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A TIME FOR ACTION

by Essam El-Hinnawi

United Nations Environment Programme

Disarmament, environment and sustainable development:

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Cover photo: Ugandan child soldier, 1986. PHOTO: Yann Gamblin, UNICEF.

By courtesy of GAMMA

"Every gun that is made, every warship launched, every rocket fired, signifies, in a final sense, a theft from those who hunger and are not fed, from those who are cold and are not clothed ..."

Dwight D. Eisenhower

"The build-up of arms in large parts of the third world itself causes growing instability and undermines development ... More arms do not make mankind safe, only poorer."

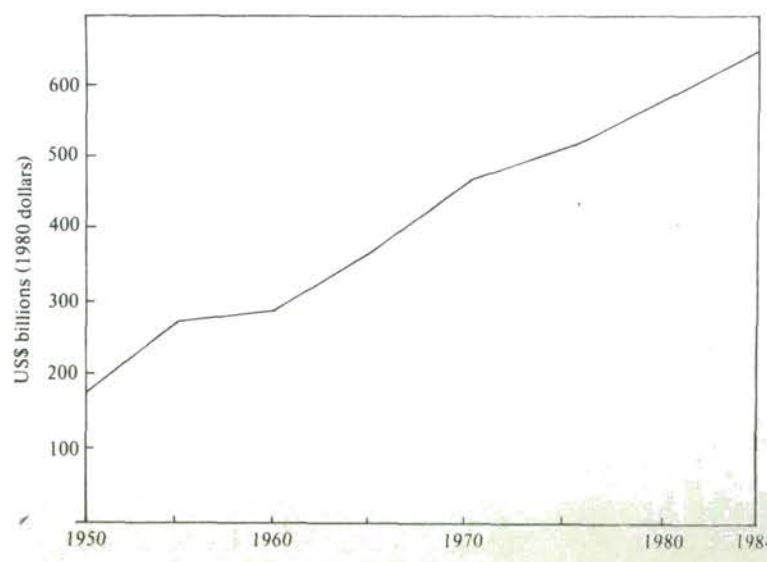
The Brandt Commission, 1980, 1985

The origins of the present arms race are many and complex. To a large extent they can be found in the political and socio-economic differences between the countries from the two groups of States which later came to form the two main alliances. These tensions between East and West still constitute the central feature of the arms race. Behind the arms build-up in the world there is also a complex tangle of criss-crossing conflicts and confrontations, some related to specific situations existing in particular regions and some domestic in origin.

The world's military expenditure has been increasing at an alarming rate since the end of the Second World War, and has quadrupled over a relatively short time-scale. In 1985, the world's military expenditure was about US$663 billion a year (Stockholm International Peace Research Institute, SIPRI, 1986). The upward trend has accelerated in recent years. During the 1970s, military expenditure increased in real terms at an average annual rate of 2.5 per cent. In the period from 1980 to 1984, however, the average real rise was 3.5 per cent a year (SIPRI, 1985).

Over the past 10 years alone, the world's military expenditure has totalled more than US$5000 billion (1980 dollars). If recent trends persist, the world's military expenditure could reach or exceed US$1000 billion a year, in current dollars, well before 2000. According to SIPRI, about 70 per cent of the world's military expenditure can be attributed to six main military spenders (alphabetically: China, France, Federal Republic of Germany, USSR, UK

WORLD MILITARY SPENDING
SIPRI, 1985

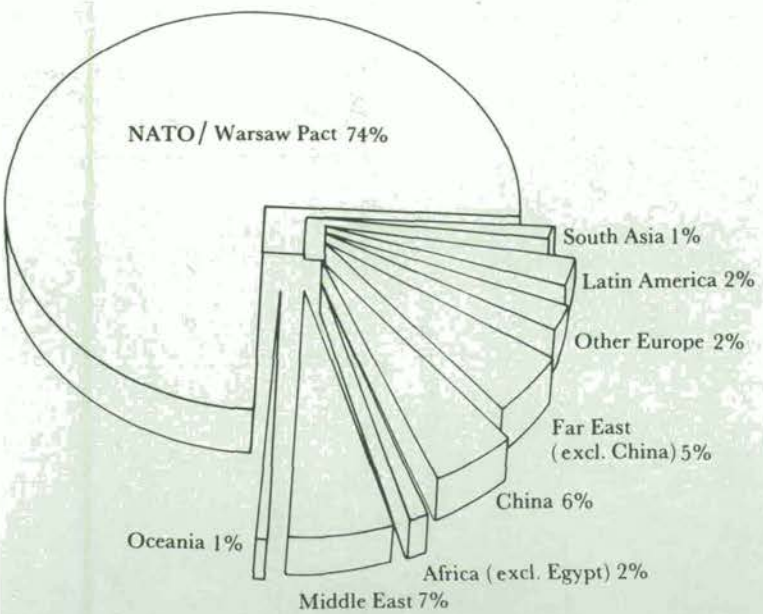


Military research and development accounts for about one-third of the world's total expenditure on scientific research and development.

and USA). By far the largest share in the global total comes from the two major military alliances, the North Atlantic Treaty Organization (NATO) and the Warsaw Treaty Organization (WTO). They incurred about three-quarters of world military spending in 1984.

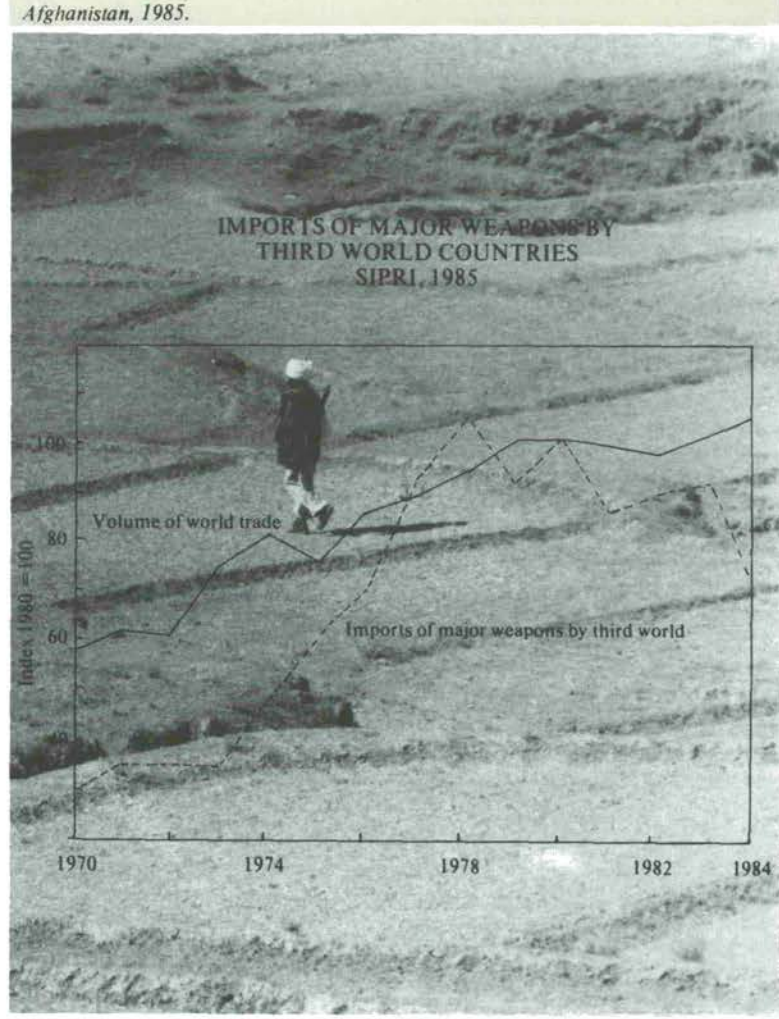
World military research and development cost about US$70 to 80 billion in 1984 (SIPRI, 1985). The rise in its volume has been accelerating much faster than that of military expenditure as a whole. In the second half of the 1970s the average annual rise was under 1 per cent (i.e. less than half the annual rate of increase in total military expenditure). From 1980 to 1983, it was 5 to 8 per cent and from 1983 to 1984 it was over 10 per cent; double the annual rate of increase in total military expenditure. Military research and development accounts for about one-third of the world's total expenditure on scientific research and development. The likely result is that the speed with which new and modernized weapons can replace older ones will be increased, creating pressures to raise military expenditures far into the future.

SHARES OF WORLD MILITARY SPENDING, 1984
SIPRI, 1985



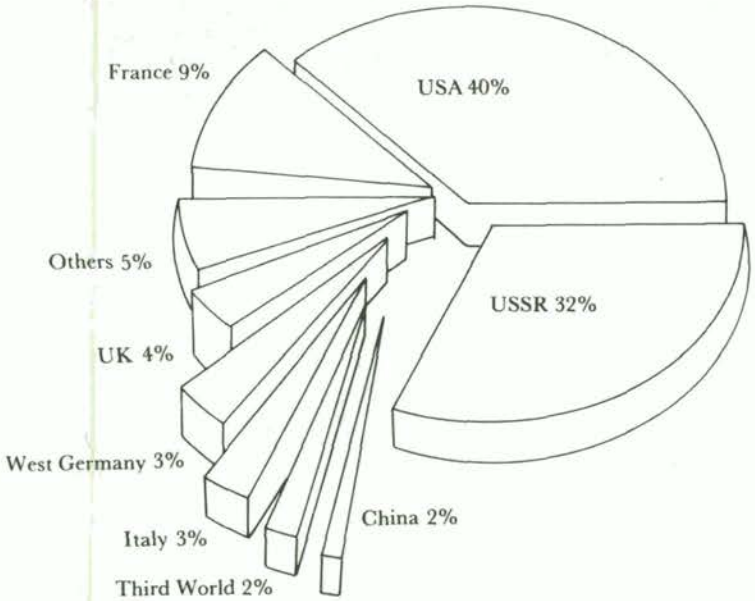
In 1980, the global trade in military equipment reached US$24 billion. Major weapons were imported by some 90 developing countries, and the traffic in arms now accounts for a significant proportion of the total trade of third world countries. The current trend in the volume of sales of major weapons, for the period 1980 to 1985, is one of decline. The arms trade in 1985 was about US$19 billion (1980 dollars). According to SIPRI (1985), the main reason for this decline is economic. Third world countries in general are deeply in debt, and consequently have been cutting back on foreign purchases, including arms. There are other reasons for this decline in trade: more production of weapons in third world countries themselves; more transfer of technology; more exports of components; and more modification and upgrading of kits.

Afghanistan, 1985.



Pascal Maitre, GAMMA.

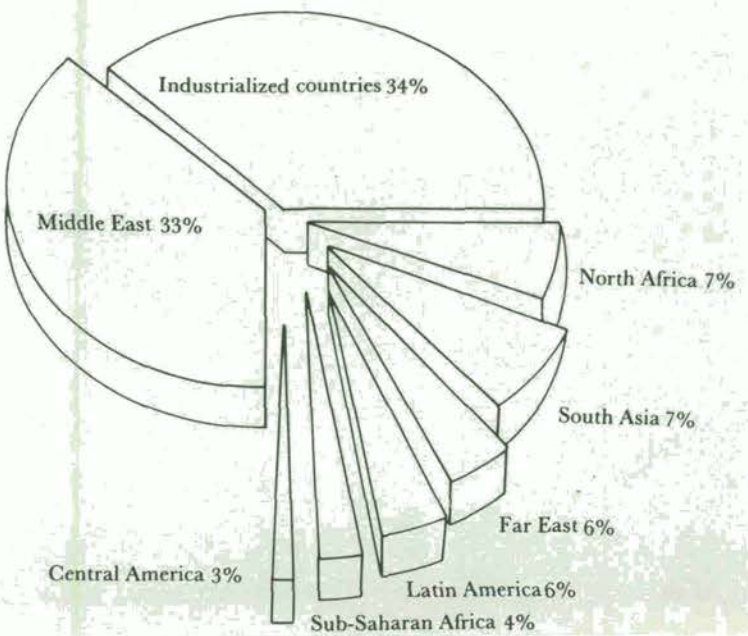
ARMS EXPORTERS, 1980 TO 1984
SIPRI, 1985



Besides its collosal financial implications, the arms race exerts increasing pressures on human and natural resources.

A large share of global arms transfers is going to areas of conflict in the developing world. Thus, the countries in the Middle East region accounted for about 51 per cent of the total weapons imported by the third world in the period 1980 to 1984. More than 90 per cent of the weapons transferred all over the world were exported by six developed

MAIN ARMS IMPORTING REGIONS, 1980 TO 1984
SIPRI, 1985



countries (from the largest exporter: USA, USSR, France, UK, Italy and the Federal Republic of Germany), with the major military powers accounting for about two-thirds of arms exported in the period 1980 to 1984 (SIPRI, 1985). The total value of arms trade for that period has been estimated at US$100 billion (1970 prices).

Besides its collosal financial implications, the arms race exerts increasing pressures on human and natural resources. Over 70 million people are estimated to be directly or indirectly engaged in military activities worldwide. This figure includes some 25 million people in the world's regular armed forces. If those in paramilitary forces or reserves were added the number might well be almost twice as high. Also making up the 70 million are about four million civilians employed in defence departments; over three million scientists and engineers engaged in military research and development, with the scientists alone numbering over 500,000; and at least five million workers directly engaged in the production of weapons and other specialized military equipment (UN, 1982, 1983).

It has been estimated that from three to 12 per cent of 14 minerals is consumed for military purposes: aluminium, chromium, copper, fluorspar, iron ore, lead, manganese, mercury, nickel, platinum group, silver, tin, tungsten and zinc (UN, 1982). For aluminium, copper, nickel and platinum, estimated global military consumption was greater than the demand for these minerals for all purposes in Africa, Asia (including China) and Latin America combined. The military consumption of petroleum is about 5 to 6 per cent of the total world consumption; close to one half of the entire consumption by all the developing countries (UN, 1983).

In the 1970s, there were about 27 million refugees of war in the world. They have not only suffered economic and social losses, but have also increased the pressures on the ecosystems of the areas to which they migrated.

The most obvious and horrifying direct effects of military conflicts are those on people. Millions have been killed in wars and millions displaced in conflicts. In the 1970s, there were about 27 million refugees of war in the world. They have not only suffered economic and social losses, but have also increased the pressures on the ecosystems of the areas to which they migrated. In most cases, the living conditions in such areas are intolerable. Adequate infrastructure is lacking and infectious diseases, malnutrition and social disruptions have become common problems.

Most wars have devastated farmlands. The Second World War caused a short-term reduction of 38 per cent in the agricultural productivity of 10 nations; recovery progressed at about 8.3 per cent each year. In more recent wars, new

1. Somalia, 1980. PHOTO: W. Gartung, UNHCR. 2. Ethiopia, 1984. PHOTO: Bert Demmers, UNICEF. 3. Bengal 1971. PHOTO: T. Page, UNHCR.

4. Kampuchea, 1979. PHOTO: Jacques Danois, UNICEF.

types of weapons (including high explosive munitions, chemical agents and incendiaries) have been deployed with still greater environmental effects. In South Vietnam, chemical herbicides completely destroyed 1500 square kilometres of mangrove forest and caused damage to a further 15,000 square kilometres; natural recovery is proceeding at a disturbingly slow rate.

Besides marked increases in production of conventional weapons and development of more destructive varieties, nuclear weapon stockpiles are increasing. It is estimated that the number of nuclear warheads in the world stands between 37,000 and 50,000, with a total explosive power of between 11,000 and 20,000 megatons (equivalent to between 846,000 and 1,540,000 Hiroshima bombs).

In recent studies of the effects of a large-scale nuclear war (5000 to 10,000 megaton yields) it has been estimated that there would be 750 million immediate deaths from the blast alone; a total of about 1.1 billion deaths from the combined effects of blast, fire and radiation; and about 1.1 billion more injuries requiring medical attention. Thus, 30 to 50 per cent of the total human population could be immediate casualties of a nuclear war. The vast majority of casualties would be in the northern hemisphere. Despite this devastation, perhaps 50 to 70 per cent of the human population in both the northern and southern hemispheres might survive the direct effects of a large-scale nuclear war. But they would be affected by what has become known as the "nuclear winter". The combined influence of dust injected into the atmosphere and soot generated by urban and wildland fires resulting from nuclear weapons would obscure the sun, reducing the temperature of the Earth's surface.

Sub-freezing temperatures (-23 to -43 degrees Centigrade), low light levels and high doses of ionizing and ultraviolet radiation extending for many months after a large-scale nuclear war could destroy the biological support systems of civilization. Productivity in natural and agricultural ecosystems could be severely restricted. Survivors could face starvation, freezing and exposure to near-lethal doses of radiation. The extinction of a large fraction of the Earth's animals, plants and micro-organisms seems possible. According to a recent study on the climatic and associated biological effects of nuclear war (Scientific Committee on Problems of the Environment, SCOPE, 1985), the majority of the world's population would face starvation in the aftermath of a nuclear war due to disruptions in agricultural productivity and/or food trade and aid. In Africa, for example,

The number of people in the world today is approximately 5.0 billion. When population growth finally comes to a halt, there will be an estimated 10.56 billion people on earth – two-and-a-half times the present number.

Photo credit: UNFPA/Mike Abrahams; centre photo: UN/Photo by SYGMA

In Africa, 100 to 450 million people could run out of food within the first 10 days of a war in which no nuclear weapons struck the continent.

100 to 450 million people could run out of food within the first 10 days of a war in which no nuclear weapons struck the continent. The study found that starvation and other indirect effects of a nuclear war could have a greater impact on both combatant and non-combatant countries than the direct effects of blast, heat and radiation.

In the 1970s, the course of the world economy was one of fluctuating deceleration and recurrent crises developing into a generalized stagnation. This has had a crippling effect on most developing countries but the developed countries are also suffering. Since 1980, growth has been minimal; inflation has remained high in many cases; world trade has been stagnant and threatened by growing protectionism; unused capacity and high interest rates have combined with low profits to deter investment; some countries have found credit harder to come by and are near the verge of collapse; unemployment is rising and social services are being eroded; government deficits remain unmanageable despite draconian cuts; and income distribution is worsening nationally and globally.

Over the past half decade, the living standards of the vast majority of the 2.5 billion people in the developing countries have deteriorated sharply. At the centre of this deterioration lies a crisis of almost unprecedented global proportions. In 1984, about US$895 billion in debt was owed by developing nations, a sum equal to the vast amounts spent on armaments world-wide each year.

Despite the successful implementation of austerity measures in some cases, many developing countries are running to stay still, and despite such efforts some are falling even further behind. They do not have the money to promote growth and to support new development projects because their current accounts are devoted to debt servicing. Meanwhile, their people are in many cases starting to resent the social consequences of these austerity plans and the lack of economic progress in their own lives. Throughout the developing world, people are protesting and even rioting. Some governments have fallen in the face of such protest while others have been elected by promising to control the foreign debt burden.

There appears to be no end in sight to the debt repayment crunch. The 1985 World Bank Development Report points out that in the next five years two-thirds of the debt of developing countries will fall due. A study by Chemical Bank's Economic Research Department on the financing needs of 22 developing countries which are major international borrowers concludes that these countries will need

US$161 billion in net new money through to 1987 (US Congress, 1985). It is not clear where this capital will come from.

Another Development Decade had gone by, leaving behind unfulfilled targets set by the International Development Strategy for the 1970s, adopted by the UN General Assembly, which called upon each developed country to make available 0.7 per cent of its gross national product (GNP) as official aid to the developing countries. As a percentage of the collective GNP of the developed market economies, the official developmental assistance, which reached 0.34 per cent of GNP in 1970, has since fluctuated around this value without showing signs of increasing. While foreign economic aid to developing countries increased slightly during the 1970s, world military expenditure increased at a much faster rate. In 1980, world military expenditure was about US$567 billion, while economic aid was only US$26 billion. (UN, 1983; Sivard, 1981).

Poverty is by far the most important cause of environmental degradation. The lack of safe drinking water for over 1300 million people and of sanitation for over 1700 million is the most severe form of pollution caused by poverty. Poverty is responsible, according to World Health Organization (WHO), for 25,000 deaths a day and for 80 per cent of

1300 million people lack safe drinking water. PHOTO: M. Vanappelghem, WHO.

Malaria strikes in Iran. PHOTO: Philip Boucas, WHO.

To eradicate malaria—the killer disease that claims the lives of one million children every year—some US$500 million are needed; less than half of one day's military spending.

world disease. The deaths, debilitation and disease caused by contaminated water have been a severe brake on development. The provision of clean rural water can recoup costs five to seven times over by the number of working days it continues to save (UNEP, 1984). The International Drinking Water Supply and Sanitation Decade aims at providing clean water supplies and sanitation for people in the developing countries by the year 1990. This requires some US$80 million a day for 10 years; equivalent to 65 minutes of military expenditure. To eradicate malaria—the killer disease that claims the lives of one million children every year—some US$500 million are needed; less than half of one day's military spending.

The many other ways in which poverty contributes to the cycle of destruction are equally far-reaching. Lack of adequate shelter increases vulnerability to natural disasters. Marginal settlements in the rapidly expanding urban areas of the developing world are prime examples of degraded environments. Inappropriate development, irrational and wasteful use of limited natural resources—triggered by increasing pressures on them—have led to land degradation, deforestation and augmented desertification in many devel-

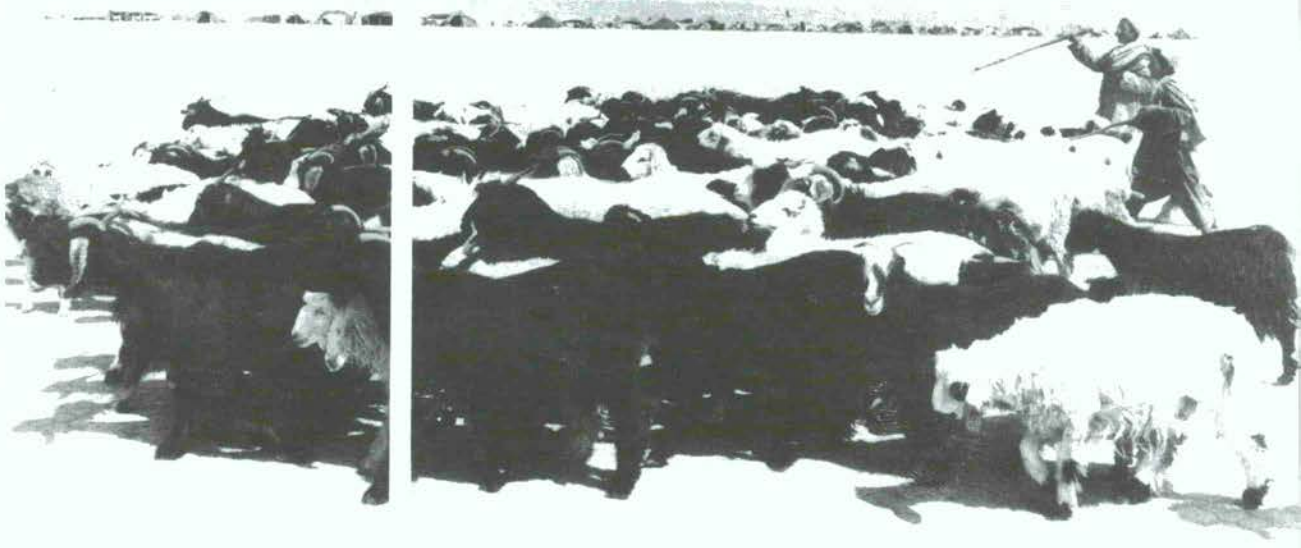
Rapidly expanding urban areas are prime examples of degraded environments. The Philippines.

PHOTO: Sean Sprague, UNICEF.

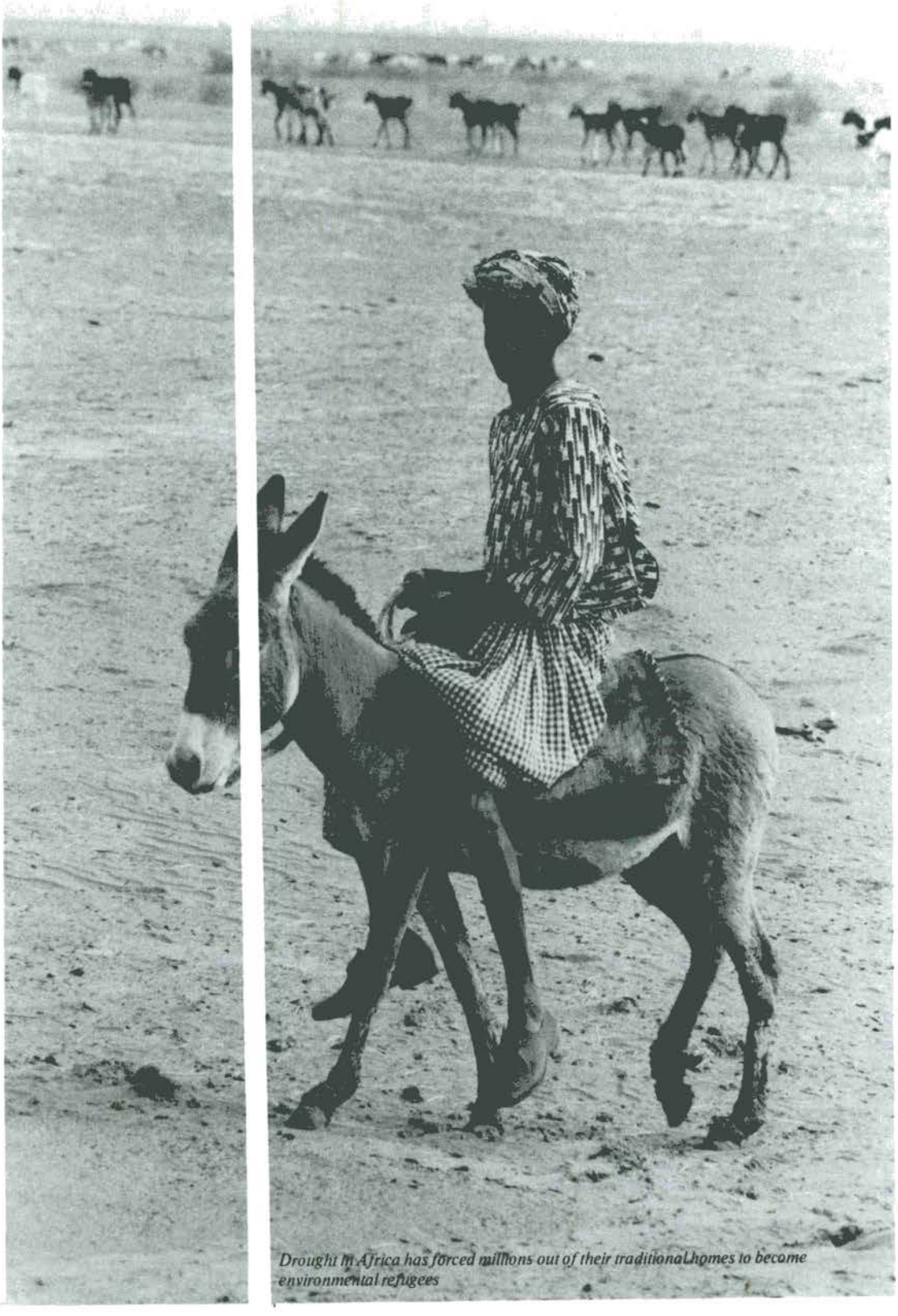
oping countries. Tropical forests and woodlands are menaced with excessive cutting and sluggish replacement programmes. The Food and Agriculture Organization (FAO)/-UNEP Tropical Forest Resources Assessment gives an annual rate of deforestation of 11.3 million hectares. The world is now losing from its croplands about 23 billion tonnes of soil in excess of new soil formation each year. Between 30 and 80 per cent of all irrigated lands are subject to salinization, alkalinization and waterlogging which cause serious problems in 200,000 to 300,000 hectares of the world's best land each year.

Desertification must be seen as a human problem rather than one concerned solely with the deterioration of ecosystems. Desertification is caused almost entirely by human misuse of the environment, particularly fragile marginal areas with erratic and low annual rainfall. The most important aspect of desertification lies in its impact on people—their families, communities and nations. The environmental degradation and the biological and physical stress in the different dryland livelihood systems have their direct counterpart in physical, emotional, economic and social consequences for man. It has been estimated that, world-wide, about 850 million people are affected to varying degrees by desertification.

Desertification is caused almost entirely by human misuse of the environment. Pakistan.



D. A. Giuliano, UNHCR.



Drought in Africa has forced millions out of their traditional homes to become environmental refugees

John Issac, U.N.

The drought in Africa, which began in 1968, forced millions of people out of their traditional homes to become environmental refugees (El-Hinnawi, 1985). Some migrated to areas within their own countries but many crossed international borders to neighbouring countries. Governments, trying to cope with starving people, established hundreds of transit and refugee camps which relied heavily on assistance from the international community. But in their exodus, many refugees—mostly women, children and the elderly—did not survive. Starvation, dehydration and infectious diseases combined to accelerate the death of hundreds of thousands. In addition, the influx of environmental refugees into different areas has caused a number of socio-economic and environmental problems and in some cases has led to violence between the original inhabitants of these areas and the refugees.

A recent assessment by UNEP revealed that about 4000 million hectares of the world's rangelands, rain-fed croplands and irrigated lands—an area approximately the size of North and South America combined—is affected by desertification. Each year, some 21 million hectares are reduced to a state of near or complete uselessness. The lost production has been valued at US$26 billion annually (1980 dollars). Projections to the year 2000 indicate that a loss on this scale will continue if nations fail to step up remedial action to combat this insidious scourge. The 1980 estimate for implementing the 1977 Plan of Action to Combat Desertification was US$2.4 billion annually over 20 years, only a fraction of the estimated value of agricultural production lost each year through desertification. There is a shortage of US$1.8 billion yearly to meet the annual cost for implementing the Plan of Action to Combat Desertification. This is less than 0.3 per cent of annual global military expenditure.

Fighting for land.

Alain Mingam, GAMMA.

When natural resources are in short supply, people are tempted to resort to aggressive action to satisfy their needs. Although at a national level non-military approaches (market manipulation, for example) are generally used to achieve this, the reaction is different in some countries. In modern history, resorting to war to satisfy demand for natural resources has sometimes involved the forced annexation of neighbouring lands and sometimes the conquering of distant lands and conversion of them into so-called colonies. A recent study by SIPRI/UNEP (1986) indicates, for example, that the invasion in 1969 of sparsely populated Honduras by densely populated El Salvador can be attributed mainly to the latter's need for additional land. The long-standing and acrimonious dispute over the waters of the Rio Lauca has, in the past, led Bolivia to sever diplomatic

relations with Chile. The potential for future conflict over scarce fresh waters is growing in various regions of the world. Special problem areas involve upstream and downstream water competition in arid and other regions with rapidly growing populations. Conflicts over mineral resources have also occurred. One war, from 1960 to 1964, was to a major extent a struggle for control of the copper and other mineral resources of Katanga (now Shaba) province in what is now Zaire. The Western Sahara conflict has been augmented by struggle over the rich phosphate deposits in the contested region. Numerous international disputes have arisen in recent years over fishing in exclusive economic zones, some of which have escalated to armed clashes. Perhaps the most prominent of these was the Anglo-Icelandic clash of 1972 to 1973.

The above information underlines the striking contrast between the current outlays for military purposes and the relatively modest resources required to meet the basic needs of millions of people and improve their living conditions. Over 1200 million people—living on incomes of less than US$150 a year—remain undernourished. Less than 0.5 per cent of global military spending would have been sufficient to develop agriculture in a sustainable way to approach self-sufficiency in food-deficit, low-income countries by 1990. An allocation of about US$200 million annually—three hours of military expenditure each year—would free the world of illiteracy in less than a decade. An estimated US$14 billion, spread over eight years, would be sufficient to cover the financial requirements for supporting actions and pre-investment activities for the development of new and renewable sources of energy in developing countries. This sum is equivalent to roughly one-eighth of what the world is now spending each year on improving its already massive nuclear arsenals (UN, 1983).

Halting and reversing ecological degradation and improving the living conditions of people have been identified as major priorities in a growing volume of major national and international studies and reports, including many where the principal concern was national and international economic development. The central question today is how to select patterns of development that not only minimize and/or reverse environmental degradation, but are actually designed to improve living conditions on a sustainable basis.

Several studies on the relationship between disarmament and development (see, for example, UN 1982, 1983a, 1983b, 1985) have stressed the fact that the arms race and

Less than 0.5 per cent of global military spending could ensure the likes of this woman and child eat today.

Photo: Mathew Nayyhons, GAMMA

development compete for the world's finite resources and to command people's attitudes and perceptions. Development is a universal requirement for sustained economic growth in developed and developing countries. On the other hand, the arms race constitutes a major threat to international security, and by hindering development—through the diversion of limited resources—is an important source of national and regional insecurity.

Over the years, several suggestions have been made to channel resources released from military use into development (see UN, 1982 for a review of these suggestions). The time is now more than ripe to develop a universal formula by which annual world military spending can be reduced by a certain percentage. The released resources would go to an international fund to promote sustainable development. A reallocation of say 10 per cent of annual military expenditure (some US$70 billion a year) for sustainable development projects in the developing countries would, within a few years, arrest and reverse soil degradation and desertification, provide clean drinking water and sanitation for all, eliminate illiteracy and some infectious diseases from the world and alleviate a great deal of the chronic poverty prevailing. Sustainable development would also enhance national and regional security and, ultimately, international security and stability. In addition, it would enable many developing countries to pay their outstanding debts and hence improve the world economic situation. This would, undoubtedly, be of substantial benefit to both the developing and developed countries.

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Plant a tree for peace

UN Sales No. E.86.III.D.5.