

PRINCIPLES OF ESTABLISHING A MIDDLE EAST WEAPONS OF MASS DESTRUCTION FREE ZONE (MEWMDFZ) MONITORING AND VERIFICATION SYSTEM

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ABSTRACT

The Middle East (ME) is one of the most dangerous regions in the world. It has suffered conflicts and wars with weapons of mass destruction (WMD) implications at higher frequency and intensity than any other region during the last 60 years. These are natural consequences of large conventional arms race, stockpiles of nuclear and other WMD and missiles, national conflicts and lack of international and regional political will to establish a MENWFZ proposed in 1974 or weapons of mass destruction free zone (MEWMDFZ) proposed in 1990. In view of the rising regional and global tensions threatening peace and security, concerted global and regional efforts should be undertaken to establish such ZONE in the context of regional security system.

President's Mubarak initiative to establish a verifiable MEWMDFZ received unparalleled global support which is reviewed here. The principles on which a credible monitoring and verification system for the ZONE are developed based on analysis of the evolution of NWFZ movement as well as recent regional and global nonproliferation, arms control and disarmament advances. In view of the collapse of the non-cooperative UNSCOM verification regime, a cooperative integrated monitoring and verification system is proposed for the MEWMDFZ.

1. INTRODUCTION

The Middle East (ME) was described as a region of tension by the 1995 Nonproliferation Treaty (NPT) review and extension conference in the context of Decision 2, para-6 which states: "The development of Nuclear weapons free Zones (NWFZs), especially in regions of tension such as the ME, as well as the establishment of a zone free of all weapons of mass destruction (WMD) should be encouraged as a matter of priority taking into account the specific characteristics of each region". The ME has suffered conflicts and wars, with WMD implications, at higher frequency and intensity than any other region during the last half century. Further, the ME was the largest importer of conventional weapons in the world in the last decade, in spite of the Madrid - Oslo ME peace process. This arms race is fueled by stockpiles of nuclear and other WMD and missiles.

The situation is further complicated by the serious problems facing the ME peace process and the escalating tension raging in the region for almost a year and is seriously weakening the peace process. This unstable and risky situation is not only threatening peace and security in the region but also in the world and could lead to terror. It cannot continue like this and cannot be handled a step by step any more. The future of the ME lies in a peaceful settlement based on the establishment of a regional security system, the core of which is a verifiable MEWMDFZ, proposed by President Mubarak in 1990 and is widely supported. This is the Corner Stone of the new ME. This paper addresses:

- (a)** The support to establish the ZONE (NWFZ or MEWMDFZ).
- (b)** Lessons learned from the NWFZ movement and other nonproliferation, arms control and disarmament (NPACD) developments.
- (c)** Establishment of MEWMDFZ.
- (d)** Principles of establishing a MEWMDFZ monitoring and verification system.

2. GLOBAL SUPPORT TO ESTABLISH THE ZONE

The establishment of the ZONE has received overwhelming national, regional and global support; the most important are:

- (a) All Arab states and Iran are parties to the NPT. Israel is the only country in the ME which is not a party to the NPT.
- (b) In 1974 (following the Oct. 1973 ME war) Iran and Egypt submitted a draft resolution to the UNGA (General Assembly) on the establishment of a MENWFZ, which was adopted as resolution 3263 on Dec. 1974. It called upon all parties concerned in the region to proclaim their intentions to refrain on a reciprocal basis from producing or otherwise acquiring nuclear weapons and to accede to the NPT. Since then, this resolution is adopted annually without a vote [1,2]. The zone would greatly enhance international peace and security.
- (c) The Arab states of North Africa signed the African NWFZ treaty (Pelindaba) in 1996. It is important to note that in 1964 Egypt hosted the first OAU (Organization of African Unity) summit which declared the denuclearization of Africa. This indicates early commitments of many Arab States to the concept of NWFZs.
- (d) On April 1990 (shortly before Desert Storm) President Hosni Mubarak [3-5] declared Egypt's support for ensuring that the ME becomes a zone free from all types of WMD. The Mubarak visionary initiative emphasized the following:
 - i. All WMD without exception, should be prohibited in the ME i.e. nuclear, chemical and biological... etc.;
 - ii. All states of the region without exception, should make equal and reciprocal commitments in this regard;
 - iii. Verification measures and modalities should be established to ascertain full compliance by all states of the region with the full scope of the prohibitions without exception.
- (e) A year after Mubarak initiative the UNSCR 687 (1991) [6] issued (after Desert Storm), under chapter VII of the UN Charter, indicated in the preamble that the Council is conscious of the threat all WMD pose to peace and security in the area and of the need to work towards the establishment in the ME of a zone free of such weapons. Further, paragraph 14 states that the goal is establishing in the ME a zone free from WMD and all missiles for their delivery (ballistic missiles) with a range greater than 150km and related major parts and repairs and production facilities (paragraph 8b).
- (f) The UNSCR 1284 (1999) [7] issued to establish the UN Monitoring, Verification and Inspection Commission (UNMOVIC) after the collapse of UNSCOM in Desert Fox in 1998 also supported the establishment of a MEWMDFZ.
- (g) The 1995 NPT Review and Extension conference [8] which extended the NPT indefinitely and unconditionally adopted, besides para 6 in Decision2, mentioned earlier, a resolution on the ME (RME) establishing a MEWMDFZ. The RME was proposed by the Russian Federation, United Kingdom of Great Britain and Northern Ireland and **the USA** (NPT depositary countries). It also referred to the UNSCR 687 (1991), particularly paragraph 14. Important parts of the ME are:

The conference:

- Reaffirms the importance of the early realization of universal adherence to the (NPT) treaty and calls upon all States in the ME that have not yet done so, without exception, to accede to the treaty as soon as possible and place their nuclear facilities under full-scope IAEA safeguards.
- Calls upon all States in the ME to take practical steps in appropriate forums aimed at making progress towards, inter-alia, the establishment of an effectively verifiable ME zone free of weapons of mass destruction, nuclear, chemical and biological and their delivery systems, and to refrain from taking any measures that preclude the achievement of this objective.

- (h) The 2000 NPT review conference [9,10] reaffirms the importance of the RME and recognizes that the resolution remains valid until the objectives are achieved. The conference also reaffirms the importance of Israel's accession to the NPT and placement of all of its nuclear facilities under comprehensive IAEA safeguards, realizing the goal of universal adherence to the treaty in the ME; this is the first time Israel is named in this regard.

This support to establish the MEWMDFZ by the UNSC and the most recent NPT review conferences is unparalleled. The global standing on establishing the ZONE is equivalent to the standing of the decision to extend the NPT indefinitely. It is clear that the USA also supported the establishment of the ZONE.

3. LESSONS LEARNED FROM THE NWFZ MOVEMENT AND OTHER NPACD DEVELOPMENTS.

3.1 Development of NWFZs

The development of NWFZs has been recently addressed and reviewed [11,12]; important lessons are:

- (a) Security and political considerations played major roles in establishing the NWFZs. This is why long times were taken for the development of most of the zones. Examples are:
 - (i) The regional and global threats of the Cuban missile crisis in 1962 was the major driving force for establishing the Tlatelolco treaty (1967) and the NPT (1970).
 - (ii) The driving force for the Rarotonga treaty (1985) was the threat to the region from nuclear testing in the South Pacific. The associated protocols were completed in 1996, immediately after the end of the last group of French and Chinese nuclear testing.
 - (iii) The declaration of the denuclearization of Africa in 1964 by the OAU in response to the French nuclear testing in Algeria 1960 gave support to the Latin America movement; it was also the driving force to establish the Pelindaba treaty. The African efforts to conclude that treaty was possible after the political changes in South Africa which ended the Apartheid regime and led to the accession of South Africa to the NPT in 1991 [11].

With the passage of more than a quarter of century since the UN GA resolution to establish a MENWFZ and more than a decade since the Mubarak's initiative to establish a MEWMDFZ, the implementation of any is not in sight in spite of the global support. Several peace opportunities since the Egypt-Israel peace treaty in 1979 provided chances to move in this direction were missed. The multilateral ME arms control and regional security (ACRS) collapsed in 1995 with no significant results. **In view of the rising tensions regionally and globally concerted efforts have to be undertaken to take practical steps towards establishment of MEWMDFZ as a matter of priority. This should move parallel to the peace process.**

It is unfortunate that the US agreed to protect the Israeli deterrent formalized in the 1998 memorandum of agreement between the two countries [13]. As shown, the US international obligations, and commitment to the zone is clear and should prevail. Further, the US role as a leader to nonproliferation and counter-proliferation is crucial and should not be subject to compromise.

- (b) The scope of NWFZs evolved with time.

- (i) While Tlatelolco (1967) and the NPT (1970) allows peaceful nuclear explosions (and implicitly the possession or the handling of nuclear devices), Rarotonga (1985) prohibits stationing of any kind of nuclear weapon (assembled or unassembled). Further, Pelindaba (1996) prohibits R & D, related to nuclear weapons; it also prohibits manufacturing, storing and acquisition of nuclear weapons. The prohibition of R & D related to nuclear weapons is

new to the scope of NWFZs. It is a fallout from the UNSCR 687 (paragraph 12) on Iraq. This development should be considered in the scope of a MEWMDFZ for harmonization, since several members in Pelindaba are potential members to the MEWMDFZ

- (ii) Verification in all NWFZs is undertaken by the IAEA. The role of commissions created by various treaties is nominal. Verification of dismantling of nuclear weapons that existed was addressed only by Pelindaba (article 6) which require multilateral verification [12,14].
- (c) **The establishment of regional-global** monitoring and verification systems is an important development. Such a system allows regional parties to take a prime responsibility in monitoring and verification of their region. The linkage to the global system (i.e. IAEA) is also essential to assure the international community that the commitment to NPACD is maintained. The two regional-global systems in existence are:
 - (i) The IAEA-Euratom system [15].
 - (ii) The IAEA-ABACC (Argentine Brazilian Agency for Accounting and Control of Nuclear Materials) [16].

In view of the support to establish a MENWFZ, it is important to recommend to the IAEA and the Arab League to study and consider the setup of a similar IAEA-MEACC (ME Agency for Accounting and control of Nuclear Materials) as a first step towards establishing the ZONE. This arrangement should be open to other non-Arab parties in the region to join.

3.2 Important Recent NPACD Global Developments:

Developments have taken place to enhance transparency in recent NPACD. Several documents have been concluded and are in operation.

- (a) The entry in to force of the Chemical Weapons Convention (CWC), [17] and the establishment of the OPCW (Organization of the Prohibition of Chemical Weapons).
- (b) The conclusion of the IAEA Model protocol INFCIRC540 [18] additional to INFCIRC/153 [19] to strengthen the IAEA safeguards system.
- (c) The conclusion of the CTBT (Comprehensive Test Ban Treaty) as decided by the 1995 NPT Review and Extension meeting and the establishment of CTBT organization. Advanced inspection techniques were introduced such as challenge inspections, managed access, special inspections, and on-site-inspections. Advanced monitoring technologies and sensors are now available.

3.3 The Rise and Demise of UNSCOM [21,22,23]:

The UN Special Commission (UNSCOM) campaign to establish a WMDFZ in Iraq according to UNSCR 687 and 715 [20] dominated the nineties. The UNSCOM undertook the most non-cooperative intrusive-destructive disarmament campaign ever taken in history. It has been said that UNSCOM destroyed more of Iraq WMD than the entire bombing campaign of Desert Storm. It is described "almost as a relentless war with earth scorching". Some features of this campaign are:

- (a) UNSCOM had extensive rights and powers to do anything, go anywhere, break any door, and destroy any element of WMD. UNSCOM smashed equipment and apparatus including dual use ones, filled heavy machinery with concrete, buried machines and materials etc.,
- (b) UNSCOM was highly staffed (200 permanent employees, Butler used 1000 inspectors in his period). It was also highly equipped: U-2 plane, 6 helicopters laboratory facilities at

Baghdad monitoring and verification center, access to laboratories in the US and other countries.

The UNSCOM disarmament Campaign was further supported by:

- (a) Severe economic sanctions and serious food shortages which caused severe human devastation.
- (b) Air attacks to weaken the Iraq resistance to disarmament which included the use of false declaration concealment, unilateral destruction of facilities, etc.,
- (c) Intelligence information and support.

This non-cooperative destructive campaign for disarmament in Iraq generated severe resistance, until it finally collapsed under Desert Fox military strikes. Yet after 8 years of UNSCOM, complete disarmament has not been achieved. Richard Butler assessment of the situation is "Iraq is as dangerous as it was a decade ago".

It is important to conclude that it is only through the political will of the parties, their cooperation and working together in building and managing a cooperative monitoring and verification system that a MEWMDFZ can be established.

However the UNSCOM-IAEA monitoring and verification system was the only one which dealt with monitoring and verification of nuclear, biological, chemical weapons and missiles as well as their technologies and facilities at various stages of development, utilization, concealment and dismantling. **This experience is unique, relevant and should be carefully studied from the technical, operational and administrative aspects. Lessons learned should be valuable in establishing the MEWMDFZ monitoring verification and inspection system [20,24,25].**

4. ESTABLISHMENT OF MEWMDFZ

4.1 MEWMDFZ Treaty

The cornerstone of establishing a MEWMDFZ is the political commitment and will of the regional parties to enter into this solemn and universally supported undertaking, in the context of a ME regional security system. The translation of this commitment to a legally binding and sound MEWMDFZ treaty is the essential step in building a new ME. The potential members of the treaty are states in the Arab League plus Iran and Israel. A number of core countries shall be defined to start the ZONE. Preparatory work should start by countries who have peace treaties namely Egypt, Israel, Jordan and Palestine as well as states sponsoring the peace process.

The treaty shall prohibit the development, production, stockpiling, placing and use of WMD and missiles "range beyond 150km?" in the region, as well as the dismantling and destruction of existing ones. It shall also prohibit R & D work related to nuclear weapons, as in Pelindaba treaty, as well as other WMD. The treaty shall establish a ME organization for the prohibition of WMD. It is essential to build a credible cooperative integrated monitoring and verification system (CIMVS) to inspect and verify compliance with treaty obligations. Cooperative monitoring - as defined by Sandia National Laboratories CMC (cooperative Monitoring Center)- deals with the process of obtaining and sharing of agreed information among parties to enhance their security. This concept is emphasized in the ME

4.2 Main Functions of the Proposed CIMVS

These functions should include, but not limited to, the following:

- (a) Monitoring and verification of the dismantling and destruction (DD) of existing stockpiles of WMD and missiles (above 150km range?).

- (b) Dismantling of relevant production facilities or their conversion to peaceful uses.
- (c) Safeguarding chemical, biological, nuclear and missile activities in order to detect, at a very early stage, any deviation to initiate or resume development, production and stockpiling of proscribed activities, or items.
- (d) Relevant R & D activities.
- (e) Undertaking, R & D work to improve WMD verification technologies
- (f) Establishing an export-import control mechanism for relevant dual use technologies.
- (h) Establishing an information and data base related to proliferation and illicit trafficking of WMD materials.
- (h) Undertaking physical protection and other measures to combat illegal nuclear materials and devices.

4.3 Regional Experience

There is a valuable relevant ME experience that can be utilized to draw from in developing the ZONE. Important are: The Egyptian experiences in achieving Sinai-I agreement (1974), Sinai-II agreement (1975) and the Egypt-Israel peace Treaty (1979). Further the monitoring and verification system with various sensors [26] established by the US to monitor the Israeli withdrawal from Sinai in the period 1979-1980 was an early cooperative monitoring system in which Egypt, Israel and the US were involved. The mission was successfully implemented and generated considerable confidence between the parties. The recent Israel-Jordan experience in negotiating the 1996 peace treaty which contained an article on the establishment of a MEWMDFZ is a great achievement.

In the peace environment the prevailed at some intervals good progress has taken place but not was fully utilized. The collapse of the multilateral ACRS talks should be assessed. It seems that the efforts spent were not sufficient to sustain the effort. Since then significant track-2 efforts were devoted to ME studies, meetings and conferences by regional and international organization [27]. Though these activities are useful they have not been sufficient to produce noted progress. **The ME security and issues of establishing ZONE require institutionalized planned, systematic studies and efforts on the political, technical and legal aspects to achieve significant and timely results. Enhancing the role of science and technology and cooperative monitoring in NPACD will add a new and essential dimension. Action programmes are needed on the national and regional level and the establishment of new institutions nationally and regionally should be considered.**

5. PRINCIPLES FOR MONITORING AND VERIFICATION SYSTEM

A set of principles governing NPACD of nuclear, chemical, biological weapons and missiles has been formulated by Hammad [28, 29] in a manner similar to the IAEA nuclear safety Fundamentals [30]. They are developed for the use in the design, operation and development of a monitoring and verification system for a MEWMDFZ to ensure with the highest possible level of confidence, that the probability of WMD and missile proliferation is the lowest possible, and to detect promptly any attempt to violate the disarmament process or the safeguards system. It is believed that these principles are comprehensive and form a sound basis for establishing a credible CIMVS.

This set of principles has been developed since the NPT, CWC and BWC are not universally applicable in the ME. With these varying attitudes, it is imperative to develop these principles to address the situation in the ME. While the NPT and the CWC has global monitoring and verification systems, the BWC has no formal compliance monitoring regime. Efforts to strengthen the effectiveness of the BWC and to improve its implementation started in 1991, when an expert group VEREX, and an adhoc group of experts were formed. The VEREX report was accepted in 1994 and another group was formed to negotiate

a legally binding Protocol. After a decade of debate a Chairman text on a Protocol, to the BWC is now available [31,32]. Disagreements [33] arose in the negotiations about the ability of the text to provide acceptable measures that enhance compliance with the convention. The US rejected the Protocol recently, while most of the western group led by the UK, Sweden and Germany consider that the BWC can be verified like the CWC with properly chosen measures. **This is a considerable improvement to build upon. In the case of a MEWMDFZ a group of ME experts should further examine the Chairman's text and to develop an acceptable position for the potential ME WMDFZ.**

Principle 1: The design, establishment and management of a cooperative monitoring and verification system shall be based on the political mission and will of the parties to establish a MEWMDFZ in the context of a regional security system. This should enhance regional security and responsibility.

Principle 2: The monitoring and verification system shall be applied to nuclear, biological, chemical weapons and missiles (above 150km range?) as well as related activities in an integrated and coordinated manner.

Principle 3: The enhanced transparency, and openness in monitoring and inspections embodied in the Chemical Weapons Convention (CWC), the IAEA model protocol INFCIRC/540, (which is additional to INFCIRC/153) shall be applied to all WMD and missiles as appropriate.

Principle 4 : The regional system shall be linked to global verification systems to enhance the effectiveness of both systems and to assure the international community that the commitment to WMD NPACD in the region is maintained. The experience available in regional-global linkages in connection with the NPT, with emphasis on relevant experiences gained in the IAEA-ABACC and the IAEA-EURATOM arrangements should be utilized.

Principle 5: Only one monitoring and verification organization shall be created to undertake the overall establishment and management of the CIMVS in order to maximize integration of various monitoring and verification functions, minimize institutional conflicts and strengthen verification through joint (cross disciplinary) inspections and group assessments.

Principle 6: Dismantling, and destruction of existing WMD and missiles (with a range above 150 km?), as well as the infrastructure and facilities used for their development and production or their conversion to peaceful uses shall be undertaken multilaterally, according to approved procedures to ensure adequate verification on regional and global levels.

Principle 7: The highest standards of security and physical protection of nuclear and related materials, facilities and equipment to prevent theft or unauthorized use and handling shall be maintained.

Principle 8: The design of the CIMVS shall be based, as appropriate, on the concepts of the defense in depth, which include redundancy and diversity. This will allow the use of several layers of monitoring as well as various monitoring technologies in an optimized manner in order to maximize effectiveness, efficiency, and to minimize the risk of proliferation.

Principle 9: The availability of appropriate and advanced monitoring technologies and techniques and knowledge management system shall be ensured. Technical and analytical support in relevant disciplines shall be maintained. Relevant technological and technical experience gained from relevant global system shall be applied as appropriate. Further relevant experience generated from application of UNSCR 715 (1991) and UNSCOM operation in Iraq has to be assessed to extract lessons to enhance the effectiveness of the CIMVS.

Principle 10: Sufficient numbers of adequately trained and authorized inspectors shall be ensured. Appropriate training and qualification programmes shall be established in accordance with approved procedures.

Principle 11: Appropriate quality control and quality assurance programmes shall be established and implemented in all NPACD measures.

Principle 12: The timely analysis of the monitoring and verification results is essential for timely and adequate response in case of non-compliance. Lessons learned from operating experience shall be used to enhance the effectiveness and efficiency of the system. Further a comprehensive periodic evaluation, analysis and correlation of data and information gathered from various sources including surveillance, monitoring and inspection as well as intelligence information shall be carried out to maximize the effectiveness of the system to and identify future plans.

Principle 13: Promotion of scientific, technical and economic cooperation in peaceful uses of dual technologies is essential to achieve significant social - technical -economic benefits. The cooperation shall include R&D to improve verification technologies. Further, cooperation in safety, environmental protection, trans boundary releases, waste management and peaceful dual technologies should be included. Such undertakings will enhance confidence building and institutionalize the partnership imperative in development and security.

Principle 14 : NPACD culture shall be established and disseminated in verification organizations, educational programmes through education and public information to promote communal responsibility towards NPACD and enhance societal verification.

Principle 15 : Each regional party shall establish a competent body to undertake the needed regulatory functions and act as a counterpart for the organization for prohibition of WMD. Competent national organizations are the fundamental units of the regional system. The network of national organization will further strengthen the cooperative monitoring imperative.

6. SUMMARY AND CONCLUSIONS

The presence of WMD (nuclear, biological, chemical) and missiles in the ME-a region of tension with WMD implications, poses serious threat to peace and security in the region and the world. Early establishment of a verifiable MEWMDFZ is a matter of priority that necessitates taking practical steps, towards realization. This has received unparalleled global support which is reviewed here. However neither the NPT depositary countries, nor the UNSCR which supported establishing the ZONE have exerted effort towards this effect. It is important to emphasize that establishing the ZONE should move parallel to the peace process.

It this paper the evolution of the NWFZ movement and recent NPACD development are reviewed, important lessons were extracted and utilized to develop a set of 15 principles, based on which a credible regional cooperative integrated monitoring and verification system (CIMVS) for the ZONE can be established for the first time in history. The MEWMDFZ which is an achievable objective is the core of the ME security system which is the first step in building the new ME. The issues involved require urgent institutionalized planned and systematic studies on the political, legal and technical levels. The paper also makes several recommendations.

ACKNOWLEDGMENTS

The authors would like to thank Arian Pergenzer, Goerge Kolb and Mike Vannoui for discussions of some parts. One of us is indebted to Gil Bernabe (BTRA) for lengthy discussion. The authors are grateful to the Cooperative Monitoring Center, Sandia National Labs for invitation and hospitality, during which this paper is written.

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