Chapter 1

INTRODUCTION

NUCLEAR-WEAPON-FREE ZONES (NWFZ) : CONCEPT AND HISTORY

This chapter introduces the concept and the history of the NWFZ. It is divided into three major sections. The first section deals with the background of the NWFZ, while the second section discusses about the concept. The third section deals with the history of the NWFZ proposals: Central Europe, Northern Europe, Balkans, Africa, Mediterranean, Indian Ocean, South Asia, and Middle East.

Background:

Efforts to end nuclear arms race started on 26 June 1945, as the statesmen of the world gathered in San Francisco for creating an international organization, the United Nations. The Charter of the UN was signed by them for controlling arms race in general. This effort was disappointed by the United States, as it used atomic bomb on Hiroshima-Nagasaki in August 1945. After using its atomic bomb, the US submitted a report, known as Acheson-Lilienthal Report, to the UN, which pointed out the positive side of atomic technology for peaceful purposes. In the same report, the US also pointed out the importance of controlling this energy under a proposed international
body, and therefore, it called for the creation of an International Atomic Energy Authority (IAEA) which would own and operate all nuclear facilities ranging from uranium mines to research and production plants throughout the world. To this effect, on 24 January 1946, the General Assembly of the UN, adopted unanimously a resolution which established the Atomic Energy Commission (AEC). The UN requested the AEC to submit a plan for eliminating all atomic weapons, formulating regulations and safeguards, and ensuring the peaceful use of atomic energy.

In the AEC meeting of June 1946, the US representative, Bernard M. Baruch presented a plan, known as Baruch Plan. According to this plan all atomic activities had to be controlled through a systematic inspection by the IAEA. Baruch plan was opposed by the Soviet Union. The Soviet delegate Andrei Gromyko countered the Baruch plan with a proposal to destroy all weapons in existence and to cease all production. The US did not agree to it. Consequently, opportunities to control nuclear weapons came to an end when the Soviet Union exploded an atomic device on 29 August 1949. Thus, controlling the test became a difficult problem, as the United

Kingdom exploded an atomic device in 1952. However, in December 1953, the US presented the "Atoms for Peace" plan to the UN, which emphasised on the right of using nuclear energy for peaceful purpose. In March 1954, three months after "Atom for Peace" proposal, the US detonated a hydrogen bomb at Bikini Atoll in the Pacific. As a result, the problem of nuclear weapon proliferation had become the most important agenda of the nuclear arms control in the mid 1950s.

As of this reason, the big four - the US, the Soviet Union, the United Kingdom, and France met in Geneva summit conference in July 1955. The US proposed "open-skies" proposal in the conference. According to this proposal, both the US and the Soviet Union should exchange blueprints of military installations. The Soviet Union rejected it and asked the leaders of the conference to find out a solution for banning the nuclear weapon tests altogether and destroying all existing weapons. However, the Geneva conference could not reach an agreement on test ban. In May 1957, the UK tested its first hydrogen bomb. Many countries including India protested against

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the tests and requested the UN to find a solution for stopping their tests. 4 For supporting the UN effort, on June 14, 1957, the Soviet Union proposed a three-year moratorium on tests, and asked international commission to detect on the territories of the nuclear powers. The US did not agree to it and expressed its interest for peaceful uses of nuclear explosives -- the US program is known as 'Plowshare'. However, in the end of 1957, the US carried out for the first time an underground nuclear test. This added a new dimension to the problem of each side's ability to detect the other's tests, since underground tests are far more difficult to be detected than tests in the atmosphere. 5

On October 4, 1957, the Soviet Union placed into orbit the first earth satellite, Sputnik I, followed on November 3, by Sputnik II. The US considered the Soviet Sputnik as a long-range missile which could attack a target even beyond Europe. It should be noted that, in 1948 the US deployed Jupiter and Thor, the short-range missiles in West Europe, and the Soviet Union deployed in East Europe, SS-4, and SS-5, the


short-range missiles.

However, on 1 July 1958, the conference of experts to study the possibility of detecting violations of a possible agreement on suspension of nuclear tests was convened in Geneva. Experts from the US, the UK, France, Canada and the Soviet Union attended the conference. The conference reached the conclusion on 21 August 1958, that it was technically feasible to set up, with certain capabilities and limitations, a workable and effective control system for the detection of violations of a possible agreement on the worldwide cessation of nuclear weapon tests. This control system, known as "the Geneva System" gave a way for the first time in the nuclear history to control nuclear tests in the atmosphere. By that time the US completed fifty-four tests, eight of which were underground, the Soviet Union completed fourteen tests. On June 22, 1959, the technical working group of the Geneva conference considered the problem of detecting explosions at high altitudes. After a discussion, the conference reached on July 10, 1959, the conclusion which recommended for a detection system. According to this, five or six large satellites should be placed in earth orbit at an altitude of over 18000 miles to detect radiation from nuclear explosions.
As the big powers agreed upon a system to be followed for controlling the atmospheric tests, the UN, on the other hand, proposed a system to be followed for controlling the weapons as such. Therefore, in 1959, the UN asked the big powers to consider Antarctica, common heritage of the world, be a place wherein military installations including nuclear weapons and nuclear tests should be prevented. As a result, on 1 December 1959, the Antarctic Treaty was signed. The Antarctic Treaty is dealt with in the second chapter. This is the first multilateral treaty which established nuclear-weapon-free zone (NWFZ) in uninhabited area of the world. After succeeding in this effort, the UN introduced the concept of non-proliferation in its resolution in 1961 in order to have a system with which the solutions had to be found for nuclear test, both military and civil. When the UN faced much debates over the concept of non-proliferation, it formulated in 1965 a set of principles which gave much freedom to the countries interested for a treaty which would have


seek solution for nuclear problems in their region. And those principles are:

(1) The Treaty should be void of any loopholes which might permit nuclear or non-nuclear powers to proliferate, directly or indirectly, nuclear weapons in any form;

(2) The Treaty should embody an acceptable balance of mutual responsibilities and obligations of the nuclear and non-nuclear powers;

(3) The Treaty should be a step towards the achievement of general and complete disarmament and, more particularly, nuclear disarmament;

(4) There should be acceptable and workable provisions to ensure the effectiveness of the Treaty;

(5) Nothing in the Treaty should adversely affect the right of any group of states to conclude regional treaties in order to ensure the total absence of nuclear weapons in their respective territories.

Based on these principles, in January 1967, the Outer Space Treaty was signed. This is the second NWFZ established by a multilateral treaty arrangement. Outer Space Treaty is dealt with in the second chapter. In the same year the Latin American countries reached, on the basis of the UN principles, an agreement for establishing NWFZ in their region through a regional treaty arrangement. This is the first NWFZ established

in an inhabited area of the world. The Latin American NWFZ is discussed in the third chapter. And in 1971, the Sea-Bed Treaty was signed. This is the fourth NWFZ established on the basis of the UN principles. Sea-Bed Treaty is discussed in the second chapter. Finally, in 1986, the South Pacific NWFZ was established through a regional treaty arrangement by the South Pacific countries. This is the second NWFZ established in an inhabited area of the world. The fourth chapter deals with South Pacific NWFZ.

Concept:

The concept of NWFZ is a broader one. It consists of the meanings of denuclearization, non-nuclearization and nuclear free. Denuclearization is applicable to the zone wherein nuclear weapons are already deployed. For example, Europe, Middle East and Asia can be noted. Non-nuclearization is applicable to the zone wherein no nuclear weapons are deployed or produced. For example, Antarctica, Outer Space, and Sea-bed can be noted. Nuclear free means only absence of nuclear weapons. For example, South Pacific can be noted.\(^9\)

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\(^9\) Afonso Garcia Robles, known as the father of the NWFZ, explained the meaning of the term "absence" in 1968: "I take the word 'absence' from the definition which in November 1964, was incorporated in the first resolution adopted by the Preliminary Meeting on the Denuclearization of Latin America. 'Absence' is a conception of pellucid clarity, which does not land itself to false or subtle interpretations and can mean nothing else but non-existence
Thus, the concept of the NWFZ is flexible one. The credibility to establish NWFZ depends on a group of countries interested for establishing it. Accordingly the objectives of the zone can be different from that of any one established already. However, a general objective for NWFZ may be pointed out as follows: security of states included in the zone, world security, non-proliferation of nuclear weapons, regional arms control consideration, and security treaties. Of all, the interested party can select any one of these objectives and formulate treaty for establishing NWFZ in their region. Also, parties can develop new criteria to establish NWFZ in their region. If the party identifies some reasons, they can draft a treaty without any outside interference. The treaty has to consider the followings: definition of fundamental terms, obligation of the contracting parties, system of verification and control, the undertakings of nuclear weapon states, the undertaking of states which have territories in

Footnote 9 cont'd ...

in perpetuity of nuclear weapons in the territories of the contracting parties, whatever state may have such weapons under its domain of control*. See Disarmament Commission, Official Records, Supplement for January to December 1968, p. 49.

Thus, the concept of NWFZ consists all measures which may assist nuclear disarmament in general.

Therefore, the UN expert group pointed out that the NWFZ "may not be appropriate in all areas, and that states may consider that their security interests are best served by other security arrangements .... Thus, the increased dangers to world peace should make states more aware of the importance of preventing nuclear-weapon proliferation, if not by joining nuclear-weapon-free zones then by seeking other regional or international arrangements that would have the same effect". According to them, therefore, a NWFZ treaty should have the following obligations: (a) to respect in all its parts the status of complete absence of nuclear weapons as defined in the treaty or convention which forms the constituent instrument of the zone; (b) to refrain from contributing in any way to the performance in the territories that form part of the zone of acts which involve a violation of the afore-said treaty or convention; (c) to refrain from using nuclear weapons or threatening to use such weapons.

11 Ibid.
12 Ibid., p. 31.
against the States which comprise the zone". 13 And this treaty should be "signed and ratified by all nuclear-weapon-states". 14 If these arrangements are made in any part of the world, that can be recognized as NWFZ.

Central Europe:

The first initiative for establishing NWFZ in Central Europe came from the Soviet Union, as Andrei Gromyko proposed a plan on 27 March 1956. This proposal included the creation of NWFZ in Europe, consisting of both parts of Germany and their neighbouring countries. With reference to this initiative, in 1957, Adam Rapacki, the foreign minister of Poland, proposed a plan for a NWFZ in Central Europe. According to the plan, no nuclear weapons would be manufactured, stock piled, or installed on the territory of Poland, Czechoslovakia, and East and West Germany; the use of nuclear weapons against these countries would be banned; the United States, the Soviet Union, the United Kingdom, and France would undertake the nuclear free status of the zone; a system of ground and air control with inspection bases would be set up to verify the observance of the commitments undertaken, and the zone could be

13 Ibid., p. 68.
14 Ibid., pp. 97-98.
established by binding unilateral declarations in order to avoid the complications of negotiating a formal treaty. This plan was rejected by the US. It stated that the creation of the NWFZ in Central Europe would involve the withdrawal of Western nuclear bases and would thus give some military and political advantages to the East. Moreover, the US argued along with some West European countries that NWFZ should be started by the major countries in the area; should not upset the existing military balance; and should be subject to verification. Most importantly, they pointed out that the political decision to create NWFZ should start from a balanced region, where there is no direct involvement of the US and the Soviet Union.

However, Rapacki submitted a revised plan. According to that, NWFZ would be implemented in two stages: first, a freeze of nuclear armaments in the proposed zone; and second, a reduction of conventional forces, to be carried out together with the complete denuclearization of the zone. West did not accept

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16 Ibid.
stating that it would put West Germany out of its political interest. 17

However, in 1962, a third version of Rapacki plan was submitted by Poland. This plan was also to be implemented in two stages; the first would freeze nuclear weapons and rockets and prohibit the establishment of new bases in the area of the zone; and the second would provide for the elimination of nuclear weapons and rockets and the reduction of armed forces and conventional forces. This effort was also opposed by West on the ground that the plan would allow the conventional superiority of the Soviet Union in Europe. 18

In 1964, Poland Prime Minister, Gomulka, put forward another proposal known as the "Gomulka Plan". This was approved by British Labour Party before it came to power. Gomulka Plan proposed a freezing at existing levels in the area of the zone of all nuclear weapons irrespective of the means of their employment and delivery under a system of control posts at nuclear plants and at rail, road, sea and air points of


18 Ibid.
It should be noted that the Gomulka Plan did not find any solution to reduce existing nuclear arms, but it aimed for a ban on any increase in their number. It was also not accepted by the West.

However, in the mid-1970s, an alternative political step was taken by West European countries towards this direction. As a result, for a NWFZ in Europe, the NATO countries, excluding United States and Canada, had come to an understanding in the beginning of 1980s on the following principles: (a) a formal renunciation of the first use of nuclear weapons should be immediately signed with the Warsaw Pact countries; (b) simultaneously, an agreement should be negotiated to prohibit short-range, 'battlefield' nuclear weapons -- arguably the most dangerous sort of all because a general escalation would result from their use -- from a zone, of width to be determined, astride the inter-German frontier. Once established it should be extended to the northern and southern flanks of the Central Front, and finally, this should be followed by establishment of a European nuclear-free zone from Poland to Portugal. This action is directed at medium-range system.20

19 Ibid.

Based on these principles, the report of the independent Commission on Disarmament and Security issues under the Chairmanship of Olof Palme suggested a battlefield-nuclear-weapon-free zone (BNWFZ) in Europe. According to this a BNWFZ, starting with Central Europe, would cover extending ultimately the northern and the southern flanks of the two alliances. According to this, nuclear munitions would not be permitted in the zone. Thus, BNWFZ had to cover the following type of weapons: ADMs (atomic demolition mines); Nuclear artillery, ranging up to 100 km.; Lance (NATO); Pluton (France); SS-21 (WTO); Scud A (WTO), ranging from 100 to 200 km.; Scud B (WTO), ranging from 200 to 300 km.; and Corps Support Weapon System, Pershing IA (NATO), SS-23 (WTO), Scale board (WTO), and Hades (France) ranging from 300 to 1000 km.21 However, the Intermediate Nuclear Forces (INF) treaty signed by the US and the Soviet Union in 1987 does not help the idea of BNWFZ in Central Europe as it only covers the nuclear missiles ranging from 500 to 5000 km. ADM, nuclear artillery, the missiles having the range of 100 km., Lance (NATO), SS-21 (WTO), Scud and A (WTO), Scud and

B (WTO), the missiles having the range of 200 to 300 km. and some of the corps support weapon system are not included in the INF treaty. Furthermore, the proposal for NWFZ in Central Europe faces problem as West Germany is interested to develop its own nuclear deterrence. For, it has signed an agreement with France. This nuclear agreement is known as 'Cheeky Sparrow'.

According to Cheeky Sparrow, the independent nuclear forces will serve the purpose of counterbalance to the conventional superiority of Warsaw Pact countries. Also, Cheeky Sparrow gives France the right of deploying nuclear missiles for the forward defence of Europe in order to fill the strategic gap after US nuclear missiles are withdrawn from Europe. It has to be noted that the withdrawal of US INF missiles, the Pershing II in particular, leaves West Germany without a nuclear deterrent that can strike Soviet territory. Therefore, Cheeky Sparrow allows Germany maintain French nuclear forces, as the conventional weapons, especially to counter the Soviets tank by tank, would be too costly. France is planning to deploy its S-4 missile in the late 1990s. Although there is political pressure because of the increasing public opinion against the

23 Ibid.
Cheeky Sparrow in general and S-4 in particular, West Germany is going ahead. If the Cheeky Sparrow succeeds in West Germany, there might be more European NATO members interested to have the European forward defence. For, the seven countries' agreement to jointly produce MSOW (Medium stand-off Weapons) could pave the way for converting MSOW, the conventional missiles into nuclear missiles.²⁴ Moreover, a number of nuclear infrastructures are with West Germany as well as with East European countries. Because of these reasons, the proposal for establishing NWFZ in Central Europe is not implemented so far.

**Northern Europe:**

The idea of establishing NWFZ in Northern Europe was first suggested by the Soviet Union in the late 1950s. That idea was followed up in several subsequent statements by Soviet officials indicating support for a NWFZ in the Scandinavian peninsula and the Baltic area, as well as for the combing of three proposed zones — Scandinavian-Baltic, Central Europe and Balkan-Adriatic — into a single NWFZ. In 1963, Finland proposed a detailed draft proposal for NWFZ in Northern Europe.

²⁴ Ibid.
Finland's proposal covered Norway, Sweden, Denmark and Finland. In 1978, Finland, therefore, requested all Nordic States to negotiate themselves and together with the nuclear weapon countries for arms regulation in that region. Many Nordic Governments opposed this move. The Soviet Union supported NWFZ in Nordic area. However, France expressed its attitude against the proposal.²⁵

As a result, the Swedish and the Finnish government, which are neutral and non-aligned have been increasing their air defense and surveillance capabilities, as their interest of establishing NWFZ in Nordic region is looked down. Their air defense capabilities are encouraged because of the increasing NATO missiles in Nordic area. According to them, NATO missiles can be fired over neutral countries in case of war, and therefore, these missiles pose security threat to both Finland and Sweden. It should be mentioned that cruise missiles are low flying nuclear missiles which will overfly these two countries. Therefore, the proponents of NWFZ are now improving their military capabilities.²⁶ Also, the United States has recently intensified its nuclear strategy in this region. On December 23, 1987,

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Secretary of State Shultz rejected the idea of NWFZ for Northern Europe and said that such concept undermines the type of unity within the Atlantic alliance. And he pointed out that "the problem is the Soviet Union has nuclear weapons, and they can aim them at you (the North European countries) and you cannot determine where they will hit". As of these reasons, the NWFZ proposal for Northern Europe is also not implemented.

**The Balkans:**

On September 1957, Romanian Prime Minister proposed a 'Peace Zone'. Bulgaria, Romania, Yugoslavia, Albania, Greece and Turkey were included in his proposal. In June 1959, the Romanian government made explicit reference to denuclearization. This position was supported by the Soviet Union. In effect, the Soviet Union in the UN reiterated its call for the Balkan NWFZ. Therefore, NATO (North Atlantic Treaty Organization) and the Warsaw Pact countries initiated negotiations to cut off new missile deployments, the multilateral forces proposal, and force modernisation efforts. The United States rejected the plan. It stated that cutting these forces would lead for Soviet

domination in the region. 28

However, in 1979, the proposal for a Balkan NWFZ had gained new importance, when NATO planned for the deployment of long-range theatre nuclear weapons -- cruise and Pershing II missiles -- in Europe by 1984. Especially the countries (Romania and Bulgaria) within the range of the new nuclear missiles suggested all other nations to consider the proposal for Balkan NWFZ seriously. 29 In October 1981, State Council President of Bulgaria, Zhivkov, emphasized: "we warmly support the idea of turning the Balkans into a nuclear free zone. We propose that a meeting of the leaders of the Balkan states be held as early as next year to discuss this problem. The turning of the Balkans into a nuclear free zone would correspond to the interests of our peoples." 30 And he continued; "it would be a substantial

28 Comprehensive Study of the Question of NWFZ in all its Aspects, n. 10, para 52, 53 and 54, p. 22.


contribution to the improvement of the international climate, to the gradual transformation of Europe into a continent free of nuclear arms; it would be one more victory for peace.\textsuperscript{31} For nuclear-free Europe, the peace movements in Greece have been working in this region. Moreover, in 1981 elections, the only issue was that of removing nuclear weapons from Greece. In fact Greece was the only country to vote in the UN General Assembly in November 1982 for a Mexican-Swedish resolution calling for an immediate global arms freeze. And the effort to denuclearize the Scandinavian peninsula in order to strengthen Balkan NWFZ is also initiated by Romania and Greece.\textsuperscript{32} Recently Greece has also joined the 'Declaration of the Six' (i.e. Argentina, Greece, India, Mexico, Sweden and Tanzania), first made on 22 May 1984 calling on nuclear weapon states to halt all nuclear testing, production and deployment as a 'necessary first step' in promoting disarmament and enhanced security in the world.\textsuperscript{33} Despite, the US is going ahead with its nuclear plan in the Balkan region.

There are about a dozen nuclear storage sites of the US operating in this region. The US nuclear

\textsuperscript{31} Ibid.

\textsuperscript{32} \textit{Atlantic News} (Bonn), vol. 16, no. 1465, 5 November 1982, p. 4.

\textsuperscript{33} \textit{The Times of India} (New Delhi), 23 May, 1984.
forces in Greece are also operating in the region. These forces are apparently under exclusive US control. It could be one reason why Greek leader, Papandreou recently agreed to their modernisation for "safety" reasons, having originally refused on grounds that it conflicted with his denuclearisation plans. Similarly, secret annexes were also said to have allowed the US to retain sole control over activities at Greece's Heraklion base. The US-Turkish agreement of 1980 refers to the bases as "joint installations" which does not exclude the existence of other secret agreements to cover nuclear facilities strictly under US supervision. According to the US, therefore, the reason for the US opposition against NWFZ is political; these weapons help reinforce the American commitment to defend Europe in the event of a massive attack from the Warsaw Pact. Secondly, they allegedly help reduce the economic burden of mobilising a European conventional force sufficient to deter a Warsaw Pact ground offensive. Thirdly, according to the military doctrine of


'flexible response', NATO must retain the capability to escalate to the nuclear level if necessary to counterbalance alleged Soviet advantages in conventional forces. Thus, there are nuclear capable delivery system in this region. They are in Greece, Turkey, Romania, Bulgaria, and Yugoslavia. In Greece F-4 fighter bomber, F-100G fighter bomber, 155 mm howitzer, 8 inches howitzer, Honest John (surface to surface) are deployed. In Turkey, F-4, F-104s, 155 mm howitzer, 8 inches howitzer, Honest John, and Nike-Hercules, are deployed. In Romania, Frog SSM and Send SSM are stationed. In Bulgaria, Frog and Send are deployed. Finally in Yugoslavia, 155 mm howitzer and Frog-7 are stationed. It should be noted that, according to INF treaty, the forces ranging between 500 and 5000 km. will be removed from Balkan. However, the chances of establishing NWFZ in Balkan depends upon the nuclear weapon countries, especially both the US and the Soviet Union.

Africa:

The idea for establishing NWFZ in Africa was expressed by eight African countries, as France had

36 Ibid.

carried out nuclear test in the Sahara Desert in 1960. In 1961, fourteen African countries formally proposed in the UN General Assembly a resolution for making Africa a "denuclearized zone". This resolution was approved by the General Assembly. It called upon all states: not to carry out nuclear tests in any form in Africa; to refrain from using Africa for storing or transporting nuclear weapons; to respect the continent as a NWFZ. This proposal was opposed by the US and supported by the Soviet Union. However, in 1965, twenty-eight African states submitted a detailed proposal in the UN. This was supported by the Soviet Union. The US, UK and France had been critical about the proposal. South Africa, although it agreed fully with the objective of the proposal, was critical of the role of the Organization of African Unity. In 1965, the UN General Assembly (a) reaffirmed the call on all states to respect the continent of Africa as a NWFZ and to abide by the declaration; (b) called on all states not to use or threaten to use nuclear weapons in Africa or take, "any action which would compel African states to (acquire such weapons)", (c) urged the nuclear powers to

not to transfer nuclear weapons, or technological assistance to the national control of any state in any form which could assist in the manufacture or use of nuclear weapons in Africa; and (d) expressed the hope that the African states would initiate steps through the OAU with a view to implementing the denuclearization of Africa. 39

However, the reported preparation of South Africa to explode a nuclear device added the new dimension to the proposal for NWFZ in Africa in 1970s. Since then the UN appointed a panel of experts to examine the issue of African nuclear weapon programme. According to the UN study, on August 9, 1977, the Soviet Union informed that "work was nearing in South Africa on the creation of nuclear weapon and preparations were being held for carrying out a test". Moreover, US reconnaissance satellites, passing over the Kalahari desert had photographed and "confirmed the existence of what professionals in the intelligence and nuclear weapon communities thought was a nuclear weapon test site. It included a hole for an underground test and a tower and other structures usually associated with underground testing of nuclear weapons". South Africa,

39 Ibid.
however, denied these reports.\(^{40}\) On October 25, 1979 the US issued the following statement: "The United States Government has an indication suggesting the possibility that a low yield nuclear explosion occurred on September 22, in the area of the Indian Ocean and South Atlantic including portions of the Antarctic continent and the southern part of Africa. No corroborating evidence has been received to date. We are continuing to assess whether such an event took place.\(^{41}\) Therefore, the UN study concludes: "Finally, there is as far as undisputed scientific explanation of the light signal recorded by the VELA satellite on September 22, 1979. The initial presumption that there had been a nuclear explosion by South Africa or any other country in the South Atlantic area has not been substantiated, nor has it been fully disproved.\(^{42}\)

From December 1977 to December 1981, the UN had approved many resolutions calling upon all States of Africa, "to consider and respect the continent of Africa as a nuclear-weapon free zone. On December 1982, the


\(^{41}\) Ibid., p. 33.

\(^{42}\) Ibid.
UN General Assembly adopted a resolution (37/74A) which expressed: "concern that South Africa's continued pursuit of a nuclear weapon capability seriously jeopardizes the realization of the objective of a denuclearized Africa and poses a grave danger not only to security of African States but also to international peace and security". 43 Moreover, the General Assembly reaffirmed its stand every year for establishing NWFZ in Africa. But, it is not achieved so far as the nuclear activities of South Africa go against the very interest of NWFZ. The following would focus on Africa's nuclear activities.

South Africa's nuclear programme began in the mid 1940s. In 1949 it established the Atomic Energy Board. South Africa initiated to operate pilot plants for extracting and processing the raw uranium ore. For, the US and the UK extended their help. In 1952, South Africa produced uranium. Since then, South Africa has been concentrating on various aspects of nuclear technology. At present, South Africa has power reactors (Koeberg I, Koeberg II), uranium resources/active mining sites/uranium mills, uranium conversion.

43 Cited in T.T. Poulose, n. 7, p. 87.
facility, reprocessing facility, enrichment facility, fuel fabrication facility, and research reactors. Moreover, it has selected combat aircraft able to deliver nuclear bomb. As of these reasons, the NWFZ proposal for Africa has been facing a number of problems. The next section deals with the Mediterranean NWFZ proposal.

Mediterranean:

The proposal for establishing NWFZ in Mediterranean was submitted by the Soviet Union in 1963. This proposal was taken up by the ENDC on 27 May 1963 to study further about the possibility of establishing NWFZ in this area. According to this proposal, it had to cover up the following countries: Egypt, Lebanon, Algeria, Tunisia, Jordan and Syria. In effect, various proposals came from Warsaw Pact countries aimed at eliminating nuclear weapons from the Mediterranean. Some states were proposing a peace-zone in this area. Other states, like Italy and France, have stated that establishing NWFZ or peace zone in this area could not be separated from European security as a whole and therefore the UN should consider the Europe first.


It should be noted that the Mediterranean Sea connects three continents: Europe, Asia and Africa, and waterways from Atlantic to Black Sea and from Pacific Ocean to Indian Ocean.

However, in 1981, the Soviet Union made a series of proposals for a nuclear free Mediterranean. It asked the UN to conclude an international agreement on the following points: extension of the internationally tested and justified confidence measures in the military field to the Mediterranean region; agreed reduction of armed forces in the region; withdrawal of nuclear weapons carrying ships from the Mediterranean sea; non-deployment of nuclear weapons on the territory of non-nuclear Mediterranean countries; non-use of nuclear weapons by the nuclear powers against Mediterranean countries which do not deploy such weapons.46 Although there are different approaches for NWFZ, the resolution entitled "strengthening of security and cooperation in Mediterranean region" was adopted unanimously in the UN.47 However Mediterranean countries are not enthusiastic for NWFZ, as some of them are interested for nuclear weapon programme.

46 Ibid.
Egypt's nuclear programme began in the late 1960s, as it used unconventional weapons - mustard gas and possibly other chemical agents, the product of indigenous technology and which might be its unique way of going for nuclear weapon programme -- in 1967 when its troops were fighting in North Yemen. After this war, Egypt withdrew this programme. However, the 'know-how' is with them till today. To avoid this controversy against their nuclear technology, Egypt had ratified the Non-Proliferation Treaty in 1981. Also, it expressed its interest for maintaining peaceful cooperation with neighbouring countries. Therefore, it has signed a peace treaty with Israel in 1979.

Since then, Egypt has been concentrating on peaceful nuclear programme. However, it should be mentioned that its nascent nuclear power programme had fastly improved and the Soviet Union had helped Egypt master this technology. Since Egypt has signed the NPT in 1981, the US has been helping Egypt. An agreement for nuclear cooperation was signed in 1981 by the US and Egypt. According to this, the US gave

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49 Ibid.
in the Mediterranean role. French Defence Minister, Andre Giraud pointed out that the southern flank of NATO was hardly protected against a possible threat from the Mediterranean zone and this was where their AWACS would prove useful. Thus the Mediterranean zone has been deliberately involved with the nuclear NATO. However, on 17 March 1988, the Soviet Union proposed a freeze on US and Soviet warships from 1 July 1988. This would be a first step towards a US-Soviet agreement to withdraw all their naval forces, including nuclear forces from the Mediterranean. It should be noted that at present, the US sixth fleet, with an average of about 50 ships, is permanently stationed in the Mediterranean, while the Soviet Union keeps 40 to 45 warships in the area. As of these reasons, Mediterranean countries are planning to have a consultative meeting of Mediterranean states which might result to have a nuclear free Mediterranean. The proposal for Indian Ocean as a peace zone is discussed in the following section.

**Indian Ocean as a Zone of Peace**

On 8 October 1964, Sri Lanka suggested at the Second Non-aligned Nations' Conference held in Cairo,


that the concept of a nuclear-free zone should be applicable to the Indian Ocean.\textsuperscript{54} This suggestion was subsequently incorporated in the declaration of the Cairo conference in September 1970. The Third Non-aligned Nations' Summit conference at Lusaka, adopted a resolution which called upon all states: "to consider and respect the Indian ocean as a zone of peace from which great power rivalries and competition as well as bases conceived in the context of such rivalries and competition -- either army, navy or air force bases -- are excluded. The area should also be free of nuclear weapons".\textsuperscript{55} At the Commonwealth Conference, held at Singapore in January 1971, Sri Lanka proposed that the Indian Ocean be converted into a peace zone and a nuclear-free zone. Sri Lanka also submitted a memorandum which opposed the presence of the Soviet and the American

\textsuperscript{54} The Indian Ocean is regarded as the world's third largest ocean, after the Pacific and the Atlantic. It touches parts of Africa, Australia, Antarctica and Asia, including Middle East. The Indian Ocean region can be divided into five pivotal areas: (1) East Africa and the ocean to the east of it, including the island countries of Mauritius, Seychelles and Madagascar; (2) the Horn of Africa and the Red Sea countries; (3) South-west Asia, including the Persian Gulf states and the Arabian Peninsula; (4) South Asia; and (5) South-east Asia and Australia. See Rasul B. Rais, \textit{The Indian Ocean and the Super Powers} (London: Croom Helm, 1986), pp. 13-36.

fleets carrying nuclear weapons in the area.\textsuperscript{56}

On 16 December 1971 the UN General Assembly adopted Resolution 2832 (XXVI) -- entitled 'Declaration of Indian Ocean as a Zone of Peace' -- with sixty-one countries voting in favour and fifty-five countries abstaining. The United States, the United Kingdom, France and the Soviet Union abstained from voting. China voted in favour. The resolution called upon the big powers to consult the littoral States of the Indian Ocean with a view to\textsuperscript{57}; (a) halting the further escalation and expansion of their military presence in the Indian Ocean; (b) eliminating from the Indian Ocean all bases, military installations and logistical supply facilities, the disposition of nuclear weapons and weapons of mass destruction, and any manifestation of great power military presence in the Indian Ocean conceived in the context of great power rivalry.

In 1972, the General Assembly adopted Resolution 2992 (XXVII) for establishing a fifteen-member Ad hoc Committee on the Indian Ocean. This resolution was voted by ninety-five countries and abstained by thirty-two

\textsuperscript{56} Ibid.

\textsuperscript{57} Ibid.
countries. The resolution called upon the committee to study the implications of the proposal with special reference to the practical measures that might be taken in furtherance of the objectives of the December 1971 Declaration.\textsuperscript{58} It should be noted that the number of Ad hoc committee members was increased up to forty-eight by 1984. Also, both the United States and the Soviet Union initiated bilateral talks in 1977 to pursue possible limitations on military activities in the Indian Ocean. However, the bilateral talks had not resumed after 1985. In 1977, the Lottoral and Hinterland States, the big powers and the major maritime users of the Indian Ocean attended a meeting in New York. The meeting proposed that the ad hoc committee on the Indian Ocean undertake the preparatory work for it, including consideration of appropriate arrangements for any international agreement that might ultimately be reached. However, the ad hoc committee was unable to complete the preparatory work for the conference.\textsuperscript{59} Therefore, the nuclear free Indian Ocean is not achieved till today. On the contrary, the nuclear activities are increasing in this region.


\textsuperscript{59} Ibid.
Indian Ocean has been linked with the global-nuclear activities of big powers. The United States, the Soviet Union, the United Kingdom and France have nuclear infrastructures dispersed all over the world. The US has 830 domestic nuclear infrastructure (DNI), and 749 foreign nuclear infrastructure (FNI), while the Soviet Union has 385 and 105 respectively. The UK has 165 DNI and 25 FNI. And France has 132 DNI and 16 FNI. China is the only which does not have FNI, but it has 76 DNI. There are more than 2000 nuclear warheads aboard ships and submarines at sea. These ships and submarines are regularly patrolling in the north-western Indian Ocean. Moreover, the Indian Ocean has been used for supporting their bases, facilities, access to facilities and prepositioning of stocks, contingency arrangements, and sustainability for peace-time deployment at sea. The littoral states of Indian Ocean have nuclear infrastructure of the US and the Soviet Union. The US has important facilities in Australia, Diego Garcia, Oman and Seychelles; the Soviets in Vietnam, South Yemen and Ethiopia and the French in Djibouti and Reunion.


61 Ibid.
The US has been modernizing its bases in Somali (Berbera, Mogadishu and Hargeisa), Kenya (Mombasa), Saudi Arabia (Dhahran), Oman (Markaz-Thamarit) and the Bahreins (Manama). Aerodromes, including those on Diego Garcia and Masira, have been equipped to cater for B-52 strategic aircraft. Also the US has been trying to have agreement for bases in Pakistan, Sri Lanka, the Comoro Islands, Maldives, and in Bangladesh (Chittagong). Moreover, the US has 17000 Rapid Deployment Forces (RDF) which are deployed all over the world. Some of the US RDF are operating in the western part of the Indian Ocean. The US carrier battle groups stationed in the Eastern Mediterranean and Indian Ocean are routinely equipped with hundreds of nuclear weapons; B-61 light weight nuclear bombs for use with carrier-borne strike aircraft; B-43 medium-weight nuclear bombs on aircraft carriers (to be replaced by the B-83 variety), B-57 nuclear depth charges for use by the P-3 ASW aircraft; W-44 warheads for ship launched

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62 Diego Garcia is a coral atoll 13 miles long and 4 miles wide, with a land area of the tip of India and 10000 miles from the mainland of the US. Diego Garcia was selected because of its central location and its potential as a major naval base .... Diego Garcia was leased out by the UK to USA as a military base after evicting 1200 citizens from the islands group. See Rasul B. Rais, The Indian Ocean and Super Powers (London: Croom Helm, 1986), pp. 76-78.

63 Ibid., pp. 63-65.
ASW missiles; V-45-1 warheads of IKT yield for surface-to-air anti-aircraft weapons. Also the US Marine Corp's air-ground task force, another important component of RDF, is equipped with nuclear capable F/A-18 Hornet and AV-8B Harrier V/STOL fighters. 64 Also, the Soviet Union has been increasing its forces in the Indian Ocean. As of these reasons, Indian Ocean peace zone is not achieved till today. The proceeding section is concerned with NWFZ proposal for South Asia.

South Asia:

In the tenth Annual Session of the UN Atomic Energy Conference held in Mexico in September 1972, Pakistan put forward a proposal for establishing nuclear-weapon-free zone in South Asia. This proposal was reaffirmed by President Bhutto, as he expressed in the inaugural meeting of the Karachi Nuclear Power Plant (KANUPP), on 23 November 1972; "we would welcome if the entire subcontinent by the agreement of the countries concerned could be declared a nuclear weapon free zone and the introduction of nuclear weapons banned". 65


65 UN Documents A/PV 224(4974); A/PV 2375/1975.
And finally, Pakistani proposal was made in UN, as Aga Shahi, the Pakistani representative, expressed that "India's fateful step in carrying out an underground explosion on 18 May has precipitated a grave situation for Pakistan".66 Thus, in the 29th session of the UN General Assembly convened on 28 October 1974, the Pakistan submitted a resolution which sought to endorse in principle the concept of a nuclear weapon free zone in South Asia. India expressed its view on Pakistani proposal for NWFZ in South Asia by noting four important points. They are: Pakistan did not consult India before bringing the question to the UN; South Asia is a part of Asia and therefore NWFZ is not feasible as South Asia is surrounded by nuclear weapon states, states belonging to their military alliances (CENTO), and the Pacific Ocean wherein nuclear forces of the nuclear states are patrolling; India will not accept any imposition from outside countries to change its nuclear policy; and India's nuclear programme is only for peaceful purposes and not for weapon production.67


The Soviet Union did not vote for Pakistani resolution stating that the adoption of a substantive decision by the General Assembly on the question should be preceded by a common understanding among the states which may participate in the establishment of such a zone. However, the Soviet Union voted for Indian resolution. The United States abstained from voting on either of the resolutions. It stated that the US did not believe the Assembly's adoption of these two draft resolutions which would advance the objective of a nuclear-weapon free zone in South Asian area. China voted for the Pakistani resolution. France abstained from voting. The United Kingdom also abstained from voting. Since 1974, the Pakistani resolution has been reaffirmed in the similar pattern in every year.

In 1987, Bangladesh joined Pakistan in support of NWFZ in South Asia, and both of them jointly sponsored a resolution in the UN. The 159-nation General Assembly's Political Committee voted 95-3, with 33 abstentions to adopt the proposal. Bhutan and Mauritius joined India in opposing the proposal. However, the General Assembly

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69 UNGAOR, n. 67, p. 76.
approved the resolution sponsored by Pakistan and Bangladesh in November, 1987.\textsuperscript{70} The resolution received the support of 114 countries, with 36 abstaining. The abstaining States include the Soviet Union, Yugoslavia, Brazil, Indonesia, Argentina, and France. This resolution requested the UN General Assembly to promote consultations among the states "with a view to exploring the best possibilities of furthering the efforts for the establishment of such a zone".\textsuperscript{71} However, for purpose of the study, it is important to note the nuclear activities in South Asia. For, Pakistan and India are considered below.

Pakistan's nuclear programme began in the mid-1950s when the Pakistan Atomic Energy Commission (PAEC) was created, under the Chairmanship of Dr. Nazir Ahmed. PAEC established its first nuclear research facility at Nilore, near Rawalpindi in 1965. Research and training facilities for scientists and technicians were given by the Institute of Science and Technology (PINSTECH). However, the first research reactor, PARR, was supplied by the US in 1965. Since then, Pakistan has been concentrating on nuclear technology.\textsuperscript{72}

\textsuperscript{70} Tribune (New Delhi), November 11, 1987.
\textsuperscript{71} Patriot (New Delhi), December 2, 1987.
As a result, now Pakistan has power reactors (Kanup), uranium resources/active mining sites/uranium mills, uranium conversion facilities, heavy water, enrichment facility, uranium purification facility, fuel fabrication facility, reprocessing facility, and research reactor (PARR). And it has been building a second uranium enrichment plant at Golra, 9 km. west of Islamabad. The first enrichment plant is at Kahuta, 32 km. south-east of the capital. Apart from these facilities, Pakistan has selected combat aircraft able to deliver nuclear bomb; F-16 Falcon, Mirage 5 PA3, L-5 Fantan A and Mirage 3EP. The following writings focus on India's nuclear activity.

India's nuclear programme began in the mid-1940s. Indian Institute of Science and the Tata Institute for Fundamental Research were the two major institutes which trained Indian scientists and engineers at that time. From 1956 to 1966, India managed to set up and operate research as well as power reactors. As of these reasons, the research reactor, Apsara was obtained by India during that period and Atomic Energy Commission was established. Since then, India has been concentrating

on various aspects of nuclear technology. As a result, today, India has power reactors, uranium resources, uranium purification facility, heavy water, fuel fabrication facility, reprocessing facility, and research reactors. Also, it has selected combat aircraft able to deliver nuclear bomb. The next section is concerned about the NWFZ proposal for Middle East.

**Middle East:**

In 1974, Iran requested the UN to consider the question of establishing a denuclearized zone in the Middle East. Egypt subsequently co-sponsored the request. Most of the states in that region supported this move. On 9 December 1974, the UN General Assembly

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76 The Middle East region may be loosely defined as the countries immediately bordering the Soviet Union, i.e., Turkey and Iran; the Arab countries including the confrontation states of the Arab-Israel; the Persian Gulf states, which again cover Iran and Iraq but also Saudi Arabia, Kuwait, Qatar, and the Emirates; and the Yemens. One might also include Libya, the Sudan and even Somalia as peripheral states of the region, the last two because of their relationship with the Red Sea (on which Ethiopia also borders). See, J.C. Hurewit (ed.), *Soviet-American Rivalry in the Middle East* (New York: Academy of Political Science, 1969), pp. 104-20.
adopted a resolution. In its resolution the UN commended the idea of establishing a NWFZ in the Middle East and considered that it was indispensable that all concerned parties in the area proclaim solemnly and immediately their intention to refrain, on a reciprocal basis, from producing, testing, obtaining, acquiring or in any other way possessing nuclear weapons.

However, Israel, the most important state in the region, did not respond to this call properly, as it was very much prepared to go nuclear in the late 1970s. Therefore, there were increasing doubts among Middle East countries about Israel's reported nuclear-weapon capability. Thus, in 1979, the General Assembly requested the Secretary-General to undertake a study on the issue. The study, Israeli Nuclear Armament, submitted by the Secretary-General of the United Nations to the UN General Assembly in 1981, concluded that there was widespread agreement among technical experts, that given Israel's nuclear activities and level of expertise, it was capable of manufacturing nuclear explosive devices and possessed the means of delivery.
of such weapons to targets in the area, but the experts were unable to conclude definitely whether or not Israel was currently in possession of nuclear weapons. 79 However, Israeli nuclear intention was proved, as it directed its programme towards missile capability in 1980s.

As a result, in 1987, Israel has tested an intermediate range nuclear missile, Jericho II. Jericho II is the size of the United States Lance battlefield missile, weighing between 1500 and 1800 lb. propelled by a single-stage long-burn engine. The nuclear warhead is 24 to 26 inches long, weighs some 180-200 lb. and has a diameter of 18 to 20 inches. Jericho II carries a warhead of up to 250 to 500 kilotons, moving it beyond the tactical nuclear yield; it was actually designed from the beginning for air-burst above enemy cities of massed armour formations in the Sinai, to act as an "air base buster". 80 In early 1961, Israel launched a solid fuel "weather rocket" called the Shavit II, followed by Shavit III. These plans were followed aiming to have a battlefield missile capable of carrying nuclear warheads. Jericho II is the


another version developed from the Marcel Dassault known as MD-660 which was to be testified in 1968. The Dassault missile test was proceeded with French embargo. However, by the help of the United States Israel gained to develop its own version and also learned to make warhead and guidance work for Jericho II. Jericho II was testified in the Mediterranean near Crete. This missile is reported to have been deployed in the Neger, where a base near Beersheba is reported to have cars, with tracks leading into heavy blast doors over caves cut in the rock. Also there are reports that they are deployed in the Golan Heights, their mobile launchers camouflaged as commercial vehicles. Jericho II, the long-range version which has the range of 1500 km, would reach most Arab capitals. Moreover, Iran and Iraq have been concentrating on nuclear technology since the late 1970s. Besides, the very challenge for the NWFZ in this region comes from the US Rapid Deployment Forces (RDF) - deployed in and around Middle East region.

However, the already deployed nuclear forces in the region is a direct attack on the interest of establishing NWFZ in the Middle East. These forces

81 Ibid.
are deployed by both the NATO and Warsaw Pact countries. NATO's ground launched missile are: Lance surface-to-surface missile, M-109 155 mm Howitzer, and M-110 8 inch howitzer. And its tactical aircrafts are: F-4 (Phantom) and Mystere IV-A. Warsaw Pact's ground launched missiles are: Send surface-to-surface missile, Frog-7 surface to surface missile, and 8-inch howitzer. And its tactical aircrafts are: MiG-21 (Fishbed), MiG-23 (Flogger), Su-7 (Fitter), 11-28 (Beagle), and Tu-16 (Badger). Moreover, Israel, Libya, and Iraq have their own forces in the Middle East, as they have developed nuclear related infrastructure in their country. Israel has research reactor (IRR 1 and IRR 2), uranium resources, uranium purification facility, heavy water, fuel fabrication facility, reprocessing facility, enrichment facility, and uranium conversion facility. Also, it has selected combat aircraft able to deliver nuclear bomb: F-16 Falcon, F-4 Phantom II, F-15 Eagle, A-4 Skyhawk, Kfir, and Mirage 3 CJ. Libya has research reactor, power reactor planned, uranium resources, and uranium tetrafluoride. And its selected combat aircraft able to deliver nuclear bomb are: Tu-22 Blinger A, Mirage F-IA/B/E, Mirage 5D/DD/DE, Su-20/22 Fitter, MiG-23 Flogger S/F and MiG-21 Fishbed. And Iraq possesses research reactors (Osiraq, Tammuz-I, Isis, Tammuz-II and IRT-2000), uranium resources, uranium
purification facility, fuel fabrication facility, and reprocessing facility. Its selected combat aircraft able to deliver nuclear bomb are: Tu-22 Blinder, Tu-16 Badger A, Mirage F-1EU/Bw, MiG-23 BM Flogger F, Su-20 Fitter C, Su-7 Fitter A, MiG-29 Fulcrum, MiG-21 Fishbed, and Super Etendard. Thus, establishing NWFZ in Middle East has become a difficult problem. The following chapter focuses on Antarctica, Outer Space, and Seabed.

82 For more detail, see Leonard S. Spector, n. 44, pp. 149-52, 160-62 and 170-72.