

Calculating the Proportionality of Aerial Attacks Towards Electrical Power Systems: A Study on the Proportionality of Attacks Towards Iraqi Electrical Power Systems in the First Gulf War

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Abstract

One group of targets attacked using armed force was the Iraqi electrical system. A direct impact of that attack was the damaging of four hydroelectric power plants, six thermoelectric power plants as well as several other power plants and it was suspected that a few deaths or wounds were a direct side effect on civilians. The damaging of 10 power plants resulted in the there being a lack of power both for Iraq's military facilities as well as for civil uses. Attacks are ideally defined as acts of violence done against an enemy done either when attacking or when defending but it also needs to be specified on what level is it done. On a tactical level attacks are defined as single attacks or individual attacks on each target such as the ones on the electrical power plants. that it is balanced with military interests/necessity which is also not specified by International Humanitarian These civilian losses are such losses that have the traits of being concrete, direct and overall which bear the same definition as the traits concrete, direct and overall applied in military advantages or conversely, if the military advantages do not bear the traits of being concrete, direct and overall.

Keywords: Proportionality of Aerial Attacks, Iraqi Electrical Power Systems, First Gulf War.

1. Introduction

On 17 January Coalition Forces who were authorised based on UNSC Resolution 678 (1990) of 29 November 1990 began an air war, followed by a war on the ground against Iraqi forces. This is due to Iraq having invaded and subsequently annexing the whole of Kuwait on 2nd August. This air war consisted of two campaigns done consecutively; Operation Instant Thunder which was then followed by Operation Desert Storm.

One group of targets attacked using armed force was the Iraqi electrical system. A direct impact of that attack was the damaging of four hydroelectric power plants,¹ six thermoelectric power plants² as well as several other power plants and it was suspected that a few deaths or wounds were a direct side effect on civilians³. The damaging of 10 power plants resulted in the there being a lack of power both for Iraq's military facilities as well as for civil uses. Said lack of power for the Iraqi military resulted in the disabling of the facilities which supported Iraq's military strength and aided in reducing Iraq's ability to respond to Coalition attacks.⁴ This was the military advantage that was intended by the operation against the Iraqi electrical power system.

Conversely the severe shortage of power for Iraqi civilians resulted in many facilities such as those for health, food and sanitation were unable to function, for example; food processing plants, clean water, sewage treatment and disposal systems, hospitals, farming systems including irrigation and food storage facilities were unable to function. As a result, Iraqi civilians experienced a shortage of food and clean water as well as their environments becoming dirty due to sewage overflowing inside and outside their homes. Another consequence was that civilians suffered from malnutrition and infectious diseases which were further exacerbated by the lack of available treatment facilities and it was surmised that over 70,000 civilians died.⁵

The existence of those two effects due to the use of force towards electrical production resulted in debates regarding the proportionality of those attacks. On one side, the attacks towards the Iraqi electrical power system was viewed as being proportional.⁶ And on the other, it was viewed as being disproportional.¹ The

¹Human Rights Watch, *Needless Deaths In The Gulf War, Civilian Casualties During the Air Campaign and Violations of the Laws of War*, A Middle East Watch Report, New York, p. P.169

² Ibid p.171

³See U.S., Air Force, *Gulf War Air Power Survey*, H, p. 342-343. As quoted in DR, J.W. Crawford, III, *The Law of Non-Combatant Immunity and The Targeting of National Electrical Power Systems*, p. 110. online at dl.tufts.edu/file_assets/tufts:UP149.001.00042.00010.

⁴CDR, J.W. Crawford, III, *The Law of Non-Combatant Immunity and The Targeting of National Electrical Power Systems*, p. 101, online pada dl.tufts.edu/file_assets/tufts:UP149.001.00042.00010.

⁵William M. Arkin, "Tactical Bombing of Iraqi Forces Outstripped Value of Strategic Hits, Analyst Contends," *Aviation Week & Space Technology*, (January 27, 1992): p. 63; Walid Doleh, Warren Piper, Abdel Qamhieh, and Kamel al Tallaq, *Report by the International Study Team, Health and Welfare in Iraq After the Gulf Crisis: An In-Depth Assessment, Electrical Facilities Survey*, October 1991.

⁶Coalition forces, for example, viewed that attack as being proportional due to the existence of a large military advantage (though not one

difference in views raises the issue regarding the vagueness of assessing the proportionality of the attacks on Iraqi electrical facilities in the First Gulf War. Therefore, this paper will discuss how to assess the proportionality of attacks on electrical power systems such as those belonging to Iraq in the Gulf War I. The discussion will include; what is an attack?, what do civilian losses and military advantages incurred by these attacks? And how to calculate the proportionality of those attacks under International Humanitarian Law and the principles of justice.

2. Definition of Attacks on Electrical Power Systems

2.1 Definition of Electrical Power Systems

A common power system consists of four basic subsystems namely ; generation , control , transmission and distribution.² the **generation subsystem**, consists of; turbine and generators driven by; steam, hydro (water), a source of heat (thermal), nuclear and others (oil-diesel). These sources of energy provides power to make the turbine blades, rotate the generators which will then produce electricity in bulk.³ Replacement components for turbine and generator are usually not readily available due to an expensive capital cost, so damages to the turbine and generator can cause long-term losses.⁴

The **control subsystem** serves as the brain of the national electricity grid that coordinates the generator facilities to manage the transfer of emergency power and to increase reliability.⁵ A control center may be located fused or separate from the generator, attacks on the control subsystem could result in failure which roles like a snow ball throughout the entire system, causing widespread and excessive equipment failure.⁶

The **transmission subsystem**, such as transformers which receive electricity and convert it into a higher voltage for transmission through high voltage power lines.⁷ **Distribution subsystems** presents a much less favorable target for the use of air power. After electricity has been transmitted to a high voltage power line, it will be then accepted at a load center, converted down to a lower voltage or “stepped down” and then distributed to users across the network. Transformer step down stations are smaller and provide a hard to identify target for air attacks. Unlike other larger subsystems, they are a standard design and are much easier to replace.⁸ As a result, the impact of air strikes on this part of the system are short-term and are limited to the area provided by that transformer.⁹ In the Iraq war case, those strikes were directed at least at the generator subsystem consisting of four hydroelectric power plants and six thermoelectric power plants.

that was direct) and disadvantages suffered by the civilian populations were not included in calculations due to it being indirect. It was discovered that the large advantage mentioned by the coalition forces by destroying the electrical systems was that the civilians would suffer and thus that would push them to oust Saddam Hussein. (see Human Rights Watch, *Needless Deaths In the Gulf War, Civilian Casualties During the Air Campaign and Violations of the Laws of War*, A Middle East Watch Report, New York, p.9, online at <https://www.hrw.org/reports/1991/gulfwar/>). As such were the views of coalition forces; it being a kind of military advantage that added to the weight of said military advantage.

¹HRW for example viewed the commander of the forces as having misused the rule of proportionality by giving inappropriate weight to the perceived military advantage of the attack (Ibid). In other words, the military advantages of that attack is not as large as it was assumed as it did not include the civilians losses which would encourage them to topple Saddam Hussein.

Aside from that, the attack was also viewed as being disproportional due to the assumption that the adverse effects on the civilian population which were calculated also included indirect losses arising from the derivative effects (reverberating effect) and thus the total losses to the civilian populations and objects were far larger and practically exceeds the military advantages of that attack. Greenwood, for example, tended to choose to include also the long-term effects by saying “a short timeframe is more likely to render less effective attempts to limit the level of collateral casualties from the attack,” (Greenwood, C. Customary International Law and the First Geneva Protocol of 1977 in the Gulf conflict. in P.Rowe(ed.). 1993. *The Gulf War (1990-1991). International and English Law. Routledge, London: 79*). See Blakeley, R. 2003. *Bomb Now and Die Later : Was the Bombing Campaign Undertaken By The UN Coalition Advantage Iraq, In 1991, Fought According To Just War Conventions?* Department of Politics, University of Bristol. p. 27 (Online), (www.geocities.com/ruth_blakeley/bombnowdielater.htm, diakses 04-08-2004). Thus the debate here relating to the matter of the scope of the definition of the elements which were compared, in this case being the military benefits and harm to civilians and civilian objects, whether the advantages and disadvantages that were intended encompasses advantages and losses which were direct or does it also include indirect or derivative advantages and losses thereof, whether military advantages could also include civilian losses in order to encourage them to overthrow Saddam Hussein.

² John A. Warden, II, "The Enemy as a System," *Airpower Journal* (Spring 1995, p. 44

³Thomas E. Griffith, *Strategic Attack of National Electrical Systems* (Maxwell, AL: School of Advanced Airpower Studies Air University Press, 1994), p. 5.

⁴Ibid., 6.

⁵Burr W. Leyson, *The Miracle of Light and Power* (New York E.P. Dutton & Co., Inc., 1955), 45-47; North American Electric Reliability Council, *Electricity Transfers and Reliability* (Princeton, NJ: North American Electric Reliability Council, October 1989), 24-26.

⁶Griffith, *Strategic Attack of National Electric Systems*, p.7

⁷Ibid

⁸ Ibid, p. 8, see also Donald G. Fink and H. Wayne Beaty, eds., *Standard Handbook for Electrical Engineers* (New York: McGraw-Hill, Inc., 1987), pp. 10-52

⁹J.W. Crawford, III *The Law of Non-Combatant Immunity and The Targeting of National Electrical Power Systems* CDR, online pada dl.tufts.edu/file_assets/tufts:UP149.001.00042.00010

2.2 Definition of Attack from the Humanitarian Law Perspective

In Humanitarian Law, there is a term associated with war; military¹ and attack.² Though there is no explanation on the term military. There was however an explanation on the definition of attack in article 49 Additional Protocol I Geneva 1977 as being; “acts of violence against the adversary, whether in offence or in defence”. Who is meant by adversary was not explained further. Given there being prohibitions on deliberately carrying out attacks on civilians and civilian objects in this Additional Protocol, these acts of deliberate violence only points to the opposition and its military. Yet the question remains, why the attacks were not regarded as acts of violence against opposition combatants and military objects. Does this mean that the definition of opponents is not only combatants and military objects as individuals or separately but also as capabilities such as, during Gulf War I, telecommunications and C3 systems (*Command, Control, and Communications*) or even electrical power system. Apropos these capabilities were divided into multiple targets which were separate and therefore acts of violence against these capabilities were a combination of attacks against each target, are these combination attacks also included in the definition of an attack as well. This is not explained further. Thus there is no clear boundaries regarding attacks in Humanitarian Law.

Knut Dormann said that “the concept of attack as defined in this provision refers to the use of armed force to carry out a military operation during an armed conflict”.³ This definition also does not provide any clarity on whether or not the attack which had to be disproportional, were a combination of attacks on individual targets or were they separate.

2.2.1 Definition of Attack from the Perspective of the Levels of War

Use of force or war in present times generally have the following; involving the use of troops which has risen dramatically, involves the geographical expansion of the theater of war and/or operations, increasing the distance of the theater of war from the “center”, a relatively long duration, increasing complexity of war because it no longer consists of a single battle (decisive) or a limited number of battles, but a series of battles that happen either simultaneously or successively, organized into campaigns and operations.⁴ In addition to the features above, the use of force or war have other common characteristics which is they have a certain common purpose, such as to defend a friendly country from aggression by other parties. To achieve this general goal, war or the use of force must be systematically arranged into multiple levels or tiers.

Generally, scholars or military manuals recognize that war is structured on three levels.⁵ But there is also three-level more to add to this as well as another level⁶ and some give slightly different names for all three of these levels.⁷ What is clear is generally recognized that the war can generally be divided into three levels namely;

1. Strategic level

This is a level that exists on the national level/nationality or national/multinational. On the strategic there are the following characteristics;

- War has not occurred between a nation/country and its enemies

¹The term military operation can be found in article 53 of the 1949 Geneva Convention, article 51 Para 1 Additional Protocol I Geneva 1977, article 1 para 1 Additional Protocol II Geneva 1977, Pasal 7 and 7 d ii *Second Protocol to the Hague Convention of 1954 for the Protection of Cultural Property in the Event of Armed Conflict The Hague, 26 March 1999* (now known as Protocol II Den Haag 1999)

²The term attack has been often used in the rules in the Additional Protocol I Geneva 1977 and also found in Additional Protocol II Geneva 1977

³Knut Dormann, *Elements of War Crimes Under the Rome Statute of the International Criminal Court, Sources and Commentary*, ICRC, Cambridge University Press, 2003. p. 169

⁴Panos Mavropoulos, *Operational Level of War: A Tool for Planning and Conducting Wars or an Illusion?*, Journal of Computations & Modelling, vol.4, no.1, 2014, p. p8

⁵ See Figure 2-1 on *The Levels of War in FM3-0 Chapter 2 Unified Action - Reliable Security Information* online at <http://www.globalsecurity.org/military/library/policy/army/fm/3-0/ch2.htm>; Robert Bateman, *Understanding Military Strategy and the Four Levels of War: When "strategy" gets thrown around by politicians and the media, you can bet it's being misused* online pada

<http://www.esquire.com/news-politics/politics/news/a39985/four-levels-of-war/>; Panos Mavropoulos, *Operational Level of War: A Tool for Planning and Conducting Wars or an Illusion?*, Journal of Computations & Modelling, vol.4, no.1, 2014, p. 91. Online pada

<http://www.scribd.com/doc/20417704/Operational-and-Tactical-Levels-of-War-A-Balanced-Systematic-Approach>, Naval Postgraduate School, p. 15, Online pada <http://www.dtic.mil/dtic/tr/fulltext/u2/a418305.pdf>; James Jacobs, *Illustrating the Levels of War - Operation Zitadelle (KURSK), 5-14 July 1943, a Case Study*, p. 79 online pada

<http://www.ajol.info/index.php/smsajms/article/viewFile/81055/71280>; Department of The Navy Office of the Chief of Naval Operations, *Maritime Operations at the Operational Level of War*, NWP 3-32, Edition October 2008, p.2-1

⁶ Robert Bateman for example divides use of armed force or war into four levels; Political level, Strategic, Operational, and War Tactics. Even further Milan N Vego, says that the four levels of war are; national strategy, theatre strategy, operational and tactics (Milan N Vego, *Joint Operational Warfare: Theory and Practice*, 2007, p 79

⁷ See for example Ryan Christian Else who divides the levels of uses of armed forces or war into three levels called; strategic campaign, tactical campaign and certain tactical operation (see; Ryan Christian Else, *Proportionality In The Law of Armed Conflict the Proper Unit of Analysis For Military Operations*, Else_Post_Macro.Docx 4/11/2011, pp 200-2001 online at https://www.stthomas.edu/media/schooloflaw/pdf/lpp/volume5no1/Else_195-213.pdf.

- Nation or one group of nations who will battle has defined national and multinational security objectives and determined guidelines, the development and use of national resources to achieve the national and the multinational security objectives.¹
- When a movement or cause for the use of armed force occurs, the highest authority in the country (head of state/head of government) in accordance with the constitutional system prevailing in the country creates a national policy with respect to national and multinational security goals.²For example how to restore situations back to its original state before the cause (for example; restoring the legitimate government of friendly countries)
- As the name implies, it was decided on this strategic level; strategies, namely those on how to use the armed forces and other instruments of national power to secure national objectives or multinational. This strategy is referred to as the national military strategy. In national military strategy, national policy is translated as a strategic military purposes by a kind of National Command Authority.³National strategic military purposes, of course in accordance with the national policy that is for example how to restore the situation back to its original state before the cause that to happen. In the context of the Gulf War, for example, the goal of national or multinational or national policy or national strategic military goal is to restore the government of Kuwait ousted by Iraqi military forces.⁴In realizing these national strategic military purposes a strategy is also planned out (which of course, national), which is referred to as a theater strategy is a strategy of war to the regional level (national or multinational). This strategy has its own goal to achieve the national strategic military goals or national policies.⁵In the Gulf war the goal of strateg theatre is to, for example, disable Iraqi forces in Iraq and Kuwait.

2. Operational Level

To carry out the purpose of theatre strategy and national strategic military purposes it needs the use of armed force. The use of armed force starts from the theatre scale known as campaigns then broken up into operations or major operations. Therefore this level is referred to as the operational level which is the level at which campaigns and major operations or operations are conducted and sustained to accomplish strategic objectives within a particular region or area⁶. This explanation shows that at the operational level, there are two main levels of activity namely the use of armed force;

- a. Campaigns or as some refer to as strategic campaigns⁷ are activities that use armed forces containing these traits; 1) consists of a set or series of interrelated operations or main operation or campaign tactical,⁸ 2) done in a certain time⁹ atau or in other words there is limited time to do this activity, 3) is performed in a chamber or a specific place that is called the theater of war¹⁰intended as a given geographical area where the campaign occurs,¹¹ 4)carried out by a large number of troops with diverse abilities and units led by senior officers, the maximum of which is the general,¹² 5) to achieve certain goals are referred to as strategic objectives¹³which is the purpose of theatre strategy and ultimately also the military purposes of national strategy. A Example of campaigns in the 1991 Gulf War are Operations Desert Shield and Desert Storm.¹⁴ The objectives to be achieved are the objectives of theatre strategy, namely the destruction of the Iraqi Armed Forces in the South Euphrates,¹⁵that the achievement of this goal also means the achievement of national policy or national strategic military purposes, for example the restoration of the government of Kuwait which was annexed by Iraq.¹⁶

¹FM3-0 Chapter 2 Unified Action - Reliable Security Information online at <http://www.globalsecurity.org/military/library/policy/army/fm/3-0/ch2.htm>

² Ibid

³ Ibid

⁴ See Figure 2-1 about *The Levels of War* dalam FM3-0 Chapter 2 Unified Action - Reliable Security Information online at <http://www.globalsecurity.org/military/library/policy/army/fm/3-0/ch2.htm>

⁵The strategical purpose of Gulf War was theater. For example destroying of Iraqi army weapon in South Iraq.

⁶ Ibid

⁷ Ryan Christian Else, op cit.

⁸ See Ryan Christian Else; Directorate Language Services, SADF, Joint Military Dictionary, p. 277; Panos Mavropoulos, p. 97; FM3-0 Chapter 2 Unified Action; British Army, Army Doctrine Publication, p. 4-1.

⁹See Ryan Christian Else; Directorate Language Services; British Army, Army Doctrine Publication, p. 4-1.

¹⁰James Jacobs, NATO APP-06 (2013)

¹¹ Robert Bateman, Op cit.

¹² Ryan Christian Else, pp 200-201

¹³ Ryan Christian Else; Directorate Language Services, SADF, NATO APP-06 (2013); Bunyamin Tuner, British Army, Army Doctrine Publication,

¹⁴ See Figure 2-1 tentang *The Levels of War* dalam FM3-0 Chapter 2 Unified Action - Reliable Security Information online at <http://www.globalsecurity.org/military/library/policy/army/fm/3-0/ch2.htm>

¹⁵ Ibid

¹⁶ Ibid

- b. Operations or main operations or major operations or also often called tactical campaigns¹ are activities which involve the use of armed forces with the following characteristics; is a part of campaigns which consists of a series of tactical actions (battle, engagement and strike) done with a variety of coordinated combat power by one or more agencies,² carried out within a certain span of time,³ in a room or a specific place referred to as the operational area⁴ which becomes a part or a fragment of the theatre of war,⁵ committed by a small amount of troops as a fragment of the entire army campaign⁶ led by middle-ranking officers,⁷ to achieve certain goals which are referred to as operational objectives.⁸ This objective is related to the purpose of the campaign which is the realization of the goal of this operation thus the campaign objectives or the goals of theatre strategy or strategic military purposes are also manifested.

In the Gulf War, this operation consists of; The operation against the regime (the senior authority of decision making) of Iraq, the operation against the Strategic Integrated Iraq Air Defense System, operations against the NBC war-fighting abilities of (Nuclear, Biological and Chemical) Iraq, operations against important Iraqi power projection, infrastructure and military production, operations against Iraqi military and mechanical equipment in Kuwait. This operation can be divided into sub-operations depending on the complexity in achieving the goals or objectives of the operation, as seen in Gulf War I.

3. Tactical level

Some also call this the tactical operations level.⁹ To realize the goal of the operation or sub-operation, the operation or sub-operations are done through separate battles or attacks within that operational area. Hence the use of the term strike which raises raises; battle¹⁰ (battles involving large units such as corps),¹¹ engagement¹² (battles involving smaller units at the level of divisions or lower),¹³ small unit and crew actions¹⁴ (for example one tank unit confronts/engages another tank unit).¹⁵ Use of force at the tactical level aims to (kill, destroy or ruin) targets whose death, destruction or ruin is the primary objective the operation strives to fulfill (use of armed force or war on an operational level).

The purpose of using armed forces at the top level is assisted by the fulfillment of the purpose of armed forces at the lower levels and so on until the realization of the objectives of the strategic level. In the context of the use of armed force or air war by coalition forces against Iraqi forces, the structure of the air war can be collated in the following table:

Table 1 Structure of the Coalition Air War in Gulf War I

Strategic Level	Operational Level			Tactical Level
	Campaign	Operation	Suboperation	
Strategic Military Objective; Making Iraq immediately and unconditionally withdraw all its troops to their original positions on 1 August 1990 Theatre Strategy Objectives (TSO); Incapacity	Operation Instant Thunder (OIT) and Operation Desert Storm (ODS) To realize the goals set at the strategic levels	Operation Against rezim (otoritas pengambil keputusan senior) Irak (Op I) To isolate and incapacitate the Iraqi regime (senior decision-making authority) (making leaders hide or move around, thus making it difficult for them to control their military forces and civilian population or even to follow the	Sub Operation Control and Command Systems To disable the leaders' control and command (C2) facilities. (facilities used by Iraqi military leaders, including Saddam Hussein to coordinate their military actions) ¹⁷	Attack to destroy Command Post (Post M) and Military and Political Headquarters (HQ M & P) on the national in Baghdad and in other places in Iraq. ¹⁸ Or places where Saddam Hussein controls the operation.
			Sub-Sub Operations Against Iraq's electrical power system Objective: Disable electrical powersystems associated with the Iraqi military especially Iraqi command and control facilities	Attack to destroy untuk electrical power production facilities and power grids associated with the military or Iraqi military forces, ⁵ Including four hydro electric power plants (HPP), ⁶ and six thermoelectric power plants (TPP) ⁷ and several other power plants. Bombing to destroy; ¹⁰

¹Ryan Christian Else, Loc cit.

²M. Vejo, **Operational Warfare** (Newport, R.I., 2000), p. 2

³British Army, Army Doctrine Publication, p. 4-1.

⁴FM3-0 Chapter 2 Unified Action, Loc cit.

⁵Panos Mavropoulos, p. 97; FM3-0 Chapter 2 Unified Action; British Army, Army Doctrine Publication, p. 94

⁶See Panos Mavropoulos, p. 97; FM3-0 Chapter 2 Unified Action; British Army, Army Doctrine Publication, p. 97

⁷Ryan Christian Elsepp 2001-2003

⁸Panos Mavropoulos, p. 97

⁹Ryan Christian Elsepp 2001-2003

¹⁰FM3-0, Loc cit

¹¹See the battle between US Corp VII and Iraqi Corp XII.

¹²Ibid

¹³Ibid

¹⁴Ibid

¹⁵Ibid

¹⁷Ibid, see also See Andrew Rosenthal, "No Ground Fighting Yet; Call to Arms by Hussein," *The New York Times*, January 17, 1991 sebagaimana dikutip dalam Part II: The Air War advantage Iraq Background: Op Cit, see Paragraf on The Target In Iraq.

¹⁸*Conduct of the Persian Gulf War, Chapter Six - The Air Campaign*, Final Report To Congress, p. 148 Online at www.globalsecurity.org/military/library/report/1992/cpgw.pdf

see also Andrew Rosenthal, "No Ground Fighting Yet; Call to Arms by Hussein," *The New York Times*, January 17, 1991 as quoted in Part II:

Iraqi forces in Iraq and Kuwait		events in the war) ¹	Telecommunications and Command, Control and Communications (C3) Systems (S Op II) to; Disable Telecommunications and C3 Systems ⁸ which cripple the ability to issue orders to the military and security forces, receive reports on the status of the operation, and communicate with senior military and political leaders. Cripple Iraq's internal radio and television systems so; ⁹ - Reduce the ability to broadcast out of the country and can only broadcast sporadically within the country, so its use as propaganda is not properly utilized. - Civilian radio and television can no longer be used to back up military communication, control and command.		- microwave relay towers (MRT) - telephone exchanges (TE) - switching rooms, (SR) - fiber optic nodes (FON) - bridges that carry coaxial cables (BCC) - Radio and Television Facilities (RTF) - Iraqi Air Force Headquarters (AFH) ¹¹
		Operation Against Iraq's Strategic Integrated Air Defense System (Op II) Objective Obtain and maintain air supremacy to allow unhindered air operations ¹⁴ :	Sub Operation Against Iraq's Strategic Integrated Air Defense System (S Op III) Objective Disable Iraq's Strategic Integrated Air Defense System. ¹⁵	Sub-Sub Operation Against Iraq's electrical power system (SS Op I) Objective Cripple the electrical power and electrical network associated with the military or the Iraqi military forces ¹² especially those related to C3	Attack to destroy; ¹⁶ - Intermediate to upper level air defense control centers (ULADCC) - Radar - SAM (surface-to-air-missiles) - AAA (anti-aircraft artillery), - Computerized command and control systems built in France named Kari
				Sub-Sub Operation Against Iraq's electrical power system (SS Op I) Objective Disable electrical power and networks associated with the military or Iraqi armed forces ¹⁷ especially; - Computerized command and control systems from Iraq's Strategic Integrated Air Defense System - Operate reinforced doors in aircraft storage and maintenance facilities; Systems that provide lighting and power maintenance, planning, repair and loading bombs and explosive agents.	Disable electrical power and networks associated with the military or Iraqi armed forces ¹⁸ including 4 HPP and 6 TPP and several other power plants
		Operation Against Iraqi NBC (Nuclear, Biological and Chemical) warring capabilities (Op III) Objective;	Main Sub-Operation / Tactical Sub Campaign Against Famed NBC (Nuclear, Biological and Chemical) research, production and storage facilities (S Op IV)	Sub-Sub Operations Against Iraqi Air Troops and Air Fields (SS Op II) Objective Disable Iraqi air troops and air fields ¹⁹	Attack to destroy; ²⁰ - air fields (AF) by creating craters and placing mines on the landing strips, - bombing air planes, maintenance and storage facilities (AP & MSF) and - attacking Iraqi military planes in the air especially interceptors - attacking C3 facilities
			Attack to destroy ²² - Bombing the Al-Atsir complex, 40 miles south of Baghdad, reported to have suffered minor damage		

The Air War Advantage Iraq Background: Op Cit, lih. Paragraf on The Target In Iraq.

³ Chapter VI- The Air Campaign, Loc cit

⁴ Ibid, Andrew Rosenthal, "No Ground Fighting Yet; Call to Arms by Hussein," *The New York Times*, January 17, 1999 as quoted in Part II: The Air War Advantage Iraq Background: Op Cit, lih. Paragraf on The Target In Iraq.

⁵ Human Rights Watch, *Needless Deaths In The Gulf War, Civilian Casualties During the Air Campaign and Violations of the Laws of War*, A Middle East Watch Report, New York, p.169

⁶ Ibid, p.171

⁹ Ibid

¹ Chapter VI- The Air Campaign, Loc cit

⁸ Chapter VI- The Air Campaign, Loc cit

⁹ Ibid

¹¹ Ibid

¹² Ibid

¹³ Ibid, Andrew Rosenthal, "No Ground Fighting Yet; Call to Arms by Hussein," *The New York Times*, January 17, 1991 as quoted in Part II: The Air War Advantage Iraq Background: Op Cit, lih. Paragraf on The Target In Iraq.

¹⁴ Chapter VI- The Air Campaign, Loc cit

¹⁵ Ibid

¹⁶ Ibid

¹⁷ Ibid

¹⁸ Ibid

¹⁹ Ibid

²⁰ Ibid

		to destroy NBC warping capabilities ¹	Objective; To Disablefamed NBC facilities ²		<ul style="list-style-type: none"> - Bombing the Baghdadi Nuclear Research and Development Center (NRDC) - Attacking Iraqi biochemical (BIOCHEM) weapons stores or cooled biochemical weapon storage bunkers.
				Tactical Sub-Sub Operations Against Iraqi electrical power systems (SS Op I) Disable electrical power and networks associated with the researching, producing and storing of NBC (Nuclear, Biological and Chemical). ⁴	Attack to destroy electrical power and networks associated with the military or Iraqi armed forces, ⁵ including 4 HPP and 6 TPP and several other power plants
		Operation Against proyeksi kekuatan, infrastruk-tur dan produksi militer Irak yang penting ((Op IV) Objective; To elimintae Iraq's military capabilities, Iraqi power projection, and infrastructure and important military production ⁶	Sub-Operation Against tempat-tempat (situs-situs) produksi dan penyimpanan Militer (S Op V) Objective; disabling military production and storage facilities. ⁷		Attack to destroy many targets that must be exterminated, for example; ⁸ <ul style="list-style-type: none"> - military facilities (MPF) - repairation facilities (RF) - spare parts production (SPP) Large military complexes At-Taji <ul style="list-style-type: none"> -seven primary ammunitions storage facilities for example (PASF) - Ammunition storage facilities at Ar-Rumaylah -19 secondary ammunitions storage facilities (SASF); Each consisting of a number of individual ammunition storage bunkers.
				Sub-Sub Operation Against Iraq's electrical power system (SS Op I) Disabling electrical power systems and electrical networks especially ones related with military equipment production and storage sites.	Attack to destroy electrical power production facilities and electricla netwoks associated with military production and storage sites including 4 hydroelectric power plants and 6 thermoelectric power plants and several other electric power plants
			Main Sub-Operations/ Tactical Sub Campaigns against Scud missiles, launchers, and their production and storage facilities (S Op VI) Objective; Scud missiles, launchers, and their production and storage facilities. ⁹		Attack to destroy; ¹⁰ <ul style="list-style-type: none"> -Scud Missiles (around 600) -Launchers (36 mobile launchers, and 28 fixed launchers in 5 complexes in west Iraq and several practice launchers at At-Taji -Their production and storage facilities (PSF)
			Sub-Operation Against oil distillation and distribution (S Op VII) Disable oil distillation and distribution to commbat Iraq's long term oil production capabilities. ¹¹		Attack to destroy Oil distillation facilities (ODF) which have direct military uses, not longterm raw oil production. ¹² To destroy or damage those targets
				Sub-Sub Operation Against Iraq's electrical power system (SS Op I) Disable electrical power systems and electrical networks associated with distilling oil	Attack to destroy electrical power production and electrical systems associated with oil distillations including 4 HPP and 6 TPP and several other power plants
			Sub-Operation Against Iraq's Naval Forces and ports (S Op VIII) to disable naval forces and port facilities, ¹³ so the Coalition navy may move furhter into the North of the Persian Bay to increase the pressure on Iraq's troops and to better support their ground		To do actions such as; ¹⁴ <ul style="list-style-type: none"> - Attacking Iaq's naval ships (NS) especially those with Silkworm Rockets and Exocet - Capturing Kuwaiti patrol ships (KPS) equipped with Exocet Targeting port facilities and anti-ship missiles, - Attacking port facilities (PF), such as

³ Ibid

¹ Ibid

² Ibid

⁴ Ibid

⁵ Ibid

⁶ Ibid

⁷ Ibid

⁸ Ibid

⁹ Ibid

¹⁰ Chapter VI- The Air Campaign, see also Gen. Merrill A. Mc Peak, Chief of Staff of USAF, Briefing, March 15, 1991, Transcript at 6 [hereinafter McPeak Briefing]. Sebagaimana dikutip dalam Part II: The Air War Aadvantage Iraq Background: Operation Desert Storm, . Paragraf on The Target In Iraq online pada <https://www.hrw.org/reports/1991/gulfwar/CHAP2.htm>

¹¹ Ibid

¹² Ibid

¹³ Ibid

¹⁴ Ibid

			forces		<p>the Khawr Az-Zubair, the main area of operation of the Iraqi navy, for storage facilities.</p> <p>-Attacking anti-ship missile stores or maintenance facilities (AMMF) - Attacking the Umm Qasr Naval Base(NB) the Khawr Az-Zubair port facility, the main area of operation of the Iraqi navy, for storage facilities.</p> <p>- Attacking seven Iraqishore based anti-ship Silkworm missile launchers (ML)</p> <p>-Attacking a number of unknown missiles.</p> <p>These actions were intended to destroy or damage the above targets.</p>
		<p>Operation Against Iraq's military and mechanical tools in Kuwait ((Op V)</p> <p>Objective Make Iraq's military and mechanical tools in Kuwait ineffectiveto cause its ruin¹</p>	<p>Sub-Operation Against functioning Bridge, Road and Railway connections (S Op IX)</p> <p>To disable functioning Bridge, Road and Railway connections Which links the military to a means of support to prevent or reduce the buildup of supply, and to prevent the reinforcement of troops deployed at the beginning of the air campaign²</p>		<p>Attack to destroybridges, roads and railways (BRR) Which connect military forces³ Including bridges which cross the Efrat river⁴</p> <p>Attacking railways and bridges which connect Iraqi military forces with logistical support centers⁵</p> <p>Bombinga bridge in Nasiriyya in South Iraq at 3 in the afternoon⁶ Bombinga bridge near the market in Falluja⁷ Bombing3 bridges in Samawa⁸ Bombingother bridges at the Shuhada part of Samawa at 3 in the afternoon⁹</p>
			<p>Sub-Operation Against Army Unit including the Republican Guard Forces Commandat the Kuwait Theatre Operation(S Op X)</p> <p>To disable Army Unit including the Republican Guard Forces Commandat the Kuwait Theatre Operation¹⁰ So that they will no longer be effective at defending Iraq's annexation of Kuwait and to erase a significant threat for Saudi Arabia and other Persian Gulf countries</p>		<p>Attack to destroyArmy Unit (AU) including the Republican Guard Forces Command (RGFC)at the Kuwait Theatre Operation¹¹</p>

Based on the above table, attacks as an act of violence occurs on two of the three levels namely the Operational and Tactical Level. The difference between the two levels of attack is whereas on the Tactical Level attacks are meant as individual acts of violence aimed at separate targets. In the context of attacks on Iraq's electrical power system, these attacks are meant as acts of violence against each hydroelectric power plant, thermoelectric power plant, and oil-fired power plant located separate from each other. Four hydroelectric power plants were attacked namely ¹²;Saddam Dam/Mossul Dam in the Ninawa governorate, Haditha Dam in the Al Anbar Governorate. Samarra Dam in the Salah ad Din Governorate and Dukan Dam in the Sulaymaniyah Governorate. On the other hand six thermoelectric power plants were in Bayji, situated north of Baghdad.¹³The other power plants damaged by Coalition air strikes were the power plants al-Shu'ayba and al-Najiebiya in Basra¹⁴ The objective of these attacks were to damage or destroy those power plants.

On the Operational Level those attacks were meant as acts of violence against Iraq's electrical power system which were aimed at disabling said electrical power system. Because this goal could only be achieved if those tactical attacks against those power plants succeeded, thus attacks on an Operational Level are a group or a series of tactical attacks on each of the aforementioned targets. Therefore there are two definition of attacks with each belonging to one of two different levels of war.

¹ Ibid

² Ibid

³ Ibid

⁴ Richard Pyle, *Schwarzkopf/The Man, The Mission, The Triumph* (Signet Books: 1991) at 129 [hereinafter Pyle]. at 211.

⁵ Ibid

⁶ Patrick E. Tyler, "Iraqi Hospitals Struggle With Wounds of War," *The New York Times*, July 5, 1991.

⁷ Part III: The Means and Methods of Attack, Paragraf on The Target In Iraq, Scores of Civilians Killed in Flawed Attack on Bridge in Western Iraq, online pada <https://www.hrw.org/reports/1991/gulfwar/CHAP2.htm>

⁸ Middle East Watch (MEW) interview, New York, March 25, 1991.

⁹ MEW interview, Azraq Evacuee Center, Azraq, Jorand, February 25, 1991.

¹⁰ Chapter VI- The Air Campaign

¹¹ Chapter VI- The Air Campaign

¹² Human Right Watch, *Needles Death in The Gulf War*, p. 187

¹³ Baghdad INA, April 13, 1991, as reported in FBIS, April 16, 1991 at 15 seealso Human Right Watch, *Needles Death*, p. 171

¹⁴ Ibid

2.3 Definition of Military Advantage and Civilian Losses Arising from Attacks Against Iraq's Electrical Power System

2.3.1 Definition of Military Advantage

2.3.1.1. Definition of Military Advantage From The Perspective of Humanitarian Law

In Humanitarian Law terms found relating to this case is the military advantage anticipated. This term is found in all the rules of international law relating to proportionality such as; Article 51 Paragraph 5 b, Article 57 Paragraph 2 (a) (iii), Article 57 Paragraph 2 (b) of Additional Protocol to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflict (Protocol I of 1977), Article 3 para 3 (c) the 1980 Protocol II to the CWC, article 3 para 8 (c) Protocol on Prohibitions or Restrictions on the Use of Mines, Booby-Traps and Other Devices as amended on 3 May 1996 (Protocol II as amended on 3 May 1996), Article 7 and 7 d ii *Second Protocol to the Hague Convention of 1954 for the Protection of Cultural Property in the Event of Armed Conflict The Hague, 26 March 1999* (now called the Protocol II Den Haaq 1999) and Article 8 para 2 (b) (IV) Rome Statute of the International Criminal Court, which states;

“...which would be clearly excessive in relation to the concrete and direct overall military advantage **anticipated.**”

Thus the term military advantage is followed by the limitations of being concrete, direct, overall, and anticipated. In Humanitarian Law, there is no specific definition of military advantage. Only in several humanitarian laws which discuss the definition of military objects¹ are we able to discover that military advantages are seen from two sides namely; the ruling party or the party using that military object and the attacker of military objects.² **From the side of the ruling party or the user of military objects**, military advantages are effective contributions made by those military objects to military acts done by the ruling party to achieve the objective of an attack or an operation. Military advantages or effective contributions by those military objects may arise because of the nature of said object, location, objective or use by the ruling party.³ **From the side of the attacker**, military advantages are born as a result of those attacks which totally or partially destroy, capture, or neutralize a certain military objects thus ending its effective contribution towards the ruling party's military acts thus weakening the attacked military power.⁴

Thus it is not the destruction, capture, nor neutralization of said military objects that becomes the military advantage, but it is the effect that arises as a result which then weakens the opponent's military force or the ruling party's. This is in line with the 1868 St. Petersburg Declaration Renouncing the Use, in Time of War, of Explosive Projectiles Under 400 Grames Weight which states that the only legitimate object which States should endeavor to accomplish during war is to weaken the military forces of the enemy.

What is meant by concrete, direct, overall, and anticipated is also not explained further in the aforementioned rules of International Humanitarian Law. Especially related to the terms concrete and direct, hints begin to appear in the sentence adopted by the committee III when the Additional Protocol I was being negotiated, namely;

The expression "concrete and direct" was intended to show that the advantage concerned should be substantial and relatively close, and that advantages which are hardly perceptible and those which would only appear in the long term should be disregarded.⁵

Based on this sentence it can be said that the military advantage to be taken into account must be substantial (tangible) and apparent (perceptible), close (within a causal connection with the attack) and do not arise in the long term. The definition of a concrete military advantage can be seen in the words substantial (tangible) and apparent (perceptible). However in the records of the negotiation, the borders of what is substantial and apparent is not seen, whether this means that the military advantage accounted for is merely physical and thus moral, spiritual or mental advantages may be disregarded is not clear. The Committee Established to Review the NATO Bombing Campaign Against the Federal Republic of Yugoslavia, in its final report to the Prosecutor of the ICTY in 2000 states that:

“... While stopping such propaganda may serve to demoralize the Yugoslav population and undermine the government's political support, it is unlikely that either of these purposes would offer the “concrete and direct” military advantage necessary to make them a legitimate military objective.

¹Article 52(2) Additional Protocol I 1977, Article 2(4) of the 1980 Protocol II to the CCW, Article 2(6) of the 1996 Amended Protocol II to the CCW and Article 1(3) of the 1980 Protocol III to the CCW, Article 1(f) of the 1999 Second Protocol to the 1954 Hague Convention, Paragraph 40 of the 1994 San Remo Manual, Article 24(1) of the 1923 Hague Rules of Air Warfare

² See also Spain, Penal Code (1995), Article 613 (1) (b), as also quoted in Jean-Marie Henckaerts and Louise Doswald-Beck (Ed.), Customary International Humanitarian Law, Cambridge University Press, para 342, p. 185.

³Examples on the nature, location, purpose or use can be seen in The US Naval Handbook (2007), International Committee of the Red Cross, United States of America Practice Relating to Rule 8. Definition of Military Objectives, as quoted in https://www.icrc.org/customary-ihl/eng/docs/v2_cou_us_rule8.

⁴The logic of military advantages for the ruling party or the practical user is to disadvantage the attacker, conversely advantages for the attacker will be detrimental to the ruling party or user.

⁵Pilloud and Pictet, “Article 57” in Sandoz, Swinarski and Zimmermann, *loc cit*, as quoted in Knut Dormann, *Op cit*, p. 164.

This opinion apparently demoralizes (lowering of moral support or spirit) the population of Yugoslavia and weakens political support for the governor which is not something that is a concrete military advantage. Thus based on this committee's opinion it can be said that moral advantages are not included in the definition of a concrete military advantage. However, the opinion of this committee is merely as a guide as it does not have binding legal force.

Regarding the definition of a direct military advantage, the sentence the committee III adopted above can be seen to have the words relatively close and those which would only appear in the long term should be disregarded. Thus there are two elements to the direct definition namely; **first**, the distance of a causal link between a military advantage and an attack must be close, however how close the link between a military advantage and an attack is not clear and **second**, the emergence of the military advantage must be immediately after an attack was conducted, not in the long run, where the boundary between immediately and not or long term and short term is unclear. In relation to the attacks on Iraq's electrical power plant, there is a causal link between the attack and the paralysis of the Iraqi leaderships' control and command systems as well as the control, command and communication systems of the Iraqi armed forces.

It can be seen that at least one stage must be passed before achieving a military advantage in the form of the disabling of the Iraqi leadership's control and command system and the Iraqi armed forces' command, control and communication systems, which would be the disabling of Iraq's electrical power system. This phase would not exist or would be truncated had the attacks been aimed at the enemy's command, control and communications system. The lack of clarity on the boundaries between military advantages and attacks could **allow these military advantages to be called indirect military advantages** Conversely **the perpetrator would refer to it as a direct military advantage.**

In terms of the time of the emergence of the military advantage, the disabling of the Iraqi leadership's command and control system and the Iraqi armed force's command, control and communications system. Disabling control system and Iraqi Commander Iraqi armed forces' command, control, and communications system were not immediate or was soon after the attack occurred. This is due to the possibility of the existence of mobile electric generators to replace the electrical flow formerly supplied by the attacked power plants. Because there is no clear boundary between immediate or not and long term or short term and cause or effect in International Humanitarian Law, thus the disabling of the Iraqi leadership's command and control systems and the Iraqi armed forces' command, control and communications systems, **can be called an indirect military advantage** or conversely **the perpetrator may claim it as a direct military advantage.**

Regarding the term overall, the statute did not explain what it meant. The ICRC in the Rome conference stated that;

The word "overall" could give the impression that an extra unspecified element has been added to a formulation that was carefully negotiated during the 1974–1977 Diplomatic Conference that led to [Additional Protocol I] and this formulation is generally recognized as reflecting customary law. The intention of this additional word appears to be to indicate that a particular target can have an important military advantage that can be felt over a lengthy period of time and affect military action in areas other than the vicinity of the target itself. As this meaning is included in the existing wording of the 1977 Additional Protocol I, the inclusion of the word "overall" is redundant¹

The ICRC's explanation shows that military advantages also include effects of the attack which cause the success of military actions or attack in areas aside from the target area. This suggests that military advantages that are included into calculations are not only those military advantages from an attack against a certain object but also advantages in the form of effects which cause the success of military actions or attacks in other areas.

In relation with the whole of military advantages, Solf takes the example of the primary military advantage from the Allied attack on Germany at the Pas de Calais which was thought of by the Allied forces not to weaken Germany's military power in that area, but to trick Germany into believing that the Allies' amphibious attack would take place at the Pas de Clais and not Normandy Beach. Because of that, the anticipated military advantage of that attack was not associated with their value to the enemy.² Solf's explanation shows that military advantages also include the effects attacks have on the success of military actions or attacks in areas aside from the target area which, in this case would be the effect the Pas de Clais attack had on the Allies success in seizing Normandy.

Outer explains that separate actions in an operation which is described as specific attacks which are almost never done for its own purpose but for a larger integrated goal.³ Furthermore, it is said that within the overall more complex campaign framework of a warring party an individual may calculate the relative military value of an individual attack's specific goal.⁴ Thus the definition of an overall military advantage according to

¹ UN Doc. A/CONF.183/INF/10 of 13 Juli 1998.

² Solf, 'Art.52' in Bothe, Partsch and Solf, New Rules for Victims of Armed Conflict, pp. 324 ff

³ Oeter, 'Methods and Means of Combat', p. 162.

⁴ Ibid, p. 119

these scholars is a benefit calculated from the overall individual attack interlinked in a greater purpose namely the purpose of the operation or eventhe campaign..

The term overall military advantage is also used by several countries namely,; Netherlands¹, Benin², Togo³, Burundi⁴, Georgia⁵, USA⁶, Germany⁷, Mali⁸, Egypt⁹and Canada.¹⁰ Aside from that in The 2000 UNTAET Regulation No. 2000/15, this term can also be found. Out of all these sources there is no clear definition of the term overall. Only in the statement of the US Department of the Army In 1991, in reaction to an ICRC memorandum on the applicability of IHL, which states;

“The concept of “incidental loss of life excessive in relation to the military advantage anticipated” generally is measured against an overall campaign. While it is difficult to weigh the possibility of collateral civilian casualties on a target-by-target basis, minimization of collateral civilian casualties is a continuing responsibility at all levels of the targeting process”.¹¹

Furthermore in the Statement of US Department of Defense In 1992, in its final report to Congress on the conduct of the Gulf War it is written;

“It prohibits military action in which the negative effects (such as collateral civilian casualties) clearly outweigh the military advantage. This balancing may be done on a target-by target basis, as frequently was the case during Operation Desert Storm, but also may be weighed in overall terms against campaign objectives”.¹²

Based on these two statements it can be said that the definition of overall can be contrasted with the target by target definition. This is in line with Canada’s opinion;

The military advantage at the time of the attack is that advantage anticipated from the military campaign or operation of which the attack is part, considered as a whole, and not only from isolated or particular parts of that campaign or operation.¹³

Thus it is clearer that the definition of an overall military advantage is the advantage obtained from attacks on the targets of an operation or campaign as a whole.

2.3.1.2. Definition of Military Advantage Based Upon the Levels of War

To see military advantages from the perspective of the Levels of War in relation to attacks or bombings against Iraq’s electrical power facilities such as power plants there are two things to pay attention to namely; 1) whether the attacks or bombings against those power plants caused a direct military advantage, 2) on the level of war did the attacks or bombings against those power plants cause a direct military advantage which is concrete, overall and apparent. As per the explanation above, war can be divided into three levels namely Strategic Level, Operational Level and Tactical Level. Whether there are military advantages on all levels, this depends on what the target is, whether its destruction, capture or neutralization directly weakened the opponent’s military strength. Attacks against a pure active military target which strengthens the enemy’s military forces which result in its destruction, capture or neutralization may cause a direct military advantage on a tactical level. However, attacks on dual use objects such as electrical power whose role can be replaced by small and mobile electrical generators, the military advantage on a tactical level is questionable. Based on the explanation in sub-chapter 2.2.1.1. on the definition of a military advantage from the perspective of humanitarian law, military advantage from the perspective of the levels of war can be seen in the following table.

¹Netherlands, *International Crimes Act* (2003), Article 5(5)(b).

²Benin, *Military Manual* (1995), Fascicule III, p. 14, see also Fascicule II, p. 6.

³Togo, *Military Manual* (1996), Fascicule III, p. 14, see also Fascicule II, p. 6.

⁴Burundi, *Draft Law on Genocide, Crimes against Humanity and War Crimes* (2001), Article 4(B)(d).

⁵Georgia, *Criminal Code* (1999), Article 413(d).

⁶US, Letter from the Department of the Army to the legal adviser of the US Army forces deployed in the Gulf region, 11 January 1991, § 8(F), Report on US Practice, 1997, Chapter 1.5 and US, Department of Defense, Final Report to Congress on the Conduct of the Persian Gulf War, Appendix O, The Role of the Law of War, 10 April 1992, *ILM*, Vol. 31, 1992, p. 622.

⁷Germany, *Law Introducing the International Crimes Code* (2002), Article 1, § 11(1)(3).

⁸Mali, *Penal Code* (2001), Article 31(i)(4).

⁹Egypt, Declarations made upon signature of the 1998 ICC Statute, 26 December 2000, § 4(c).

¹⁰Canada, *LOAC Manual* (1999), p. 4-3, §§ 20 and 21, see also p. 2-3, § 16.

¹¹US, Letter from the Department of the Army to the legal adviser of the US Army forces deployed in the Gulf region, Loc cit.

¹²US, Department of Defense, Loc cit.

¹³Canada, *LOAC Manual* (1999), Loc cit.

Table 2. Military Advantage of Coalition Forces From the Destruction of Iraq’s Electrical Power System

Lv. War Specifications	Tactical	Operational	Strategic
Direct/Indirect	Direct or Indirect Military Advantage ?	Direct or Indirect Military Advantage?	Direct or Indirect Military Advantage
Concrete/Abstract	Concrete Military Advantage	Concrete Military Advantage	Concrete Military Advantage
Target by Target/Overall	Target by target	Overall	Overall

Based on the table above we are able to know;

1. Coalition forces’ military advantage on a tactical level

On a tactical level there is;

- a. The lack of clarity on whether the military advantage in the form of the Iraqi leadership’s control and command system and Iraqi armed forces’ control, command and communications system are direct advantages or indirect advantages of the attack on Iraq’s electrical power plant. This is due to the lack of clarity with regards to the boundaries on how far is the relation between military advantages and attacks in order to determine whether or not the advantage was direct or indirect. Aside from that the boundary between immediate and not immediate or long term and short term in terms of when the military advantage occurs. Only if the direct military advantage was intended as a military advantage that arises once an attack occurs then there is no direct military advantage at the time the attack on the power plant occurred. There is only the direct effects which are the destruction of the power plant and the possibility of death or injury of the people who were around the plant during the war.
- b. Concrete Military Advantage
 Though there is uncertainty on whether a concrete military advantage is something that is only physical or whether it may include spiritual or even mental, what is clear is that military advantages generated by the attack on Iraq’s power plants were predicted to have produced a concrete military advantage as in figure three above. It is just that these gains have not been obtained shortly before the attack. However it is predicted that the profit will be gained after passing through as seen in figure 3 above. Because there are 12 power plants thus the concrete advantage is regarded as having been donated by each object attacked which is 1/12 for each of the arising military advantages, such as 1/12 for the disabling
- c. Target by target military advantage.
 Because an attack is an act aimed at each target which has been set at the Operational Level, thus logically military advantages obtained are target by target advantages or military advantages from each attack on each target. In the case of attacks on those Iraqi power plants, arises the question whether the disabling of the Iraqi leadership’s command and control system as well as the Iraqi armed forces’ control, command and communications system were military advantages born as a result of target by target attacks seeing as the effects which directly occurred was merely the shutting down of the flow of electricity. If the disabling of the Iraqi leadership’s command and control system as well as the Iraqi armed forces’ control, command and communications system were considered military advantages obviously the question of whether said advantage were direct or indirect advantages from those attacks on Iraq’s power plants must be asked again.

2. Coalition forces’ military advantage on an Operational Level

On an Operational Level, namely on the level of sub-Operation, military advantages gained by the coalition forces’ attack on the power plants in Iraq based on figure 3 above is estimated to have been of six types;

- a. Disabling the Iraqi leadership’s control and command (C2) system
- b. Disabling the Iraqi armed forces’ control, command and communications (C3) system
- c. Disabling Iraq’s integrated air defense system
- d. Disabling Iraq’s nuclear, biological and chemical (NBC) research, production and storage facilities
- e. Disabling the Iraqi military’s production and storage sites
- f. Disabling Iraq’s oil distribution and distillation.

On the Operational Level, the military advantage obtained by coalition forces, as an indirect effect of the attack on Iraq’s power plants, based on figure 3 above is estimated to have been of four types;

- a. The disabling and the isolating of the Iraqi regime as a result of the effect on a sub operation level namely; disabling the Iraqi leadership’s control and command (C2) system and disabling the Iraqi armed forces’ control, command and communications (C3) system
- b. Obtaining and maintaining the air supremacy of coalition forces as a result of the effects on a sub

- operational level namely; disabling Iraq's integrated air defense system.
- c. The destruction of Iraq's NBC warring capabilities as a result of the effects on a sub operational level namely; disabling Iraq's nuclear, biological and chemical (NBC) research, production and storage facilities.
 - d. The loss of Iraq's military attack abilities as a result of the effects on a sub operational level namely; disabling the Iraqi military's production and storage sites and Iraq's oil distribution and distillation.

The coalition forces' military advantages above do not have an explanation on whether those military advantages are direct military advantages or indirect military advantages because the lack of clarity in the boundaries regarding the directness or indirectness of a military advantage born as a result of an attack. In terms of whether or not it is concrete, the coalition forces' military advantages as stated above, because it has form it can be called a concrete military advantage.

In terms of overall specifications, the military advantage at the operational level is overall due to an accumulation of overall military advantage on the tactical level. For example, one of the military advantages of the attack against Iraq's entire power plant is the disabling of the Iraqi leadership's control and command system and the Iraqi armed forces' command, control and communications system and further, the isolation and disabling of the Iraqi regime.

3. The coalition forces' military advantage on a Strategic Level;

On a Strategic Level, namely on the sub operation level, military advantage gained by coalition forces from attacking on Iraq's power plant based on figure 3 above is the disabling of Iraq's military power in Kuwait and Iraq's subsequent immediate and unconditional withdrawal of their forces back to Iraq, their position before attacking Kuwait. The advantage on this level is the accumulation of the military advantage on an operational level. This advantage is already quite a distance from the cause namely the attacks to each to each Iraqi power plant thus it may be said that these advantages are indirect. However due to the uncertainty regarding the boundaries between direct or indirect military advantages resulting from an attack, normatively speaking that advantage cannot be determined as being direct and indirect advantages.

In terms whether it is concrete or not, the military advantage because it can be clearly seen. The military advantage at this level is also whole or overall.

2.3.2 Definition of Civillian Loss

2.3.2.1. Definition of Civillian Loss from the Perspective of Humanitarian Law

Within the rules of International Humanitarian Law, there is no mention of the term civilian loss as a counterpart to the term military advantage. Civilian losses have been directly specified by several items; loss of life or injury to civilians or damage to civilian objects, environment and cultural property.

There was also no specification such as concrete, direct, and overall such as the ones found in military advantages. Although not mentioned, specifications such as concrete and direct, but by mentioning the items; loss of life or injury to civilians or damage to civilian objects, environment and cultural property, civilian losses that are meant are only the civilian losses that are concrete and direct. Even though civilian losses may also be invisible (intangible) such as the grief of the bereaved family, trauma from the attack, expenditure of time, energy, thought for healing wounds, and loss of functions important to family and society. Aside from that there is no visible loss such as costs incurred for healing. Other losses that may arise include the possibility of there being derivative losses.

In the 1991 Gulf War, the death or injury of civilians as a direct result of the attack did not amount to much. Most are not the direct result of an attack. As shown in the schematic above, around 170,000 Iraqi civilians, mostly children died due to the disabling of various systems that are essential for maintaining environmental sanitation and nutritional needs of the population caused by the shutting down of electricity due to the bombing of Iraq's power plants. Regarding the overall specifications, as has been done above, it is not found in civilian losses. This raises uncertainty regarding whether the civilian losses should be calculated target by target or targets attacked overall.

2.3.2.2. Definition of Civillian Losses from the Perspective of the Levels of War

Civilian loss from the perspective of the levels of war it can be seen in terms of direct and indirect loss, concrete or not and target by target or overall. On a Tactical Level, with an emphasis on target by target attacks, civilian losses arising are those from each target. These losses are direct losses that can be concrete and not concrete. Concrete losses such as death, injury, damage to civilian objects, environment and cultural objects. Instead direct and abstract losses are mental losses such as grief from the bereaved families, trauma of the attack, expenditure of time, energy and thought for wound healing and loss of functions important to family and society. A loss on the Operational Level are all losses arising from attacks on each target at the tactical level. Indirect losses such as civilian deaths due to disease and malnutrition appear at this level. Losses on a Strategic Level is the sum of all losses that existed on all operational levels. Civilian losses that arise are no longer only from the

result of the operation against Iraq's electrical power system, but also as a result from Iraq's strategic integrated air defense system and other operations.

2.4 Calculating the Proportionality of Attacks against Iraq's Electrical Power System based on the Principles of Justice

2.4.1 Principles of Justice

Aristotle, in his books *Nicomachean Ethics*, discussed justice from two sides. First is justice as compliance with the law. Here it is defined as compliance with the law. Justice means complying with the law, conversely unjust means not complying with the law.¹ Second is justice as equality. Here justice is defined as equality or not accepting more than what one has a right to or truthful. Conversely, injustice according to equality is the not applying of balance or accepting more than their rights or dishonest.²

There are two kinds of justice in terms of equality namely; firstly, distributive justice and secondly, corrective justice. Distributive justice is justice executed in the distribution of rewards, prosperity, and other assets that can be shared from the community that can be allocated amongst its members evenly or unevenly.³ For there to be justice, according to Aristotle, there should at least be four requirements (elements), namely; first; two people to whom justice will be served to, second; two parts to be distributed to the two aforementioned people, third; that those two be equals, fourth; the two parts given are also equal. Therefore if people are not equal then they will not have equal parts.⁴

Instead corrective justice is justice that provides the corrective principle in private transactions transactions that are voluntary or not.⁵ Another example of voluntary transaction is "sale, purchase, loan for consumption, pledging, loan for use, depositing, letting (they are called voluntary because the origin of these transactions is voluntary)".⁶

On the other hand, involuntary transactions are said to be;

"some are clandestine, such as theft, adultery, poisoning, procuring, enticement of slaves, assassination, false witness, and (b) others involve force, such as assault, imprisonment, murder, robbery with violence, mutilation, abuse, insult."⁷

As in distributive justice, corrective justice is also justice according to equality, namely; equality not based on geometry, but based on mathematical proportionality.⁸ For example when someone commits a crime or benefits from the losses of others it creates two sections of a line (perpetrators and victims) which are not equivalent. According to Aristotle "the judge tries to equalize it; for in the case also in which one has received and the other has inflicted a wound, or one has slain and the other been slain, the suffering and the action have been unequally distributed; but the judge tries to equalize things by means of the penalty, taking away from the gain of the assailant."⁹ The equality portrayed by Aristotle as a midpoint between a line divided into two equal parts. On the other hand, inequality is portrayed as the dividing of a line into unequal parts so that one part is larger than the other. So that it returns to being equal, the judge needs to take a part of the larger half and give that part to the smaller half so that the midpoint divides that line into two equal parts. This can be seen in the following opinion;

"it is as though there were a line divided into unequal parts, and he (the judge) took away that by which the greater segment exceeds the half, and added it to the smaller segment. And when the whole has been equally divided, then they say they have 'their own' — i.e. when they have got what is equal.* The equal is intermediate between the greater and the lesser line according to arithmetical proportion. It is for this reason also that it is called just (*dikaion*), because it is a division into two equal parts (*dikha*), just as if one were to call it *dikhaion*; and the judge (*dikastēs*) is one who bisects

¹This we can learn from the following opinion "both the lawless man and the grasping and unfair man are thought to be unjust, so that evidently both the law-abiding and the fair man will be just. The just, then, is the lawful and the fair, the unjust the unlawful and the unfair. Aristotle, *Nicomachean Ethics*, Translated by W. D. Ross, at <http://classics.mit.edu/Aristotle/nicomachaen.html>. See also Aristotle. *The Nichomachean Ethics*. Translated by H. Rackman. Loeb Classical Library, London. 1926. 1129b. as quoted by Kelsen. H. *What is Justice?: Justice, Politic, and Law in the Mirror of Science*. University of California Press. 1957. as translated by Nurulita Yusron. *Dasar-Dasar Hukum Normatif, Prinsip-Prinsip Teoritis untuk Mewujudkan Keadilan Dalam Hukum Publik*. Nusa Media. Bandung. 2009. p. 146.

² Aristoteles, Op cit. 1129a

³ Ibid. 1131a

⁴ Ibid. For example if individuals A and B are not equal, the rights divided to them are also not equal, conversely if those individuals were equal, the rights divided would also be equal. (See Kelsen, H Op. cit. p. 148).

⁵ Ibid. This corrective justice, according to Hans Kelsen, is done by the judge in finishing conflicts and in giving out punishments to criminal suspects. (Hans Kelsen. Op cit. p 148.)

⁶ Aristoteles, Op. cit. 1131a.

⁷ Ibid.

⁸ Ibid. 1131b. The equity portrayed by Hans Kelsen is not just something of two ratios, but it is a balance of two things, especially two losses or two gains. From the side of voluntary transactions, for example are barter which require services and payment to those services which are worthy. From the side of involuntary, for example is between crime and punishment, where the punishment must be equal with the crime. (Hans Kelsen. Op cit. Page. 150).

⁹ Aristoteles, Op. cit. 1132a.

(dikhastēs). For when something is subtracted from one of two equals and added to the other, the other is in excess by these two; since if what was taken from the one had not been added to the other, the latter would have been in excess by one only.¹⁰

Further on it is explained;

“By this, then, we shall recognize both what we must subtract from that which has more, and what we must add to that which has less”.¹¹

When that intermediate has been achieved, this is what is just as stated in the following;

“it is plain that just action is intermediate between acting unjustly and being unjustly treated; for the one is to have too much and the other to have too little.”¹²

As stated above that the intermediate is the midpoint, this of course begs the question, how is that intermediate achieved or balanced? Aristotle answers by stating the following;

“For it is not two doctors that associate for exchange, but a doctor and a farmer, or in general people who are different and unequal; but these must be equated.”¹³

As such, because what must be equal are two different things which means that there will be no mathematical equal, thus these two things must go through equalization. The equalization is done with the following methods;

1. Reciprocal exchange.

Reciprocal exchange is portrayed by Aristotle as a return in kind as per his statement:

“Men seek to return neither evil for evil — and if they cannot do so, think their position mere slavery — or good for good — and if they cannot do so there is no exchange, but it is by exchange that they hold together.”¹⁴

2. Proportioning two parts that are reciprocally interchanged

On this, Aristotle says;

“But in associations for exchange this sort of justice doeth hold men together — reciprocity in accordance with a proportion....”¹⁵

This means that returning in kind, such as returning evil with evil or good with good needs to be proportional. Aristotle does not explain what is meant by said proportion or proportionality. Hans Kelsen then explains it as one's portion being appropriate with the other.¹⁶ Thus, what is meant by corrective justice, according to Aristotle, is the intermediate or midpoint between two different things that can be achieved through proportional reciprocal exchange.

Based on this theory, it can be seen then in order to achieve the intermediate someone must both experience gain or at least gain without losing anything or if someone else loses something he should also gain something else of at least the same portion of his loss.

This justice can be embodied by a state of law or in relation to international armed conflicts can also be embodied by the international community through an organization or an institution of international law. In that organization or institution of international law legal protection in the form of laws of war are provided. That protection includes military interests/necessity and humanitarian interests as well as a balance between the two.

2.4.2 Balancing the Definition of Military Advantage and Civilian Losses in order to Achieve Justice Between Military Interests and Humanitarian Interests of Civilians

In the attack against Iraq's electrical power system in the Gulf War I, the effect on civilians and military can be seen that attacks on Iraq's electrical power plant caused a double effect namely on civilians and on the military. Though they are both affected, but the effects experienced by the two are different including the specifications that follows. For the military, the effects they received were only gains, while the effects received by the civilians were losses. The injustice is already clear here. This condition or state is only allowed by International Humanitarian Law with restrictions namely; that the civilian losses do not exceed the military advantage posed.

1. Forms of Effects.

As previously explained in the rules of International Humanitarian Law, there is no mention of the term civilian losses as a counterpart to the term military advantage. Direct civilian losses are specified into several items namely; loss of life or injury to civilians or damage to civilian objects, environment and cultural property. By directly stating the items of said losses, the civilian losses intended here are only those that are concrete and other losses such as mental losses in the form of grief and trauma as well as other derivative losses such as expenditure of time energy and thought for wound healing and loss of

¹⁰ Ibid.

¹¹ Ibid. 1132b

¹² Ibid. 1133b

¹³ Ibid. 1133a

¹⁴ Ibid. 1131a-1133a. Returning evil with evil and good with good is known as the principle of retribution.

¹⁵ Ibid.

¹⁶ Kelsen, H. Op cit. p.153.

functions important to family and society are not considered a part of civilian losses. Aside from that, by stating the items included in said losses the losses meant here are those that arose immediately after the attacks as seen in figure 5 above. As such, the direct bad effects are civilian losses.

Conversely for the military, military advantages are not specified into several items such as death of combatants and damage to the opponent's military objects. By not directly mentioning the items that make up said military advantage, the scope of the definition of military advantage includes not only concrete military advantages but also the ones that are not. Though there are restrictions regarding the nature of military advantages namely concrete military advantages, but the reality is that there are certain parties that accept the concept of overall military advantage because of its relation with non-concrete military advantages which such as military advantages related to feints.¹⁷ Aside from not that in terms of not mentioning the items of said military advantage, it also opens up the possibility to widen the interpretation of military advantages in relation to indirect military advantages even though international humanitarian law states that it is restricted only to direct military advantages. Though the boundaries between direct and indirect advantages are unclear. Based on figure 5 above, military advantages are not effects arising immediately after the attack but in the phase after the disabling of Iraq's electrical power system.

In order to actualize justice between military interests and the humanitarian interests of civilians there needs to be specifications; loss of life or injury to civilians or damage to civilian objects, environment and cultural property are replaced with civilian losses so it has an counterpart in the term military advantage or conversely military advantages are specified like civilian losses. Where between the two choices will be done depends on which one is the hardest to specify.

2. Nature of Effect

In civilian losses, the nature of the effects can be found in the widespread, long-term and severe environmental. The three natures of this effect can be found in article 8 para 2 (b) (IV) Rome Statute of the International Criminal Court without any further explanations. The term widespread are illustrated by the International Law Commission as being the geographical size of the area suffering from that damage.¹⁸ However there is no clear explanation regarding the size of the impacted area so the damage may be called widespread.

The term of Long Term is meant for environmental damage that arises immediately and is at heart long lasting, not damage that may happen a long time after the attack is done.¹⁹ The ICRC interprets the term long term by referring to decades instead of months.²⁰ The term severe is illustrated by the International Law Commission as the level or intensity of said environmental damage.²¹ However, to what level or intensity must that damage be to qualify as being severe, is also unclear.

By combining the three terms; widespread, long-term and severe damage to the natural environment, the German military manual refers to it as a major interference to the mankind's lives and natural resources which is beyond the usual battlefield damage estimated in a war.²² Here there is also no clear explanation regarding the size of 'beyond the usual battlefield damage estimated in a war'. Thus the restriction of civilian losses here includes; first by providing direct specifications in the form of loss and second, specifically for the environment namely by citing the three natures of environmental damage which causes said environmental damage and then compare it with the military advantage. For military advantages, the nature that sticks to these effects are concrete, direct, and overall like with military advantages. Thus the restrictions for military advantages only includes the nature of that military advantage and does not restrict its form through a certain specification.

Keeping in mind the lack of clarity regarding the boundaries between concrete or non-concrete, direct and indirect and military advantages and there being recognition of an overall advantage thus to realize justice between military advantage and humanitarian interests of civilians there needs to be restrictions on nature which applies to civilian losses. For example if military advantages being compared are concrete, direct and overall military advantages within the same boundaries as the one used for military advantages.²³ In the case of the coalition forces' attack on Iraq's power plants for example if the concrete, direct and overall

¹⁷ See again Solf, *Supra* note.109.

¹⁸ GAOR, 46th Session, Supplement no. 10 (A/46/10), *Loc cit*

¹⁹ GAOR, 46th Session, Supplement no. 10 (A/46/10), p. 276, as also quoted in *Knut Dormann, Elements of War Crimes Under the Rome Statute of the International Criminal Court, Sources and Commentary*, ICRC, Cambridge University Press, 2003, pp. 174-175.

²⁰ UN Doc. A/48/269, p. 9. See also A/47/328, 31 July 1992, para 20, 63, quoted in *Ibid*.

²¹ GAOR, 46th Session, Supplement no. 10 (A/46/10), p. 276, as also quoted in *Knut Dormann, Elements of War Crimes Under the Rome Statute of the International Criminal Court, Sources and Commentary*, ICRC, Cambridge University Press, 2003, pp. 174-175.

²² Humanitarian Law in Armed Conflict – Manual, DSK VV 207320067, The Federal Ministry of Defence of the Federal Republic of Germany, VR II 3, August 1992, no. 403, p. 37.

²³ In other literature it is said that "it must also be emphasized that the same scale has to be applied with regard to both the military advantage and the corresponding civilian casualties", See *Knut Dormann, Op cit*, p. 173 and M. Sassoli, *Bedeutung einer Kodifikation für das allgemeine Völkerrecht mit besonderer Beachtung der Regeln zum Schutze der Zivilbevölkerung vor den Auswirkungen von Feindseligkeiten*, Helbing & Lichtenhahn, Basle and Frankfurt am Main, 1990, p. 415.

military includes indirect effects such as disabling the Iraqi leadership’s C2 systems and the Iraqi armed forces’ C3 systems as well as four other advantages and continuing on to other derivative advantages as seen in figures 3 and 5, then civilian losses also need to be calculated using the same method so that the losses calculated include the disabling of water purification and distribution as well three other losses which continue to include losses in the form of diseases and malnutrition and the death of civilians on a large scale as seen in figures 4 and 5. Use of the overall trait in military advantage and civilian losses which at the end of the day is heavily tied to the calculation of on what level are those civilian losses and military advantages are being calculated.

3. Level of Effects

Effects in the form of civilian losses can be counted on the tactical and operational level. The same thing applies to the effect in the form of military advantages. Effects on a tactical level mean that civilian losses as well as military advantages are calculated based on target by target results. While effects on an operational level civilian losses and military advantages are calculated based on an accumulation of the result of attacks on all targets. So that it is fair, the losses on a tactical level must be paired with the military advantage on a tactical level and civilian losses on an operational level must be paired with military advantages on the same level.

2.4.3 Calculating the Proportionality of Attacks based on International Humanitarian Law and Principles of Justice

In article 51 Paragraph 5 b, article 57 Paragraph 2 (a) (iii), article 57 Paragraph 2 (b) of Additional Protocol to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflict (Protocol I of 1977) and other rules of international law, the proportionality of attacks is stipulated generally namely the prohibition of any attacks which cause “incidental loss of civilian life, injury to civilians, damage to civilian objects, environment and cultural property, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated”. There two things contained in the previous formulation namely; first, use of the word “excessive” in its formulation shows there to be a comparison between two conflicting elements and second, the elements being compared are military advantage and civilian loss which has been specified namely; incidental loss of civilian life, injury to civilians, damage to civilian objects, environment and cultural property. This comparison as has been previously explained is the gain and loss experiences. As such calculating the proportionality of attacks under International Humanitarian Law is the comparing of these two things which conflict or are in opposition to each other which then causes injustice where the military experience gain while the civilians experience loss though with the restriction that that loss may not exceed the gain. Aside from injustice this comparison is very difficult and invites subjective interpretation from the attacker so that the calculation of proportionality becomes imbalanced.

So justice is achieved between military interests and the humanitarian interests of civilians, the calculation of proportionality needs to calculate the probability of a third element namely advantages or gains for civilians as a result of that attack. In certain wars there is the possibility of gain for the civilians as seen in the following table;

Table 3; Strategic purpose of war and profit for civilians

Strategic Purpose of War	Place of Attack	Civil Profit
To defend self or allies from armed attacks	Done against opponent in aggressed area or area suffering from an armed attack.	Civilian population in attacked target area gets freedom from oppression by aggressor forces or perpetrator of armed attacks.
Humanitarian Intervention to stop massive violation of human rights against foreign nationals in country	Done against opponent in area with a massive violation of human rights	Civilian population in attacked target area gets freedom from massive violation of human rights
Intervention for protection of national abroad	Done against opponent in area where foreign nationals are in danger	Civilian population in target area gets freedom from harm inflicted on them by foreign parties in the region where they reside.
To topple racist foreign colonizing, invading, occupying regime.	Done against opponent in area colonized, occupied or under a racist government regime.	Civilian population in attacked target area gets freedom from foreign colonization, occupation and racist government.

By calculating this civilian advantage, the rule of the proportionality of an attack only allows those attacks to be done if civilians do not only experience losses but also gains and those losses do not exceed the military advantage and the civilian advantages they experience. In its relation with the attack on Iraq’s power plants, the proportionality of those attacks are ideally defined as the attacks on those power plants provide advantages as well to the civilians of and the losses they experience do not exceed the military advantage

obtained by coalition forces and the civilian advantages that they obtain. A calculation of proportionality as such will give justice to the civilians.

Aside from including civilian advantages, the comparison between the conflicting elements also needs to be balanced. If the military and civilian advantages which will be compared do not include indirect, non-concrete and overall advantages or military and civilian advantages on an operational level, then the civilian loss calculated have to be of the same nature and level.

3 Conclusion

Based on the elaboration above, it can be said that;

- a. Attacks are ideally defined as acts of violence done against an enemy done either when attacking or when defending but it also needs to be specified on what level is it done. On a tactical level attacks are defined as single attacks or individual attacks on each target such as the ones on the electrical power plants. On an operational level attacks are meant as a gathering or series of tactical attacks on each of the above targets with the operational target namely the ability produced by a series of these targets on a tactical level, such as for example, Iraq's electrical power system which is formed by the existence of a series of electrical power plants. Secondly this definition can be chosen as long as the elements of proportionality used to calculate proportionality are on the same level.
- b. In order to achieve fairness between military necessity and the humanitarian interests of civilians, civilian losses which are the result of attacks are losses that do not need to be specified so that it is balanced with military interests/necessity which is also not specified by International Humanitarian Law. These civilian losses are such losses that have the traits of being concrete, direct and overall which bear the same definition as the traits concrete, direct and overall applied in military advantages or conversely, if the military advantages do not bear the traits of being concrete, direct and overall. These civilian losses are also those losses counted on the same level of war as military advantages.
- c. If calculating the proportionality of attacks in International Humanitarian Law requires a comparison between the two conflicting elements which are incidental loss of civilian life, injury to civilians, damage to civilian objects, environment and cultural property, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated, then to achieve fairness between military interests and the protection of the civilian population, calculating the proportionality of attacks must also calculate civil profits/advantages so it is proportionate thus the losses suffered by the civilian calculation does not exceed the military advantage gained and the civil profits earned. Aside from that, a comparison between conflicting elements must be balanced.

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