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*Towards a world free from nuclear weapons:  
Why South Africa gave up the nuclear option*

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## PREFACE

*More than six years have passed since the then State President of South Africa, Mr F. W. de Klerk, made the dramatic announcement (24 March 1993) that his country had developed six nuclear devices and dismantled them before 1991, the year South Africa signed the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and accepted an agreement with the International Atomic Energy Agency (IAEA) for a full-scope safeguards programme.*

*South Africa's decision to forgo the nuclear weapons option demonstrated to the world that a nation shunned by the community of nations for its brutal policy of apartheid and for its policy of ambiguity about its nuclear weapons capability can reverse course and emerge a shining example in the struggle for a nuclear-weapons-free world. One immediate result of South Africa's decision to forsake nuclear weapons was to allow the 1964 proposal for a denuclearized Africa to come to fruition. The African Nuclear-Weapon-Free Zone Treaty (the Pelindaba Treaty) was signed in Cairo in 1996.*

*The nuclear tests in South Asia in May 1998 contrast with long-standing efforts by the international community on behalf of nuclear non-proliferation and a ban on nuclear testing. Meanwhile, the stalemate in negotiating further strategic nuclear-arms reductions has left the world with over 30,000 of such weapons, many of which continue to be maintained on high alert status and subject to first-use doctrines. Despite such setbacks, the international community is continuing its efforts to revitalize its pursuit of both nuclear non-proliferation and disarmament goals. South Africa's decision to abandon its nuclear weapons programme may offer the world community some valuable insights to assist its continued pursuit of both these objectives.*

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*The Second United Nations Conference on Disarmament Issues, entitled TOWARDS A WORLD FREE FROM NUCLEAR WEAPONS, was held in Nagasaki, Japan from 24 to 27 November 1998, organized by the United Nations Regional Centre for Peace and Disarmament in Asia and the Pacific (Kathmandu Centre). The intervention made by Karamchund Mackerdij (Ambassador of South Africa to Japan) on the reasons why South Africa forsook the nuclear-weapons path was timely. The Department considered that the message South Africa delivered would be of interest to both the nuclear- and non-nuclear-weapon States. Each State, of course, has its unique geographic, political and historical situation from which its security concerns arise. Lessons learned by one State might not necessarily be transferable to another.*

*It seems, nevertheless, incumbent on States and international governmental and non-governmental actors to encourage the kind of action taken by South Africa in rejecting the nuclear-weapons option and embracing the concept of a world free of nuclear weapons, making it a goal of national policy.*

*The Department for Disarmament Affairs (DDA), in the framework of the United Nations Disarmament Information Programme, decided to begin a series of "DDA Occasional Papers", culling papers or statements of topical interest from the many international meetings, symposia and seminars organized by the Department and its regional offices. DDA believes that the ideas expressed should not stay with the participants of the meetings, but should be given wider circulation through publications and on the UN website. It hopes thereby to encourage debate and an exchange of ideas on topical international disarmament and security issues.*

## ABSTRACT

*South Africa is the first country in history that has voluntarily dismantled its nuclear weapons capability. All six nuclear devices and a seventh incomplete device were ordered destroyed in 1989. South Africa joined the NPT in 1991 and signed a Comprehensive Safeguards Agreement with the IAEA the same year. In 1993, the IAEA confirmed that there was no indication that there remained "any sensitive components of the nuclear weapons programme that have not been rendered useless or converted to commercial non-nuclear applications or peaceful nuclear usage".*

*After the fall of the Berlin Wall and the collapse of the Soviet Union, it seemed obvious that the world was shifting rapidly towards a new world order; internal changes were taking place in South Africa and the costs of maintaining a nuclear weapons programme were becoming prohibitive.*

*South Africa's decision was a challenge to the world to take firm steps towards the objective of the total elimination of nuclear weapons. It underlines the need to promote vigorously the benefits that disarmament, non-proliferation and arms control hold for international peace and security.*

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## *Towards a world free from nuclear weapons: Why South Africa gave up the nuclear option*

*Karamchund (Krish) Mackerdhuji*

Shortly after the catastrophic events in Hiroshima and Nagasaki, President Dwight Eisenhower of the United States gave a bleak warning to the world when he said in a statement to the United Nations General Assembly on 8 December 1953: "... the dread secret and the fearful engines of atomic might are not ours alone..." He was not wrong. Soon after, the world witnessed the birth of the "nuclear club", which grew to include five members—five too many—who engaged in a dizzying nuclear arms race in the era of the cold war. For them, possession of nuclear capacity meant possession of power, influence and prestige. They left the way open for others with similar aspirations to join them.

The cold war drove many States to make national security concerns the centre of their security policies. In other words, the national security concerns of the nuclear-weapon States strongly influenced the security policies of smaller States. This certainly was true in the

*Dr. Mackerdhuji is Ambassador of the Republic of South Africa to Japan. This paper is based on a statement made at The Second United Nations Conference on Disarmament Issues held from 24 to 27 November 1998 in Nagasaki, Japan.*

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case of South Africa as the country was drawn into the view that the security concerns of the nuclear-weapon States should be mirrored in its own security policies. Indeed, it decided to develop a limited nuclear deterrent capability as part of its national security policy. Apartheid South Africa, as a part of its perceived national security policy, embarked on a nuclear weapons programme. This paper will not deal with the reasons for that perceived national security threat. Suffice it to say that the former Government of South Africa perceived that nuclear weapons provided security and assurance.

### **1993: South Africa's announcement**

While many had speculated about the nature of the nuclear weapons capability of apartheid South Africa,<sup>1</sup> the full nature of that capacity was revealed on 24 March 1993, by the then State President, Mr. F. W. de Klerk, in an address to a joint session of Parliament. He admitted that South Africa had possessed a limited nuclear deterrent capability. He further admitted that it had been dismantled voluntarily before the country's accession to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) on 10 July 1991 and before signing the Comprehensive Safeguards Agreement with the International Atomic Energy Agency (IAEA) on 16 September 1991.<sup>2</sup>

Events leading to this announcement were preceded by the establishment in November 1989 of a Steering Committee of senior officials appointed by the State President to investigate the possibility of dismantling the nuclear programme. The officials were, *inter alia*, tasked:

- to dismantle the devices under controlled and safe conditions;

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- to melt and recast the High Enriched Uranium (HEU) from these devices and return it to the Atomic Energy Corporation (AEC) of South Africa for safe keeping;
  - to decontaminate facilities fully and to return severely contaminated equipment to the AEC;
  - to destroy all hardware components of the devices as well as technical design and manufacturing information;
  - to advise the Government of a suitable timetable to accede to the NPT and to sign a Comprehensive Safeguards Agreement with the IAEA, as well as to submit a full and complete initial national inventory of nuclear material and facilities as required by the Safeguards Agreement;
  - to terminate the operation of the existing Pilot Enrichment plant at the earliest opportunity.

The dismantling process was completed by the middle of 1991 when the last HEU was returned to the AEC during the night of 5 and 6 September 1991. Accession to the NPT occurred on 10 July 1991<sup>3</sup> and seven weeks later, on 16 September, a Comprehensive Safeguards Agreement, with immediate effect, was signed with the IAEA. On 30 October, South Africa submitted its initial inventory of nuclear materials and facilities to the Agency. The first verification team from the Agency arrived on site in November of the same year. [Ed. Note: For a chronology of the main events in the



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*nuclear weapons programme of South Africa, compiled by the IAEA, see annex.]*

At its 34th session, in 1991, the General Conference of the Agency requested the Director-General to verify the completeness of the "Initial Report" that South Africa had submitted, in which it was required to list all its nuclear plants and nuclear material.<sup>4</sup> The South African nuclear authorities provided the Agency with access and data beyond those required by the Safeguards Agreement and permitted Agency inspectors unlimited access to its nuclear facilities. The Director-General reported to the 35th session of the General Conference in 1992 that the Agency had verified the Initial Report submitted by South Africa.<sup>5,6</sup>

### **The reasons for South Africa's decision**

The reasons that South Africa gave up the nuclear option were wide-ranging and probably differ depending on whom one consults. This paper will not venture into an analysis of the various arguments, except perhaps to suggest a few, including the following in no special order:

- As the decade began, it became clear that the world was shifting rapidly towards a new world order. The imminent collapse of the Soviet Union was graphically demonstrated by the toppling of the Berlin Wall in 1989. The end of the cold war and the termination of super-Power rivalry in Africa appeared inevitable.
- A ceasefire on the northern border of Namibia was agreed upon on 1 August 1988. It was followed by the signing of the tripartite agreement between South

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Africa, Angola and Cuba on 22 December that same year. In addition, the United Nations Security Council adopted resolution 629 (1989), paving the way for the independence of Namibia.

- International changes taking place coincided with internal changes in South Africa. In September 1989, Mr. F. W. de Klerk assumed office as State President of South Africa. National and international pressures prompted him to embark on a road to democracy, aimed at achieving basic rights and freedoms of which the majority of the population had for so long been deprived. A highly significant reform was lifting the ban on the African National Congress (ANC) and other liberation movements, together with the quest to arrive at a new political dispensation for the country. New leaders appeared on the national political scene, leaders who had spent years in the fight for political and economic freedom.
- The policy of the ANC and other liberation movements contributed greatly to the decision to forego the nuclear option. Already in the early 1950s the Congress Movement arranged peace and protest meetings in South Africa. Slogans such as: "No more Hiroshima. No more Nagasaki." became powerful appeals. The fight against the proliferation of nuclear weapons became part of the liberation struggle in the country, even before spec-

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ulation regarding a South African nuclear weapons programme had started.

- One reason which often falls by the way-side was the enormous costs incurred by the maintenance of a nuclear weapons programme. Initial costs had been calculated at approximately \$US 200 million over the lifetime of the project. This figure gave rise to much debate in South Africa at the time, as it was calculated by opponents of the nuclear programme that this figure was not realistic and that it had indeed far exceeded \$US 200 million.

Taking the above reasons into consideration, it became clear by the end of the eighties that the survivability of the nuclear programme was in question.

### **South Africa's unique position**

Following the decision by the Government to terminate its nuclear weapons programme in 1989, and the subsequent destruction of the six completed nuclear devices and the incomplete seventh device in February 1990, South Africa found itself in the unique position of being the first country in history to have voluntarily dismantled its nuclear capability. It was under those circumstances that the new South African Government of President Nelson Mandela took office in May 1994, extending its commitment to democracy, sustainable development, social justice and environmental protection to include the promotion of global peace and security through the elimination of weapons of mass destruction. Then and now, a primary goal of the country's policy was to reinforce and promote South

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Africa as a responsible producer, possessor and trader of advanced technologies in the nuclear and related fields. In doing so, South Africa promotes the benefits which disarmament, non-proliferation and arms control hold for international peace and security, particularly in Africa and among the countries of the Non-Aligned Movement (NAM).

*"The vision of the African leaders and their commitment to spare Africa the nuclear arms race was expressed as early as 1964 at the first Organization of African Unity summit meeting in Cairo, in the Declaration on the Denuclearization of Africa. It took three decades, however, to transform that vision and commitment into a reality. The transformation had to await both the end of the cold war, which had cast its shadow on the African continent, and the end of apartheid, which ushered in a new era in South Africa. Indeed, it was South Africa's decision in 1990 to rid itself of nuclear weapons, to join the Treaty on the Non-Proliferation of Nuclear Weapons and to accept IAEA safeguards on all its nuclear activities, that removed the last barrier to African efforts to keep this continent free from nuclear weapons."*

Excerpt from a statement made by  
Hans Blix, Director General  
International Atomic Energy Agency  
at the  
Conference for the Signing of the  
African Nuclear-Weapon-Free Zone Treaty  
Cairo, 11 April 1996

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## **The future challenges of nuclear disarmament**

The above reasons notwithstanding, this paper does not concentrate on the reasons for South Africa's decision to renounce the nuclear option, but more essentially wishes to emphasize that South African made the decision in the first place and implemented it.

Few would argue that actions speak louder than words. The challenge facing the world today is not to stand idly by and simply applaud the steps taken by one country or a group of countries; the challenge is to move on and take steps now to remain constantly vigilant and to ensure the total elimination of nuclear weapons.

The cold war and the arms race that it engendered and nurtured, especially the nuclear arms race, is now solidly behind us—a relic of the past. We are faced with the challenges of a new era where the allure of safety guaranteed by nuclear weapons has been exposed as a fallacy. The challenge of our global village is decidedly greater than it was when nuclear weapons first emerged on the scene. The true challenge for us all is to find security in nuclear *disarmament*, and not in nuclear proliferation. The devastation wreaked by the use of nuclear weapons over 50 years ago should serve as a constant reminder that such weapons of wanton destruction should never be used again. It is a matter of supreme irony to seek safety in a device that can destroy the very essence of life—the very thing we are trying to save.

It was that firm conviction that guided South Africa in its steps to forego the nuclear option. As a possessor of advanced nuclear technology, South Africa embraced the international community's concern over the continued existence and further spread of nuclear weapons. It has chosen to pursue an active role in

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regional and international efforts towards nuclear disarmament and non-proliferation.<sup>7</sup>

The Chemical Weapons Convention (CWC) bans an entire category of weapons of mass destruction and has established a strict universally applied international control mechanism. Likewise, the Biological Weapons Convention bans an entire category of weapons of mass destruction. It is entirely feasible to build on the examples of bans on two of the three categories of weapons of mass destruction to illustrate what the international community can accomplish to produce an internationally verifiable and total ban on the remaining category of such weapons, nuclear weapons.

## **Conclusion**

South Africa's position in dismantling its nuclear capability was a principled one. Based on that, it will continue to support the Treaty on the Non-Proliferation of Nuclear Weapons and consequently oppose all attempts to increase the number of nuclear-weapon States. In the light of its own experience, South Africa cannot condone the view that nuclear weapons promote security. It will continue to work towards the elimination of nuclear weapons held by the nuclear-weapon States and the nuclear-capable States. It will unceasingly seek to stress that security guaranteed by the nuclear option is no security at all. It will continue to discourage countries strongly from keeping their nuclear options open.

South Africa walked down the path of the nuclear option. Because of that, it intends to continue with vigour down the path of engaging both the nuclear-weapon States and the nuclear-capable States to

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proceed with nuclear disarmament in a constructive, but determined way.

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<sup>1</sup> The United Nations expressed its concern by carrying out two expert group studies: "South Africa's Plan and Capability in the Nuclear Field" (A/35/402) and "South Africa's Nuclear-Tipped Ballistic Missile Capability" (A/45/571 in September 1990).

<sup>2</sup> In a statement to the IAEA Board of Governors on South Africa's nuclear weapons programmes on 31 March 1993, the Director General underlined the following:

"Different reflections can be made in the fact of this revelation by South Africa. On the critical side one might feel that it would have been better if the revelation had been made on the occasion of South Africa's adherence to the NPT so that the expression of determination to be a non-nuclear-weapon State would have been underlined by the report of the measures to destroy a hitherto existing nuclear weapons capacity. On the positive side, one might note that this appears to be the first case in which a State that has developed nuclear weapons has deliberately abandoned this capacity. On the positive side, we can also note South Africa's declared readiness to invite the IAEA to visit any site the Agency feels it needs to see."

<sup>3</sup> On 27 June 1991, President F. W. De Klerk stated that, "Since [1987] major events in Central and Eastern Europe have changed the world order dramatically. The cold war has subsided. The last Cuban troops have withdrawn from Angola, a month ahead of schedule. The threat of a su-

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per-Power rivalry has diminished substantially. Worldwide there has been a growing acceptance of a commitment to the peaceful resolution of regional conflicts.... South Africa's position in the international community has changed so fundamentally that the process of normalizing its international position has now become irreversible. Its own accession to the NPT reaffirms its commitment not only to take its rightful place in the international community but also to play a positive and constructive role in the process". Letter from the Permanent Representative of South Africa to the Secretary-General under the item "Implementation of the Declaration on the Denuclearization of Africa", A/46/302 of 15 July 1991.

<sup>4</sup> IAEA Resolution GC (XXXV)/RES/567 of 20 September 1991.

<sup>5</sup> Report of the Director General of the IAEA on the completeness of the inventory of South Africa's nuclear installations and material submitted to the thirty-sixth session of the IAEA General Conference (GC (XXXVI)/10/15 of 4 September 1992, also contained in A/47/533, annex II.

<sup>6</sup> In the last major report by IAEA on South Africa's nuclear weapons capability, the Director General reported that the status of implementation of the safeguards agreement between South Africa and the Agency was satisfactory; that "there was no indication to suggest that substantial amounts of depleted or natural uranium used in the nuclear-weapons programme are unaccounted for"; that there was "no indication to suggest that there remain any sensitive components of the nuclear weapons programme which have not been rendered useless or converted to commercial non-nuclear applications or peaceful nuclear usage" (Paras. 30-31, Report of the Director General on the Denuclearization of Africa, GC (XXXVII)/1075 of 9 September 1993).

<sup>7</sup> Such as the proposal by South Africa's Foreign Minister Nzo at the 1995 Review and Extension Conference of the NPT for a set of Principles and Objectives for Nuclear Non-Proliferation and Disarmament, which included a commitment to conclude the negotiations on the CTBT no



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later than 1996; its active involvement in the negotiations and conclusion of the CTBT, including its signature on the day the Treaty was opened for signature on 24 September 1996 and subsequent ratification on 30 March 1999; its active participation in the negotiations that led to the opening for signature on 11 April 1996 of the African Nuclear-Weapon-Free-Zone Treaty (Treaty of Pelindaba) and the proposal on the table for South Africa to host its implementation organization, the African Commission on Nuclear Energy (AFCONE).

*Annex\**

*Chronology of the main events in the  
[South African] nuclear weapons programme*

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| 1970 | Uranium enrichment project announced.<br>Approval for R&D based on gun-assembled device relating to nuclear explosions for peaceful purposes.   |
| 1973 | Investigation into separation of lithium isotopes.  |
| 1974 | Prime Minister approves limited programme for development of nuclear weapon as deterrent.<br><br>First stage of pilot enrichment plant commissioned.<br><br>Approval for test site development in Kalahari desert |
| 1975 | Work on Kalahari test shafts commenced.   |
| 1976 | Export from USA for fuel for SAFARI-1 research reactor stopped.   |
| 1977 | Kalahari test site abandoned.   |
| 1978 | First HEU product withdrawn from the pilot enrichment plant.  |
| 1979 | First nuclear device completed by the AEC.<br><br>Decision that ARMSCOR should take over programme and produce all further devices  |

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\* A/48/339

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1980	Construction of tritium handling laboratory completed.
1981	ARMSCOR/Circle facilities completed. Approval of Gouriqua programme for commercial PWR technology development, as well as possible future tritium and plutonium production.
1982	Second device completed.
1985	Government decision to limit number and type of devices to seven gun-assembled devices, to further develop implosion technology and to study more advanced concepts lithium-6 Avlis programme redirected towards lithium-7 production for water chemistry control in commercial power reactors.
1987	Commercial programme for tritium radio-luminescent light sources started.
1987-89	Completion of four additional devices.
1989-91	Construction of facilities at ARMSCOR/Advena Central Laboratories.
1989	Decision to terminate nuclear weapons programme (November). Gouriqua programme stopped.
1990	Pilot enrichment plant ceased operation (February). Order by State President for destruction of the six completed nuclear devices and the incomplete seventh device (26 February).

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| 1991 | Accession to the NPT (10 July).<br>All HEU returned from ARMSCOR/<br>Circle to the AEC (14 March-6 September)<br>Signature and entry into force of the safe-<br>guards agreement (16 September).<br>Initial report submitted (30 October)<br>Ad hoc inspections start (November).  |
| 1993 | Destruction of documentation relating to<br>nuclear weapons programme ordered by<br>State President on 17 March; destruction<br>completed on 23 March.<br>State President's announcement in Parlia-<br>ment of the existence and subsequent<br>abandonment of the former nuclear weap-<br>ons programme (24 March).<br>Preliminary visit by Agency team mem-<br>bers to the ARMSCOR/Circle facilities<br>(25 March).<br>Visits of the Agency team to assess the sta-<br>tus of the former nuclear weapons pro-<br>gramme (22 April-4 May, 3-11 June and<br>9-13 August). |
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