
The International System and the Use of Weapons of Mass Destruction

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The proliferation of Weapons of Mass Destruction (WMD) – nuclear, chemical, and biological – and the means for their delivery at longer ranges has emerged as a leading issue in the post-Cold War debate about international security.¹ The greatest concern, however, is related to their use.

The purpose of this study is to examine whether there is any relationship between the various features of international system on the one hand, and the use of WMD, on the other. In so doing, it will compare the bipolar Cold War international system with the multipolar post-Cold War one. It aims at answering questions such as do structural differences between the two systems imply the creation or disappearance of opportunities and constraints that encourage or discourage the choice of the decisions makers to use WMD, or does this choice remain unaffected by changes in the structure of international system? Is it necessarily the existence of structural differences between the two systems that determines whether and to what extent WMD would be used, or there are other factors that could also influence the choices of the decision makers?

THE INTERNATIONAL SYSTEM

Examining the international system, one should focus on three issues: first, the structure of the system; second, the processes that take place within it; and third, the rules and norms that seek to regulate the actors' behaviour in the system. The structure of international system tells one first, how the component units (states) of the system are related to each other (hierarchy versus anarchy); and second, how power is distributed within the system (polarity).² The processes tell one how the units interact with one another.

The rules and norms function as guidance devices for states.³ Structure, processes, and norms and rules define the overall character of the system. The following subsections are designed to show whether, and if yes, how these systemic features are related to the use of WMD.

International Anarchy

International anarchy implies the absence of any superior authority above the states. Thus, both the Cold War and post-Cold War international systems have been anarchical in nature. This implies that if there is any relationship between the anarchic structure of the system and the use of WMD, then, this relationship remains unaffected by the passage from the Cold War system to the post-Cold War one. This also means that the conditions under which WMD are produced, acquired and might be used are common to both systems. But what are these conditions?

International anarchy imposes competitive, self-help conditions of existence on the states within the system. Under anarchy, states need to look after themselves to ensure their survival and welfare. However, in seeking power and security for themselves, states can easily threaten the power and security of other states. Thus military measures undertaken by one state, even if they are defensive in character, may be seen as offensive by other states. This security problematique under anarchy is known as the power-security dilemma.⁴

The security problem becomes more complicated when states have different foreign policy objectives. Although survival is a common goal to all states, beyond that, not all of them have the same foreign policy goals. Some of them prefer to maintain the *status quo* while others wish to alter it to their favour. Since armaments are needed to maintain as well as alter the *status quo*, states are not sure about the incentives of their neighbours. As a means to deter their opponents, redress military imbalances, and achieve their foreign policy objectives, some states have sought to acquire WMD thereby creating the WMD proliferation problem.

PROLIFERATION OF WEAPONS OF MASS DESTRUCTION: SYSTEMIC MOTIVES

Although both the Cold War and post-Cold War international systems are anarchical in nature, there are quantitative differences in the proliferation trends and qualitative differences in the motives that lie behind the acquisition of WMD. The issue of proliferation is not the same with that of the use of WMD. However, it has been argued that the two issues are

interrelated and that the proliferation of WMD in conjunction with the absence of mechanisms for crisis avoidance and crisis management as well as the domestic instability facing the possessor states increase the chances of their use.⁵ The purpose of this section is not to discuss the logic of these systemic motives but simply to state them.⁶ They may vary according to the status of the international actors (great and lesser powers) or may be similar.

The first of these motives is that WMD may give a decisive advantage to their user. The atom bombs used by the United States against Japan, for instance, led to the surrender of the latter, while the possible acquisition and use of nuclear bomb by Germany could have given a decisive advantage to Hitler's forces. This motive is common to both systems under discussion. The difference is that since more states acquire WMD, the possibility that they might use them whenever they wish to achieve a decisive advantage increases.

Although there has been always a fear that great powers might use WMD against each other, this is not very likely for three reasons. First, great powers possess safety mechanisms and procedures designed to prevent accidental use of WMD as well as crisis management mechanisms that reduce the possibility of accidental wars with WMD. Second, some great powers possess second strike capability that serves as a means of mutual deterrence. Third, power disparities between the great powers themselves prevent the weaker of them from hurting the more powerful ones, while the latter are conscious that any effort to dominate the system would most certainly attract the combined reaction of the other great powers.

The real concern is whether lesser powers would use WMD against other lesser powers accidentally or intentionally. Lesser powers have neither established procedures dealing with crisis situations nor mechanisms to prevent accidental use of WMD or accidental wars with WMD. More importantly, they do not have second strike capability; a fact that would provide the first user of WMD with a strategic advantage in a case of war.

About the use of WMD in a conflict situation between a great and a lesser power, two things can be said. First, it is very unlikely for a great power to use WMD against a lesser power because it possesses enough conventional power to achieve its ends. Second, because lesser powers do not possess second strike capability, it is highly unlikely that they would use nuclear weapons against great powers. Nevertheless, due to differences in the mode of combat between nuclear weapons, on the one hand, and chemical and biological weapons on the other, it is very likely that lesser powers might use chemical and biological weapons against great powers if and whenever they consider it necessary. However, they need to think

whether such a use would be outweighed by the costs associated with the response of the great power that would be hurt as well as the reaction of international community as a whole.

A second motive, common to Cold War and post-Cold War systems, is that possession of WMD by great powers is seen as providing a low-key element of insurance in support of world order. The contribution of the great powers to international order derives from the inequality of power between the states that make up the international system. This implies that usually great powers are all in the front rank in terms of military strength.⁷ The main objective of great powers is the preservation of a general balance of power throughout the international system and as a means to prevent the system from being transformed by conquest into a universal empire.

Great powers also seek to preserve regional balances of power in order to protect the independence of states in particular areas from domination by a locally preponderant power. Both general and regional balances provide the conditions in which other institutions, on which international order depends, are able to operate.⁸

In this context, war serves both as an instrument of policy and as a determinant of the structure of international system. It is war, or the threat of war, which determines whether there is a balance of power or a particular state becomes predominant. Therefore, adequate military power is needed to prevent any state dominating the international system.⁹ WMD are thus viewed as non-conventional means aimed at preserving both regional and global balance of power. For example, it has been suggested that if there were only one nuclear superpower, it would be possible to impose its rule over the other states.¹⁰ However, possession of nuclear weapons by other powers and the possibility of their use in case of war seek to prevent any state from attempting to transform the international system to an empire. Relevant to this argument is the idea that WMD, and especially nuclear weapons, are needed to prevent a state from the temptation to make a clandestine dash to sole nuclear possession, or, in other words, to close off nuclear adventurism.¹¹

Third, WMD are considered as necessary for redressing imbalances in military capabilities. This is another element common to both systems. For example, during the Cold War, the US policy of extended deterrence aimed at reducing European insecurity stemming from the fact that the Soviet Union had conventional superiority on the continent. Currently, the superiority of India in conventional weapon systems has convinced Pakistan to see the nuclear option as a means to balance the power of its neighbour.

The difference between the two systems is that today, more than in the past, WMD are increasingly seen by certain regional powers as a political-

military quick way to overcome the Western powers' significant qualitative advantages in conventional military forces. As American officials have recognised, WMD 'may directly threaten US forces in the field and threaten the effective force employment by requiring dispersal of those forces. Potential Adversaries may use WMD to deter US power projection abroad'.¹² This is a qualitative difference in the sense that during the Cold War the main conflict was between two ideologically opposed camps, while today certain states tend to see a conflict between the 'West and the rest'.

Fourth, it has been claimed that WMD can be used as a means of deterrence either by denial or by retaliation. Deterrence by denial means that a state will not initiate an attack because the use of WMD against its forces and territory will raise the costs and minimise the benefits of this attack. Deterrence by retaliation means that, despite the high cost, the opponent decides to attack with WMD but the defender is able to strike back. The motive for acquiring WMD for deterrence purposes is common to both systems. There is only a quantitative difference: the number of states possessing WMD has significantly increased since the 1980s.

Fifth, unlike during the Cold War, today many Third World states see WMD as a means of achieving their strategic objectives on the cheap, especially when compared to the costs of conventional forces that might be able to achieve comparable results. As American military officials have claimed, 'rogue regimes may try to use these devastating weapons as a relatively inexpensive way to sidestep the US military's overwhelming conventional military superiority'.¹³ However, a similar strategic judgement was made during the Cold War by all major nuclear powers in their acquisition of nuclear weapons. The difference between the two systems is both quantitative and qualitative. It is quantitative because more states are prepared to achieve their strategic objectives on the cheap; and it is qualitative because these states are not among the traditional powers.

Sixth, it has been argued that many regional powers see the intimidating psychological effects of even small quantities of WMD and are prepared to go further. This thinking was summarised by the former Indian Army Chief of Staff who said, 'the next conflict with the United States would involve weapons of mass destruction'.¹⁴ In this context, nuclear weapons in the hands of Western states are seen as a means for deterring the use of WMD by other states. Once again, the difference between the Cold War and post-Cold War international systems is qualitative. While during the Cold War the main conflict was between the Soviet Union and the US and it was ideological in nature, today this conflict has been substituted by a cultural one: that of between the 'West and the rest'.

Seventh, the acquisition of WMD has been seen by certain states as a means to maintain or strengthen their power status and national prestige both at regional and international levels and as a leading vehicle for assertiveness and attention in the post-Cold War world.¹⁵ An illustration of this is the celebrations in India following its May 1998 nuclear tests and the demand of that country to be included in the club of nuclear powers, as well as to obtain a permanent seat at the UN Security Council. Another example is provided by an Algerian analyst who has stated that 'in ten years time there will be two countries in Africa which are taken seriously by the United States – South Africa and Algeria – both will be nuclear powers'.¹⁶ This statement was not meant as a reference to nuclear weapons. It was rather intended to highlight the significance of civilian nuclear power programmes for international prestige and the capacity of states in peripheral locations to be taken seriously by the West. In this context, civilian nuclear power and dual-use chemical and aerospace projects provide ample opportunities for some states to build international prestige.

Eighth, many analysts believe that WMD may give opportunities to certain states to alter the regional *status quo* to their favour and become regional hegemons. As it has been argued, 'for rogue nations these weapons are a ticket to power, stature, and confidence in regional war'.¹⁷ The difference between the Cold War and post-Cold War systems is not that there were not tendencies for regional hegemonies before, but that states are now prepared to acquire WMD as a means to this end. WMD can give certain regional powers qualitatively superior military and political options for intimidation, especially if combined with standoff delivery systems.¹⁸ Thus states with even small quantities of WMD and limited numbers of delivery systems may be able to exert a high degree of strategic leverage against other states by threatening to attack their vulnerable civilian populations.

Ninth, some analysts see the acquisition of WMD as the result of regional powers search for strategic weight after the end of the Cold War. For example, countries like Iraq, Syria and Libya saw their relationship with the Soviet Union weaken and finally dissolve. They were, therefore, forced to rely on indigenous political and military power and to search for new sources of geo-strategic weight.

Tenth, unlike during the Cold War, today, the pursuing of WMD capabilities provide a basis for diplomatic blackmail. The best illustration of this is the attitude of North Korea that relates its nuclear programme to the increase of Western aid to meet its economic problems, but diplomatic blackmail is used even in cases where the potential possessors have

extensive ties with the West. The primacy of proliferation concerns provides considerable scope to signal, implicitly or explicitly, that Western states should pay more attention to regional security issues and development requirements.

Eleventh, another difference between the Cold War and the post-Cold War systems is that today transfers of WMD and their associated technologies, including co-operative development programmes, serve to cement strategic alliances across or within regions and contribute to the general level of Third World development.¹⁹ This possibility is highlighted by the growing ties between leading proliferators in the Muslim world (Syria, Iran, Algeria and Libya) and suppliers of nuclear and ballistic missile technology in East Asia.²⁰

The character of the post-Cold War international system provides powerful long-term motives for acquiring WMD but regional motives will continue to be leading factors in the proliferation dynamic, often reinforcing or outweighing systemic motives. Those flowing from regional security concerns vary considerably from state to state, but at least three generalisations can be made.²¹

First, some states that face serious internal and external challenges are highly insecure and, in some instances, highly militarised societies. Under these conditions, the acquisition of WMD offers special advantages. Yet, there are states that find themselves in a highly militarised environment, such as that of the Middle East, with significant interstate challenges. In this case, WMD capabilities are clearly linked to military imbalances and strategic competition.

Second, the internal environment of some states also contributes to proliferation dynamics. The obsession with security, both internal and external, gives the military and associated industrial establishments considerable weight. State-directed development and purchasing programmes for military technology, nuclear research, and dual-use chemical facilities offer high prestige vehicles for individual and bureaucratic activity.²²

Finally, many politicians and analysts have focused on the issue of terrorism.²³ For instance, the former United Kingdom Secretary of State for Defence Malcolm Rifkind has stated that 'the increasing threat from WMD is introducing an entirely new dimension into the world, and is relevant not only to threats from states but as a potential threat from terrorist organisations'.²⁴ Although the seriousness of WMD terrorism is disputed,²⁵ it is possible that a terrorist group would try to purchase WMD, as the Japanese Aum Shinrikyo cult apparently tried to do in Russia, or build a

device on its own. A small device could be used by terrorist groups for achieving political objectives, or for obtaining economic benefits through blackmail. Indeed, the March 1995 terrorist attack on the Tokyo subway, that left 12 civilians dead and a significant number of people injured, demonstrated the vulnerability of urban populations to attacks by WMD. Although this attack did not achieve its objectives, it manifested the relative ease with which subnational groups can acquire and use WMD without being detected.

Although the power-security dilemma operates similarly in the Cold War and post-Cold War international systems, the risks associated with the use of WMD are higher in the post-Cold War system. The reason is that the proliferation of WMD together with the absence of crisis avoidance and crisis management mechanisms and the domestic instability facing the possessors of WMD increase the chances that they might be used. The following section will discuss the conditions under which the use of WMD might take place in such a system.

THE USE OF WEAPONS OF MASS DESTRUCTION

Historical experience has shown that the employment of WMD is possible. Nuclear weapons, for instance, were used at the end of World War II. The employment of chemical weapons is dated back to the pre-World War I era, while in the 1980s, chemical agents were used at least in two occasions: first, during the Iran–Iraq War; and second, by the Iraqi government against Iraqi citizens of Kurdish origin.

The use of WMD may occur through purposeful choice, through miscalculations, or through a variety of accidents. It may be decided by a political leader, by a military commander, or by a group of terrorists. It could come as a sudden surprise in a time of peace or as the seemingly inevitable culmination of a prolonged conflict between states that at least one of them is armed with such weapons.²⁶ It could be invited by systemic or domestic conditions. This section focuses on two types of WMD warfare: deliberate use and accidental use.

Deliberate Use

Deliberate use of WMD involves the intentional and informed decision and action of the national command authority, that could take the form of a surprise attack, pre-emption in anticipation of an attack by an actual or potential enemy, or escalation of conventional wars to wars involving WMD. The most interesting type of deliberate use is the inadvertent war.

There is not a precise definition of inadvertent war. Actually, there is a question whether there is any meaningful distinction between accidental and inadvertent war. What the two terms have in common is that neither is premeditated war as exemplified by the classical preventive war. The latter is associated with the hypothetical possibility that one state might plan and initiate an unprovoked war, most likely under peacetime conditions in order to achieve surprise, so as to destroy its opponent's war-making potential and to eliminate or significantly reduce its ability to compete in the international arena.

Accidental war can be defined as one that occurs as a result of a wholly erroneous or significant misinterpretation of tactical warning that the opponent has launched a substantial strike which leads, in turn, to prompt launch of major retaliation with WMD. The term prompt launch includes both launch-on-warning of an attack that is underway and launch-under-attack.²⁷ Included in this definition is the possibility that what is in fact a small attack is misjudged in early attack assessment to be a substantial one.

Inadvertent war differs in that it is not tied to misinterpretations of tactical warning or to erroneously early attack assessment. The term 'inadvertent war' refers to the scenario in which a crisis gets out of control and escalates to the point at which one or the other side, or both, come to believe that war is now inevitable and seemingly imminent. It is considered, therefore, better to initiate a pre-emptive strike before the opponent does so.²⁸

Inadvertent war is an unwanted one in that at the outset of the crisis neither side wanted or expected a war with WMD. However, both sides entered into it as a result of provocative coercive bargaining, misperceptions, misjudgements and perhaps accidental or unauthorised actions, all of which feed escalation to the point at which conventional conflict might have begun and time-urgent decisions whether to pre-empt seem to be necessary.²⁹

By definition, pre-emption is undertaken on the basis solely of strategic warning without waiting for tactical warning that the opponent's attack is already under way. In practice, a pre-emptive war can be initiated on the basis of a combination of strategic warning with some partial but inconclusive tactical warning indicators or on the basis of a mixture of equivocal strategic and tactical warning.

Many people may think of this example of inadvertent war as one of pre-emptive or deliberate war, since the attack is launched without sufficient evidence that an attack by the opponent was inevitable. Nevertheless, there is a possibility that 'hot lines' would be ineffective or unavailable and the

decision would have to be made on the basis of strategic and tactical information or misinformation. The Indian-Pakistani case is illustrative of this fact. The absence of safety valves, similar to those existing between the US and Russia, makes both India and Pakistan to rely heavily on strategic and tactical information. If this information is incorrect, then, these countries are running into the risk of being engaged into an accidental war. This type of WMD warfare can be also called 'incidental' because the likelihood of happening is built into the structure of the broad military policy and strategy.³⁰

Many of the technical issues related to accidents that could contribute to crisis escalation that results in inadvertent war are covered by the discussion of accidental war that follows. But this risk is fundamentally a political one since it depends on a decision to pre-empt made by top-level responsible civilian authority. Therefore, it is essential to avert conventional war for that would provide highly fertile ground for escalation leading to a possible pre-emptive strike. By the same token, it is also essential to prevent political differences from escalating into dangerous crises.

Since the early 1960s there has been a reduction in the chance of deliberate nuclear war due to the effects of deterrence, especially mutual deterrence via the threat of a retaliatory second strike. The logic of deterrence, however, applies more to the great powers that have significant nuclear capabilities (especially to those possessing a second strike capability) and not to states that have a limited number of nuclear systems or only chemical and biological weapons in their disposition. In this case, deterrence may not work.

On the other hand, there are several significant factors pointing to an increase in the chance of accidental wars that may involve WMD.³¹ There is, first, the growing complexity of the systems that protect and control such weapons involving many components, any of which could fail.³² A second factor is the greater automation and technological sophistication and the resulted shorter decision times for strategic warning and command and control systems, which are potentially susceptible to false alarms, computer failure, and human error.³³ In fact, stopping a disaster may have become almost impossible due to shorter warning times, greater use of computers and accelerated communications, and the potential interactions between the command, control, communications, and intelligence systems of opposing states, which could possible lead to cascading instability.

A third, and perhaps the most important factor, is the possibility of a launch-on-warning system either in place, or a *de facto* one that is in place during a crisis or alert situation. In such a system, vulnerable land-based

missiles are launched on the warning of an enemy attack to avoid their being destroyed on the first strike. The rationale behind this launching is reflected in the doctrine 'use them or lose them'.

Accidental Use

The custodianship of WMD, and all that goes into preventing accidental explosions, or any other mishap that could lead accidentally to disaster or war, has been of profound military as well as civil concern. This is not a small responsibility, and the only 'acceptable record for the discharge of that responsibility is the perfect record in which nothing went badly wrong'.³⁴ The success of the military organisations in handling their responsibility have given many people a false sense of security, enabling them to ignore the accidents that have occurred, some of which could more likely have led to accidental nuclear war.

Others, who are aware of the immense complexity of modern military organisations, of command and control, communications, and intelligence systems, of human fallibility, of the complex phenomena of crisis, and of unforeseen failures in the best-designed technical systems, do not share this feeling of security.³⁵ Serious accidents that have occurred did not result in accidental explosions or war, but did give rise to international tensions, or even crises.

What are the chances of an accidental use of WMD or of an accidental war where WMD would be used? At one extreme, there are those who have tended to exaggerate the chances of such an event going so far as to suggest that it is a virtual certainty. At the other extreme, military and political leaders have tended to minimise this problem.³⁶ The view presented here is that the chances lie between the two extremes and that accidental use is an issue that should be addressed in a serious way rather than to be ignored either as certainty, or as something impossible.

Accidental war is defined as any war without a deliberate and properly informed decision to use WMD on the part of national command authority or the legitimately pre-delegated authority.³⁷ A point to be emphasised is that accidental war is a systems problem more than a numbers problem. The most serious accidents involving WMD, and especially nuclear weapons, have had, in fact, relatively little to do with the numbers of such weapons and thus would not be mitigated by a reduction in these numbers. Rather, they depend on a set of critical relationships in a very complex system involving on the one hand, people who are subject to stress and fatigue and who have to deal with procedures in situations not experienced before, and on the other hand, equipment that is subject to failure or overload.³⁸

There are four critical relationships.

First, there is a relationship between the warning system sensors and the sensor system operators that can lead to potential accidents in warning systems.

Second, it is the relationship between the sensor system operators and the national command authority, and between the national command authority and weapons operators, leading to potential accidents in these systems and potential accidents with pre-delegated authority.

Third, there is a relationship between weapons systems operators and the weapons themselves, which could lead to accidents with actual or potential weapons carriers and to accidents with weapons.

And fourth, it is the relationship between states armed with WMD and national or sub-national terrorist groups, leading to potential accidents involving third parties. An accidental or intentional launch by third parties could, particularly in a crisis, lead to an accidental war.

The initiating accident, that would lead to an accidental war, could occur in any part of the warning and decision system, starting with warning systems, continuing through communications links at the level of the national command authority, and again continuing through communications links to field commanders. It could also occur in weapons carriers, in the weapons themselves, in delegated or pre-delegated authority, or in third parties.³⁹

Warning systems, involving sensors detecting an enemy attack, must cope with two possible types of error. The first is the failure to detect an actual enemy attack due to system malfunction, or the destruction of its weak links by the opponent, as in a decapitation strike that destroys the national command authority.

The second type of error is the false signal of an enemy attack when there is, in fact, no such an attack. Since further action is based on the warning systems signalling an enemy attack, the most important accidents in terms of a possible accidental war are those involving a false signal of an enemy attack.⁴⁰ If such a mistake were made in a crisis, there is the possibility that weapons would be launched in the mistaken belief that an enemy attack is under way. In fact, there are many cases in which such an error took place.⁴¹

Another type of accident involves systems of command, control, communication, and intelligence.⁴² For a state planning a deliberate attack such systems form the link between the national command authority and the operational units that would conduct an attack or a retaliatory strike. For a state intending solely to retaliate against an enemy first strike, the

command, control, communications and intelligence systems is the link from the warning system to the national command authority, and then from the latter to the operational units responsible for the retaliatory strike. In either case, accidents in such systems could lead to a launch.

These types of accidents are particularly serious during a crisis situation or during high-level alerts when the next step may involve one's own launch, or may trigger the other side to launch. They are also particularly serious when decisions are automated in a launch-on-warning system.

Historical examples include accidents with computers, misread or misinterpreted signals, and losses of electrical power. These accidents have not led to accidental war for three reasons. First, due to the redundancies in the system; second, due to the requirements of confirmation by independent systems; and third, because they have not occurred in crisis or high-level alert situations.

Accidents with actual or potential nuclear carriers involve the operational units responsible for launching nuclear weapons. The term 'carriers' includes planes, ships, submarines, and missiles. This type of accident is particularly serious during a crisis.⁴³ Yet, accidents with WMD include accidental launches or firings of warheads. The explosion of such weapons in a third country may trigger a response in the mistaken belief that it was a strike on them.⁴⁴

Accidents may have also to do with pre-delegated authority. The latter involves the authority of field commanders to launch weapons at their own discretion in certain situations. With such pre-delegated authority the possibilities of accidents increase dramatically. Accidents in communications links could in crisis lead to accidental launch. Similarly, early release of tactical nuclear weapons to battlefield commanders in time of crisis could lead to accidental use of such weapons.

There are two types of accidents in peacetime: accidents at low alert status and accidents at high alert status.⁴⁵ Most people believe that the likelihood of serious consequences of an accidental launch when both sides are in peacetime posture, or at a low alert status is minimal. However, it is not obvious that this confidence is justified for the following reasons.⁴⁶

First, it appears unlikely that a breach of the complex safeguards could occur only at the level of a single target. Therefore, an appreciable number of missiles might be fired in the event, to which low probability is attached, of an accidental launch.

Second, by the same token, accidental launch from a ballistic missile submarine might involve more than one missile.

Third, such an accident could involve casualties that dwarf human

experience. Even if the accidental launch did not trigger a launch-on-warning or launch-under-attack response, it seems unjustified to ignore the possibility that it would lead to demands for revenge, extremely tense international relations, and the fall of governments. All these could lead to war that might begin at the conventional level but that would later escalate to a point where the national authorities may consider the use of WMD.

The risk that an accidental launch would lead to war is far greater in the context of a crisis sufficiently severe to stimulate a high level alert of nuclear forces.⁴⁷ No nuclear power has so far placed its nuclear forces on a high alert status. In peacetime, it is only possible to test the command, control, communications, and intelligence systems, and its personnel, to a limited degree by simulating high stress conditions. There is a good reason, therefore, to be concerned that under highly stressing circumstances decision-makers may not be able to choose the best option available.⁴⁸

Considering the various critical relationships and the type of possible accidents, one should be aware that accidents would continue to happen. It is impossible to design a system completely free of the potential for accident, and the larger and more complex the system the greater the potential for accident.⁴⁹ The chances of an accident increase significantly in a time of crisis or in a period of international tension. In a crisis, weapons systems may be on an alert status; the national command authorities, field commanders, and sensor operators may all be under stress; there may be delegation of authority to launch weapons; and there may be a possibility of a launch-on-warning system put in place.⁵⁰

One of the most important features of the post-Cold War international system is the growing domestic instability facing states. Instability exists not only within small states, but also, within great or middle-range powers, such as Russia and Pakistan. Because they are possessors of WMD, instability in these states poses major threats to international community. Domestic instability may lead either to the coming on power of nationalistic leaders with assertive policies, or to foreign intervention, or to war with neighbouring states as a means to unite the domestic front. In any case, crises may arise that could provide the fertile ground for the use of WMD, deliberately or accidentally.

Having discussed the conditions under which WMD might be used in an anarchic international system, it is imperative to examine whether, and if yes, how the power structure of this system is related to the use of WMD.

THE POWER STRUCTURE OF THE INTERNATIONAL SYSTEM

Discussing polarity, the first methodological question that needs to be addressed is: how can power be measured? Power has many different aspects that make it difficult for one to provide a reliable assessment about the power capabilities of states.⁵¹ Additionally, the importance of particular aspects of power does not remain constant over time. From the beginning of the Cold War and until the late 1970s, military power was the most important aspect of national power. Thus, during these years the international system was bipolar in the sense that the military power of the US and the Soviet Union was overwhelmingly superior to the military power of the other states. Since the late 1970s, however, economic power started to increase in importance. Power calculations were, therefore, affected by this change.

In the 1980s the international system was gradually transformed from a high-density bipolar to a low-density bipolar system. The collapse of the ideology and the political framework of the Soviet Union opened a way not toward a unipolar system, but toward a low-density multipolar one. This time, however, multipolarity is occurring on a global scale.⁵² At the moment, this system has the tendency to become a high density multipolar one.

This section attempts to sketch the main features of the new pattern of global security relations that has emerged after the end of the Cold War and which are associated with the multipolar structure of the post-Cold War system. In so doing, it distinguishes between the 'centre' that is composed of the major powers (US, Russia, China, Japan, Canada, Germany, Britain, France, and the European Union as a whole) and the 'periphery' that includes a set of financially and politically weaker states. Certain states of the periphery form a 'semi-periphery' whose aspiration is membership of the core.⁵³ Acquisition of WMD by some states that belong to the periphery or semi-periphery is seen as a way to upgrade their international status.

Shifting from a bipolar to a multipolar system raises questions like: how stable can a multipolar system be? Is war with WMD more likely to occur in a multipolar world where an increasing number of states are armed with such weapons? There has been an extensive debate as to whether bipolarity or multipolarity represents a more stable system. This debate, however, has produced inconclusive results. The best-known statements on this matter are coming from Kenneth Waltz, David Singer and Karl Deutsch.⁵⁴

All three agree that the amount of uncertainty about the consequences of a particular action taken by a decision-maker increases as the number of international actors increases. The logic of this assumption is that as the

number increases, a decision-maker has to deal with a greater quantity of information. More international actors means more information is generated that needs to be taken into account in the formulation of foreign policy. Thus, as an international system moves from bipolarity to multipolarity, the amount of overall uncertainty increases. Where they part company is on the matter of whether an increase in the number of actors, and hence uncertainty, makes war more or less likely.

Waltz argues that greater uncertainty makes it more likely that a decision-maker will misjudge the intentions and actions of a political opponent. Hence, a multipolar system, given its association with higher levels of uncertainty, is not desirable because uncertainty makes the probability of war greater. It has been therefore argued that we may come to regret the passing of a stable bipolar world.⁵⁵

Singer and Deutsch make the opposite argument. They believe that a multipolar system is more conducive to stability because uncertainty breeds caution on the part of decision-makers. Hence, as the system moves from bipolarity to multipolarity, the frequency and intensity of war is expected to diminish. They assume that coalitions reduce the freedom of alliance members to interact with outside countries. The greater the number of states that are not alliance members, the greater the number of possible patterns for interaction in the international system. Although alliance membership minimises both the range and intensity of conflict among the alliance members, the range and intensity of conflicts with states outside the alliance are increased. Although interaction among states is as likely to be competitive, as it is to be co-operative, the more limited the possibility of interaction, the greater the potential for instability.

Deutsch and Singer assume that one of the greatest threats to stability is the shortage of alternative partners. Interaction with a great number of states produces cross-cutting loyalties that induce hostility between any single dyad of states. Furthermore, they argue that the increase in the number of actors diminishes the share of attention that any state can allocate to any other single actor. This, it is argued, also reduces the probability of war because a state's attention is allocated to a larger number of actors.

The above arguments have been subject to criticism. Richard Rosecrance, for instance, argues that although the intensity of conflict may be lower in a multipolar world, the frequency of conflict will be greater because of a greater diversity of interests and demands.⁵⁶ Bruce Bueno de Mesquita claims that uncertainty is not higher in a multipolar world because learned patterns from prior behaviour will aid decision-makers to anticipate the likely consequences of similar behaviours under similar circumstances.⁵⁷

Hence, the level of systemic uncertainty neither increases nor decreases the likelihood of war.

Empirical studies yielded conclusions that do not fully support the hypotheses regarding the power structure of the system and its relationship to war. Findings pointed out first, that there is a tendency towards equilibrium and stability in multipolarity; second, that the alignment of two or more states with each other heightens the opposition of others and enhances the risk of war; and third, that interactions between the alliance members and outside members increase.⁵⁸

The emergence of multipolarity has spurred some scholars to examine earlier periods of similar system structure. Work on alliance formation has concluded that while democratic states are not particularly less inclined to go to war than other forms of government, they are disinclined to go to war against each other.⁵⁹ Focusing at the state-societal level of analysis, scholars have examined domestic factors, such as the economy and concern for domestic political stability, that may influence foreign policy choices. This approach attempts to correct the traditional work on alliances that tends to assume that external threats virtually alone determine a state's international alignment.⁶⁰

What is the relevance of the above arguments to the use of WMD? Since there is not an agreement about the relationship between polarity and stability, what conclusions can be drawn regarding the use of WMD? What are the conditions that determine the use or the non-use of WMD in a multipolar world? Do these conditions apply exclusively to a multipolar system or can they be equally applied to a bipolar one? To arrive to some conclusions, one should focus on the war participants. In this context, three types of warfare can be identified. First, war between the major powers of the system; second, war between the major powers on the one side, and the powers of the periphery and semi-periphery on the other; and third, war among the powers of the periphery and semi-periphery.

War with WMD among the major powers seems unlikely for six reasons.

First, there are not currently strong causes that can justify a resort to arms.

Second, major powers are armed with significant numbers of WMD that provide credible deterrence.

Third, power disparities between the great powers themselves prevent the weaker of them from hurting the more powerful ones, while the latter are conscious that any effort to dominate the system would most certainly attract the combined reaction of the other great powers.

Fourth, great powers have established crisis prevention and crisis

management mechanisms that reduce the possibility of inadvertent or accidental wars.

Fifth, increasing interdependence and globalisation brings major powers closer to each other.

And sixth, it is difficult for a state, even if it is a major power, to commit a breach of international law by using WMD; especially when it has enough conventional power in its disposition. The only possibility for a major power to resort to the use of WMD is when it evaluates that this use is imperative for achieving its goals and that the benefits it obtains from it are not outweighed by the costs.

As during the Cold War, armed conflict between a major power and a lesser power is difficult but not impossible. In case of such conflict, WMD are more likely to be used by the lesser power in order to outweigh the advantages that the conventional superiority gives to the great power. Whether the lesser power will use WMD depends on the specific strategic conditions and the costs associated with the expected reaction of the international community and more importantly on the response of the major power that will be hurt. Indeed, if WMD were used against it, the major power might find it less difficult to initiate a retaliatory attack with similar weapons. Such an attack, however, is subject to two conditions: first, whether enough conventional power is available to defeat the opponent; and second, whether the benefits of this retaliatory strike are higher than the costs associated with the expected reaction of the international community.

The possibility of war among states of the periphery and semi-periphery seems to increase in the multipolar system. The multi-centred core seems to offer more competing points of contact for the periphery, while the existence of several great powers has led to both a reduction in the intensity of global political concerns and a reduction in the resources available for sustained intervention.⁶¹ This in turn points to the rise of regional politics.

During the bipolar world, there existed a general balance of power operating in the international system as a whole, as well as various regional balances of power that supported the general balance of power. Regional balances of power, however, were subordinated to the general balance in the sense that the latter affected them much more than they affected it.⁶² In other words, it was the nature of the American-Soviet relations that generally affected developments in the various parts of the world and not the other way around.

Currently, because the great powers are spread across several regions and have a less dominating ideological or power rivalry among them, they project their own conflicts into the periphery less forceful and systematically

than during the bipolar world. Therefore, the degree to which regional balances affect the general balance of power is much greater than in the bipolar international system. Because regions are less constrained by the impact of their conflicts on the centre, local rivalries have more autonomy. However, not all regions are equally important for the maintenance of the general balance of power. For instance, the Middle East and East Asia are currently far more important than Africa or Latin America.

Multipolarity at a global level implies that the great powers want to have an exclusive say in what happens in their own regions or those regions geographically close to them, and therefore, attempt to minimise any other power's involvement that could threaten their interests there. Thus Russia wants to keep the US and NATO away from the Baltic States, while China wants to be the main actor in East Asia. Multipolarity at a global level also means absence of a dominant power at the international level as a whole, but this does not preclude either possibilities of regional hegemonies or a struggle to preventing them.

Since the local balances of power during the Cold War were subordinated to the general balance of power, that meant that the actions of lesser powers were largely determined by the relationship between the superpowers. Although there was always the possibility of political blackmail, international conditions generally prevented smaller powers from changing camps.

In the post-Cold War system, the states of periphery and semi-periphery have far more opportunities for political manoeuvring. Since war remains a political option, these states may find it convenient to exercise their military power as a means for achieving political objectives. Thus international crises may increase in number.

This has two important implications for the use of WMD. First, they may be used deliberately to offer a decisive victory to the striker, or for defensive purposes when imbalances in military capabilities are significant; and second, crises increase the possibilities of inadvertent or accidental wars involving WMD.

The above scenario, however, depends on five factors. First, the region in which these states are situated; second, the character and power of those states; third, the interests of the great powers; fourth, the possible constraints posed by the systemic processes; and fifth, the determination of the international community not to accept the breach of rules and norms related to the use of WMD.

Although many factors contribute to the enhancing of the possibility for the WMD to be used, there are certain systemic processes that pose serious

constraints to the potential user, while the breach of international rules and norms may lead to political, military, and economic reprisals imposed by the international community. Thus, states need to judge whether advantages and benefits related to the use of WMD are outweighed by costs. The purpose of the following sections is to discuss how systemic processes and international norms and rules can restrain the use of WMD.

SYSTEMIC PROCESSES

The use of WMD seems to be affected by two distinctive, though inter-related, systemic processes: interdependence and globalisation. The effects of these systemic processes on the use of WMD, however, have been to a great extent conditioned by the retreat of ideology which used to underline the conflict between the great powers as well as their respective allies.

The Retreat of Ideology

The post-Cold War international system is characterised by a much lower degree of ideological division and rivalry among the great powers. The defeat of fascism and communism as alternative ideologies for advanced industrial societies has made liberal capitalism, identified with political pluralism and market economy, to be seen as the most effective and desirable form of political economy. This, however, does not mean that an ideological homogeneity has been reached, or it is about to be achieved. Nevertheless, in conjunction with multipolarity, the retreat of ideology reduces, but does not eliminate, great powers' political and military incentives for competing intervention into the periphery. Whether such intervention would take place depends on the region, the interests of the great powers, and the costs associated with this intervention.

The low degree of ideological conflict makes the possibility of war between the core powers of the system highly unlikely. For reasons explained before, the possibility of use of WMD in a war between major powers is even more unlikely. The low degree of ideological rivalry, however, does not necessarily minimise the possibility of war occurring between the states of the periphery, or between them and those of the core. It is worth noting that the majority of the peripheral states not only do not share all the ideas about liberal capitalism, political pluralism, and market economy, but in fact, they also oppose to them in their theory and/or practice. In this case, the use of WMD by either side would be determined by the specific strategic conditions and the costs associated with the expected reaction of the international community.

Although there have been strong signs that the reduction of the ideological conflict among the major powers would serve as the foundation for a global concert, the military, economic and technological superiority of the United States has pushed great powers, like Russia and China to resist American leadership in military and political operations that could in the near future transform the United States into a global hegemon. The summer 1998 events regarding the problems between the UNSCOM and the government of Iraq as well as the events related to the Kosovo conflict are illustrative.

A low degree of ideological rivalry, therefore, does not imply the absence of major conflicting interests among the core powers of the system. In contrast, since each of those powers seeks to enhance its political, economic and other interests, it is inevitable that some of these interests will conflict. However, they do not expect, or are prepared for, the use of military force in their relations with each other. Thus the possibility of use of WMD diminishes.

Interdependence

One of the most important characteristics of the post-Cold War international system is the increasing interdependence among international actors. Although interdependence existed even during the Cold War, its current degree is substantially higher than before. Interdependence implies the existence of reciprocal, although not necessarily symmetrical, costly effects of transactions among states or among actors in different states. However, it is asymmetries in dependence that are most likely to provide sources of influence for actors in their dealings with one another.

According to Barry Buzan, the principal force behind interdependence is the rising density of the interaction networks that ties the international system together.⁶³ Rising density is driven by increasing technological, organisational, and financial capabilities and incentives for action. Rising density has important consequences for the international system. At the political level, for example, due to advanced communication systems, ideas circulate globally and the model of liberal democracy has been seen by many states as the ideal form of government. In the economic field, the world is increasingly tied into a global market of production, trade, and finance, whose circulation system is an even more efficient transportation network. Thus the principal impact of rising density is to increase the level of interdependence among states.⁶⁴ In military terms, given the existence and continuing proliferation of WMD, interdependence means that states depend for their survival on the restraint of their rivals, while in economic

terms, states depend for their welfare and development on access to external markets, credit and resources.

Interdependence has three main characteristics.⁶⁵ First, the agenda of interstate relationships consists of multiple issues that are not arranged in a clear or consistent hierarchy. This absence of hierarchy means, among other things, that military security does not consistently dominate the agenda. Different issues generate different coalitions across the governments and involve different degrees of conflict. Indeed, as non-military issues have risen in importance, the great powers worry less about their military and more about their economic competitiveness. At the same time, the ideological landscape is dominated by the relative success of market economics and pluralist politics.

Second, resort to military force is far more difficult when interdependence prevails. Military power, for example, is irrelevant to resolving disagreements on economic issues. This does not mean that military force has ceased to be a central component of national power, or that it cannot be used at all. It rather means that force is not always the most appropriate way of achieving important foreign policy goals.⁶⁶

Third, there exist multiple channels that connect national societies especially in the economic field.⁶⁷ Thus, foreign economic policies touch more domestic economic activity than in the past, increasing the number of issues relevant to foreign policy. The existence of these channels imposes limits on the ability of statesmen to calculate the manipulation of interdependence or follow a consistent strategy linkage.⁶⁸ Governments must consider differential as well as aggregate effects of interdependence strategies and their likely implications for politicisation and agenda control.⁶⁹

The existence of multiple channels gives a different and significant role for international institutions in world politics. Contemporary international society consists of a whole range of global and regional institutions and regimes with which states co-ordinate their behaviour in pursuit of common goals. In a world of multiple issues imperfectly linked, in which coalitions are formed transnationally and transgovernmentally, the potential role of international institutions is greatly increased and their operation assists the strengthening of international society.

The three main characteristics of interdependence give rise to distinctive political processes that translate power resources into power as control of outcomes. This implies the existence of linkage strategies where militarily and economically strong states will dominate a variety of issues, by linking their own policies on some issues to other states' policies on other issues.

As military force is devaluated, militarily strong states find it more difficult to use their overall dominance to control outcomes on issues in which they are weak. Dominant states may try to secure much the same result by using overall economic power to affect results in other issues.

Interdependence seems to have a mitigating effect on the possibility of armed conflicts. This does not, however, mean that the possibility of war is eliminated. Interdependence is not only unlikely to reduce conflict, but it may even increase it by giving states several issues on which their interests and circumstances will differ. But where interdependence is strong, it seems that reduces incentives to resort to armed force. Interdependence makes relationships costly to disrupt. Force is increasingly costly not only in itself, but also in its consequences regardless of whether the motive for using it is expansion or justice. Moreover, interdependence makes it more difficult for states to pursue national security by seeking unilaterally to reduce their vulnerabilities to outside pressure. In contrast, states are pressured by circumstances into relying more and more on collaborative arrangements to reduce threats by dealing with them as multilateral international issues.⁷⁰ In this context, the use of WMD, which has become a multilateral security issue, would be determined by strategic considerations including the calculation of the costs that the disruption of relations under interdependence entails.

Globalisation

Globalisation refers to a process where 'people, activities, norms, ideas, goods, services, and currencies are decreasingly confined to a particular geographic space and its local and established practices'.⁷¹ As a result of this process, politics, economics, culture, and ideology are interwoven. Manifestations of the globalisation process include the inter-penetration of industries across borders, the spread of financial markets, and an emerging world-wide preference for democracy. Globalisation is rendering boundaries and identity with land less salient and encompasses the expansion of production, trade, and investments beyond their prior locales.

Although globalisation does not constitute a post-Cold War phenomenon, its degree has considerably enhanced in the post-Cold War era. This can be mainly attributed to increasing interdependence and rising density in the international system. Among other things, the dynamics of the globalisation process have been cited as explanations for the post-Cold War efforts in various parts of the world to redefine the meaning of security in the absence of superpower rivalry. Consequently, security is now seen as having economic, social, political, environmental and military aspects,

while concerns about the security of the individuals, as opposed to that of states, have increased in importance.

One of the most important consequences of increasing globalisation is the diminishing role of military force as a means to solve international disputes. War is seen as disrupting economic and financial processes necessary for the development of states and, therefore, as affecting the well-being both of states and individuals. Depending on the state, globalisation has further increased the importance of national pressure groups. The interests of those groups are related to the function of international markets, as well as to international economic and financial processes. Thus, they see the resort to military force as endangering their interests.

In this context, the use of WMD and the war itself appear to be highly unlikely among states that are involved in, and affected by the globalisation process. On the other hand, war between states armed with WMD is easier to occur among those that are not participants to this process. In any case, the use of WMD will depend on the specific strategic conditions and calculations, as well as on the costs associated with globalisation and the expected reaction of the international community.

INTERNATIONAL RULES AND NORMS

The commitment of states to the observance of international rules regarding warfare varies from period to period and not from system to system. However, one can identify a qualitative difference between the Cold War and the post-Cold War international systems. This difference is mainly due to the diminishing of ideological rivalry among the great powers.

Specifically, the eighteenth and nineteenth centuries, which saw the abandonment of any attempt by international law to restrict the right of states to go to war, also saw the growth of rules regulating the way in which wars should be fought.⁷² This was not a coincidence. In the age of just war, each side had usually considered that the other side's cause was unjust, and it had, therefore, tended to treat the other side as a mere outlaw, lacking any right to fair, if not to human treatment.

During the said period, states did not regard themselves as fighting for survival. Wars were seldom fought for ideological reasons and tended not to rouse the same intensity of passion as twentieth century wars. The balance of power system necessitated flexibility in political alignments and meant that a state's enemy today might be its ally tomorrow. This had a restraining effect on the degree of brutality practised in wars, because states did not want to arouse undying bitterness among potential allies.⁷³

Even more important than these political considerations was the fact that laws of war were designed mainly to prevent unnecessary suffering.⁷⁴ Unnecessary suffering meant suffering that would produce no military advantage or a military advantage that was very small in comparison with the amount of suffering involved. Theoretically, violations of the laws of war were expected to be rare, because it was thought that the military advantage to be gained by breaking those laws could be outweighed by disadvantages such as reprisals, loss of neutral good will, and so on. In practice, however, the laws of war were frequently breached.

During the eighteenth and nineteenth centuries, wars were regarded by military theorists and officers as armed conflicts between armed forces, rather than wars between people. For instance, Clausewitz claimed that the destruction of the enemy's military force is the foundation-stone of all action in war. In other words, the purpose of all war activities was to disarm the enemy so not to be able to prosecute the war and not to destroy the physical base of the rival state.

Consequently, rules grew up to protect the armed forces not only in battle, but also when soldiers were sick, wounded, or prisoners of war. Although Clausewitz argued that the laws of war were 'almost imperceptible and hardly worth mentioning', the reason for their imperceptibility was that they accorded perfectly with the limits of military necessity. Hence, the conception that civilised states do not put their prisoners to death and do not devastate towns and countries. According to Clausewitz this was because, 'their intelligence has taught them more effectual means of applying force than these crude acts of mere instinct'.⁷⁵ This approach to war made it easy for international law to protect not only the members of the armed forces, but also civilians. In practice, nevertheless, this protection was never absolute and several times the actions of European armies had had devastating effects upon the civilians of the opponent country.

In the second half of the nineteenth century, states began to issue manuals of military law, while laws of war which had been derived almost entirely from customary law, began to be codified and extended by treaties. Despite the existence of international treaties and conventions, states have several times broken the rules of armed conflict since then.

Particularly, there are two factors that have encouraged violations of the laws of war during the twentieth century.

First, the two great wars produced more bitter feelings than previous ones. They were fought for ideological reasons, and for virtually unlimited objectives. Belligerent states sought no longer to achieve a delicate

adjustment to the balance of power, but adopted a policy of unconditional surrender.

Second, economic and technological changes vastly increased the military advantage to be gained by breaking the laws of war. In particular, the distinction between the armed forces and civilians is largely illusory, now that the whole of a country's economy is geared to the war effort. Destruction of state infrastructure, and even the killing of people associated with it, produces a military advantage that would have been inconceivable a century ago.

The end of the Cold War and the diminishing of the ideological rivalry among the great powers have led the international community to adopt a more combative stance against the proliferation and use of WMD. Economic sanctions, diplomatic isolation, and possible military reprisals may serve as a means for international society to achieve compliance with international rules and norms. Thus states may find it more difficult than before to use WMD since the costs related to this use might be far higher than the benefits derived from it. On the other hand, it seems that states rely more and more on collaborative legal arrangements to secure themselves against the use of WMD. The creation of zones free of WMD is illustrative.

CONCLUSION

A set of conclusions may be drawn from the above analysis. First, the anarchical structure of the international system is irrelevant to the use of WMD. Since both the Cold War and post-Cold War international systems have been anarchical in nature, the conditions under which WMD are produced and acquired are common to both systems, while the probability of their use remains unaffected by the passage from the one system to the other.

Second, it is not clear whether, and how the power structure of the international system is related to the use of WMD. It seems that war with WMD between the major powers in the multipolar post-Cold War system is very unlikely; a situation that is not very much different than that existing in the bipolar Cold War system. Apart from strategic factors, the low probability of a war between the major powers is conditioned by the operation of the forces of globalisation and interdependence as well as by the retreat of ideology as the driving force of great power conflict. One of the most important consequences stemming from the retreat of ideology is that the definition of, and adherence to international rules and norms by major powers has become easier than before.

Third, the low degree of ideological rivalry, however, does not necessarily minimise the possibility of war between the core and peripheral states. In other words, armed conflict between a major and a lesser power, although difficult, is not impossible. War between states armed with WMD appears to be unlikely if the rivals are involved in, and are affected by the globalisation process, but war is easier to occur when one of them is neither involved in, nor affected by this process. Yet, growing interdependence between the core and peripheral states does not eliminate the possibility of a war between them.

In sum, war between major and lesser powers armed with WMD and the use of those weapons depend on the particular strategic conditions facing the rival states; their associated calculations; the costs which the disruption of relations under globalisation and interdependence entails; the costs associated with the reaction of the international community to the breach of international rules and norms; and the response of the state that has been hurt by this use.

Fourth, the possibility of war among the peripheral and semi-peripheral states seems to increase in the multipolar system. This is because the low degree of ideological rivalry among the major powers has little effect on the relations among the lesser powers. However, the probability of war among lesser powers armed with WMD and the probability of the use of those weapons are conditioned by factors identical to those regarding the conflict between major and lesser powers.

Fifth, although the power-security dilemma operates similarly in the Cold War and post-Cold War international systems, the proliferation of WMD in the post-Cold War era in conjunction with the absence of crisis prevention and crisis management mechanisms and the domestic instability facing the possessors of WMD increase the chances that these weapons might be used intentionally or accidentally. The chances of intentional or accidental use increase significantly in a time of crisis or in a period of international tension.

The above conclusions have five important policy implications.

First, the international community should be more concerned with the proliferation of WMD and should, therefore, devise additional mechanisms for controlling it.

Second, the possessors of WMD should establish the necessary mechanisms that would help to avoid or manage crises that might lead to inadvertent or accidental wars.

Third, states that possess WMD should design policies aimed at increasing domestic stability.

Fourth, all states alike should coordinate their efforts for addressing adequately the problem of terrorism. Finally, the international community should be prepared to enforce the rules regarding both the proliferation and use of WMD.

The question, however, is what measures should be taken to control the proliferation of WMD and penalise their use, and what are the implications of these measures? For example, cases have shown that diplomatic isolation is either not entirely possible or not enough to change the minds of national decision-makers. Although economic or other sanctions are still considered as an acceptable means for penalising the offender, there is an increasing number of voices that argue that such actions hurt only the population of the offending state and not the leadership that is responsible for the particular decisions and actions. They, therefore, suggest that sanctions should be instead regarded as another type of WMD that should be prohibited and those using it should be penalised. Similar concerns apply to the use of military reprisals. Are those reprisals morally justified? If yes, then, under which conditions and to what extent are they justified?

If the effectiveness and morality of the above means is disputable, then, what should be done? What should the international community as a whole and the individual states that compose it do to prevent the use of WMD? What guarantees can the international community give to individual states that they will not be victims of an attack with those weapons? The absence of credible answers to these questions has led the individual states to devise their own military mechanisms aimed at deterring their actual or potential rivals.

The main concern for the international community is that national policies might jeopardise the international legal order related to the use of WMD. For example, the decision of the United States to produce and deploy anti-ballistic missiles as well as to demand the revision and modification of the Anti-ballistic Missile Treaty (ABM) may provide other states with an excuse to produce and deploy weapon systems that are currently prohibited and then ask for the revision and modification of the relevant treaties. This may lead to the paradox of revising a legal order that, in fact, does not exist. Perhaps more important is the fact that such actions may lead to arms races and the re-opening of the power-security dilemma that might make the definition of new international rules very difficult, if not impossible.

NOTES

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5. See Daniel Frei and Christian Catrina, *Risks of Unintentional Nuclear War* (Geneva: UNIDIR 1982) Ch.7. See also Ike Jeanes, *Forecast and Solution* (Blacksburg, VA: Pocahontas Press 1996).
6. For a discussion concerning the logic of some of the stated motives see Michael McGwire, 'Is there a future for nuclear weapons?', *International Affairs* 70/2 (April 1994) pp.211-28.
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8. *Ibid.* p.106.
9. *Ibid.* p.189.
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13. *Ibid.* p.8.
14. Cited in Samuel Huntington, 'The Clash of Civilizations?', *Foreign Affairs* 72/2 (Summer 1993) p.46.
15. Lesser and Tellis, *Strategic Exposure* (note 1) pp.6-7.
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17. Cited in Ranger and Wiencek, *Devil's Brews II* (note 12) p.7.
18. *Ibid.* p.16.
19. See Leonard S. Spector and Nancy Blabey, 'Nuclear Proliferation Threats in the Islamic Middle East', *New Outlook* (Sept.-Oct. 1991).
20. Huntington, 'Clash of Civilizations?' (note 14).
21. Lesser and Tellis, *Strategic Exposure* (note 1) p.16.
22. *Ibid.* p.16.
23. See Richard A. Falkenrath, 'Confronting Nuclear, Biological and Chemical Terrorism', *Survival* 40/3 (Autumn 1998) pp.43-65 and Paul Wilkinson, 'International Terrorism: New Risks to World Order', in John Baylis and Nicholas J. Rengger (eds.) *Dilemmas of World Politics* (Oxford: Clarendon Press 1992) pp.228-60.
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30. Horst Afheldt, 'Matching Strategy to the Needs of Security', in Paul, Intriligator and Smoker, *Accidental Nuclear War* (note 27) p.92.
31. Michael D. Intriligator and Dagobert L. Brito, 'Accidental Nuclear War', in Paul, Intriligator and Smoker, *Accidental Nuclear War* (note 27) p.15. See also M.D. Wallace, B.L. Crissey and C.I. Sennott, 'Accidental Nuclear War: A Risk Assessment', *Journal of Peace Research* 23/1 (Feb. 1986) pp.9-27.

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37. Intriligator and Brito, 'Accidental Nuclear War' (note 31) p.6.
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39. Intriligator and Brito, 'Accidental Nuclear War' (note 31) pp.7-13.
40. See P. Bracken, *The Command and Control of Nuclear Forces* (New Haven, CT: Yale UP 1983) and Daniel Frei, *Risks of Unintentional Nuclear War* (London: Croom-Helm 1983).
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42. Frei and Catrina, *Risks of Unintentional Nuclear War* (note 5) pp.50-8. See also S. Briton, *The Invisible Event* (London: Menard Press 1983); B.G. Blair, *Strategic Command and Control: Redefining the Nuclear Threat* (Washington DC: Brookings 1985); D. Ford, *The Button: The Pentagon's Strategic Command and Control System* (NY: Simon & Schuster 1985).
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