, taking into consideration national security requirements, so as to allow possible allocation of additional funds for social and economic development.

Copenhagen Declaration, adopted by the World Summit for Social Development, Copenhagen, 12 March 1995.

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