

**REPUBLIC OF TÜRKİYE
TURKISH NATIONAL DEFENCE UNIVERSITY
ATATURK STRATEGIC STUDIES AND GRADUATE
INSTITUTE
DEPARTMENT OF WAR STUDIES
WAR STUDIES PROGRAM**

**THE USE OF TURKISH DEFENCE INDUSTRY
HIGH-TECH PRODUCTS IN CROSS-BORDER
OPERATIONS IN SYRIA WITHIN THE SCOPE
OF THE FIGHT AGAINST TERRORISM**

MASTER'S THESIS

**EMİNE GİDER
2122103105**

SUPERVISOR: ASST. PROF. KEMAL OLÇAR, Ph.D.

**ISTANBUL
JULY 2023**

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**This thesis is hereby officially accepted as partial fulfillment of the
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**ISTANBUL
JULY 2023**

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Millî Savunma Üniversitesi Enstitüleri Dönem Projesi ve Lisansüstü Tez Hazırlama Kılavuzu'nda yer alan kurallarına uygun olarak hazırladığım bu tez çalışmasında; tez içinde sunduğum verileri, bilgileri ve dokümanları akademik ve etik kurallar çerçevesinde elde ettiğimi, tüm bilgi, belge, değerlendirme ve sonuçları bilimsel etik ve ahlak kurallarına uygun olarak sunduğumu, tez çalışmasında yararlandığım eserlerin tümüne uygun atıfta bulunarak kaynak gösterdiğimi, kullanılan verilerde herhangi bir değişiklik yapmadığımı, bu tezde sunduğum çalışmanın özgün olduğunu, bildirir; aksi bir durumda aleyhime doğabilecek tüm hak kayıplarını kabullendiğimi beyan ederim.

Bu tezdeki düşünce, görüş, varsayım, sav veya tezler bana aittir; Millî Savunma Bakanlığı, Türk Silahlı Kuvvetleri, Millî Savunma Üniversitesi ve Atatürk Stratejik Araştırmalar ve Lisansüstü Eğitim Enstitüsü sorumlu tutulamaz.

Emine GİDER
21.07.2023

*This thesis is dedicated to the glorious Turkish Armed Forces and to the citizens who
live with the aim of moving the Republic of Türkiye forward...*



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İstanbul, July 2023

Emine GİDER

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ABBREVIATIONS

ATGM	:Anti-Tank Guided Missile
DAESH	:Al-Dawla Al-Islamiya fil Iraq Wa Al-Sham
EU	:European Union
EWS	:Electronic Warfare System
FSA	:Free Syrian Army
IED	:Improvised Explosive Device
IR	:Infra-Red
ISR	:Intelligence, Surveillance and Reconnaissance
KADEK	:Kurdistan Freedom and Democracy Congress
KCK	:Kurdistan Communities Union
MAM	:Mini Smart Ammunition
MANPAD	:Man-Portable Air Defence Systems
MIT	:National Intelligence Organization
MKE	:Mechanical and Chemical Industry Company
MLRS	:Multiple Launch Rocket System
NATO	:North Atlantic Treaty Organization
MRAP	:Mine Resistant Ambush Protected
OECD	:Organization for Economic Co-operation and Development
OES	:Operation Euphrates Shield
OOB	:Operation Olive Branch
OPS	:Operation Peace Spring
OSS	:Operation Spring Shield
PCDK	:Kurdistan Democratic Solution Party
PJAK	:Kurdistan Free Life Party
PKK	:Partiya Karkeren Kurdistan
PYD	:Partiya Yekitiya Demokra
RCWS	:Remote Controlled Weapon Stations
RPG	:Rocket-Propelled Grenade
SARP	:Stabilized Advanced Remote Weapon Platform
SFC	:Special Forces Command
SOM	:Stand-Off Missile
TAF	:Turkish Armed Forces
TAI	:Turkish Aerospace Industry
TDI	:Turkish Defence Industry
UAV	:Unmanned Aerial Vehicle
UGV	:Unmanned Ground Vehicle
UK	:United Kingdom
UN	:United Nations
USA	:United States of America
YPG	:Yekîneyên Parastina Gel

ABSTRACT

The Use of Turkish Defence Industry High-Tech Products in Cross-Border Operations in Syria within the Scope of the Fight Against Terrorism

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Istanbul, July 2023

This study covers Türkiye's cross-border operations in Syria mainly concentrating on the history and the organizational structure of the PKK terrorism in Türkiye and the use of domestic products that play a key role in counter-terrorism. Since the separatist terrorist organization PKK and its Syrian branch PYD/YPG have begun to pose a serious threat for Türkiye's national security, several military operations were launched to maintain the security of the borders, remove terrorist activities and ensure the suitable conditions for the return of displaced Syrians to their homes. At this point, this thesis aims to examine the latest developments in the Turkish Defence Industry and draw attention to the effective use of domestic land, air platforms, weapon systems and ammunition in the recent cross-border operations in Syria regarding the casualties of the terrorist organization PKK/ PYD/YPG. In this respect, carrying out a qualitative research, multiple books, articles, official websites, news, reports, online libraries and databases were reviewed, and the essential data were collected to point out the aims and the gains of the cross-border operations. While concluding the achievements of the operations, the number of neutralized terrorists, cleaning of the safe heavens from terrorists, captured equipment of terrorists and the return of displaced Syrians to their homes were emphasized. As a result of the study, it is concluded that, using high-tech and innovative domestic platforms in the cross-border operations has strengthened the military capabilities of the Turkish Armed Forces and has led to various achievements during the operations in Syria.

Keywords: Turkish Armed Forces, Cross-Border Operations, Turkish Defence Industry, PKK/PYD/YPG, Syria.

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TÜRKÇE ÖZ

İleri Teknoloji Türk Savunma Sanayii Ürünlerinin Terörle Mücadele Kapsamında Suriye'deki Sınır Ötesi Harekatlarda Kullanımı

Emine Gider

Milli Savunma Üniversitesi, Atatürk Stratejik Araştırmalar ve Lisansüstü Eğitim

Enstitüsü

İstanbul, Temmuz 2023

Bu çalışma, ağırlıklı olarak Türkiye'de PKK terörizminin tarihçesi ve örgütsel yapısı ile son yıllarda terörle mücadelede kilit rol oynayan yerli ve milli ürünlere odaklanarak, Türkiye'nin Suriye'deki sınır ötesi harekatlarını ele almaktadır. Bölücü terör örgütü PKK ve onun Suriye kolu PYD/YPG'nin Türkiye'nin ulusal güvenliği için ciddi bir tehdit oluşturmaya başlaması üzerine, sınır güvenliğini sağlamak, terör faaliyetlerini ortadan kaldırmak ve yerinden edilmiş Suriyelilerin evlerine dönüşü için uygun koşulları sağlamak amacıyla birçok askeri operasyon başlatılmıştır. Bu doğrultuda, bu tezin amacı, Türk Savunma Sanayii'ndeki son gelişmeleri incelemek ve son dönemde Suriye'de gerçekleştirilen sınır ötesi operasyonlarda terör örgütü PKK/PYD/YPG'nin zayıflarını göz önüne alarak yerli kara, hava platformları, silah sistemleri ve mühimmatın etkin kullanımına dikkat çekmektir. Bu doğrultuda, nitel bir araştırma yürütülerek çok sayıda kitap, makale, resmi internet sitesi, haber, rapor, çevrimiçi kütüphane ve veri tabanı incelenmiş ve sınır ötesi harekatların amaç ve kazanımlarını belirtmek için gerekli veriler toplanmıştır. Operasyonlarda elde edilen kazanımlar sonuçlandırılırken, etkisiz hale getirilen terörist sayısı, terör yuvalarının temizlenmesi, teröristlerin ele geçirilen teçhizatı ve yerinden edilmiş Suriyelilerin evlerine dönüşü vurgulanmıştır. Çalışma sonucunda, sınır ötesi operasyonlarda yüksek teknoloji ve yenilikçi yerli platformların kullanımının Türk Silahlı Kuvvetleri'nin askeri kabiliyetini güçlendirdiği ve Suriye'deki operasyonlarda çeşitli başarılarla yol açtığı sonucuna varılmıştır.

Anahtar Sözcükler: Türk Silahlı Kuvvetleri, Sınır Ötesi Harekatlar, Türk Savunma Sanayii, PKK/PYD/YPG, Suriye

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1.INTRODUCTION

1.1 Aim and Importance of the Study

The aim of this thesis is to examine the latest developments in the Turkish Defence Industry and to draw attention to the effective use of domestic land, air platforms, weapon systems and ammunition in the recent cross-border operations in Syria regarding the casualties and the losses of the terrorist organization PKK and its Syrian branch PYD/YPG.

This study was also designed to contribute a wide perspective to the literature within three aspects. The first one is to underline the rise of the Turkish Defence Industry and the domestic products such as the Land and Air Platforms, Unmanned Aerial Vehicles, Missiles, Rocket Systems, Munitions and Electronic Warfare Systems. Although the dramatic changes in the Turkish Defence Industry have been discussed for years, it can be seen that the literature lacks academic research on it.

The second aspect of the study is to point out Türkiye's past and current struggle with the terrorist organization PKK and its Syrian branch PYD/YPG and to demonstrate the links between these terrorist organizations.

And the third aspect is to establish a correlation between the rise of the Turkish Defence Industry and the effectiveness of these products in the cross-border operations against terrorist organizations considering the aims and the gains.

Although these military operations and the counter-terrorism activities of Türkiye highly attracted the attention of both national and international media, it is possible to say that the academic studies cannot reach to sufficient number yet. At this point, this thesis aims to contribute to not only the Turkish academia but also the international academia by harmonizing and analyzing the three aspects mentioned above.

1.2 Methodology

Although both descriptive and numerical data were collected and interpreted, this study is mainly based on qualitative research method. While conducting the study, document analysis technique that includes several scholarly books, governmental reports/documents, articles and also websites, graphics, statistics, maps and online documents were used.

1.3 Limitations

Although some of the milestones of the Turkish Defence Industry will be mentioned from a historical perspective, this study is mainly concerned with the technological developments of the Turkish Defence Industry beginning from the 2000's.

On the other hand, due to the instability and the lack of security in the region, the national security of Türkiye has been exposed to several threats recently. In this sense, multiple military operations were launched against terrorism. This study mainly includes the recent cross-border operations in Syria launched by the Turkish Armed Forces; Operation Euphrates Shield (2016), Operation Olive Branch (2018), Operation Peace Spring (2019), Operation Spring Shield (2020).

1.4 Hypothesis and the Research Problem

The hypothesis of this study is the high-tech warfare products that have just entered the Turkish Armed Forces inventory increase the effectiveness of the military operations in Syria.

In this study, it will be investigated that the effectiveness of the domestic products:

- 1- Land Platforms
- 2- Air Platforms
- 3- Barreled Weapons
- 4- Missiles, Rocket Systems & Munitions
- 5- Electronic Warfare Systems

And it will be tried to interpret the correlation between the use of these products and the achievements in the operations.

2. THEORETICAL PERSPECTIVE

2.1. Classical Realism

Dating back to the ideas of Thucydides (BC) in *The Peloponnesian War* to Machiavelli's *Prince* and Hans Morgenthau's *Politics Among Nations*, the classical realism theory can be considered as one of the most influential theories in international politics. In the literature of International Relations, the theory stands out among various theories as it concentrates on human nature and emphasizes the maximization of power. The classical realists argue that due to the non-existence of a global leader in the international system, states are always at the risk of an attack by another actor. One of the most popular names of classical realism, Thomas Hobbes, makes three assumptions to explain the state of nature of human beings that can contribute to the classical realism theory that the equality of humans, their interaction with anarchy and their impulsion arises by competition, glory and diffidence.¹

As stated above, Hobbes puts forward a characterization of human beings and outlines the constant competitiveness for power, anarchical and egoist features of human nature. In his book, *Leviathan*, he states that in any insecure condition may lead a major conflict between the individuals or - in case of - states.² Another significant classical realist, Morgenthau, also draws attention to the lust for power in international politics and he indicates that politics is also ruled by the roots in human nature.³ In this sense, as the instincts of human beings always pursue their ego, power, self-interest and states are most likely to be a threat to each other. Moreover, realists believe that states are the key factors in the international arena and power and security are the primary goals to seek by the states.

Basically, realists aim for peace through strength, and they believe the maximization of military power is essential to survive. In the realist mindset, the main goal of the governor is to ensure the survivability and safety of the state. Stein addresses the competitive and conflictual nature of international politics as he emphasizes that states constantly prepare for war or at war with one another.⁴ According to

¹ Scott Burchill et al., *Theories of International Relations*, 3rd ed., (New York: Palgrave Macmillan, 2009), 32.

² Thomas Hobbes, *Leviathan*, (London, 1651), 80.

³ Hans J. Morgenthau, *Politics Among Nations*, 5th rev. ed. (New York: Knopf, 1978), 4.

⁴ Arthur A. Stein, "Realism/Neorealism", *International Encyclopedia of Social and Behavioral Sciences*, Vol.19, (2001): 12812.

Chambers, Morgenthau supports the importance of military power and he believes that without military capability, states are unable to defend primary interests.⁵

2.2. Neorealism

After classical realism had been criticized by some scholars since it greatly put emphasis on human nature and the evilness of human beings, neorealism, also as known as 'structural realism', emerged as a new viewpoint against the realist mindset. One of the most prominent names of neorealism, Kenneth N. Waltz attempted to provide a response to classical realism in his book *Theory of International Politics*, published in 1979, expressing that the conflicts between the states arise as a consequence of the anarchical structure of the international system. In this respect, Kenneth Waltz avoids defining the reason behind the actions of the states as the state of nature, instead, he points out the anarchical atmosphere of the international arena and the absence of hierarchy. Furthermore, Waltz indicates that states must ensure their own security under the term of "self-help."⁶ In this sense, states always should be prepared against any threat with their military technology and strategy despite the state of peace breaks between the actors in the global arena. Considering the self-help principle, if a state feels threatened, it should seek to increase its own power in terms of military build-up capability.⁷ Waltz also remarks the significance of military capability and armament pointing out a correlation between the weaponry and the security of a state.⁸

On the other hand, in such a situation, where a state increases its capabilities and military forces, other states are most likely to be motivated and take precautions against potential conflicts. Waltz highlights in his book, *Man, the State, and War* (1959) that "...the freedom of choice of any one state is limited by the actions of all the others."⁹ regarding the anarchical structure and the non-existence of the hierarchy in the international system.

⁵ Gary Chambers, "Critical Perspectives on Hans Morgenthau's Approach to International Relations", *Marmara Üniversitesi İİBF Dergisi*, Vol.25, No.2 (2008): 936.

⁶ Kenneth N. Waltz, *Theory of International Politics*, (Massachusetts: Addison Wesley Publishing, 1979), 111.

⁷ Tim Dunne, "Realism" *The Globalization of World Politics*, (2001): 164.

⁸ Kenneth N. Waltz, "The Origins of War in Neorealist Theory", *Journal of Interdisciplinary History*, Vol. 18, No. 4, (Spring, 1988): 627.

⁹ Kenneth N. Waltz, *Man, the State, and War: A Theoretical Analysis*. REV-Revised, 2. (New York: Columbia University Press, 2001), 204.

2.3 Offensive and Defensive Realism

Offensive and defensive realism can be considered as new different perspectives to the neorealism theory since some attributions of these terms are differentiated by the scholars such as John J. Mearsheimer, Kenneth Waltz, Lynn-Jones, Jack Snyder and Fareed Zakaria. Although the theorists put emphasis on the significance of the security, power and survival of states in the international system, however, the expressions of offensive and defensive differ from each other in some respects. Offensive realists assume that the sole way for states' survival is to maximize their power. Being one of the prominent names of offensive realism, John Mearsheimer indicates some key points of the approach in his book, *The Tragedy of Great Power Politics* (2001), such as the states are the basic actors and they engage in an anarchic environment, big powers might have offensive military capability, the intentions of the states are uncertain, the survivability is important for the states.¹⁰

According to Viotti and Kauppi, Mearsheimer puts emphasis on that main goal of a state is to take advantage of other states in the anarchical atmosphere of the system and to get hegemony over others.¹¹ Mearsheimer notes that since states carry out their actions in a non-hierarchical system and the non-existence of a control mechanism over them leads to fear among the rivals. He simply highlights that the more a state increases its capability and power, the more it terrifies its opponents. Additionally, Mearsheimer also points out the crucial role of the military powers especially the land forces in terms of being the primary tool to take possession and to control the territories in a world where every state is bordered.¹²

While offensive realists believe that to ensure security the maximization of power is essential, on the other hand, defensive realists, such as Kenneth Waltz argue that the main concern of a state should be preserving their positions in the international system instead of maximizing its power. According to Jack Snyder, defensive realism, expresses that the anarchical atmosphere of the international system leads states only to pursue sufficient power to maintain their main territorial security and their survival in his book, *Myths of Empire*.¹³

¹⁰ John J. Mearsheimer, *The Tragedy of Great Power Politics* (New York: W.W Norton, 2001), 362.

¹¹ Paul R. Viotti, Mark V. Kauppi, *International Relations Theory*, 5th ed. (Pearson, 2011), 64.

¹² Mearsheimer, *The Tragedy of Great Power Politics*, 43.

¹³ Eric J. Labs, "Beyond Victory: Offensive Realism and the Expansion of War Aims", *Security Studies*, 6, no 4, (1997): 9.

One of the most basic points of the defensive realists emphasize is the case of the “security-dilemma” that was first described by John H. Herz. He expresses the security dilemma as while a state avoids the impact of other powers, it obtains more and more power and this situation causes more insecure environment for all states.¹⁴ In this sense, offensive realists are criticized by defensive realists in terms of preserving their status in the international system is essential and more profitable for the states instead of increasing their power capabilities. Robert Jervis clearly defines the concept of security dilemma as a rise of a state’s power leads to a decline in the security of other states.¹⁵

Although, both offensive and defensive realists highlight that states are central actors and they need to maintain their security in the anarchical environment of the international system, however, their assumptions contradict while considering the sufficient amount of power.

In the case of Turkish cross-border operations and the fight against terrorism, the acts of Türkiye can be regarded as defensive realism since the military operations particularly aim maintaining the security of the territories, civilians and eliminating the terrorist threats by using efficient, effective and self-made defensive power.

2.4 Definitions of Security

Due to the uncertain, chaotic and unpredictable atmosphere of the world, the security of the states has always been a major subject matter. Although the cruciality of it is agreed by policymakers, scholars, and statesmen, the absolute definition of security is controversial. In social studies, security can be defined as “*freedom from danger; safety*” by Cambridge Dictionary in the simplest way. Since the term is used in different concepts, and associated with various perspectives, it possesses a broad sense of definitions. Arnold Wolfers proposes a definition that security is the absence of threats against the possessed values.¹⁶ According to Lawrence Krause and Joseph

¹⁴ John H. Herz, “Idealist Internationalism and the Security Dilemma”. *World Politics* 2, no. 2 (1950): 157.

¹⁵ Robert Jervis, “Cooperation Under the Security Dilemma”, *World Politics* 30, no. 2 (1978): 169.

¹⁶ Arnold Wolfers, “‘National Security’ as an Ambiguous Symbol.” *Political Science Quarterly* 67, no. 4 (1952): 485.

Nye, security is defined as the absence of extreme threats against the values that are crucial for survivability.¹⁷

In the Turkish Armed Forces (TAF), security is commonly defined as the safety of a country, institution, personnel or an activity at the strategic and operational levels.¹⁸

On the other hand, even though the critical point of security is addressed and agreed by the states, different areas of security have emerged throughout the years in terms of arguing the personal, national or international dimensions of security. Nowadays, security has become a term that is not only associated with military or war but also has expanded the scope in the literature.

The United Nations Institute for Disarmament Research (UNIDIR) also indicates that besides military means, security has also engaged with social, economic, ecological and humanitarian developments.¹⁹ Although security was perceived, traditionally, in military meanings, especially before the Cold War, nowadays it has been divided into different fields. Çomak indicates that today, the concept of security can be understood not only as protecting from war or preventing war but also avoiding all the threats that can damage the welfare and the survival of the state. Due to the economic and political systems of the world, security is affected by all global incidents.²⁰

2.5 Definitions of Risk and Threat

Additionally, while addressing and arguing the concept of security, different terms arise to understand the context. Although the terms, risk and threat, might seem to have the same attributions, their meanings differ from each other. Risk is defined as “the possibility of danger, defeat, or loss” by the Cambridge Dictionary in the simplest form.²¹ Ulrich Beck, one of the most prominent names of security studies,

¹⁷ Lawrence B. Krause, Joseph S. Nye. “Reflections on the Economics and Politics of International Economic Organizations.” *International Organization* 29, no. 1 (1975): 330.

¹⁸ Ahmet Küçükşahin, “Güvenlik Bağlamında Risk ve Tehdit Kavramları Arasındaki Farklar Nelerdir ve Nasıl Belirlenmelidir?” *Harp Akademileri Komutanlığı Stratejik Araştırmalar Enstitüsü Güvenlik Stratejileri Dergisi* 4, (2006): 10.

¹⁹ United Nations Institute for Disarmament Research (UNIDIR), *The United Nations Disarmament and Security Evolution and Prospects*. New York, 1991. <https://www.unidir.org> [Accessed on 16.10.2022].

²⁰ Hasret Çomak, “Avrupa Güvenlik Yapılanmasının Yeni Parametreleri ve Türkiye'nin Durumu”, *Avrupa Araştırmaları Dergisi*, 14, no. 1 (2006): 101

²¹ The Cambridge Dictionary, “risk” <https://dictionary.cambridge.org/dictionary/english/risk> [Accessed on 16.10.2022].

expresses the concept of risk as “*the mode of existence of risks does not consist in being real but in becoming real.*”²²

Our world changes day by day and these global changes play also a critical role in social sciences. For instance, the 9/11 attacks in the USA attracted massive attention in international relations and terrorism has started to be considered as one of the most dangerous actions in the whole world. In this sense, Cass R. Sunstein points out both terrorism and climate change in his article, *On the Divergent American Reactions to Terrorism and Climate Change*, that these are potentially catastrophic risks for the states and societies since the probabilities cannot easily be specified and can damage people at the same time. He refers to terrorism and climate change as two major risks highlighting the uncertainties and probabilities they include.²³

On the other hand, Creppell defines the concept of threat as “an expectation of significant harm to a political body.”²⁴ The term, threat can be considered as one of the main issues of international politics especially under the title of Security Studies since threats directly aim or attack the instability or the sovereignty of the state, border security, crucial national interests, the prosperity of the societies and citizens of the whole world.

However, the traditional understanding of threat perception has evolved after the Cold War. Scholars of International Relations and Security Studies argued that the traditional concept of threat has been extended to various areas going beyond the military. For instance, Buzan divides the threats into three parts: firstly, the military threats that also have political objectives for example invasion, seizure of territory occupation, change of government or manipulation secondly, the economic threats including price and currency manipulations, and finally the ecological threats such as greenhouse effect pollution etc.²⁵ Jessica T. Mathews who is an international affairs expert and the director of the National Security Council Office of Global Issues

²² Ulrich Beck, *World at Risk* (Cambridge: Polity Press, 2009), 67.

²³ Cass R. Sunstein, “On the Divergent American Reactions to Terrorism and Climate Change.” *Columbia Law Review* 107, no. 2 (2007): 506.

²⁴ Ingrid Creppell, “The Concept of Normative Threat.” *International Theory* 3, no. 3 (2011): 453.

²⁵ Barry Buzan, *People States and Fear: The National Security Problem in International Relations*. (Brighton Sussex: Wheatsheaf Books, 1983), 75-83.

draws attention to a broader perspective of security threats in the future including population growth, poverty, the decline of renewable resources and deforestation.²⁶

While scholars agree on a range of security threats for both states and individuals not only today but also in the future, the central concern of the states might seem terrorism as it possesses catastrophic consequences at any time or anywhere. In this sense, Ulrich Beck indicates that although financial and ecological terrorist threats interact with each other, terrorism is the focal point since the financial and communicative technological developments also increase the dangers of global terrorism.²⁷ The North Atlantic Treaty Organization (NATO) identifies terrorism as a direct and persistent threat both for the NATO countries and international peace and stability since it has no boundaries.²⁸

In the case of Türkiye, the terrorism threat has been going on for almost 40 years not only for the armed forces but also for the social dimensions as the attacks of terrorist organizations occurred in public places such as airports, shopping malls, tourist attractions etc. At this point, determining the possible threats and risks and taking precautions play a crucial role for governments and national or international organizations. Moreover, terrorism is also perceived as a challenge by the Delegation of the European Union to Türkiye, remarking that it possesses a threat to the security, values and freedom of the citizens.²⁹

2.6 Definitions of Terrorism

In terms of etymology, the modern words *terror*, *terrorize*, *terrorism* derive from the Latin word *terrere* which means “to tremble or to cause to tremble”. The word, *terror*, has also begun to denote the action or quality of causing fear.³⁰

Although the acts of terrorism date back to hundreds of years ago, after the attack on World Trade Center in 2001, the concern about terrorism has increased all around the world. Since it is not a new phenomenon in history, numerous definitions have been proposed by scholars, organizations and policymakers etc., yet, it seems difficult to

²⁶ Jessica Tuchman Mathews, “Redefining Security.” *Foreign Affairs* 68, no. 2 (1989): 163–69.

²⁷ Ulrich Beck, “The Terrorist Threat: World Risk Society Revisited”, *Theory, Culture & Society*, 19, 4, (2002): 45.

²⁸ North Atlantic Treaty Organization (NATO), “Countering Terrorism”, <https://www.nato.int> [Accessed on 18.10. 2022].

²⁹ Delegation of the European Union to Türkiye, “Fighting Terrorism”, <https://www.avrupa.info.tr> [Accessed on 18.10.2022]

³⁰ Paul Wilkinson, *Political Terrorism*, (London: The Macmillan Press, 1974), 9.

express an absolute and exact definition of terrorism depending on the political, sociological and cultural perspectives. Some of the academic definitions of terrorism can be noted as follows:

According to Sandler, Tschirhart and Cauley, even though terrorism exist from the beginning of the civilization, the activities and the frequency of terrorism have increased recently, and the acts of terrorism have been applied as a political instrument.³¹

Hoffman indicates five characteristics of terrorism including the pursuit of political goals, the spread of violence, planned to cause psychological impacts, organized by a subnational or nonstate group and inspired by the ideology of its leaders.³²

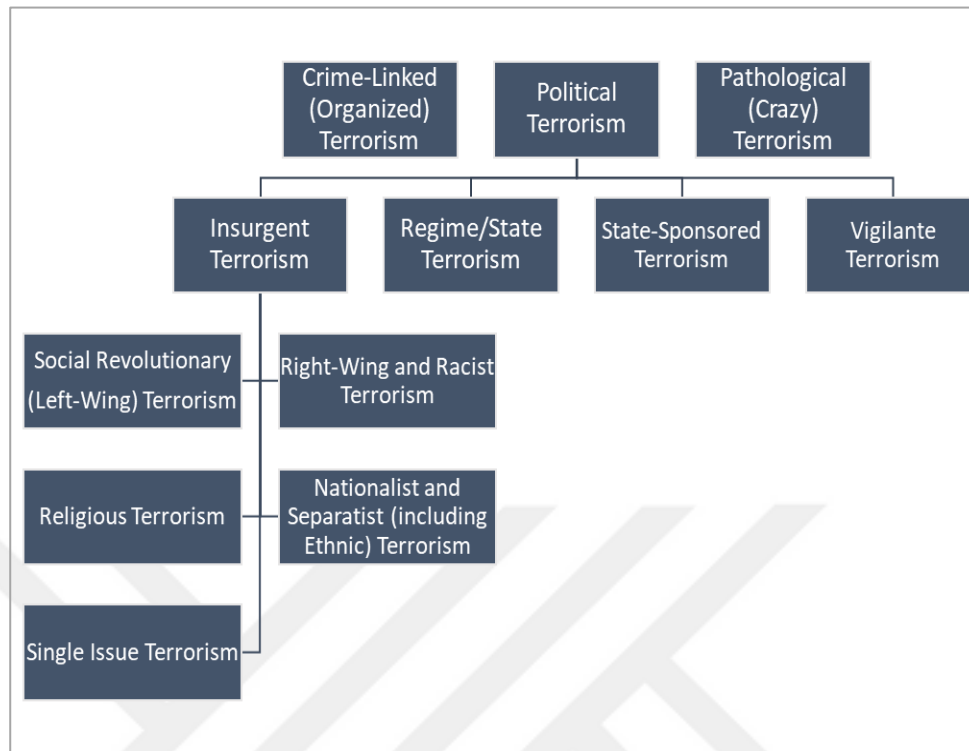
Alex Schmid also draws attention to the complexity of defining terrorism and setting it apart from other political phenomena. Schmid defines terrorism as a category of actions that include several types of tactics and different ranges of objectives. According to him, the attempts to define and theorize terrorism should be general and broad enough to point out the variety of terrorism types and also should be narrow to examine the specific aspects of this subject. Therefore, Terrorism Studies require a multidisciplinary approach since a variety of academic disciplines evaluate terrorism from different perspectives.³³ Furthermore, Schmid provides a wide perspective to the literature with his typology attempting to categorize terrorism. In terms of their motives, Schmid divided the types of terrorism into three parts that are Crime-Linked (Organized), Pathological Terrorism and Political Terrorism with its subtitles can be seen in the Table 2.1 below.

³¹ Todd Sandler, John T. Tschirhart & Jon Cauley, "A Theoretical Analysis of Transnational Terrorism", *American Political Science Review*, 77, 01 (1983): 36.

³² Bruce Hoffman, *Inside Terrorism* (New York: Columbia University Press, 2006), 40.

³³ Alex P. Schmid, *The Routledge Handbook of Terrorism Research* (London: Routledge, 2011), 202.

Table 2.1: The Basic Typology of Terrorism by Alex Schmid.



Alex P. Schmid, *The Routledge Handbook of Terrorism Research* (London: Routledge, 2011), 171.

While *crime-linked (organized) terrorism* refers to criminal activities such as arms trafficking, the transportation of potentially deadly materials and illegal types of drugs³⁴, *pathological terrorism* refers to the violent acts by individuals to terrorize other people rather than aiming a political goal such as school shootings.³⁵

Political terrorism is expressed by Schmid as the use or threat of indiscriminate and unlawful violent acts carried out by individuals or groups against civilians with the intent of attacking the political order of a state using coercion and violence.³⁶ As Schmid classifies as the branches of political terrorism, left-wing, right-wing, religious and nationalist-separatist terrorism have become apparent through the years.

Left-wing terrorism can be expressed as anarchist activities that include riots, arson and explosive attacks and spreading propaganda. For example, in 2016, the DHKP/C (Revolutionary People's Liberation Party/Front - Devrimci Halk Kurtuluş

³⁴ United Nations Security Council, "Resolution 1373 (2001)" 28 September 2001, <https://digitallibrary.un.org> [Accessed on 29.12.2022].

³⁵ Dan Silverio, AJ Ogle, Cody Taylor, "Terrorism" *Social Justice Research*, (2016): 2.

³⁶ *ibid.*, 674.

Partisi/Cephesi) carried out five attacks in Türkiye that targeted police and government officials.³⁷

On the other hand, *Right-Wing Terrorism*, according to the British Intelligence and Security Committee of Parliament, includes ideologies such as *cultural nationalism* that rejects cultural practices, and *white supremacy* which is the belief in the superiority of the white race.³⁸

Nationalist/Separatist Terrorism aims to create a new sovereign state and seeks the formal separation of a particular territory and its community to be defined as a nation.³⁹ In this sense, the Kurdistan Workers' Party (PKK) is considered as a major terrorist threat to both Türkiye and European states according to the EU Terrorism Situation & Trend Report 2020. Several legal and illegal activities were carried out by the members of the PKK in order to support the group and they involved in propaganda, logistic support and recruitment.⁴⁰

Single Issue Terrorism can be described as the activities to emphasize a specific policy or practice for example animal rights, anti-abortion campaigns, climate change etc. Although single-issue activists mostly carry out non-violent actions including peaceful protests, blockades, rallies, and camp demonstrations, these are perceived as a limited threat to public order.⁴¹

In addition to Schmid's typology, Stepanova classifies Insurgent Terrorism in three parts: 1) *The 'classic' terrorism of peacetime* includes communist and other leftist terrorism, right-wing terrorism and other special interest terrorism. 2) *Conflict-related terrorism*: this type of terrorism addresses asymmetrical armed conflicts whether local or regional. The Kashmiri, Palestinian, Tamil and other militant groups can be given as examples. Since conflict-related terrorism normally refers to fights in local or regional dimensions, the terrorists might have limited aims and technical

³⁷ European Union Terrorism Situation and Trend Report 2017, 'Left-Wing and Anarchist Terrorism' <https://www.europol.europa.eu> [Accessed on 29.12.2022]

³⁸ Intelligence and Security Committee of Parliament, 'Extreme Right-Wing Terrorism' 13 July 2022. <https://isc.independent.gov.uk> [Accessed on 02.01.2023]

³⁹ Fernando Reinares, 'Nationalist Separatism and Terrorism in Comparative Perspective' *Root Causes of Terrorism Myths, reality and ways forward*, ed. Tore Bjørgo (New York: Routledge, 2005), 119-120.

⁴⁰ European Union Terrorism Situation and Trend Report 2020, 'Ethno-nationalist and Separatist Terrorism' <https://www.europol.europa.eu> [Accessed on 02.01.2023]

⁴¹ European Union Terrorism Situation and Trend Report 2020, 'Single Issue Terrorism' <https://www.europol.europa.eu> [Accessed on 03.01.2023]

capability however they might have local support. 3) *Superterrorism* is also known as mega-terrorism, macro-terrorism or global terrorism. On the contrary to the two previous types of terrorism, it is beyond local and national context and has major aims such as challenging and changing the world order. For instance, al-Qaeda and the post-al Qaeda movements can be considered as this type of terrorism.⁴²

On the other hand, even though the historical perspective of terrorism is still blurry, David Rapoport puts forward in his detailed work *Waves of Global Terrorism*, that terrorism has evolved throughout history based on the different characteristics and tactics of the periods. Rapoport asserts that *The First Wave (1879– 1920s)* was the period of the *Anarchists* where technological changes such as the railroads and the steamship, communication, the quick spread of information and the use of dynamite played a key role in terrorist acts as Rapoport stated that ‘‘the first global terrorists ‘‘worshipped’’ the bomb.’’ *The Second Wave (1919– 1960s): Anticolonial*, which began in Ireland and was the period of anticolonial campaigns. *The Third Wave (1960s– 1990s): New Left*, where new terrorist groups emerged reflecting the egalitarian aspects of the French Revolution. During *The Third Wave*, terrorist organizations such as the PKK and the ISIS which was a ‘‘byproduct’’ of Arab Spring arose in the Middle East according to Rapoport. *The Fourth Wave (1979– 2020s?)* which consisted of religious ideologies and attempts of suicide bombings, occurred on all the continents.⁴³

2.6.1 Transnational / Governmental Definitions and Approaches to Terrorism

Since every state, nation or organization has various perceptions of terrorism, the understanding of the characteristics of a terrorist and the concept of terrorism varies from state to state, organization to organization. In this respect, states and transnational organizations provide different definitions on terrorism and adopt various approaches to counter-terrorism. These definitions and approaches are expressed briefly in the following parts. In this sense, Louise Richardson indicates that each terrorist group must be evaluated in its own context and analyzing the

⁴² Ekaterina Stepanova, *Terrorism in Asymmetrical Conflict: Ideological and Structural Aspects*. SIPRI Research Report no. 23. (Oxford: Oxford University Press, 2008), 9-10.

⁴³ David C. Rapoport, *Waves of Global Terrorism: from 1879 to the present*, (New York: Columbia University Press 2022), 3-5.

groups how they are similar and how they are different from each other might lead to successful counter-terrorism strategies.⁴⁴

2.6.1.1 United Nations

Today, since terrorism remains a struggle for states and societies, national and international organizations still draw attention to counter-terrorism policies. Terrorism is defined by United Nations Security Council Resolution 1566 (2004) as “the criminal activities intending to cause death or serious injury or to spread the state of terror in the public.”⁴⁵

Although the United Nations’ concerns about international terrorism date back to 1972 which was a period of a number of terrorist attacks, the essentiality of the fight against terrorism at national and international dimensions was put forward in Resolution 1269 of 1999 by the Security Council calling on the states to take appropriate measure. 11 September 2001 demonstrated the vitality of the combat against terrorism and broad consensus about the serious threats of international terrorism. In this respect, the Security Council adopted the Resolution 1368 on September 2001 establishing the legality to take action against international terrorism and recognizing the individual and collective right of self-defence regarding the Article 51 of the Charter. Another resolution was also agreed on to prohibit any type of funds, aiding, abetting, financing, planning or supporting terrorism. States are also required to cooperate with each other during the investigation and prosecution of terrorist activities and exchange operational information.⁴⁶

The United Nations adopted several resolutions regarding the fight against terrorism and preserving international security and peace in both the previous and post-9/11 periods. During these resolutions, the UN institutionalized some organs as follows:

The Counter-Terrorism Committee (CTC) and The Counter-Terrorism Committee Executive Directorate (CTED): the Counter-Terrorism Committee (CTC) was established in 2001 right after the 9/11 attacks with the aim of monitoring the implementation of measures that were required from countries. The Committee

⁴⁴ Louise Richardson, *The Roots of Terrorism*, (New York: Routledge, 2006), 12.

⁴⁵ United Nations Security Council Resolution 1566, “Creation of working group to consider measures against individuals, groups and entities other than Al-Qaida/Taliban” 8 October 2004 <https://documents-dds-ny.un.org> [Accessed on 19.10.2022]

⁴⁶ Curtis A. Ward, “Building Capacity to Combat International Terrorism: The Role of the United Nations Security Council”, *Journal of Conflict & Security Law*, Vol. 8, No. 2 (2003): 289-295.

mainly concentrated on measures to prevent financing and funding of terrorism and to cooperate and share information with other states while detecting, arresting or prosecuting terrorists. Furthermore, Counter-Terrorism Committee Executive Directorate (CTED) aims to analyze the reports submitted by states on the case of migration and refugees, arms trafficking, human rights, financing of terrorism, border and customs controls etc.⁴⁷

The Counter-Terrorism Implementation Task Force (CTITF): aims to strengthen the coherence and coordination of the UN's counter-terrorism attempts, to maximize the 38 entities' contributions to member states ensuring the necessary policy support and knowledge and delivering technical assistance.⁴⁸

The Counter-Terrorism Centre (UNCCT): was created to ensure extra programming and capacity-building efforts on counter-terrorism while helping member states to implement the Global Strategy.⁴⁹

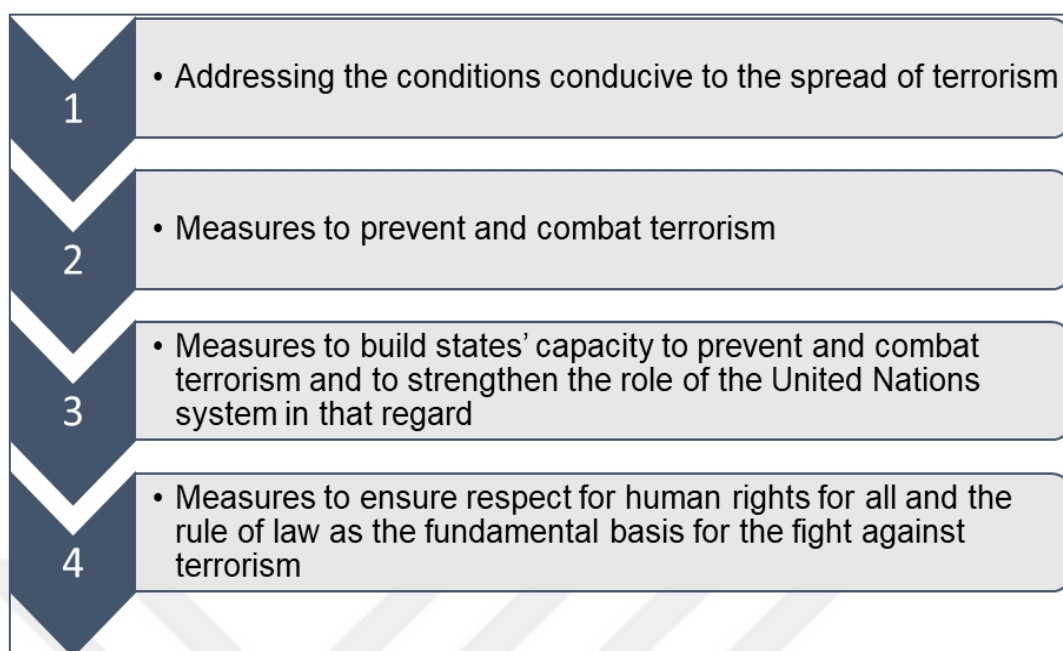
In addition to attempts to prevent international, national and regional terrorism, the UN also emphasizes 4 pillars that ensure a wide and clear perspective about the counter-terrorism strategy that can be seen in the Table 2.2 below.

⁴⁷ United Nations Security Council, "Counter-Terrorism Committee (CTC) and The Counter-Terrorism Committee Executive Directorate (CTED)" <https://www.un.org> [Accessed on 4.01.2023]

⁴⁸ United Nations Office of Counter-Terrorism, "Coordination and coherence of the counter-terrorism efforts of the United Nations" <https://www.un.org> [Accessed on 05.01.2023]

⁴⁹ Hassan O. Baage & Dr. Howard Stoffer, "Strengthening the United Nations' Strategic Approach to Countering Terrorism" 10 Nov 2017. <https://icct.nl> [Accessed on 05.01.2023]

Table 2.2: The Four Pillars of the UN Global Counter-Terrorism Strategy.



United Nations, General Assembly. The United Nations Global Counter-Terrorism Strategy. 8 September 2006. A/RES/60/288.

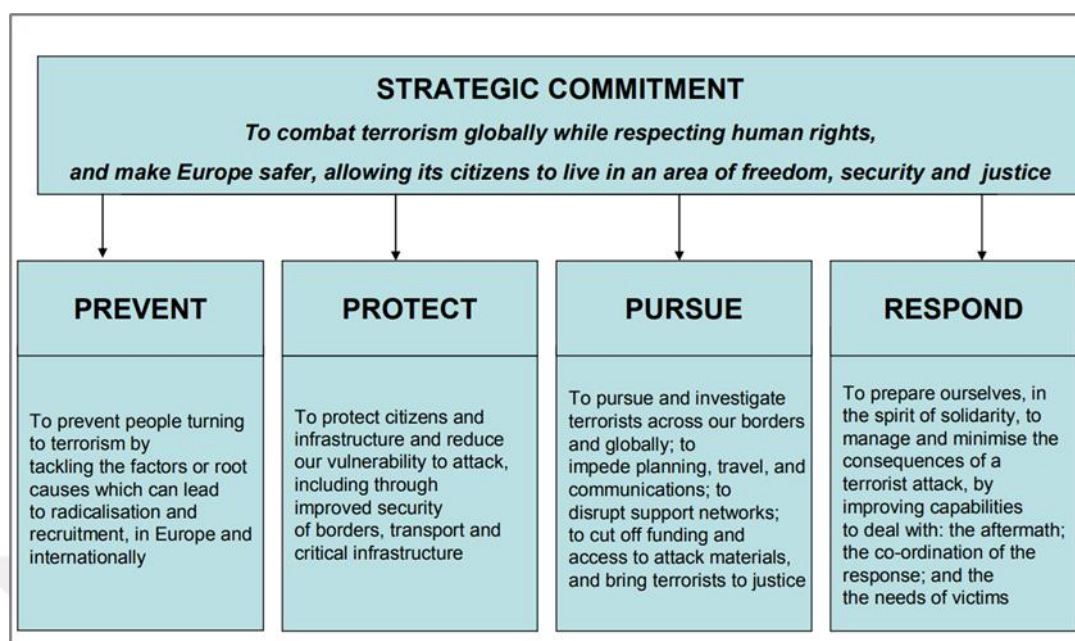
2.6.1.2 European Union

The European Union proposes a basic definition on terrorist offences that cause of serious damage to a state or any international organization and remarks the goals of terrorist acts such as intimidating, compelling and damaging the vital structures of a country.⁵⁰

Similar to United Nations, the European Union perceives terrorism as a criminal, unjustifiable activity and a major threat to the citizens, all the societies, values and to the international security. In this sense, the EU's strategy sets out four key points as it can be seen in the Table 2.3:

⁵⁰ European Union, "Directive (EU) 2017/541 of the European Parliament and of the Council on Combating Terrorism and Replacing Council Framework Decision 2002/475/JHA and Amending Council Decision 2005/671/JHA " 15 March 2017. <https://eur-lex.europa.eu> [Accessed on 30.10.2022]

Table 2.3: The Four Pillars of the EU's Counter-Terrorism Strategy.



Council of European Union, "The European Union Counter-Terrorism Strategy" 30 November 2005, 14469/4/05 REV 4.

2.6.1.3 NATO

In addition to political, social and academic aspects of terrorism, being a prominent military organization, NATO, also perceived terrorism as one of the risks against the security and stability in 1999 Strategic Concept.⁵¹

In the document of the NATO Military Committee Concept for Counter-Terrorism, terrorism and counter-terrorism are defined as follows:

a. Terrorism: *'the unlawful use or threatened use of force or violence, instilling fear and terror, against individuals or property in an attempt to coerce or intimidate governments or societies, or to gain control over a population, to achieve political, religious or ideological objectives.'*

b. Counter-Terrorism: *'all preventive, defensive and offensive measures are taken to reduce the vulnerability of forces, individuals and property against terrorist threats and/or acts, to respond to terrorist acts.'*⁵²

⁵¹ North Atlantic Treaty Organization (NATO), "The Alliance's Strategic Concept" 24 April 1999. <https://www.nato.int> [Accessed on 21.12.2022]

⁵² North Atlantic Treaty Organization (NATO), "Military Committee Concept For Counterterrorism", <https://www.nato.int> [Accessed on 31.10.2022]

NATO's Counter-Terrorism Policy Guidelines mainly concentrate on three key areas that can be expressed briefly as follows:⁵³

1. **Awareness:** The awareness of threats and vulnerabilities also plays a crucial role in NATO alliances while getting prepared in an effective way and carrying out preventative measures against terrorist activities. Through consultations by experts from different, specific areas of counter-terrorism, enhanced intelligence-sharing from the alliance's intelligence services, discussions with international organizations and continuous strategic assessments contribute to the efforts against terrorism.
2. **Capabilities:** Developing capabilities and innovative technologies against terrorist threats and other types of non-conventional weapons are part of NATO's basic business. NATO conducts works that aim to protect military staff, civilians and critical infrastructure against attacks with improvised explosive devices and unmanned aircraft systems. Also, by training, education and exercises based on different threat scenarios and assimilating the lessons learned, NATO continues to improve its operational capacity.⁵⁴
3. **Engagement:** Since terrorism has become a global issue, cooperation with partners and international actors is highly important for NATO allies. In this respect, NATO partners take effective action in dialogues and practical cooperation such as building defence capacity, crisis management and civil preparation while combatting terrorism.

After the 9/11 attacks, NATO immediately attempted to take action in fighting against terrorism and activated the Article 5. In this sense, NATO launched the first counter-terrorism operation on October 2001 which is called *Operation Eagle Assist* in which seven AWACS radar aircraft were sent to the United States from 13 NATO countries. *Operation Active Endeavour* was the second operation launched in the Mediterranean by NATO's Standing Naval Forces aiming to detect and defend against terrorist activity including illegal trafficking.⁵⁵

⁵³ North Atlantic Treaty Organization (NATO), "Countering Terrorism" <https://www.nato.int>. [Accessed on 24.12.2022]

⁵⁴ Stefano Santamato, "The New NATO Policy Guidelines on Counterterrorism: Analysis, Assessments, and Actions", *Institute for National Strategic Studies Strategic Perspectives*, No. 13 (2013): 29.

⁵⁵ Agnes E. Venema and Amy Ertan, "Establishing Collective Counter-Terrorism Defense: NATO's Scope and Challenges", *Atlantisch Perspectief*, 45, no. 3 (2021): 36.

Highlighting the key role of NATO in counter-terrorism, Juliette Bird notes in her article that the relations between the NATO allies have become more mature and stronger as the Partnership Action Plan on the fight against terrorism was put in 2002 to promote an exchange on terrorism between NATO and the partners and this engagement has become more crucial over the years to ensure mutual benefit.⁵⁶

As mentioned before, because the concept of terrorism is a complicated and flexible term, the definitions of terrorism vary from country to country due to the political perspectives of each state or nation.

2.6.1.4 The United States of America

The U.S State Department of Homeland Security also emphasizes that the activities of terrorism consist of dangerous acts against human beings, violations of the criminal laws of the U.S and destructive intentions against both civilian population and the government.⁵⁷

In the document of Interim National Security Strategic Guidance, The USA officials also outline the priorities in terms of protecting the security of American citizens from multiple kinds of threats, maintaining democratic values, increasing economic prosperity and providing innovative and competitive opportunities.⁵⁸

Federal Bureau of Investigation (FBI) constitutes a definition on terrorism as the ‘‘illegal use of violence against a government or civilians in order to access social or political gains.’’⁵⁹

2.6.1.5 The United Kingdom

In the Terrorism Act 2000, the United Kingdom draws attention to the aspects of terrorism that are designed to affect any government, to intimidate the public and with the intention of reaching a political, religious, racial or ideological goal.⁶⁰ Furthermore, to combat against all forms of terrorism, the UK Government launched

⁵⁶ Juliette Bird, ‘‘NATO’s Role in Counter-Terrorism’’ *Perspectives On Terrorism*, Vol 9, No 2 (2015): 65-68.

⁵⁷ U.S Department of Homeland Security Homeland Security Act of 2002, Public Law 107-296, 107th Congress. 25 November 2002. <https://www.dhs.gov> [Accessed on 29.10.2022]

⁵⁸ Interim National Security Strategic Guidance, ‘‘Our National Security Priorities’’ March 2021. <https://www.whitehouse.gov> [Accessed on 06.01.2023]

⁵⁹ U.S Department of Justice Federal Bureau of Investigation ‘‘Terrorism 2002-2005’’ <https://www.fbi.gov> [Accessed on 29.10.2022]

⁶⁰ Crown Office & Procurator Fiscal Service, ‘‘Terrorism’’ February 2023 <https://www.copfs.gov.uk>. [Accessed on 23.05.2023].

the strategy called “CONTEST” in 2009 for the first time which covers a framework with four P’s: *Prevent, Pursue, Protect and Prepare*. These approaches can be expressed in briefly:⁶¹

Prevent: to avoid supporting terrorism by developing a series of multi-agency pilots and building strong partnerships with the communities such as institutions and civil society groups.

Pursue: to stop terrorist attacks in the United Kingdom by making changes on domestic investigation capabilities, adopting new counter-terrorism legislation and preventing terrorism finances with legislative tools.

Protect: to enrich the counter-terrorism measures against a terrorist attack by collating and analyzing greater high-quality data due to target people and goods that may be related to terrorism and developing better screening and detection technologies such as behavioral detection, machine learning and data analytics.

Prepare: to reduce the effects of a terrorist attack by advancing the capabilities of the emergency services to respond in a more useful way to a terrorist incident and regularly testing the capabilities to respond and recover in a terrorist attack situation.

2.6.1.6 France

In addition, France also has a long history of catastrophic terrorism experiences not only in the previous centuries but also in recent years. A terrorist act is defined in the Criminal Code Article 421-1, as “an attack against life, destructive and damaging activities to property, hijacking of a transportation vehicle and also offences both in the computer and explosive means.”⁶²

2.6.1.7 Türkiye

On the other hand, Türkiye has been struggling with terrorism for almost 40 years and playing a vital role in fighting against different kinds of terrorist groups in the region. Through the years, these terrorist groups have been major terrorism problems for Türkiye to be solved since these are considered security threats not only to the

⁶¹ Secretary of State for the Home Department, “CONTEST: The United Kingdom’s Strategy for Countering Terrorism”, June 2018 <https://assets.publishing.service.gov.uk> [Accessed on 07.01.2023].

⁶² Republique Francaise Penal Code, Chapter I: Acts of terrorism (Articles 421-1 to 421-8), June 21.2016. <https://www.legifrance.gouv> [Accessed on 31.10.2022]

Turkish Armed Forces but also to all civilians and innocent people. Moreover, in recent years, besides the internal conflicts, Türkiye has started to conduct cross-border operations against terrorist groups such as the Syrian branch of PKK: YPG (People's Defence Units)/PYD (Democratic Union Party) and DAESH in Syria and Northern Iraq which possess a threat to national and international peace.

Terrorism is defined by Türkiye in Article 1 of the Law on Fight Against Terrorism (Law No 3713, 1991) as follows:

*“Any kind of act done by one or more persons belonging to an organization with the aim of changing the characteristics of the Republic as specified in the Constitution, its political, legal, social, secular and economic system, damaging the indivisible unity of the State with its territory and nation, endangering the existence of the Turkish State and Republic, weakening or destroying or seizing the authority of the State, eliminating fundamental rights and freedoms, or damaging the internal and external security of the State, public order or general health by means of pressure, force and violence, terror, intimidation, oppression or threat”.*⁶³

2.7 Strategies of Terrorist Organizations

Although it is difficult to provide a concrete and exact definition to terrorism, demonstrating the strategies that terrorists use is easier in a sense. Yet, various types of attitudes are identified and classified by scholars to understand the strategic logic of terrorists on the path to their political aims. In this respect, terrorist organizations have been revealing mostly common manners to achieve their goals through the years. Even though there are plenty of arguments on this topic, the classification of Kydd and Walter and Harmon's five leading strategies will mainly be presented in this part.

While Kydd and Walter, signify that terrorist organizations carry out their activities by adopting five strategies: *a) Attrition, b) Intimidation, c) Provocation, d) Spoiling, e) Outbidding*. Attrition simply refers to the persuasion of the enemies of the terrorists that the group has power enough to cause serious costs and the consequences the enemy will face unless they don't get what they demand. Intimidation is the spread of fear and understanding that the government is weak and terrorists are powerful to punish any disobedience against them. Terrorist groups generally use this strategy to overthrow the government or gain a control over the population by murdering the government's officials such as mayors, prosecutors, the

⁶³ Republic of Türkiye Ministry of Foreign Affairs Directorate for EU Affairs, “Screening Chapter 24, Agenda Item 9: Fight Against Terrorism and Terrorist Financing” 13-15 February 2006. <https://www.ab.gov.tr> [Accessed on 02.11.2022]

police etc. Provocation strategy is mostly used for regime or territorial changes in pursuit of convincing the public that the opposite – government – of the terrorist group is evil and must be resisted. The spoiling strategy refers to the spoiler attacks of terrorist groups while speaking of a peace negotiation between the terrorists and the target authorities. This strategy works when the settlement fails. The final strategy is outbid which arises when two or more domestic parties are rivals for the leadership and citizens are uncertain and hesitant about the suitable authority. At this point, terrorist groups try to convince the public by using violence that they are the key solution than the rival groups.⁶⁴

Furthermore, Harmon also describes strategy as the “*implementation of means to achieve one’s goals*” and he emphasizes five types of terrorism strategies that are “creating a social separation or chaotic environment, destroying a government, leading to economic damage, causing bloody damages against security forces and military, and spreading fear internationally.”⁶⁵

In the case of Türkiye and the PKK/PYD terrorist organization, it is quite obvious that the PKK has been using several terrorism strategies against the armed forces, civilians and Turkish authorities. The practices of the PKK can be classified from three perspectives: political, strategic and operative/tactical.

Political perspective might refer to the ties between the PKK/PYD and American, Russian and European governments. Although the PKK was defined as a terrorist organization by the USA, European states and international organizations, the political relations and military aids to PKK and its branches still continue. Especially after the appearance of the PYD/YPG in Syria due to the civil war and the instability of the region, these states have begun to support the PYD/YPG under the name of fighting with the DAESH. According to a report by the US Congressional Research Service, the US spent approximately \$1.25 billion on training and equipping the SDF/PYD/YPG between 2014 and 2017. Moreover, in 2014, while the PYD/YPG defending the Kobani against DAESH, the US supported the terrorist groups by

⁶⁴ Andrew H. Kydd, Barbara F. Walter, “The Strategies of Terrorism”, *International Security* 31, no. 1 (2006): 51-78.

⁶⁵ Christopher C. Harmon, “Five Strategies of Terrorism”, *Small Wars & Insurgencies*, 12 no 3, (2001): 39. DOI: 10.1080/714005398

expanding the airstrikes into Syria.⁶⁶ PYD/YPG also receives political and military support from Russia. Being its first office in Europe, a representative office of PYD was opened in Moscow in 2016. Moscow started to arm the YPG in 2015 and also sent S-400 defence systems to its own air base in Syria to provide a safe area for the terrorist groups against Turkish operations.⁶⁷ Moreover, the PKK/YPG also aims to be active in the Turkish parliament as a party by calling themselves as the defender of the Kurdish citizens and seeks a territorial separation from the Turkish Republic.

The strategic perspective mainly refers to the military strategy of the PKK/YPG that the terrorist groups use mostly the equipment and weapons that the regular armies use. The terrorist group expanded its arsenal by adopting different kinds of systems for instance man-portable air defence systems (MANPADS), and anti-tank weapons. The PKK used its first-generation MANPADS in the 1990s and developed the second, third fourth-generation MANPAD capabilities during the Syrian civil war.⁶⁸



Figure 2.1: SA-18 MANPADS Seized from the PKK during the Operation Olive Branch in 2018.

Anadolu Agency, “Turkish military: Air defense missile seized in Afrin” 03.02.2018, <https://www.aa.com.tr> [Accessed on 24.01.2023]

⁶⁶ Doruk Ergun, “External Actors and VNSAs: An Analysis of the United States, Russia, ISIS, and PYD/YPG”, *Violent Non-state Actors and the Syrian Civil War*, ed. Özden Zeynep Oktav, Emel Parlar Dal, Ali Murat Kurşun (Cham: Springer, 2018), 162-163.

⁶⁷ Anna Borshchevskaya, “Russia, Syrian Kurds, and the Assad regime”, *Syrian Kurds as a U.S. Ally: Cooperation & Complications*, ed. Patrick Clawson, (Washington, DC: The Washington Institute for Near East Policy, 2016), 49-50.

⁶⁸ Can Kasapoğlu, Sinan Ülgen, “In the Shadow of Guns: Armament Trends of the PKK & YPG Terrorist Network”, *EDAM Foreign Policy & Security* 7 (2021): 5.

Additionally, Kasapoglu and Ülgen also state that the threat of anti-tank guided missiles in Syria that have an effective range up to five kilometers is higher than almost anywhere else in the world. These systems are used by militant groups to attack several types of targets such as armoured vehicles, military bases or outposts. As the open sources indicate the PKK/YPG receives these systems from the West and uses them. For example, the US-made BGM-71 TOW ATGMs, AT-4 anti-tank weapons and former Yugoslavian-made M79 OSA anti-tank weapons probably from black markets.⁶⁹



Figure 2.2 Weapons including two TOW ATGMs and Kalashnikovs seized from the PKK/YPG in Azez, Syria.

Cankut Taşdan, ‘‘Azez’de PKK/YPG’li teröristlere ait 2 TOW füzesi, 24 Kalaşnikof ele geçirildi’’, Anadolu Agency, 28.03.2021, <https://www.aa.com.tr>[Accessed on 24.01.2023]

Lastly, the strategic practices of the PKK/PYD in the Turkish territories and the borders might be evaluated from the operative/tactical perspective where the terrorist organization carries out multiple types of bloody actions against not only the security forces but also the civilians. For instance, according to Cantenar and Tümlü, between the years 1993 and 2012, the PKK terrorist organization carried out 1724 violent activities, categorized into 10 different types including the use of IEDs (Improvised

⁶⁹ *ibid.*, 7.

Explosive Device) and mines, suicide bombs, raids to villages, ambush, sabotage, kidnapping and attacks to military bases and outposts.⁷⁰

Additionally, the PKK also benefits from propaganda activities and human trafficking to provide financial gain to the organization. For example, in 2016, Turkish Police captured 38 PKK-affiliated human traffickers and fake passports and travel documents earning \$10,000 from each immigrant. In a statement made by the Turkish Ministry of Interior in 2019, the role of the PKK in human and drug trafficking was also pointed out.⁷¹

Taking all the strategic perspectives of the PKK/PYD terrorist organization into consideration, fighting against terrorism has become a vital necessity for the Turkish Armed Forces and the security forces, leading to a great rise of innovative technologies in the defence industry.

2.8 Innovation Approach

Over the past century, the concept of innovation has been discussed and adopted by most organizations, institutions and companies. With the changing societal and individual needs and the developments in technology, people have begun to obtain new products, ways of lifestyle and implementations in every field of human life. Although the innovation approach might be confused and compared with the concept of invention, there is a sharp difference between these terms where innovation might refer to introducing new aspects to something that already exists. The term, innovation, might seem like a recent phenomenon in the 20th century, however, the concept of innovation has always existed and is discussed in several fields including technical, scientific, economic, sociological and humanities literature.⁷²

According to E. M. Rogers, innovation can be defined as an idea, object or practice that is viewed as new. Rogers believes that even if an idea or a product is used or discovered before if the individual perceives the idea as a newness, it is an innovation.⁷³

⁷⁰ Ömer Faruk Cantenar, Fatih Tümlü, “PKK Terör Örgütünün Eylemlerinin Güvenlik Güçleri Zayılatı Açısından Analizi” *Kara Harp Okulu Bilim Dergisi*, 26, no. 1 (2016):9-11.

⁷¹ Haydar Karaman, “The Octopus: The Human Trafficking and Terror Nexus of the PKK”, *Journal of Terrorism and Radicalization Studies-TRAD*, 2022, 1 no. 2 (2022): 360.

⁷² Benoit Godin, “Innovation: The History of a Category”, *Project of the Intellectual History of Innovation*. No.1 (2008): 5.

⁷³ Everett M. Rogers, *Diffusion of Innovation*, (New York: The Free Press, 1983): 11.

Snyder and Duarte address the uniqueness and the compelling aspects of a product or service and the creation of sustainable advantages while defining innovation. They also point out that innovation should make breakthroughs in ways of thinking and should consist of new-to-the-world offerings for the customers.⁷⁴

Innovation is demonstrated by OECD and Eurostat as “an application of a new or improved product, a method, service, process or a new organizational method.”⁷⁵

Speaking of innovation, it is possible to imagine a dynamic process where it can basically occur not only in the sense of products but also services or processes. Due to societal and individual necessities through the years, major companies have begun to offer different innovation strategies. For example, firstly founded as a DVD rental service, a famous company has become a widely used brand over the years. The company transformed into an online watching platform to meet the requirements of the customers and it has started to offer multiple options like the video recommendations algorithm, using multiple profiles, originally created content and offline use of the platform. With the help of innovation strategies, the company has increased its customers through the years in the competitive global market.

The case of laser can also be considered one of the major innovation examples. Over the last fifty years, the use of lasers has expanded in several areas of our daily lives. Along with different kinds of innovation, lasers have become essential objects for human beings. Today, lasers are used in various implementations from barcode scanners, and laser cutting machines to medical purposes like eye surgery, tomography, etc., and fiber optical communication. Furthermore, in recent years, the use of lasers has increased in the modern armies in the world such as the laser sight of firearms, the holographic weapon sight and laser-guided missiles while acquiring targets. It is possible to say that, serving as a significant part of warfare like battlefield illumination elements, rangefinders, target designators, communication systems, power beamers or active remote sensors, lasers revolutionized warfare.⁷⁶

⁷⁴ Nancy T. Snyder and Deborah L. Duarte, *Strategic Innovation: Embedding Innovation as a Core Competency in Your Organization* (San Francisco: Jossey Bass, 2003): 6.

⁷⁵ OECD & Eurostat, “Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data” Third Ed. (OECD Publishing, 2005): 46. <https://ec.europa.eu> [Accessed on 07.11.2022]

⁷⁶ Lyubomir Lazov, Edmunds Teirumnieks, Risham Singh Ghalot, “Applications of Laser Technology in the Army, *Journal of Defense Management*, 11, No.210 (2021): 7.

On the other hand, the concept of military innovation has been discussed by scholars and policymakers of the 20th and 21st centuries. In this respect, Adam Grissom proposes a definition to military innovation as “the operational changes in practice that lead a rise in military effectiveness that can be measured by battlefield outcomes.”⁷⁷ Some scholars such as Kimberly Zisk emphasizes the intellectual aspect of innovation as she considers innovation “as a significant change in conceptualizing and getting ready for a war.”⁷⁸

Furthermore, Barry Posen provides a deep perspective to the literature on the relationship between the military and innovation indicating that “analyzing new military technologies and responding to the geographical obstacles and opportunities are the responsibilities of states and military organizations.”⁷⁹

Posen also remarks the balance of power and organization theory from the military perspective. Since states perceive the increases of their opponents as a potential danger and respond the balance of power theory functions as a competition among states and leads to a tendency toward innovation in the military. In addition, he also points out the organization theory in the case of military affairs indicating that the theory tries to explain what organizations do and how they look in terms of pursuing their purposes, coordinating and controlling the contribution of large numbers of human beings and trying to exist in an environment.⁸⁰

According to Ann. L. Cunliffe defines the organization theory “as the theories and models that indicate the way of functionality and the relation to the environment of organizations.”⁸¹

The transformation of simple drones into a game-changer in warfare is one of the most excellent examples of 21st innovation. Drones can simply be described as unmanned aircraft systems that are remotely controlled from the ground to serve multiple purposes such as shipping/delivering, inspecting and maintaining structures like wind turbines, bridges and skyscrapers, easily capturing photos and videos that

⁷⁷ Adam Grissom, “The Future of Military Innovation Studies”, *Journal of Strategic Studies*. 29, 5 (2006): 907. <https://doi.org/10.1080/01402390600901067>

⁷⁸ Kimberly M. Zisk, *Engaging the Enemy: Organization Theory and Soviet Military Innovation 1955–1991* (Princeton University Press, 1993), 4.

⁷⁹ Barry R. Posen, *The Sources of Military Doctrine: France, Britain, and Germany Between the World Wars* (New York: Cornell University Press, 2014), 39.

⁸⁰ *ibid.*, 40–43.

⁸¹ *ibid.*, 7.

are difficult to achieve, providing security of airports, ports, banks, crowded places, and even monitoring crops and analyzing the soil and farmlands from the sky.⁸²

On the other hand, in addition to numerous usage areas, the UAVs have become a game-changer in 21st conflict zones with several innovations. For example, today, in terms of diversity and qualification of the UAV/UCAV innovation, Türkiye stands out among its rivals in the region and around the world as the products have 24-50 hours of endurance in the air, fully automatic landing and take-off feature, unique redundant lithium-based battery units, redundant electrical power generation system and several kinds of munitions such as mini smart munitions (MAM-L, MAM-C, Bozok), Cirit missile, air-to-air missile Gokdogan and Bozdogan and laser or precision guidance kits. In this sense, Francis Fukuyama also points out the key role of Türkiye in the region remarking on the devastating effects of these Turkish drones in the recent military conflicts such as in Libya, Syria, the war between Armenia and Azerbaijan and the fight against the PKK terrorism.⁸³

Being one of the outstanding examples of innovation, the vital role of drones during recent military operations can be seen in the images below.⁸⁴



Figure 2.3: The Footage of the Turkish drones detecting the targets in Idlib, Syria.

Mümin Altaş, “TSK İdlib’de rejim hedeflerini imha etmeye devam ediyor”. Anadolu Agency, 1 March 2020, <https://www.aa.com.tr> [Accessed on 15.11.2022]

⁸² Governance Insights Center, “The Essential Eight Technologies Board byte: drones”, July 2017. <https://www.pwc.com.au> [Accessed on 11.11.2022]

⁸³ Francis Fukuyama, “Droning On in the Middle East”, 5 April 2021, <https://www.americanpurpose.com> [Accessed on 14.11.2022]

⁸⁴ Mümin Altaş, “TSK İdlib’de rejim hedeflerini imha etmeye devam ediyor”, Anadolu Agency, 1 March 2020, <https://www.aa.com.tr> [Accessed on 15.11.2022]



Figure 2.4: The Footage of the Turkish drones destroying the regime targets in Syria during the Operation Spring Shield.

Mümin Altaş, “TSK İdlib’de rejim hedeflerini imha etmeye devam ediyor”. Anadolu Agency, 1 March 2020, <https://www.aa.com.tr> [Accessed on 15.11.2022]

3. HISTORICAL PERSPECTIVE

3.1 History of the PKK Terrorism in Türkiye

Türkiye has been fighting against the PKK (Partiya Karkerên Kurdistan – Kurdistan Workers Party) terrorist organization for almost 40 years since the PKK terrorism possesses not only security problems but also possesses economic, sociological, psychological and political problems for the citizens and the government. A brief timeline of the terrorist organization from the preparation phase to the KCK structure can be classified as follows:

1973 - 1977: Preparation and Structuring

During the spring of 1973 Ocalan and his university friends discussed the Kurdish problems in a secret meeting. During these meetings, the Kurdish activist students decided that their soon-to-be revolution could be the only solution to the freedom of Kurds and Turks.⁸⁵

1978: Foundation of the PKK

Although the structuring of the terrorist group PKK dates back to the early 1970s, the establishment year is considered 1978 by Abdullah Ocalan in Lice, Diyarbakir adopting a Marxist-Leninist ideology and aiming to create an independent Kurdish state.⁸⁶

1979: Exposure of the Terrorist Group

After being established in 1978 in Diyarbakir, on the contrary to the other organizations, the PKK never exposed itself until deciding on the “officiality” of the organization in 1979. Thus, during one of the meetings in April 1979, Ocalan and the other members declared the “Red Week” to start the serial actions including the murder of a police officer and his 7 years old daughter walking in the street in Diyarbakir. However, the official announcement of the group was the attack against a member of parliament, Celal Bucak, can be considered as the official exposure of the terrorist group.⁸⁷

⁸⁵ Aliza Marcus, *Blood and Belief: The PKK and the Kurdish Fight for Independence*. (NYU Press, 2007), 28.

⁸⁶ Özlem Kayhan Pusane, “Turkey's Military Victory over the PKK and Its Failure to End the PKK Insurgency”, *Middle Eastern Studies*, 51, no.5 (2015): 728. DOI:10.1080/00263206.2014.979801

⁸⁷ Nihat Ali Özcan, *PKK Tarihi, İdeolojisi ve Yönetimi* (Ankara: ASAM Publishing 1999), 43.

1984: First Attacks against the Military Forces

The terrorist assaults against the military forces began with the attacks of Eruh, (Siirt) and Semdinli, (Hakkari) in 1984. During the attacks, 1 gendarmerie soldier was murdered, 9 soldiers and 4 civilians were wounded in Eruh.⁸⁸

1999: Capture of Ocalan

On 15 February 1999, Ocalan was captured in Nairobi, Kenya by the Turkish security forces.⁸⁹

2003 Foundation of the PYD

As a sub-organization of the PKK, the PYD was founded on 17 October 2003 in Syria by the sympathizers of Ocalan.⁹⁰

2005: Beginning to Organize the KCK

In the early 2000s, the PKK changed its strategy in pursuit of expanding beyond Turkish borders. The KCK Contract was put forward by the leaders of the PKK aiming at bringing the Kurdish people in the region together under the model of democratic autonomy.⁹¹

2013-2015: Peace Process

Between 2013 and 2015, several negotiations were conducted in order to stop the bloody conflict and the Kurdish issue in the country, yet it failed in July 2015.⁹²

2015-2016: Trench Operations

Abusing the Peace Process, PKK militants, transferred their armament into the cities and they damaged not only the security forces but also the civilian life. To counter

⁸⁸ Ihsan Bal, Emre Ozkan, ‘‘PKK (Partiya Karkeren K rdistan-K rdistan      Partisi) Ter r  rg t  Kronolojisi (1976 – 2006)’’ *USAK (Uluslararası Stratejik Arařtırmalar Kurumu)*, 8 (2006): 147.

⁸⁹ *ibid.*, 152.

⁹⁰ Yakup řahin, İbrahim İrdem, ‘‘PYD-YPG: The PKK in Syria’’, *Journal of Security Studies*, 19, No. 1 (2017): 30.

⁹¹ Bayram Ali Soner,  mer Aslan, Hakan Kıyıcı, ‘‘PKK’s Regional Franchise of Terror’’, *International Center for Terrorism and Security Studies (UTGAM)*, (2017): 12.

⁹² Oktay Bing l, ‘‘An Analysis of the Failure of the Peace Process (2013-2015) with PKK through the Ripeness Theory’’, *Gazi Akademik Bakıř Dergisi*, 15, No.30 (2022): 1.

these terrorist activities, Turkish security forces launched the Trench Operations in the urban areas that nearly lasted 6 months.⁹³

2016 – Today: Beginning of the Cross-Border Operations in Syria against PKK/PYD/YPG

In order to ensure the security of the borders, the safety of the citizens and to prevent a terror corridor along with borders, Türkiye has been carrying out several operations since 2016 in Syria.

Along with the destructive consequences of the Arab Spring, Syrian Civil War and the chaotic situation of the region, Türkiye was exposed to irregular migration and terrorist incidents.⁹⁴ In this sense, Türkiye has launched several operations in Syria to maintain the security of the borders and prevent all the terrorist threats. The operations were carried out according to the right of self-defence under Article 51 of the UN Charter.⁹⁵

Through the years, the inconsistent and dynamic circumstances of the Middle East also affected the PKK such as the Second Gulf crisis, the Iran-Iraq War and the military coup in Türkiye in 1980. Just before the coup, the PKK leaders escaped to the Syrian-controlled Lebanese territory, Bekaa Valley since Syria was hosting all the leftist terrorist organizations and the militants during these years.⁹⁶ Although the early 1990s was a period of expansion for the PKK, after the arrestment and the imprisonment of Abdullah Ocalan in 1999, the terrorist organization underwent several organizational changes such as the re-foundation of the PKK replacing by the name of KADEK (The Congress of Freedom and Democracy of Kurdistan) in 2002. Yet, during the following years, KADEK became KONGRA GEL (People's Congress) in late 2003 after the Ocalan's instructions (Meeting Notes) recorded from İmralı prison.⁹⁷ At this point, multiple meetings were held to determine the future of the organization and the new design of the PKK. Akkaya and Jongderden indicate

⁹³ Murat Yesiltas, Durdu Mehmet Ozdemir, Sibel Koru, "Analysis of Turkish Terrorism Events Platform Data: Effects of PKK Terror (1984-2022)", *Journal of Terrorism and Radicalization Studies*, 1, No.2 (2022): 236.

⁹⁴ Hakan Ömer Tunca, Arif Ferah, "Turkey's Preventive Operations against Terrorists across Southern Border", *International Journal of Politics and Security (IJPS)*, Vol. 4 No. 1 (2022): 111.

⁹⁵ *ibid.*, 109.

⁹⁶ Nur Bilge Criss, "The Nature of PKK Terrorism in Turkey", *Studies in Conflict & Terrorism*, 18, 1 (1995): 19.

⁹⁷ Ali Kemal Özcan, *Turkey's Kurds: A theoretical analysis of the PKK and Abdullah Öcalan* (New York: Routledge, 2005), 218.

that this new PKK mainly concerned with membership and was designed to function as an ideological and philosophical power group.⁹⁸

After the seventh and eighth congresses held in 2000 and 2002, the KCK was given full authority being a superior organization and a part of the PKK. The PKK and KCK aimed to carry out their activities by following a new strategy well known as “civil disobedience” in Türkiye, Syria, Iraq and Iran.⁹⁹ Thus, the KCK has become an umbrella structure for the separatist terrorist affiliates from different regions that the PKK in Türkiye, PYD in Syria, PJAK in Iran and PCDK in Iraq. The PKK/KCK and its branches can be seen in the Figure 3.1 below:

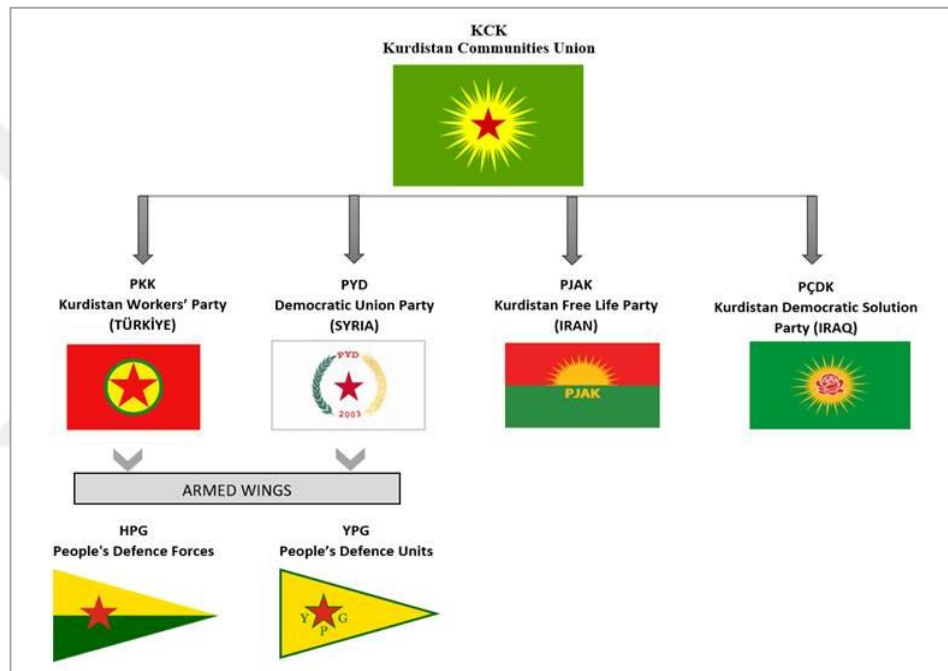


Figure 3.1: The Organizational Structure of KCK and Affiliates.

The terrorist assaults against the military forces began with the Eruh and Şemdinli attacks on 15 August 1984. During the attacks, 1 gendarmerie soldier was murdered, 9 soldiers and 4 civilians were wounded in Eruh.¹⁰⁰

Since the beginning of the terrorist acts, the PKK attempted multiple types of criminal activities and attacks not only against the security forces but also civilians.

⁹⁸ Ahmet Hamdi Akkaya, Joost Jongerden, “The PKK in the 2000s: Continuity through Breaks?” In *Nationalisms and Politics in Turkey: Political Islam, Kemalism and the Kurdish Issue*, edited by Marlies Casier and Joost Jongerden (London: Routledge, 2011), 150.

⁹⁹ Şahin, İrdem, *PYD-YPG*, 24.

¹⁰⁰ Nihat Ali Özcan, *PKK Tarihi, İdeolojisi ve Yönetimi* (Ankara: ASAM Publishing 1999), 95.

To analyze the types of offenses of the PKK better, it can be classified under five categories as it can be seen in the Table 3.1.

Table 3. 1: Types of Terrorist Activities Carried Out by the PKK.

ACTS OF VIOLENCE WITH RURAL SUPPORT	INNER-CITY ACTS OF VIOLENCE	COOPERATIVE ACTIVITIES	TRANSFERRING MEMBERS TO RURAL AREAS	PROPAGANDA ACTIVITIES
Bombing Attacks	Use of Explosive Material	Transferring Vital and Explosive Materials	Persuading and Supporting the Youngster to Join the PKK	Marches / Meetings
Armed Attacks	Burning / Attacking Cars	Aiding and Abetting	Directing / Helping to Cross the Border Illegally	Press Statements
Roadblock	Demolishing Houses and Stores	Couriering		Sit-down Strikes
Kidnapping	Use of Molotov Cocktail			Titling
Hijacking	Illegal Demonstrations			Hanging Banners
Armed Robbery	Throwing Stones against Security Staff			

Fatih Beren, "The Action Profile of PKK/KCK Terrorist Organization", *Review of International Law and Politics*, 8, No.29 (2012): 98.

The PKK identifies itself as the "defender" of the Kurdish people, yet the Kurdish in the Eastern part of the Türkiye suffered most through the years because of the bloody acts of the terrorist organization. As Nihat Ali Özcan states in his book, the terrorist organization threatened the mayors to resign, murdered those who did not, stole the villager's crops and killed the people who seemed obstacles by torturing them.¹⁰¹

Moreover, while the PKK was provoking the Kurdish citizens against the government that they're discriminated in terms of the governmental services and investments, the group also threatened the public services such as teachers, doctors, nurses, and religious officials. In fifteen years, between 1987 and 2002, 204 people were wounded including teachers, doctors, mayors, prayer leaders, workers and more than 300 public officials were murdered.

¹⁰¹ *ibid.*, 47.

Additionally, 114 school buildings were totally destroyed and 127 damaged, 6 health centers, roadmaking and mining machinery including 500 pieces of equipment destroyed. During the first phase of the terrorist campaign, railway carriages, post offices, electricity lines and bridges that serve to the community were all targeted by the PKK.¹⁰² In the graphic below, it can be seen some of the civilian losses according to USAK Research Report.

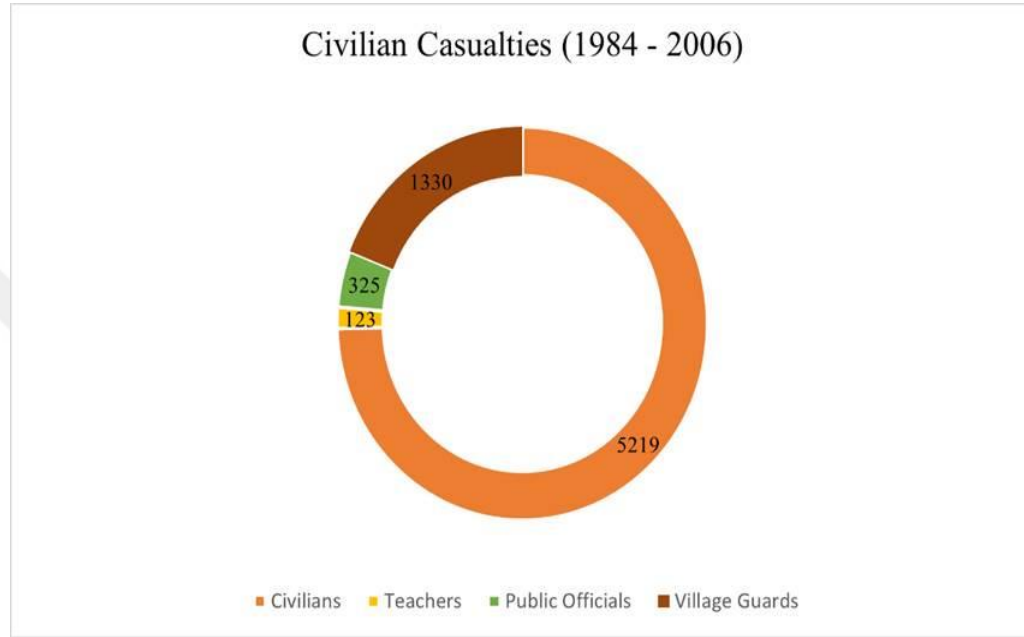


Figure 3.2: The Numbers of Civilian Casualties between the years 1984 and 2006.

İhsan Bal, Emre Özkan, “ PKK (Partiya Karkeren Kürdistan-Kürdistan İşçi Partisi) Terör Örgütü Kronolojisi (1976 – 2006)” *USAK (Uluslararası Stratejik Araştırmalar Kurumu)*, 8 (2006): 148.

Through the years, the PKK continued its criminal and brutal actions without distinguishing civilian or military objectives. In the table below some of the major terrorist attacks of the PKK were presented according to the Bal and Ozkan.

¹⁰² Andrew Mango, *Turkey and the War on Terror: For Forty Years We Fought Alone* (New York: Routledge, 2005), 39.

Table 3. 2: Some of the Major Terrorist Attacks of the PKK During the End of the 1990s and the Beginning of the 2000s.

Date	Location	Action
11 June 1992	Tatvan, Bitlis	The members of the PKK terrorist organization stopped a bus and executed 13 people inside it by a firing squad.
27 June 1992	Silvan, Diyarbakir	The terrorists attacked a mosque and shot 10 citizens who were praying.
6 July 1993	Başbaglar, Erzincan	A group of the PKK attacked a village with arms murdered 28 men and women, wounded 3 people and set fire to 57 houses.
22 June 1996	Diyarbakir	The terrorists attacked the Soz TV studios and Altindag rest area with long barreled weapons killing 6, wounding 14 people.
16 July 2005	Kusadasi, Aydın	Including British and Irish tourists 5 people were killed, 13 wounded in the minibus bombing.
4 May 2006	Hakkari	The PKK blasted a bomb during a school bus passing which was carrying the children of the military personnel. 8 soldiers, 11 children totally 21 were wounded.
12 September 2006	Diyarbakir	The bomb explosion around the Kosuyolu Park in Bağlar caused 10 deaths including 7 children.

Ihsan Bal, Emre Ozkan, ‘‘ PKK (Partiya Karkeren Kürdistan-Kürdistan İşçi Partisi) Terör Örgütü Kronolojisi (1976 – 2006)’’ *USAK (Uluslararası Stratejik Araştırmalar Kurumu)*, 8 (2006): 147-156.

On the other hand, according to the Terrorism Analysis Platform (TAP), between the years 2010 - 2015, 616 terrorist attacks were carried out by the PKK. However, the importance of this period is that the PYD/YPG terrorism has become recognizable by the Turkish authorities as the terrorist organization attacked Türkiye for the first time in 2012 and later in 2014. Moreover, in the operations against the PKK/PYD during the 2010-2015 period, 82 in 2010, 357 in 2011 and 290 in 2012 totally 729 terrorists were neutralized. Yet, due to the Peace Process was announced by the government between 2013 and 2015, no terrorist was neutralized during these years. ¹⁰³

¹⁰³ Yeşiltaş, Özdemir, Kuru, *Analysis of Turkish Terrorism Events*, 227-234.

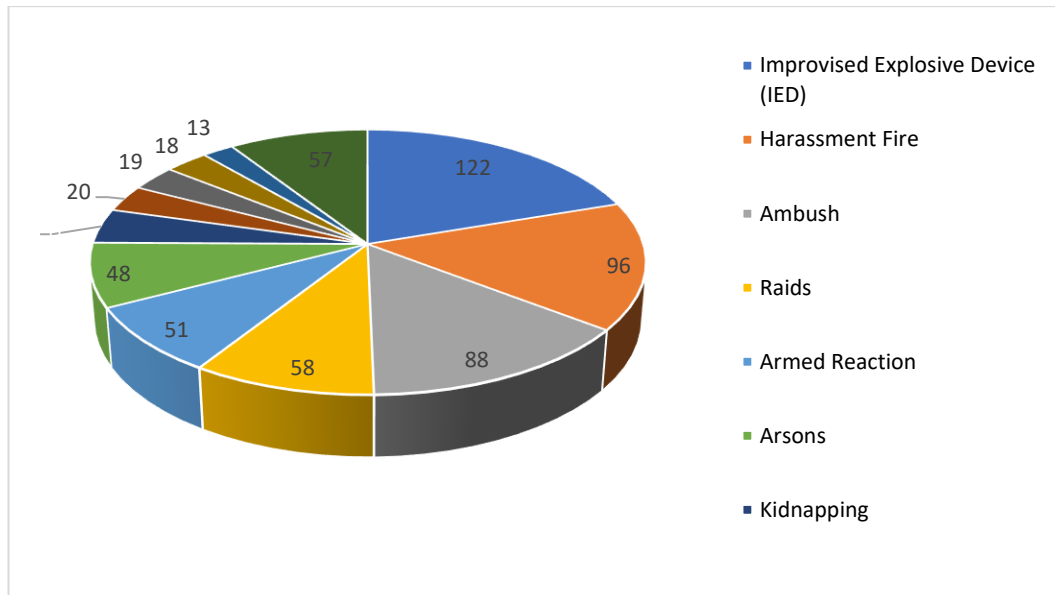


Figure 3. 3: The Numbers of Attacks and Attack Types by the PKK between 2010 - 2015 According to Terrorism Analysis Platform (TAP).

Murat Yesiltas, Durdu Mehmet Ozdemir, Sibel Kuru, ‘‘Analysis of Turkish Terrorism Events Platform Data: Effects of PKK Terror (1984-2022)’’, *Journal of Terrorism and Radicalization Studies*, 1, No.2 (2022): 231.

Additionally, during the period of 2015-2022, the PKK, again, increased the attacks against Türkiye that while 1201 attacks occurred in 2015, the number of attacks was up to 1272 in 2016. Furthermore, the YPG also increased the attacks against Türkiye in 2017. It is possible to see the drastic change while only 4 attacks were recorded in 2016, the number of attacks increased to 143 in 2017. These terrorist attacks by the YPG continued to rise in which 297 in 2018, and 373 in 2019 attacks occurred. On the other hand, firstly in 2020 the number of attacks decreased to 224 then, 151 in 2021.¹⁰⁴

According to the Terrorism Analysis Platform (TAP), as a consequence of these operations, 942 in 2015, 1899 in 2016, 2415 in 2017, 2070 in 2018 997 in 2019, 941 in 2020 and 1571 in 2021 and 1157 in the first 6 months of 2022 totally 11.992 terrorists were neutralized.¹⁰⁵

Following the first armed attack, against the military units and facilities, the terrorist organization started to use the propaganda and action stages together targeting the

¹⁰⁴ ibid., 235-242.

¹⁰⁵ ibid., 244. For more information on the data; Terrorism Analysis Platform (TAP) <https://tap-data.com/analysis>

governmental representatives and social institutions in order to paralyze the state and the public.¹⁰⁶

3.2. Syrian Branch of PKK: PYD/YPG

As mentioned before, the KCK was the transformation of the PKK in an attempt to create an umbrella organization for multiple terrorist organizations. In this section, the connection between the PKK and the PYD/YPG will be stated.

The official foundation of the PYD dates back to 2003. The decision to establish a political arm in Syria was taken actually during the 8th PKK Congress by the leaders of the terrorist organization.¹⁰⁷ Having different names but cooperating together under an umbrella structure, the PKK and the PYD organized as political parties. However, these so-called parties also have and sub-wings that carry out armed attacks.¹⁰⁸ The YPG was announced as the armed wing of the PYD and took action as an armed force in Kurdish-populated areas such as Hassakah, Raqqa and Aleppo provinces after the broke out of the Syrian Civil War.¹⁰⁹ This scheme of the PKK and PYD is also presented in the Figure 3.1 above.

One of the PKK's media outlets (Serxwebûn) also pointed out the relationship between the PKK and the PYD from the compiled documents from the 8th congress expressing that *"Our Congress, in new period, should create a Syrian Democratic Union Movement or a party by that name and support it as a part of our movement by making necessary appointments"*¹¹⁰

In this sense, since the PKK and PYD share the same ideology, goals and leadership team, these cannot be separated from each other.¹¹¹ Rather than replacing the PKK,

¹⁰⁶ Cenker Korhan Demir, "Öğrenen Örgütler ve Terör Örgütleri Bağlamında PKK", *Uluslararası İlişkiler*, 5, No.19 (Fall 2008): 77.

¹⁰⁷ Ragıp Soylu, "Archives, testimonies confirm PYD/YPG's organic link with PKK terror organization", *Daily Sabah*, February 20, 2016 <https://www.dailysabah.com> [Accessed on 16.02.2023]

¹⁰⁸ Mehmet Seyfettin Erol, Kadir Ertay Çelik, "ABD'nin Suriye Politikasında Vekil Aktör Olarak Terör Örgütleri: YPG Örneği", *ANKASAM Bölgesel Araştırmalar Dergisi*, 2 No.2 (2018): 30. 14-45

¹⁰⁹ International Crisis Group, "Flight of Icarus: The PYD's Precarious Rise in Syria", *International Crisis Group*, (2014): 1.

¹¹⁰ Republic of Türkiye Ministry of Interior, "PKK/KCK Terrorist Organisation's Extension in Syria: PYD-YPG" (May 2017): 24.

¹¹¹ Berkan Ögür and Zana Baykal, "Understanding "Foreign Policy" of the PYD/YPG as a Non-State Actor in Syria and Beyond" In: Yeşiltay, M., Kardaş, T. (eds) *Non-State Armed Actors in the Middle East*. (Palgrave Macmillan, 2018), 52.

the PYD was combined with the PKK in terms of militants, ideology, aims and positioned itself as the PKK's Syrian franchise.¹¹²

In this context, the visible relationship between the PKK, the KCK and the PYD can be understood clearly when their codes and the KCK Convention are analyzed.¹¹³

The statements are indicated in the Table 3.3:

Table 3. 3: The Similarities Between the KCK Convention and the Codes of The PKK and PYD.

KCK Convention	The KCK is a confederation system and it is based on democracy, gender equality and ecological life. It aims at structuring the gender equality and ecological democratic organization in the Kurdistan society, posited upon the fundamentals of democratic confederation,
Code of the PYD	It also target at the democratic solution for the Kurdish issue within (so-called) the Western Kurdistan, establishment of democratic autonomy, establishment of gender equality, democratic ecology and democratic socialism, support for democratic liberation and fight through Kurdistan and enabling this fight for freedom to accomplish its objectives within the framework of the Democratic Confederalism of the Kurdistan National Union.
Code of the PKK	Building the democratic confederation structure based on the paradigm of democratic, ecologic and gender equal society and democratic socialism is another underpinning aspect as well as finding a solution to the Kurdish issue in all the countries through the so-called Autonomous Democratic Kurdistan.

Ministry of Interior, 'PKK/KCK Terrorist Organisation's Extension in Syria: PYD-YPG', (May 2017): 15.

On the other hand, both of the terrorist organizations identify Abdullah Ocalan as a leader adopting a way in pursuit of him and his ideas. The loyalty and the fight for Ocalan's life and freedom is strictly outlined both in the Code of the PKK and the PYD. The speeches given by the PYD's members under the posters of him, their photos with the members of the PKK and the hanging posters of Ocalan in PYD/YPG-controlled locations in Syria clearly demonstrate the ties between these two organizations.¹¹⁴

3.3. History of the Turkish Defence Industry

Since the struggle between the TAF and the PKK/KCK terrorist organization has been going on for decades, Türkiye made several attempts to develop an independent and efficient defence industry. As importing technological devices from external

¹¹² Ali Soner, Ömer Aslan, Hakan Kızılcı, 'PKK's Regional Franchise of Terror', *International Center for Terrorism and Security Studies (UTGAM)*, (2017):16

¹¹³ Republic of Türkiye Ministry of Interior, *PKK/KCK Terrorist Organisation's Extension*, 15.

¹¹⁴ *ibid.*, 13-35.

sources certainly plays a crucial role during a conflict, Türkiye aimed to meet the needs of the armed forces considering its own interests.

Although this study concentrates on the developments of the Turkish Defence Industry 2000 and afterward, three breaking points will be mentioned in the first place; the embargos by the USA against Türkiye due to the Cyprus Peace Operation, the foundation of the Department of Technical Services, Research and Development (SAGEB) in 1985 and the publishing the *Turkish Defence Industry Policy and the Strategy* in 1998.

During the period of 1950-1970 that the membership of the NATO has a significant impact on state's defence industry, Due to the military aids an importation especially after joining the NATO, the developments of the Turkish defence industry stopped. Yet, the arms embargo that was applied during and after the Cyprus Operation, lead to an awareness on the self-sufficient defence industry infrastructure and implementations of the plans and projects on this field.¹¹⁵ In this period, between 1982-1987, Türkiye was among the top 20 countries in the world that imported most weapons and ranked first between 1991-1995.¹¹⁶

Following Cyprus Operation in 1974, the US arms embargo was a milestone questioning the defence industry in Türkiye. Due to the parts and equipment was mostly supplied by the US, the Turkish Air Force was considerably affected by that embargo. During that period, Turkish Armed Forces Foundation (TSKGV) and several defence and aerospace companies such as ASELSAN, TUSAŞ were established in pursuit of achieving self-sufficient military capacity.¹¹⁷

Additionally, the establishment of the Directorate of Defence Research and Development (SAGEB) in 1985 was also a significant step aiming the modernization of the Turkish Armed Forces. Later, SAGEB carried out its activities under the name of Undersecretariat for Defence Industries (SSM), recently the SSM was placed under the Presidency of the Republic of Türkiye and restructured under the name of

¹¹⁵ Latif Pınar, "Türkiye'nin Savunma Sanayi Alanındaki Gelişiminin Türk Dış Politikasına Olan Etkisi", *İnsan ve Toplum Bilimleri Araştırmaları Dergisi*, 7 No.4 (2018): 2350.

¹¹⁶ Hakan Balcı, "Savunma Sanayii İçin Teknoloji Transfer Yöntemi Seçim Kriterlerinin Belirlenmesi ve AHP Tekniği ile Uygun Yöntem Seçimi" (Mater's Thesis, Kara Harp Okulu Savunma Bilimleri Enstitüsü, 2013), 53.

¹¹⁷ Arda Mevlutoglu, "Commentary on Assessing the Turkish Defense Industry: Structural Issues and Major Challenges", *Defence Studies*, 17 no.3, (2017): 283. Doi: 10.1080/14702436.2017.1349534

Presidency of Defence Industries (SSB) in 2018 aiming the to provide the necessary supplies for the TAF rapidly, develop modern defence industry in Türkiye. ¹¹⁸

Another significant step in the Turkish Defence Industry history was the approval of the *Turkish Defence Industry Policy and Strategy* by the Council of Ministers and its entrance into force after being published in the Official Gazette on June 20, 1998. The document outlined the principles for short – intermediate – long term plans for the defence industry and the manufacturing of the weapons, ammunition and tools using the national resources and maximizing the use of domestic capabilities to meet the requirements of the TAF. ¹¹⁹

Today, acquiring a worldwide reputation thanks to effective improvements and high operational performance of defence systems and weapons that are proven on the battlefields, Türkiye can be considered among the most promising members in the defence market. ¹²⁰ According to the philosophy of the development of the national defence industry, Türkiye's improvement has been spectacular. In the list of Defence News, seven Turkish companies (ASELSAN, TAI, BMC, ROKETSAN, STM, FNSS, HAVELSAN) have succeeded to rank among the 100 largest in the world in 2020. In this sense, while 70% of the Turkish Armed Forces' armament needs were covered by local production, this percentage was expected to increase to %75 in 2023 according to the industrial strategy for the 2019-2023 period. ¹²¹

In recent years, the SSB has carried out many projects professionally to achieve technological superiority and shift the geopolitical balance in Türkiye's favor. In terms of industrialization and localization, crucial steps have been taken to become dominant over the relevant sectors and technology through R&D projects under the authority of the SSB. ¹²²

According to the Defence and Aerospace Industry Manufacturers Association (SASAD) performance report published in 2021, the turnover reached \$10.159

¹¹⁸ Hüsnü Özlü, "The Foundation and Development of Turkey's Defense Industry in the Context of National Security Strategy", *PERCEPTIONS*, 26, no. 2, (2021): 229-230.

¹¹⁹ *ibid.*, 230.

¹²⁰ Merve Seren, "Promises and Perils: Exploring the Turkish Defense Industry", *PERCEPTIONS*, 26, No. 2, (2021): 185.

¹²¹ Felipe Sánchez Tapia, "The Turkish defence industry. Strategic asset of the first magnitude". *Instituto Español de Estudios Estratégicos (IEEE) Analysis Paper*, (2021): 13.

¹²² Özden Özben, "Ensuring Turkey's Border Security and Defense Industry: Current Evaluations", *Perceptions*, Vol.26 No.2, (2021): 292.

Million, received orders \$8.576 Million, overseas sales revenue \$3.225 Million, imports \$2.062 Million, product/technology development \$1.640 Million and the employment has reached 75.660 people.¹²³

Over the past years, Türkiye's awareness of strengthening domestic and national has been rather effective in terms of fighting with terrorism against the PKK, increasing the impact of anti-terrorism operations and protecting the civilians and soldiers. Demir indicates that the anti-terrorism operations of Türkiye that have been transformed from domestic operations to cross-border ones especially after 2016 in Syria and Iraq. In this respect, the substantial use of domestic weapons and ammunition in the operations ensured independency and protected the operations from any type of negativity that might occur by an embargo. Thus, the level of success of the Turkish Defence Industry has become visible with the experiences on the ground.¹²⁴

¹²³ Defence and Aerospace Industry Manufacturers Association (SASAD) 2021 Performance Report. <https://www.sasad.org.tr> [Accessed on 03.03.2023]

¹²⁴ İsmail Demir, "Transformation of the Turkish Defense Industry: The Story and Rationale of the Great Rise", *Insight Turkey*, Vol. 22 No. 3 (2020): 31-34.

4. PRODUCTS OF TURKISH DEFENCE INDUSTRY

In this section, the domestic and national products of the Turkish Defence Industry were presented regarding the use of by the TAF during a cross-border operation in Syria. Since it is not possible to demonstrate the whole inventory of the army during the operations, the products were chosen according to the open sources.

4.1 Land Platforms

4.1.1 Wheeled Armoured Vehicles

KİRPİ II MRAP (Mine Resistant Ambush Protected) Armoured Vehicle (BMC)



Figure 4.1: Kirpi 4x4 MRAP Armoured Vehicle by BMC.

Retrieved from <https://www.bmc.com.tr/en/defense-industry/kirpi> on 18.03.2023.

In the category of mine-resistant vehicles, KİRPİ is one of the most effective land platforms. With its brand-new version KİRPİ II 4x4, the vehicle stands out with a range of features such as its shot fire location tracking system, armored cabin and windshields, weapon-station, intercom system, automatic fire extinguisher, jammer, run flat, positioning and navigation system. The KİRPİ II also possesses high performance with a range of 750 km, 60% gradeability and its 100 km/h max speed. The armament of the vehicle includes 7.62mm or 12.7mm machine gun, grenade launcher and remote-controlled weapon systems. In the sense of Turkish Army's fight against terrorism, the vehicle offers protection against mine, ballistic and improvised explosive devices (IEDs).¹²⁵

¹²⁵ BMC, "KIRPI" <https://www.bmc.com.tr/en/defense-industry/kirpi> [Accessed on 18.04.2023]

COBRA II 4x4 Tactical Wheeled Armoured Vehicle (OTOKAR)



Figure 4.2: Cobra II Tactical Wheeled Armoured Vehicle by Otokar.

Retrieved from <https://defense.otokar.com.tr> on 18.03.2023.

COBRA II was designed to meet the requirements of the TAF and allies possessing superior technical and tactical features. While the vehicle offers several technical features such as its range of 700 km., 110 km/h max. speed, 60% gradeability, up to 10 crew capacity, it also possesses high performance in a wide range of difficult ground and weather conditions. Regarding the counter-terrorism operations, the COBRA II also offers higher protection against IED, ballistic and mine threats. 120 mm. mortars, 5.56 mm. and 7.6 mm. weapons systems can also be integrated into the vehicle for its armament.¹²⁶

Furthermore, the COBRA II is available in the form of multiple options such as an amphibious personnel carrier, jammer platform, security vehicle, field ambulance vehicle, reconnaissance and surveillance vehicle, command and control vehicle, radar vehicle personnel carrier with dual RCWS (Remote Controlled Weapon Stations). The vehicle can function both in urban and rural areas without distinguishing day or night.¹²⁷

¹²⁶ Otokar, ‘‘Cobra II’’ <https://defense.otokar.com.tr> [Accessed on 20.03.2023]

¹²⁷ Defense Here, ‘‘Cobra II the upgraded armored vehicle becoming popular in the global market’’, <https://www.defensehere.com> [Accessed on 20.03.2023].

VURAN 4x4 Multi-Purpose Armoured Vehicle (BMC)



Figure 4.3: Vuran 4x4 Multi-Purpose Armoured Vehicle by BMC.

Retrieved from <https://www.bmc.com.tr> on 18.03.2023.

Vuran 4x4 armoured vehicle was designated by BMC offering a capacity for 9 crew, a high level of protection and maneuverability. While the Vuran vehicle provides high performance with its range of 600 km., 110 km/h max. speed and 60% gradeability, it also offers IED, mine and ballistic protection against terrorist threats.¹²⁸

VURAN 4x4 vehicles can be equipped with ASELSAN's SARP remote-controlled weapon station. The Vuran 4x4 was developed to carry out various missions for example patrolling security areas, protecting critical points and ensuring border security.¹²⁹ While the vehicle can be armed with remote-controlled 12.7 mm heavy machine gun, it also offers several firing ports enabling users to fire their individual weapons. Beginning to deliver from 2019 to Turkish Armed Forces, the Vuran participated in recent conflicts in Syria and Libya.¹³⁰

¹²⁸ BMC, "Vuran" <https://www.bmc.com.tr> [Accessed on 20.03.2023]

¹²⁹ Defence Turkey, "Latest Batch of VURAN 4x4 Tactical Wheeled Armored Vehicles Delivered to Turkish Armed Forces" <https://www.defenceturkey.com> [Accessed on 20.03.2023]

¹³⁰ Military Today, "Vuran Mine resistant ambush protected vehicle" <http://www.military-today.com> [Accessed on 21.03.2023]

EJDER YALÇIN 4x4 Armoured Combat Vehicle (NUROL MAKİNA)



Figure 4.4: Ejder Yalçın 4x4 Armoured Combat Vehicle by Nurol Makina.

Retrieved from <https://www.nurolmakina.com.tr> on 21.03.2023.

During Türkiye's counter-terrorism operations, the Ejder Yalçın 4x4 combat vehicle has also been efficient for the users. Besides its general features such as the personnel capacity up to 9, manual or remotely controlled turret system. it also provides superior protection against the terrorism threats by the help of the features such as the protection against mines, IED, lateral blasts, military GPS and vehicle tracking system, day/night vision system, internal communication system, Self-recovery winch, a fuel tank that is resistant to explosion and puncture, 360° driver vision enhancement system.¹³¹ Ejder Yalçın 4x4 was developed to function in both rural and urban areas. It also offers different solutions to different circumstances such as Mine/IED Detection-Clearance Vehicle, Border Surveillance and Security Vehicle, Armored Ambulance, Command and Control Vehicle Air Defence Vehicle, Reconnaissance Vehicle, Combat Vehicle, Personnel Carrier.¹³²

¹³¹ Nurol Makina, "Ejder Yalçın" <https://www.nurolmakina.com.tr> [Accessed on 21.03.2023]

¹³² *ibid.*

PARS 4x4 Wheeled Armoured Combat Vehicle (FNSS)



Figure 4.5: Pars 4x4 Wheeled Armoured Combat Vehicle by FNSS.

Retrieved from <https://www.fnss.com.tr/en> on 22.03.2023.

Another significant product of the Turkish Defence Industry under the category of wheeled land vehicles is PARS 4x4 which was designed by FNSS. The vehicle stands out with its special operational features such as advanced surveillance, and anti-tank command and control. In terms of its technical features, the PARS 4x4 has max. road speed 110 km/h, >700km range, max. water speed 6.5 km/h, 70% gradient which means it is able to climb 70% vertical slopes. It also has an enhanced mobility thanks to the central tire inflation system run-flat capability. Moreover, it can be equipped with several systems such as command and control system, communication equipment, navigation systems, crew intercommunication system, Auxiliary Power Unit (APU).¹³³

In the sense of protection against terrorist threats, PARS 4x4 offers both ballistic and mine protection in the NATO's STANAG 4569 (Level Classified). The armament of the vehicle includes anti-tank remote controlled turret and a 7.62mm machine gun as a secondary armament. It also provides a transparent ballistic armour in the driver's cabin, gunner control system, laser range finder, thermal camera, stabilized electric turret drive.¹³⁴

¹³³ FNSS, 'PARS 4x4' <https://www.fnss.com.tr> [Accessed on 26.03.2023]

¹³⁴ *ibid.*

4.1.2 Tracked Armoured Vehicles

ACV-15 Armoured Combat Vehicle (FNSS)



Figure 4.6: ACV-15 Armoured Combat Vehicle by FNSS.

Retrieved from <https://www.fnss.com.tr> on 22.03.2023.

In the 113-15 tons class, the ACV-15 is the generic designation of a tracked (5 road wheels) heavy armoured land platform that is able to perform high-speed operations in poor infrastructure, roads, highways and desert conditions. Its hull is made of ballistic aluminium plates and to meet ballistic requirements, it has different plate thickness on the hull. Including gunner, driver and commander, the crew capacity is 11. Speaking of its mobility, it can reach 65 km/h maximum road speed and it has 490 km. range. The ACV-15 can be armed 25 mm automatic as a main armament and 7.62 mm machine gun. The turret type of the platform is stabilized manned, remote controlled or SABER Turret. Along with the multiple variants, The Advanced Armoured Personnel Carrier (AAPC), Self-Propelled Mortar (SPM81), armoured ambulance (AMEV), Armoured Engineering Squad Vehicle (ASEV) play a crucial role in the battlefield thanks to their protection and capabilities. FNSS has produced more than 22,500 ACV-15s not only for the Turkish Land Forces but also for users all around the world. ¹³⁵

¹³⁵ FNSS, ‘ACV-15’ <https://www.fnss.com.tr> [Accessed on 26.03.2023]

4.1.3 Unmanned Ground Vehicles (UGVs)

FEDAİ Unmanned Ground Vehicle (BEST GRUP)



Figure 4.7: Fedai Unmanned Ground Vehicle and its control system by Best Grup.

Retrieved from <https://best-grup.com> on 22.03.2023.

One of the remarkable products of the Turkish defence industry, FEDAİ was developed by Best Grup based on the the needs in this field and the experiences in remote-control vehicles. Currently, FEDAİ features with KORALP RCWS with 7.62mm machine gun which weighs only 90 kg., low recoil and accurate stabilization. Moreover, different payloads can easily be carried by the vehicle thanks to its flexible architecture. Since both FEDAİ and the integrated KORALP system were produced by the Best Grup, any kind of configuration occurs in a short and easy way.¹³⁶ Moreover, while FEDAİ can also carry 400 kilograms of weight, it also can reach a maximum speed of 10 km/h. The operational range of FEDAİ is 1000 meters within the operator's line of sight.¹³⁷ With the help of its 13.3-inch screen, the control stick and artificial intelligence, it can operate complete reconnaissance and surveillance missions and fire.¹³⁸

¹³⁶ Best Grup, "FEDAİ Unmanned Armed Operation Robot" <https://best-grup.com> [Accessed on 01.04.2023].

¹³⁷ Defense News, "Four robotic vehicles compete for Turkish military contract", <https://www.defensenews.com> [Accessed on 01.04.2023].

¹³⁸ Defense Here, "Best Group's armed unmanned ground vehicle: FEDAİ" <https://www.defensehere.com> [Accessed on 01.04.2023].

4.2 Air Platforms

4.2.1. T-129 ATAK Helicopter (TAI)



Figure 4.8: T-129 ATAK Multirole Combat Helicopter developed by TAI.

Retrieved from <https://www.tusas.com> on 05.04.2023.

Flying for the first time in 2011, the ATAK helicopter was developed to meet the Turkish Armed Force's needs and requirements and it was optimized for heavy weapon loads by national means and capabilities. Some features of T-129 include 3 hours of endurance, 281 km/h maximum cruise speed, 537 km range, 13.26 m/sec rate of climb. The armament of the T-129 ATAK consists of 20 mm cannon bullets, 76 unguided rockets and 500 munitions. 16 CİRİT Laser-Guided Missiles, 8 UMTAS Anti-Tank Missiles, 8 STINGER Air-To-Air Missiles for multi-purpose missions. With high maneuverability and performance, it offers an effective use to the TAF in terms of attacking, fire support, armed reconnaissance, and deep strikes both day and night conditions. Besides its high maneuverability, low visibility, ballistic tolerance and asymmetrical weapon load, it also provides superior battlefield survivability with advanced modern electronic warfare systems such as Missile Warning System, Radar Warning Receiver System, Laser Receiving System, Radar Frequency Mixer System and Countermeasure Firing System.¹³⁹

¹³⁹ TAI, "T-129 ATAK" <https://www.tusas.com> [Accessed on 05.04.2023]

4.2.2. Unmanned Aerial Vehicles (UAVs)

BAYRAKTAR TB2 Tactical Armed Unmanned Aerial Vehicle (BAYKAR)



Figure 4.9: Bayraktar TB2 Tactical Armed UAV developed by Baykar.

Retrieved from <https://www.defenceturk.net> on 05.04.2023.

Bayraktar TB2 can be defined as a sophisticated design with the Armed/UAV platform, ground control station, advanced base, data and display terminal. It is able to carry out Intelligence, Surveillance and Reconnaissance (ISR) and armed attack missions. Thanks to the features such as 27 hours in the air, 18.000 feet operational and 25.000 feet maximum altitude, fully automatic landing and take-off, autopilot system, fully automatic flight control and its navigation internal sensor fusion, it can carry out successful missions during a conflict. Moreover, it has <300km communication range, 160 kg payload capacity, and the integration of ROKETSAN's MAM-L and MAM-C domestic munitions. While prioritizing civilian security. On the other hand, the Baykar Real Time Imagery Transmission System enables users to follow live broadcasts on the network securely and do multiple actions such as taking multi-tag notes, saving tags, searching through archived videos, filtering by date and by metadata.¹⁴⁰

¹⁴⁰ Baykar, 'BAYRAKTAR TB2' <https://baykartech.com> [Accessed on 12.04.2023]

ANKA UAV (TURKISH AEROSPACE INDUSTRIES – TAI)



Figure 4.10: ANKA UAV developed by TAI.

Retrieved from <https://www.tusas.com> on 05.04.2023.

ANKA is classified in the class of advanced Medium Altitude Long Endurance Unmanned Aerial System that can function both day and night in order to accomplish reconnaissance, intelligence and target detection / identification missions. Besides its +30 hours endurance in the air and 350+ kg payload capacity, it also offers high performance with multiple advanced features such as fully autonomous operation, redundant automatic take - off and landing system, encrypted communication, emergency landing on the nearest field in case of unexpected conditions, redundant flight control system, sustainable flight sensor and payloads for heavy jamming conditions, redundant electrical power generation, return home and land capability for link loss during an emergency case. The payload options of ANKA include wide-area surveillance camera, radars, electronic support measure / electronic attack, ComJam (Communication Jamming), SATCOM (Satellite Communications), digital data recorder and remote video terminal. On the other hand, several types of weapons such as laser-guided rockets, precision-guided bombs and anti-tank missiles can be integrated into the ANKA.¹⁴¹

¹⁴¹ TAI, ‘ANKA Information Brochure’ <https://www.tusas.com> [Accessed on 12.04.2023].

KARGU Rotary Wing Attack Drone (STM)



Figure 4.11: Kargu Attack Drone and Mobile Ground Control Station by STM.

Retrieved from <https://www.stm.com.tr> on 05.04.2023.

Kargu was developed as a portable, rotary-wing drone that is composed of the attack drone platform and the mobile ground control station with the intent of maintaining ISR (Intelligence, Surveillance and Reconnaissance) missions and precision strikes beyond line-of-sight targets during both day and night conditions. Some technical features of Kargu include 5 km range, 30 minutes of endurance with payloads, 72 km/h cruise speed, 60 minutes battery charging time, 10 km control distance, internal and external antenna. In terms of warhead, it can carry 1.3 kg munition consisting of 840 pieces 4 mm cube bullets. Thanks to all advanced qualifications, Kargu offers high performance to the armed forces since it has Automatic Target Recognition System, vertical takeoff and landing, fast preparation less than 1 minute, low RCS (Radar Cross Section) platform design, optical guidance and target tracking, abort of mission and returning home, navigation and flight control system and the capability of operable by a single personnel.¹⁴² Kargu functions in the same way a kamikaze pilot and by the help of its proximity fuse and customizable detonation range features, it gets closer and detonates the target. Different types of warheads such as anti-personnel, armour-piercing and thermobaric can be integrated to the loitering munition. In addition to all these qualifications, it can also be used at temperatures ranging from -200 to 500°C.¹⁴³

¹⁴² STM, ‘‘Tactical Mini UAV Systems’’ <https://www.stm.com.tr>? [Accessed on 14.04.2023].

¹⁴³ Airforce Technology, ‘‘Kargu Rotary-Wing Attack Drone’’ June 4 2021 <https://www.airforce-technology.com> [Accessed on 15.04.2023].

ALPAGU Fixed-Wing Autonomous Tactical Attack UAV (STM)



Figure 4.12: ALPAGU Fixed-Wing Autonomous Tactical Attack UAV by STM.

Retrieved from <https://www.stm.com.tr/en/alpagu> on 05.04.2023.

Alpagu was designed as a fixed-wing autonomous tactical attack UAV by STM in order to carry out reconnaissance, surveillance and destroy the targets beyond line of sight with high accuracy. Because of its lightweight platform, composite body and avionic design, it has low signature that helps to make precision strikes and can be carried out by single personnel. In addition to the fixed-wing smart ammunition system, the Alpagu consists of launcher, ground control station. Furthermore, it also stands out with several qualifications such as tracking moving targets, ground vehicle mountable multiple launcher option, domestic hardware and software, high performance algorithms in navigation, guidance, flight control, domestic electronic ammunition safety, trigger and arm systems. The UAV also has an ability to abort in-flight missions and self-destruction modes during emergency scenes.¹⁴⁴

Technical features of Alpagu include 5 km operational range, 400 ft. mission altitude, 65 knots maximum speed, max. 1 minute deployment time and 20 / + 50 °C operating temperature.¹⁴⁵ The first delivery of Kargu and Alpagu UAVs to the Turkish Special Forces was made in 2017.¹⁴⁶

¹⁴⁴ STM, ‘‘Tactical Mini UAV Systems’’ <https://www.stm.com.tr/> [Accessed on 16.04.2023].

¹⁴⁵ Turkish Defence News, ‘‘ALPAGU Fixed Wing Loitering Munition System’’, <https://www.turkishdefencenews.com> [Accessed on 17.04.2023]

¹⁴⁶ Rasim Anıl Kunt, ‘‘ Alpagu ve Kargu’nun Özel Kuvvetlere ilk teslimatı yapıldı’’ *Defence Turk*, 13.12.2017, <https://www.defenceturk.net> [Accessed on 16.04.2023].

4.3. Barreled Weapons

4.3.1. Infantry Weapons

MPT-55 Infantry Rifle (MKE)



Figure 4.13: MPT-55 5.56 mm x 45 Infantry Rifle by MKE.

Retrieved from Turkish Defence Industry Product Catalogue <https://www.ssb.gov.tr> on 16.04.2023.

In order to supply the needs of the TAF and the security forces for 5.56 mm weapon, the MPT-55 infantry rifle was manufactured by MKE (Mechanical and Chemical Industry Company). Technical features of the rifle include 5.56 mm x 45 NATO calibre, 400 m effective range, 800/884 mm length, 368.5 mm barrel length, 30 magazine capacity, semi or full-automatic type of fire, 3300 g weight, short stroke, gas operated, rotary bolt action working principle, 850 m/s muzzle velocity and telescopic buttstock. On the other hand, MKE has also developed shorter and lighter version of MPT-55 which is called MPT-55K as it has 3000 g weight, 279.4 mm barreled length.¹⁴⁷

Since MKE's infantry rifles are effective, light and quick for the users, it's preferred not only by the Turkish Land Forces but also MIT (National Intelligence Organization) the National Police.

¹⁴⁷ MKE, "MPT-55K (5.56mm x 45) Infantry Rifle" <https://urunler.mke.gov.tr> [Accessed on 22.04.2023]

MPT-76 Infantry Rifle (MKE – KALE KALIP – SARSILMAZ)



Figure 4.14: MPT-76 National Infantry Rifle developed by Kale Kalip.

Retrieved from <https://www.kalekalip.com.tr> on 17.04.2023.

MPT-76 was developed by MKE in order to replace the German-made Heckler & Koch G3 rifle that used by the Turkish Army since the end of the 1960s and to meet the requirement for a national assault rifle.¹⁴⁸ In this sense, MKE started to develop MPT-76 and after multiple years of tests and developments, delivered the first batch of the infantry rifles to the Turkish army in 2014.¹⁴⁹ Technical qualifications of the MPT-76 consist of 7.62 mm x 51 NATO calibre, 600 m effective range, 20 rounds of magazine capacity, 600-780 rate of fire per minute, 4.200 g weight without magazine. Moreover, it can be considered as one of the rare rifles that successfully passed all the NATO standard test that can be used all negative conditions such as hot / cold weather, rain, sand, mud etc. Since it has Picatinny rails on the four sides of the handguard and the upper receiver, whole NATO standard accessories can be mounted on the rifle and also, it's suitable for both right- and left-hand users as it provides ambidextrous weapon controls.¹⁵⁰ Moreover, recently, the The Presidency of Turkish Defence Industries (SSB) announced that the BA40 grenade launchers were produced specifically compatible for MPT-76 by Ata Arms Inc.¹⁵¹

¹⁴⁸ SavunmaSanayiST, "Türk Silahlı Kuvvetlerinde G3 ve HK-33 devri sona eriyor", 16.08.2019, <https://www.savunmasanayist.com> [Accessed on 22.04.2023].

¹⁴⁹ Modern Firearms, "MKEK MPT-76" <http://modernfirearms.net> [Accessed on 22.04.2023].

¹⁵⁰ Kale Kalıp, "MPT-76 16" National Infantry Rifle" <https://www.kalekalip.com.tr> [Accessed on 22.04.2023]

¹⁵¹ Defense Here, "Turkey continues arming its soldiers with MPT-76 compatible grenade launchers", 05.07.2021, <https://www.defensehere.com> [Accessed on 23.04.2023].

KNT-76 Semi-Automatic Sniper Rifle (MKE)



Figure 4.15: KNT-76 Semi-Automatic Sniper Rifle by MKE.

Retrieved from <https://www.defenceturk.net> on 17.04.2023.

KNT-76 was manufactured by MKE by completely domestic and national means to meet the needs of TAF. Since it's lighter and more effective compared by similar sniper rifles, it offers high performance and easy to use for the army personnel in counter-terrorism. On the other hand, the accessories on the rifle such as the scope, reflex sight and the laser designator was also manufactured by Turkish engineers.¹⁵²

The technical qualifications KNT-76 include 800m effective range, 7.62 mm x 51 NATO calibre, 20 magazine capacity, 5000 g weight, semi-automatic firing mode, 508 mm barrel length and adjustable buttstock.¹⁵³ Furthermore, thanks to the rail system, multiple domestic accessories such as the KND 3-12x50 Sniper Rifle Scope, 675N thermal weapon sight, dual laser pointer and illuminator by 3E EOS can be mounted on the rifle.¹⁵⁴

¹⁵² TRT Haber, "Türkiye'nin yeni milli keskin nişancı tüfeği göreve hazır", 14.08.2018, <https://www.trthaber.com> [Accessed on 25.04.2023].

¹⁵³ MKE, "KNT-76 (7.62 mm x 51) Semi-Automatic Sniper Rifle" <https://urunler.mke.gov.tr> [Accessed on 25.04.2023]

¹⁵⁴ Milli Savunma, "KNT-76 Manga Tipi Milli Keskin Nişancı Tüfeği", 10.01.2019, <https://www.millisavunma.com>. [Accessed on 25.04.2023].

4.3.2. T-155 Firtina Howitzer (BMC)



Figure 4.16: Firtina Self-propelled Howitzer by BMC Defence.

Retrieved from <https://www.aa.com.tr> on 22.04.2023.

Firtina Howitzer can be considered as one of the most significant firepower of the TAF since it's actively and effectively used in recent cross-border operations such as Euphrates Shield, Olive Branch, Peace Spring and Spring Shield. Especially with the integration of the new systems into the Firtina howitzer, its efficiency and the combat capabilities have been increased to meet the requirements of the TAF in battlefield. The new generation of Firtina Howitzer has recently gained multiple abilities such as speeding up to 65 km per hour, with a firing range of 360 km¹⁵⁵ passing through 2.8 meters wide trenches and 1.5 meters deep water and firing visually for self-protection.¹⁵⁶

While its fire power consists of 155 mm main gun, 155 mm munition and it can also be equipped with ASELSAN's SARP RCWS that provides 12,7 mm and 7,62 mm machine gun, 40 mm automatic grenade launcher, target tracking system, laser range finder capability and thermal/TV sight. Moreover, it also offers high performance and protection with the capabilities such as an advanced automatic projectile loading system, new generation fire control system, turret drive system, and high ballistic protection.¹⁵⁷

¹⁵⁵ TRT World, "What you need to know about Türkiye's self-propelled Firtina II howitzers" <https://www.trtworld.com> [Accessed on 25.04.2023]

¹⁵⁶ BMC, "6 New Generation Firtina Howitzers were Handed over to the Turkish Armed Forces at a Ceremony Attended by President Recep Tayyip Erdogan" 09.01.2023. <https://www.bmc.com.tr> [Accessed on 25.04.2023].

¹⁵⁷ BMC, "Firtina" <https://www.bmc.com.tr> [Accessed on 25.04.2023]

4.4. Missiles and Ammunition

4.4.1 Missiles

UMTAS Long-Range Anti-Tank Missile System (ROKETSAN)



Figure 4.17: UMTAS Anti-tank Precision Guided Missile by ROKETSAN.

Retrieved from <https://www.roketsan.com.tr> on 26.04.2023.

UMTAS is an anti-tank precision guided missile system which is used especially with attack helicopters and it can be used all weather conditions during day and night thanks to its Imaging Infrared Seeker. It stands out with multiple features such as fire-and-update flight modes which provides the data link between and the missile, target update, switch the target during flight, insensitive munition characteristics against bullet impact and fuel fire, its precision and guidance and control capability, efficiency against the static and mobile targets. In addition to the attack helicopters, UMTAS missile can be integrated into land vehicles, air and naval platforms. The technical specifications of the missile consist of 0,5-8 km range, 1,8 m length, 37,5 kg, weight, and different operation modes including fire-and-forget, fire-and-update, direct /top attack types.¹⁵⁸ Besides UMTAS, ROKETSAN's anti-tank product family also include the Laser-Guided Long Range Anti-Tank Missile (L-UMTAS) and the Medium-Range Anti-Tank Weapon System (OMTAS) that have been developed in order to provide an advantage to the TAF in modern battlefield.¹⁵⁹

¹⁵⁸ Roketsan, "UMTAS Long-Range Anti-Tank Missile System" <https://www.roketsan.com.tr> [Accessed on 27.04.2023]

¹⁵⁹ MSI, "Roketsan's Anti-Tank Missiles Join the TAF Inventory", 23.05.2019, <https://www.savunmahaber.com> [Accessed on 28.04.2023].

CİRİT Laser Guided Missile (ROKETSAN)



Figure 4.18: CİRİT Laser Guided Missile by ROKETSAN.

Retrieved from <https://www.tgrthaber.com.tr> on 26.04.2023.

The CİRİT missile can be called a next generation missile since it offers highly accurate, cost-effective use against static, moving, lightly armored, unarmored. It can be easily integrated with different land, aerial and naval platforms. In addition to its air-to-surface use, its capabilities on surface-to-surface have already proven. Technical features of CİRİT missile include 15-8 km range, 15 kg weight, anti-armour, anti-personnel and incendiary warhead, high explosive warhead types.¹⁶⁰ Thanks to CİRİT's Smart Launcher, target information is transferred automatically to the missile before firing. Communication through MIL-STD-1760 Interface allows to transfer of alignment, using the position, status and the environmental conditions of the platform, target coordinates and position of the target.¹⁶¹ Since CİRİT can be used with various platforms not only helicopters, UAV's but also land and naval platforms, recently it was integrated to FNSS's KAPLAN-10¹⁶² and TAI's HÜRKUŞ.¹⁶³

¹⁶⁰ Roketsan, "CİRİT Laser-Guided Missile" <https://www.roketsan.com.tr> [Accessed on 28.04.2023]

¹⁶¹ TurDef, "ULAQ is on Sea Trials" 13.02. 2021, <https://www.turdef.com> [Accessed on 28.04.2023].

¹⁶² Kevser Taşlık, "ROKETSAN's UMTAS and Cirit missiles integrated to FNSS KAPLAN-10: YALMAN", 31.08.2020 <https://en.defenceturk.net> [Accessed on 28.04.2023]

¹⁶³ Defence Türk, "HÜRKUŞ'un CİRİT füzesi entegrasyon uçuş testi!" 22.09.2022 <https://www.defenceturk.net> [Accessed on 28.04.2023]

BORA (KHAN) Missile (ROKETSAN)



Figure 4.19: Bora Missile and the Multi-Barrel Rocket Launcher by ROKETSAN.

Retrieved from <https://www.roketsan.com.tr> on 26.04.2023.

Based upon its combat proven capabilities, the BORA missile can be regarded as a crucial fire power against the strategic targets in the battlefield. The missile can be launched not only ROKETSAN's 8x8 Multi Barrel Rocket Launcher (MBRL) but also from other tactical wheeled vehicle platforms if the users require. The missile system has 80 - 280 km range, 2.500 kg weight, 470 kg warhead weight and high explosive warhead type. One of the significant features of the BORA is the accuracy on the targets since it offers ≤ 10 m Circular Error Probability (CEP). On the other hand, artillery and air defence systems, command, control, and communications (C3) facilities, logistic facilities, radar sites are the potential targets of the BORA.¹⁶⁴ The missile was firstly used during the Operation Claw, which was conducted in Northern Iraq, later it was used in Spring Shield Operation in the Syrian city of Idlib by the Turkish Armed Forces.¹⁶⁵

¹⁶⁴ Roketsan, "KHAN Missile" <https://www.roketsan.com.tr> [Accessed on 28.04.2023]

¹⁶⁵ Overt Defense, "Indonesia Becomes First Export Customer for Turkey's KHAN Ballistic Missile System" 10.11.2022 <https://www.overtdefense.com> [Accessed on 28.04.2023].

TRG-300 KAPLAN Guided Missile (ROKETSAN)



Figure 4.20: TRG-300 Kaplan Guided Missile by ROKETSAN.

Retrieved from <https://www.roketsan.com.tr> on 26.04.2023.

The TRG-300 KAPLAN missile has been a significant part of the Turkish Army as it enhances the effectiveness and the destructive power of the armed forces against the terrorist targets. After 6 years of qualification and development process, it was firstly delivered to the TAF in 2016. In recent years, the missile was successfully used by the Turkish Army during the Spring Shield Operation in Syria.¹⁶⁶ The KAPLAN missile system attracts attention with the advanced and efficient features such as its combat proven performance, the readiness to fire in a short time, anti-jamming and anti-spoofing solutions, the usage of all weather conditions, highly accurate and long-range precision strike capability against the artillery and air defence systems, logistic facilities, radar sites and other types of high priority targets. It has 2 variants that are Block II and the most developed version Block III in accordance with the need of the users. In this sense, most features of the missiles are the same, the range, weight and the warhead weight differ in Block III. While the Block II has 20 - 90 km range, 660 kg weight, 180 kg warhead weight, the Block III has 30 - 120 km range, 585 kg weight and 105 kg warhead weight.¹⁶⁷

¹⁶⁶ M5 Dergi, “Kara Kuvvetleri’ne hassas vuruş yaptıran füzeler: TRG-300 KAPLAN ve BORA”, 18.01.2021, <https://m5dergi.com> [Accessed on 29.04.2023]

¹⁶⁷ Roketsan, “TRG-300 Guided Missile”<https://www.roketsan.com.tr> [Accessed on 20.04.2023]

SOM Cruise Missile (ROKETSAN – TUBİTAK-SAGE)



Figure 4.21: SOM Air-to-surface Cruise Missile by ROKETSAN.

Retrieved from <https://www.roketan.com.tr> on 26.04.2023.

The SOM (Stand-Off Missile) was produced as an air-to-surface missile by TUBİTAK-SAGE and manufactured by ROKETSAN in order to destroy the opponent targets. While SOM-A and SOM-B1 share the same features that were both designed for soft, different from these both variants, the SOM-B2 was designed especially for hard concrete targets, and it has Dual Stage Tandem Penetrating Warhead.¹⁶⁸ Technical features SOM-A and SOM-B1 are remarked as 250 km range, 4 m length, 600 kg weight, high explosive fragmentation warhead type. In addition to these qualifications, SOM-B1 has also Infrared Imaging (IIR) seeker. On the other hand, the missile stands out various significant features such as selectable impact parameters, low radar cross section, low observability, resistant to countermeasures, target update, re-attack and mission abort capability via data link and survivability in all weather conditions.¹⁶⁹

The domestic missile recently was used in cross-border operations¹⁷⁰ and has been gained to the literature as “combat proven” since one of the officials of the designer company stated that the SOM missile was successfully used in one of the cross-border operations.¹⁷¹

¹⁶⁸ TUBİTAK SAGE, “Stand-Off Missile (SOM)” <https://www.sage.tubitak.gov.tr> [Accessed on 29.04.2023].

¹⁶⁹ Roketsan, “SOM Stand-Off Missile” <https://www.roketan.com.tr> [Accessed on 29.04.2023]

¹⁷⁰ CNN Türk, “Sınırı geçmeye gerek kalmadı! Çizgi dışı 12’den vuruş...” 09.01.2023 <https://www.cnntrk.com> [Accessed on 29.04.2023]

¹⁷¹ SavunmaSanayiST, “SOM Seyir Füzesi artık ‘Combat Proven’”, 29.03.2021, <https://www.savunmasanayist.com> [Accessed on 29.04.2023].

4.4.2. Special Munitions

MAM-C Smart Micro Munition (ROKETSAN)



Figure 4.22: MAM-C Smart Micro Munition by ROKETSAN.

Retrieved from <https://www.roketsan.com.tr> on 26.04.2023.

The MAM-C was developed in order to carry out the operations especially with the UAVs, light attack aircraft platforms and air-to-ground operations where weight is a crucial factor. Technical features of the MAM-C munition can be marked as 8 km range, 6.5 kg weight, 970 mm length, 70 mm diameter, laser seeker guidance. The warhead type of the munition is Multi-Purpose Warhead including blast fragmentation, armor piercing and incendiary.¹⁷²

The MAM-C munition is a critical part of Turkish UAVs such as BAYRAKTAR-TB2, ANKA, AKINCI, AKSUNGUR which have played a key role in Syria, Libya, Nagorno Karabakh and recently in Ukraine. Based on several experiences and the insufficiencies on the battlefield, the MAM munitions family has been developed through the years. In this sense, it can be regarded as one of the most used munitions for the UAVs since it is the lightest one.¹⁷³ Uyanık points out the vital role of the UAVs and the smart munitions dominating the skies and taking advantage of the drone technology especially during the Operation Spring Shield as all these systems enhance the performance without needing traditional air force.¹⁷⁴

¹⁷² Roketsan, ‘‘MAM-C Smart Micro Munition’’ <https://www.roketsan.com.tr> [Accessed on 30.04.2023]

¹⁷³ Sertaç Aksan, ‘‘Türk SİHA'ları mühimmat çeşitliliğinde de 'zirvede’’ TRT HABER, 14.06.2022 <https://www.trthaber.com> [Accessed on 01.05.2023].

¹⁷⁴ Saffet Uyanık, ‘‘UK Defense Secretary: ‘‘Turkey’s Use of UAVs & Electronic Warfare in Syria & Libya are Game-Changing’’, *Defence Turkey*, Vol.14 No.100 (2020): 196.

MAM-L Smart Micro Munition (ROKETSAN)



Figure 4.23: MAM-L Smart Micro Munition by ROKETSAN.

Retrieved from <https://www.roketan.com.tr> on 26.04.2023.

Having been developed as Türkiye's first UAV between 2014 - 2016, currently MAM-L can be considered as the main munition of the Turkish UAVs. Besides technical qualifications, it also has become a major subject matter in terms of its efficiency in the conflict areas such as Syria, Iraq, Azerbaijan and Libya and its huge role in making Turkish UAVs a worldwide concept.¹⁷⁵ Technical features of the munition consist of 15 km range, 1 m length, 22 kg weight, 160 mm diameter and laser seeker guidance. MAM-L also offers three types of warhead types that are, high explosive blast fragmentation, armour piercing and thermobaric. While MAM-L can strike against fixed and mobile targets, main targets are main battle tanks and light armoured vehicles.¹⁷⁶

The smart munitions have been taking part actively in Türkiye's fight against terrorism in Syria and Northern Iraq destroying only enemy objectives avoiding any civilian casualties. Thanks to its precision strike, it can be used against various targets like convoys in the cities and streets without damaging any building, car or civilian. In this respect, many of the so-called top-level executives PKK/YPG were neutralized during the operations of the TAF.¹⁷⁷

¹⁷⁵ Savunmatr, "İHA'ların vurucu gücü: MAM Ailesi", 24.01.2023 <https://www.savunmatr.com> [Accessed on 01.05.2023]

¹⁷⁶ Roketsan, "MAM-L Smart Micro Munition" <https://www.roketan.com.tr> [Accessed on 01.05.2023]

¹⁷⁷ Haber7 "Terörde füze zaferi: MAM-L ve MAM-C hainleri 12'den vuruyor", 04.10.2021 <https://ekonomi.haber7.com> [Accessed on 01.05.2023]

4.4.3. Rocket Systems

T-122 SAKARYA Multi-Barrel Rocket Launcher System (ROKETSAN)



Figure 4.24: T-122 Sakarya MBRL System by ROKETSAN.

Retrieved from <https://www.roketsan.com.tr> on 30.04.2023.

The T-122 SAKARYA MBRL can be regarded as an extensive fire support in order to destroy the enemy targets. The battery of T-122 SAKARYA is composed of 6 launchers, 1 command & control vehicle, 6 ammunition supply vehicles, 1 meteorology vehicle and 1 maintenance and repair vehicle. Its technical specifications include 3 – 40 km range, multiple navigation systems, and automatic manual aiming. The rocket system attracts attention with several modern features such as automatic aiming, optional cabin pressurization system, ballistic protection, remote or inside the cabin firing capability, wired/wireless - voice/data communication system, onboard crane for ammunition supply, integrated ground meteorology system. Additionally, it can be ready to fire within 5 minutes.¹⁷⁸

During previous years, along with other national and domestic products T-122 SAKARYA was also used against the PKK/PYD/YPG terrorist organization during the cross-border Operation Olive Branch in Afrin.¹⁷⁹

¹⁷⁸ Roketsan, “T-107/122 Multi Barrel Rocket Launcher (MBRL) System”
<https://www.roketsan.com.tr> [Accessed on 01.05.2023]

¹⁷⁹ Daily Sabah, “Domestically produced defense systems deployed in Afrin offensive” 27.06.2023
<https://www.dailysabah.com> [Accessed on 01.05.2023]

4.5. Electronic Warfare Systems

KORAL Land-Based Transportable Electronic Warfare System (ASELSAN)



Figure 4.25: Deployment of the EWS KORAL on the Syrian Border.

Retrieved from <https://www.star.com.tr> on 02.04.2023.

KORAL is one of the outstanding products of the TDI to gain tactical superiority, meet the electronic support and electronic attack requirements and succeed in protection and prevention during the operations.¹⁸⁰ It was designed and produced by ASELSAN to serve the TAF in jamming and deceiving hostile radars. Along with 150-200 km range, the KORAL system plays a crucial role both in providing electronic support operations for intelligence, surveillance, and reconnaissance and electronic attack operations to degrade, neutralize or destroy the hostile capabilities. After entering the inventory of the TAF in 2016, the KORAL carried out several missions in Syria, Libya and Azerbaijan demonstrating an innovative military doctrine with excessive capabilities. This doctrine indicates cooperation, coordination and integration between the deployed EWS (KORAL), the UAVs (ANKA, Bayraktar TB2) and the smart micro-munitions (MAM-C, MAM-L).¹⁸¹ During the OSS in Syria, Idlib in 2020, the land-based EWS such as KORAL, REDET, MILKAR 3 and the Turkish Air Forces's CN-235 special mission aircraft were also used as a support.¹⁸²

¹⁸⁰ Presidency of Defence Industries, Turkish Defence Industry Products Digital Catalogue ‘‘Electronic Warfare Systems’’ <https://www.ssb.gov.tr/urunkatalog/en/396/> (2019): 396.

¹⁸¹ Ali Bakir, ‘‘Turkey’s Electronic Warfare Capabilities: The Invisible Power Behind its UACVs’’, *RUSI* 27. 09.2021 <https://rusi.org> [Accessed on 02.05.2023].

¹⁸² Feridun Tařdan, ‘‘Elektronik Harp: Trkiye’nin Kabiliyetleri ve Kresel Ynelimler’’, *SETA* (2022): 42.

SERHAT Counter Mortar Radar (ASELSAN)



Figure 4.26: SERHAT Mobile Mortar Detection Radar by ASELSAN.

Retrieved from <https://www.defenceturk.net/serhat> on 04.04.2023.

Designed and developed by ASELSAN, the mortar detection system is able to calculate the estimated exit and fall locations of the bullets by detecting and tracking the mortars on the line of sight thanks to its 360° burnout coverage. While the usage areas of the system include towers, buildings, it can also be used on a tripod and be mounted on an elevated mast in a vehicle.¹⁸³ With the qualifications such as L-band transmission frequency, 10+ km operational detection and tracking range, electronically scanned active antenna array structures, operability remotely from Command & Control Center and its practicability between -32°C / +50°C temperature, and tracking landscape silhouette, it has been actively playing during the cross-border operations in all weather conditions like under rain humidity, dust, sand.¹⁸⁴ The SERHAT Radars, firstly delivered to Turkish Land Forces in 2014, were used effectively in the Eastern and Southeastern of Türkiye and the Operations Euphrates Shield and Olive Branch against the terrorism activities.¹⁸⁵ Deployed at El Bab as part of the operations executed in Syria in 2016, the radar systems successfully carried out the missions.¹⁸⁶

¹⁸³ Raily News, ‘‘ASELSAN SERHAT Continues to Deliver Mobile Mortar Detection Radar’’, 13.06.2020 <https://www.railynews.com> [Accessed on 03.05.2023]

¹⁸⁴ Savunma Sanayii Dergilik, ‘‘Türk güvenlik güçlerine Seyyar Havan Tespit Radarı teslimatı’’ 12.06.2020 <https://savunmasanayiidergilik.com/tr> [Accessed on 04.05.2023]

¹⁸⁵ C4 Defence, ‘‘SERHAT II in Inventory’’ 02.01.2019 <https://www.c4defence.com> [Accessed on 04.05.2023]

¹⁸⁶ Defence Turkey, ‘‘Aselsan Receives Additional Orders for SERHAT HTR’’ August 2018 <https://www.defenceturkey.com> [Accessed on 04.05.2023]

5. CROSS-BORDER OPERATIONS OF TÜRKİYE IN SYRIA

5.1. The Right of Self-Defence According to the Charter of the United Nations

As a consequence of the Syrian Civil War, the instable and chaotic environment of the region have become an available location for the terrorist groups such as the PKK/PYD/YPG and DAESH that possess major threats for Turkish citizens and Türkiye's national security. In this sense, to maintain the security of its borders from the terrorist threats, prevent a settlement of a terror corridor across the southern border, remove the terrorist organizations and maintain the return of the Syrian refugees to their homeland, Türkiye has launched several operations under the right of self-defence according to the UN Charter's Article 51.¹⁸⁷

The Article 51 of the UN Charter indicates that:

“Nothing in the present Charter shall impair the inherent right of individual or collective self-defence if an armed attack occurs against a Member of the United Nations, until the Security Council has taken measures necessary to maintain international peace and security. Measures taken by Members in the exercise of this right of self-defence shall be immediately reported to the Security Council and shall not in any way affect the authority and responsibility of the Security Council under the present Charter to take at any time such action as it deems necessary in order to maintain or restore international peace and security.”¹⁸⁸

¹⁸⁷ Hakan Ömer Tunca, Arif Ferah, ‘‘Turkey’s Preventive Operations against Terrorists across Southern Border’’, *International Journal of Politics and Security (IJPS)*, Vol. 4, No.1 (2022): 109. DOI: 10.53451/ijps.1004432.

¹⁸⁸ United Nations Charter, ‘‘Chapter VII: Action with Respect to Threats to the Peace, Breaches of the Peace, and Acts of Aggression (Articles 39-51)’’ <https://www.un.org> [Accessed on 09.05.2023]

5.2. Operation Euphrates Shield

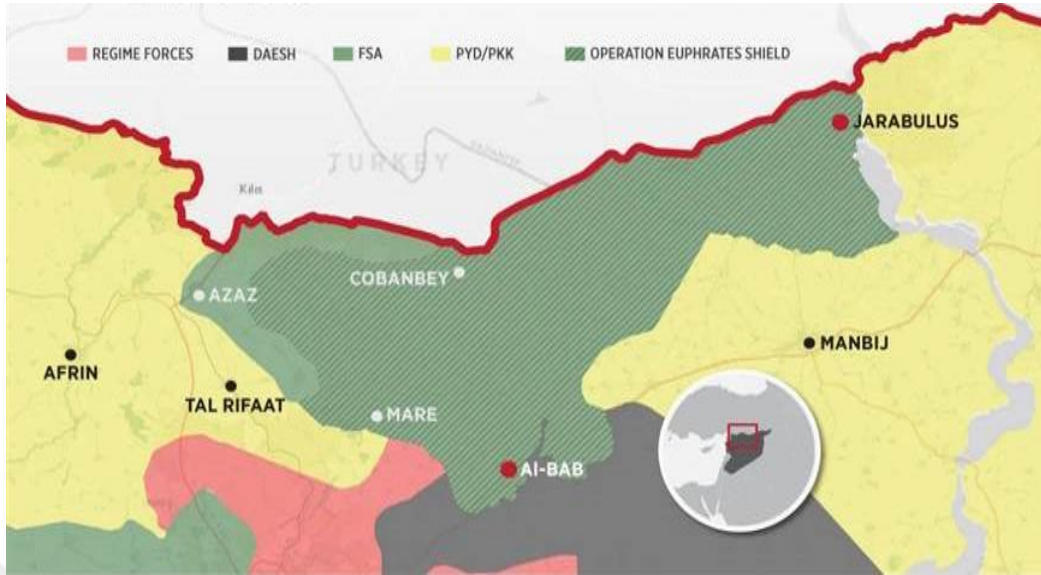


Figure 5.1: The Map of the Operation Euphrates Shield as of 23.02.2017.

Anadolu Agency, "Turning point in Operation Euphrates Shield" <https://www.aa.com.tr> 24.02.2017 [Accessed on 07.04.2023]

Following the cruel acts such as mortar attacks and suicide bombings against civilians, security and armed forces took place in Istanbul, Ankara, Gaziantep, Kayseri, Akçakale, Reyhanlı, Van, Kilis by terrorist organizations who reached out Türkiye from Syria, counter-terrorism against DAESH and PYD/YPG became a national security priority for Türkiye. Therefore, Türkiye launched "Operation Euphrates Shield (OES)" on 24 August 2016.¹⁸⁹ The aims of this operation were remarked by the Secretariat-General of the National Security Council and the Land Forces Command as:

- To maintain the security of Turkish borders and the security of the citizens in the region, to prevent the terrorist attacks against Türkiye, completely remove the terrorist activities of DAESH and PYD/YPG,¹⁹⁰
- To maintain suitable conditions for displaced Syrians to their homes by ensuring the stability of the region, and to prevent the terror corridor that is being planned by the terrorist organizations.¹⁹¹

The operation was carried out by TAF which consisted of conventional units of Land Forces Command and battalions of the Special Forces Command (SFC) and the Free

¹⁸⁹ Tunca, *Turkey's Preventive Operations*, 113.

¹⁹⁰ Secretariat-General of the National Security Council, Press Release, 30 November 2016, <https://www.mgk.gov.tr> [Accessed on 09.05.2023]

¹⁹¹ Turkish Land Forces Command, "Fırat Kalkanı Harekâtı", <https://www.kkk.tsk.tr> [Accessed on 09.05.2023]

Syrian Army (FSA). The operation was executed in four phases that are: The Jarablus - Sajur Phase, The Çobanbey (Rai) and Dabiq Phase, The Dabiq - Al-Bab Phase, and finally The Al-Bab Phase. After 216 days later, besides Jarablus and Al-Rai, Al-Bab also was completely cleaned from the terrorists and Türkiye reached out the goal of creating 90 km in length and 40 km in depth safe zone in the north of Syria.¹⁹²

As a result of the Operation Euphrates Shield, 4000 DAESH terrorist were neutralized,¹⁹³ 243 residential areas and 2,015 km² area have been taken under control.¹⁹⁴ Within the scope of stabilization and normalization of the controlled region, the needs for water, food, sheltering services and infrastructure such as asphaltting the roads, street lighting have been met. Moreover, providing whole equipment and operation rooms, a hospital for approximately 50,000 people has been built and schools that were damaged or closed by DAESH have been restored and reopened into service with Türkiye's support.¹⁹⁵

During the OES, the IED attacks, vehicle-borne improvised explosive device attacks and anti-tank guided missiles of terrorists posed serious challenges to Turkish forces. In this respect, the ISR (Intelligence Surveillance-Reconnaissance) capabilities and armour protection against the ATGM and IED attacks have become crucial. At this point, with the joining of armored and artillery units, mechanized infantry, unmanned aerial vehicles and air force platforms, as well as engineering and signal units, Türkiye's advanced use of UAV platforms, target acquisition platforms and artillery and multiple launch rocket systems (MLRS) played a vital role during the operation.¹⁹⁶

¹⁹² Murat Yeşiltaş, Merve Seren, Necdet Özçelik, "Operation Euphrates Shield: Implementation and Lessons Learned", *SETA Report* (2017): 22-31.

¹⁹³ Republic of Türkiye Ministry of National Defence, "Fırat Kalkanı Harekâtı", <https://www.msb.gov.tr> [Accessed on 10.05.2023]

¹⁹⁴ Turkish Land Forces Command, "Fırat Kalkanı Harekâtı", <https://www.kkk.tsk.tr> [Accessed on 10.05.2023]

¹⁹⁵ Yeşiltaş, Seren, Özçelik, "Operation Euphrates Shield", 34-42.

¹⁹⁶ Can Kasapoglu, Sinan Ulgen, "Operation Euphrates Shield and the al-Bab Campaign: A Strategic Assessment" *EDAM Centre for Economics and Foreign Policy Studies*, (2016): 7-10.

5.3. Operation Olive Branch

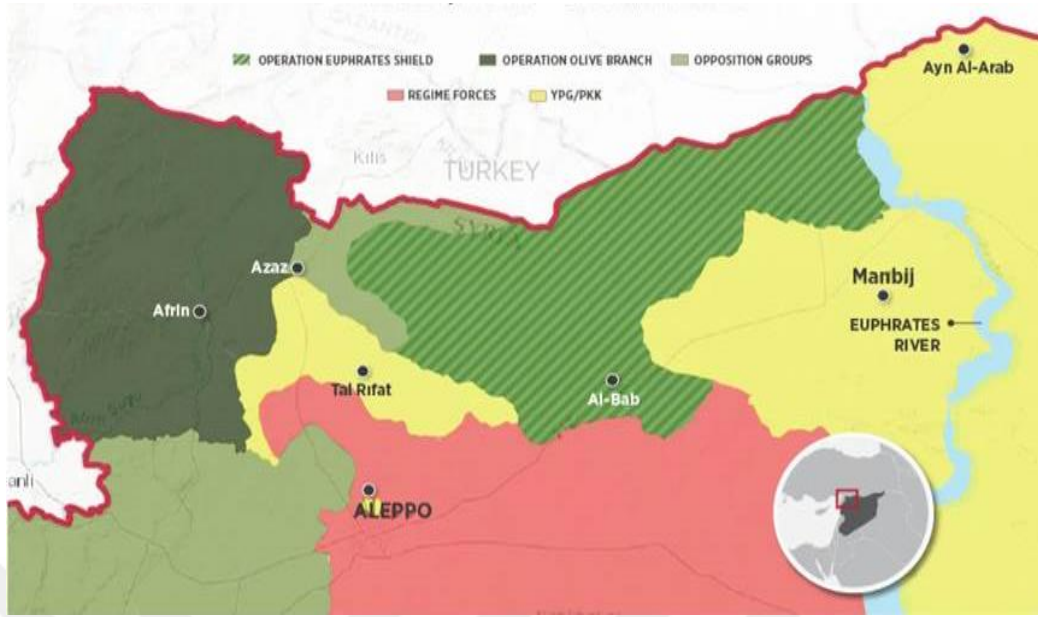


Figure 5.2: The Map of the Operation Olive Branch as of 25.03.2018.

Anadolu Agency, ‘‘Tal Rifat: Final target of Operation Olive Branch’’, 26.03.2018
<https://www.aa.com.tr> [Accessed on 07.04.2023]

On January 20, 2018, Türkiye announced a military operation called ‘‘Operation Olive Branch (OOB)’’ in the region of Afrin against PKK/PYD-YPG and DAESH terrorist organizations mainly based on the reasons:

- Türkiye’s national security is threatened and directly attacked by PKK/PYD-YPG and DAESH terrorists,
- Only in 2017, 700 attacks were attempted especially against Turkish border posts and different districts of Hatay and Kilis,
- 316 civilians lost their lives in various attacks carried out by these terrorist organizations both on the border line and in several provinces between 2015 and 2017.
- Preserving the achievements gained in the Operation Euphrates Shield.¹⁹⁷

As a result, main goals of the Operation Olive Branch can be regarded as to prevent the terrorist attacks against Türkiye, to block PKK’s efforts to create an autonomous region across the Turkish – Syrian border, to protect border security and to help securing Syria’s territorial integrity.¹⁹⁸

¹⁹⁷ Enes Demir, ‘‘Türkiye’nin Suriye Politikası Bağlamında TSK’nın Suriye’deki Sınır Ötesi Harekatlarının Nedenleri ve Sonuçları’’, *Bölgesel Araştırmalar Dergisi*, 5, No.2 (2021): 553.

¹⁹⁸ Murat Yeşiltaş, ‘‘Turkey’s Strategic Reasoning behind Operation Olive Branch’’, *SETA Perspective*, No. 34 (2018): 1.

While the TAF consisted of commando, mechanized armoured, artillery, units of the Turkish Land Forces, unmanned aerial vehicle units, combat search and rescue elements affiliated to the Turkish Air Force, electronic warfare elements, Turkish Special Forces, and the FSA joined the operation with the re-organized name called The Syrian National Army (SNA). The OOB is divided into three phases in terms of achieving its goals: the first phase is the cleaning of the rural side of Afrin from terrorists, the second phase is the cleaning of the city center and the third phase is to conduct stabilization and normalization activities throughout Afrin providing security, restructuring, establishment of social services.¹⁹⁹

Within the framework of the OOB, remarkable success was achieved against PKK/YPG in terms of preparation and execution within almost two months. In this sense, it can be considered as one of the most successful cross-border operations of Türkiye in history.²⁰⁰

As a consequence of the OOB, 6.370 terrorists were neutralized,²⁰¹ 282 residential areas and an area of 2,000 km² were taken under control. Additionally, 287 schools,²⁰² and a hospital with 100 beds and 13 branches in Afrin have started to serve again with the support of Türkiye.²⁰³

While the operation was conducting by the TAF with respect to the integrity of Syria and humanitarian concerns, several weapons, missiles and military vehicles were used during the OOB, according to official statements.²⁰⁴ For instance, on January 24, 2018, the T-129 attack helicopters hit YPG targets with ROKETSAN's CİRİT guided missiles.²⁰⁵ Moreover, with ROKETSAN's RPG shield as known as the "cage-armour" that is designed for enhancing the survivability of land platforms against RPG threats, the KİRPI MRAPs by BMC also ensured extra protection for the TAF.²⁰⁶

¹⁹⁹ Necdet Özçelik, Can Acun, "Terörle Mücadelede Yeni Safha: Zeytin Dalı Harekâtı", *SETA Report*, No.105 (2018): 18.

²⁰⁰ *ibid.*, 10.

²⁰¹ Republic of Türkiye Ministry of National Defence, "Zeytin Dalı Harekâtı", <https://www.msb.gov.tr> [Accessed on 13.05.2023]

²⁰² Turkish Land Forces Command, "Zeytin Dalı Harekâtı", <https://www.kkk.tsk.tr> [Accessed on 13.05.2023]

²⁰³ TRT Haber, "Mehmetçik 57 günde Afrin'de destan yazdı", 18.03.2021, <https://www.trthaber.com> [Accessed on 13.05.2023].

²⁰⁴ TRT World, "Operation Olive Branch", *TRT World Research Centre*, April 2018, 25.

²⁰⁵ Can Kasapoğlu and Sinan Ülgen, "Operation Olive Branch: A Political – Military Assessment", *EDAM Centre for Economics and Foreign Policy*, (2018): 7.

²⁰⁶ *ibid.*, 10.

5.4. Operation Peace Spring

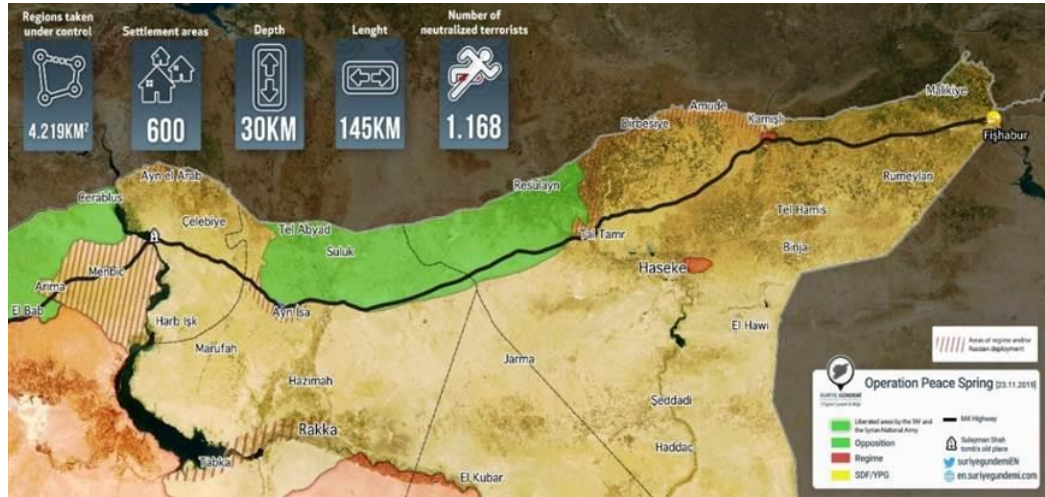


Figure 5.3: The Map of the Operation Peace Spring as of 23.11.2019.

Suriye Gündemi, ‘‘46th Day of the Operation Peace Spring’’ <https://en.suriyegundemi.com> [Accessed on 17.05.2023]

On October 9, 2019, due to the results of increasing terrorist threats and ongoing hostile attacks against civilians and the Turkish territories, Operation Peace Spring (OPS) was launched. The aims of the operation are to maintain the security of Turkish borders, to prevent a settlement of a terror corridor in the South and to provide the returning of the Syrians to their homes safely.²⁰⁷

The OPS began with the firing of howitzers against the PYD/YPG targets in Qamishli, Rasulayn, Tel Abyad. After taking control of the region with the air force, the ground operation proceeded from three different branches and the villages around Rasulayn and Tel Abyad were crossed in the first place.²⁰⁸

In the OPS, multiple domestic products including weapons, munitions, air and land platforms of TDI were used.²⁰⁹ For instance, offering a high level of protection against mines and ballistic threats VURAN 4x4, with its armored cabin, remote-controlled weapon station and gunshot detection system KİRPİ II 4x4 was utilized.

As an air support, the ATAK helicopter and its munitions such as the UMTAS and the CİRİT missiles, the ANKA and the Bayraktar TB2 also played a crucial role during the operation. Also, T-155 FIRTINA Howitzers, BORA Missile, and 122 mm

²⁰⁷ Republic of Türkiye Ministry of National Defence, ‘‘Barış Pınarı Harekâtı’’, <https://www.msb.gov.tr> [Accessed on 17.05.2023]

²⁰⁸ Doğan Şafak Polat, ‘‘Türkiye’nin Suriye’nin Kuzeyindeki Askerî Harekâtının Amaçları ve Sonuçları’’, *Güvenlik Stratejileri Dergisi*, 16, 33 (2020): 78. DOI: 10.17752/guvenlikstrtrj.719968

²⁰⁹ Presidency of the Republic of Türkiye Defence Industry Agency, ‘‘Barış Pınarı Harekâtı’nda Kullanılan Yerli Silahlar’’, 16.10.2019, <https://www.ssb.gov.tr> [Accessed on 23.05.2023]

multiple launch rocket system provided major firepower on the battlefield. As a result of this operation, 605 residential areas have been cleared from terrorists, and area of 4,219 km² has been taken under control, moreover, 1,110 mines and 2,199 improvised explosive devices have also been captured.²¹⁰ while more than 3,700 terrorists were neutralized and 1 million Syrians returned to their lands.²¹¹

In the OPS which was mostly carried out with the support of the national resources and weapon systems, the substantiality of the domestic defence industry has become prominent in the case of target acquisition and destruction.²¹²

5.5 Operation Spring Shield

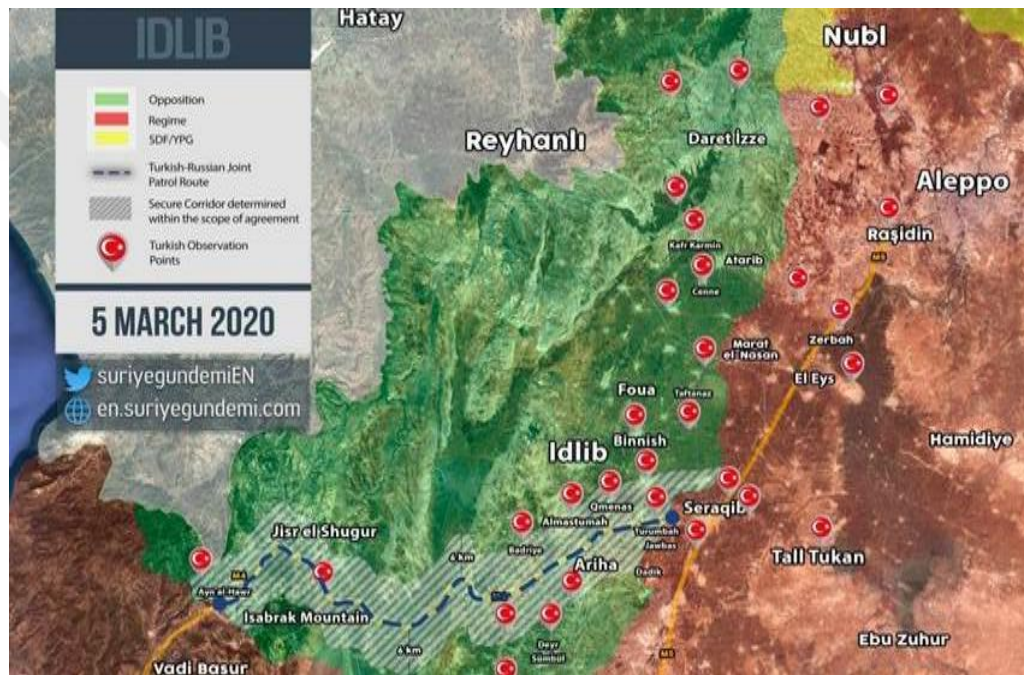


Figure 5.4: The Map of the Operation Spring Shield as of 05.03.2020.

Suriye Gündemi, ‘‘Additional Protocol Dated 5 March 2020 to the Memorandum on Stabilization of the Situation in Idlib’’, 05 March 2020 <https://en.suriyegundemi.com> Accessed on 17.05.2023]

Operation Spring Shield was carried out between 27 February 2020 and 5 March 2020 mainly in order to prevent the expanding of the regime, to ensure the security

²¹⁰ Republic of Türkiye Ministry of National Defence, ‘‘Barış Pınarı Harekâtı’nın Yıl Dönümü için Basın Bilgilendirme Toplantısı Düzenlendi’’, 09.10.2020, <https://www.msb.gov.tr> [Accessed on 17.05.2023]

²¹¹ Anadolu Agency, ‘‘MSB’den Barış Pınarı Harekâtı’nın 3’üncü yıl dönümü paylaşımı’’ 09.10.2022, <https://www.aa.com.tr> [Accessed on 17.05.2023]

²¹² Enes Demir, ‘‘Barış Pınarı Harekâtı’nın Türkiye Açısından Sonuçları’’, *Diplomatik Gözlem Dergisi*’, No.96 (2020): 39.

of Turkish units in the region and to prevent the migration towards our borders due to the cruel attacks of the regime.²¹³

As a result of this operation, 370 residential areas and 3394 km² area have been taken under control²¹⁴, 3,473 regime forces were neutralized, and 8 helicopters, 1 UAV, 93 tanks, 36 armoured combat vehicles, 67 howitzers / MLRS, 10 air defence systems were destroyed.²¹⁵ On the other hand, TAF damaged heavily the regime troops in terms of both humanitarian and military equipment, especially with the success of the effective use of UAVs and air operations carried out from the borderline.²¹⁶

During the OSS, in addition to the FIRTINA howitzers and KAPLAN missile on the ground, the Turkish UAVs performed effectively in almost every part of the Idlib region in terms of destroying the heavy weapons and ammunition depots of the regime forces, ensuring the airspace control before the operation and hitting the terrorist targets accurately. In this sense, the use of land, air platforms made a major contribution to the operation and demonstrated the military deterrence of the Turkish Army in the region.²¹⁷

²¹³ Republic of Türkiye Ministry of National Defence, ‘‘Bahar Kalkanı Harekâtı’’, <https://www.msb.gov.tr> [Accessed on 21.05.2023]

²¹⁴ Turkish Land Forces Command, ‘‘Bahar Kalkanı Harekâtı’’, <https://www.kkk.tsk.tr> [Accessed on 17.05.2023].

²¹⁵ Republic of Türkiye Ministry of National Defence, ‘‘Bahar Kalkanı Harekâtı’’, <https://www.msb.gov.tr> [Accessed on 17.05.2023]

²¹⁶ Enes Demir, ‘‘Türkiye’nin Suriye Politikası Bağlamında TSK’nın Suriye’deki Sınır Ötesi Harekatlarının Nedenleri ve Sonuçları’’, *Bölgesel Araştırmalar Dergisi*, 5, No.2 (2021): 568.

²¹⁷ Uluslararası Politika Akademisi, ‘‘Bahar Kalkanı Harekatı’nın Türkiye’ye Kazandırdıkları’’, 20.09.2022, <http://politikaakademisi.org> [Accessed on 23.05.2023]

6. THE SUCCESS PARAMETERS OF THE OPERATIONS

In this section, total achievements throughout the cross-border operations in Syria will be presented in terms of cleaning of the significant regions from the terrorist groups, the total number of neutralized terrorists, captured equipment, weapons, ammunition and the number of returned Syrian refugees to their land.

The time period and the outcomes of the cross-border operations in Syria were presented briefly in the Table 6.1 below²¹⁸ and explained in the following sections.

Table 6. 1: Outcomes of the Cross-Border Operations in Syria.

	Euphrates Shield	Olive Branch	Peace Spring	Spring Shield
Duration	216 days	57 days	14 days	8 days
Cleaning of the Save Heavens	Azaz, Jarablus, Dabiq, Al-Bab	Afrin	Rasulayn, Tel Abyad	Idlib
Neutralized Terrorists	4,000	6,370	3,700+	3,473
Captured Equipment & Materials	18,796 mines and IEDs	2,289 mines and IEDs	1,110 mines and 2,199 IEDs	8 helicopters, 1 UAV, 93 tanks, 36 ACV, 67 howitzers / MLRS

6.1 Cleaning of the Save Heavens from Terrorists

During these operations that were carried out in multiple regions of Syria, some of the safe heavens and crucial locations of terrorist groups such as Al Bab, Jarablus, Azaz, Afrin, Rasulayn, Tel Abyad and Idlib. In this sense, especially, Afrin was one of the most notable strategic regions for the PKK/PYD/YPG in terms of using Afrin as a base for attacking to Southern of Türkiye and a training center for the terrorists.

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6.2. Neutralized Terrorists

As a result of these cross-border operations in Syria, more than 17.500 terrorists were neutralized including PKK/PYD-YPG, DAESH and regime troops that possess a major threat for the national security of Türkiye and the civilians in the region.

²¹⁸ The table was created according to the data that are mostly obtained from the governmental sources, news, online websites and articles.

²¹⁹ Yeşiltaş, *Turkey's Strategic Reasoning*, 2.

6.3. Captured Arms, Ammunition, Equipment and More

In addition to the neutralized terrorists, the TAF also seized the various kinds of equipment and weapons including ammunition, IEDs, mines, mortars, ATGMs, missiles, Kalashnikov rifles, sniper rifles. For example, during the OES, 18,796 IEDs and mines and during the OOB, 2,289 mines and IEDs that belong to the terrorist organization PKK/PYD/YPG in the region were destroyed.²²⁰ According to the Ministry of National Defence, in 2022, 4,103 caves were destroyed, around 2,800 weapons and more than 1 million ammunition were captured during 100 large and 453 medium-scale operations. Moreover, as a result of the effective operations, 3,500 kilograms of drugs, 35,000 packs of cigarettes and 2,600 various weapons were seized.²²¹ Additionally, during an operation conducted by the National Intelligence Organization (MIT), a large number of professionally prepared with high technical capacity and explosive effect including 4,350 electric detonators, 986 programmable integrated devices, 665 circuit boards, voltmeters, circuit elements, LEDs for circuit control, technical material that approximately worth US\$ 30,000 were captured in OES region.²²²

6.4 The Return of the Syrian Refugees

It can be claimed that the success of the cross-border operations has had a great impact on the return of the displaced Syrian refugees to their country since the operation regions were completely cleared from terrorists. For example, regarding the return numbers of the border gates in Syria, although there is no official data for the Hamam, Çobanbey, Jarablus and Rasulayn gates, the return of 43,491 Syrians to Syria in 2021 has been documented through the most used Bab el Hava, Bab el Selame and Maaber Tel Abyad gates.²²³

On the other hand, according to the governmental statements, more than 500,000 Syrians have returned to the safe zones created by Türkiye in Syria. It was also indicated that the number of briquette houses in Idlib will be increased to 100,000

²²⁰ Demirören Haber Ajansı, “Suriye’nin kuzeyinde 16 bin 913 terörist etkisiz hale getirildi”, 28.11.2022 <https://www.dha.com.tr> [Accessed on 17.05.2023]

²²¹ Dünya Gazetesi, “2022 yılında 3 bin 982 terörist etkisiz hale getirildi” 24.12.2022, <https://www.dunya.com> [Accessed on 21.05.2023]

²²² NTV, “MIT’ten Suriye’de DAESH Operasyonu”, 19.12.2022, <https://www.ntv.com.tr> [Accessed on 21.05.2023]

²²³ Suriye Gündemi, “Suriyeli Sığınmacıların Türkiye’den Geri Dönüşleri”, 16.11.2022, <https://www.suriyegundemi.com> [Accessed on 17.05.2023]

and a similar project for the 13 regions, mainly Azez, Jarablus, Al-Bab and Tel Abyad was planned for the return of 1 million Syrians.²²⁴

According to the Ministry of Interior of Türkiye, approximately 107,000 briquette houses were built in Idlib and Afrin, where the Olive Branch and Spring Shield operations were carried out, and currently, 6 million people live in these regions.²²⁵



²²⁴ BBC News, “Erdoğan, 1 milyon Suriyelinin gönüllü geri dönüşü için hazırlık yaptıklarını söyledi”, 03.05.2022 <https://www.bbc.com> [Accessed on 21.05.2023]

²²⁵ Republic of Turkey Ministry of Interior, “Bakanımız Sn. Süleyman Soylu: 1 Milyon Sığınmacının Geri Dönüşü Sağlanacak”, 24.05.2023 <https://icisleri.gov.tr> [Accessed on 09.06.2023]

7. CONCLUSION

The theory of Realism has been one of the most controversial theories of international politics throughout the years. The classical realists believed that states are the main actors in the international arena and international politics is mainly ruled by the instincts and the roots of human nature. The classical realists drew attention to the competitive, egoist, self-interested and anarchical characterization of human beings that is likely to lead major conflicts. In this respect, they emphasized that the states should be in pursuit of security and hegemony therefore, the maximization of military capability is essential for survivability.

On the other hand, criticizing the classical realists for stressing the human nature extremely, Neorealism emerged as a new viewpoint against the classical realists. Neorealism mostly focused on the anarchical atmosphere of the global arena and the non-existence of an authority instead of human nature. In this regard, Kenneth Waltz indicated that states must ensure their own security and should be prepared against threats. Waltz also addressed a correlation between the armament of a state and its security emphasizing the cruciality of the military capability. However, the Neorealism theory also included two perspectives on the significance of power and the survivability of the state. In this regard, while Offensive Realists highlighted the pursuit of power at the highest levels and hegemony over other states, Defensive Realists argued that obtaining a sufficient amount of power and maintaining the position and territorial security is essential. Thus, Türkiye can be an example of defensive realism in terms of increasing the military and technological capabilities avoiding any invasion objectives and ensuring Turkish territorial integrity and security of the civilians in the region.

As given in the sections above, the term of terrorism has various definitions depending on the perception of the states and the international organizations. However, it seems that terrorism mostly consists of attributions such as intending to cause deaths and serious injuries, spread of violence and fear among the public, destroying the properties and aiming political, and ideological objectives. In this regard, the unlawful and criminal activities of the PKK terrorist organization can be classified as Separatist Terrorism as Alex Schmid addresses.

Beginning from the 1970s to today, Türkiye has been facing multiple difficulties caused by terrorist groups. As it was given in a chronological order in the simplest way, although the establishment of the PKK dates back to 1978, the terror of the PKK has become a vital security issue after the Eruh and Şemdinli attacks in 1984. After the arrest of Ocalan, the PKK reorganized under different names such as KADEK and KONGRA-GEL. During this period, the terrorist organization formed with different branches in several regions for example the PKK in Türkiye, PYD in Syria, PJAK in Iran and PÇDK in Iraq. Established in 2003, the PYD has the same ideology, leadership team and goals with the PKK under the structure of the KCK. Therefore, it's not possible to perceive this terrorist organization separated from the PKK since both terrorist structures adopt similar codes and obey Ocalan. Throughout the years, the PKK carried out numerous bloody activities against armed and security forces, governmental officials and civilians including woman, children and Kurdish citizens. The PKK applied multiple types of attacks consisting of bombings, armed actions, IED attacks, harassment fire, ambush, raids, arsons and kidnapping. However, in 2012, the PYD/YPG was charged of the terrorist attacks in Türkiye for the first time. Moreover, the number of terrorist attacks that were committed by the PYD/YPG increased in the following years meaning that the precautions against terrorism both in the territories and beyond the Turkish borders have become a vital issue for national security.

On the other hand, while Türkiye has been struggling the terrorism issue for decades, the needs of the arms industry were mostly supplied by foreign sources meaning that any kind of limitation and sanction would be a major crisis for the army. Therefore, recently, Türkiye has taken significant steps in the defence industry to avoid being fully dependent on foreign countries and importation. Although the implementation of the US embargo, the establishment of SAGEB – today's SSB – in 1985 and the approval of the Turkish Defence Industry Policy and Strategy in 1998 can be considered the milestones in the defence history, the concrete steps and the adaptation of new technologies in the 2000s have led a great rise in the TDI.

Taking advantage of the civil war in Syria and the instability of the region, the PYD and its armed wing YPG carried out terrorism activities coordinating with the PKK. At this point, the security of the borders and the safety of the civilians in the region have occurred as a crisis that needs to be solved and has led Türkiye to launch

several operations in Syria in recent years. The Operation Euphrates Shield in 2016, Operation Olive Branch in 2018, Operation Peace Spring in 2019 and lastly Operation Spring Shield in 2020 were launched based on the primary aims such as to eliminate the terrorist threats against the national security of Türkiye, prevent a terror corridor along with the borders, maintain the safety of the citizens, ensure a stable and peaceful environment in the region and provide a suitable conditions for the displaced Syrian people to return their lands.

During these operations, multiple types of domestic land, air platforms, weapon systems, missiles and ammunition were used accordance with the requirements of the TAF. For instance, KİRPİ II MRAP, VURAN 4x4 and EJDER YALÇIN 4x4 provided massive protection against the mines, IEDs, RPGs and explosive threats in addition to their armament and maneuverability capabilities. The German-made infantry rifles of the Turkish Army have also been replaced by the national rifles MPT-55, MPT-76, and the sniper rifle KNT-76 by MKE and provided a simple usage for the personnel. Moreover, in these cross-border operations, the efficient use of the domestic air platforms attracted wide attention globally and technological aviation capabilities of the TAF have also been proven in the battlefield. For example, the T-129 ATAK helicopters played a critical role possessing high performance in terms of fire support, armed reconnaissance and ballistic resistance. Additionally, the Turkish UAVs such as Bayraktar TB2 by Baykar, ANKA by TAI and the attack drones KARGU and ALPAGU by STM also had a huge impact in destroying the terrorist targets since these platforms provide advanced technological qualifications in tracking, detecting, and eliminating the PKK/PYD targets. Since the use of the UAV platforms was carried out with high precision and accuracy, civilian security was prioritized. While carrying out these operations, ROKETSAN and TUBITAK-SAGE were the core manufacturers of the munition and missile systems. Thanks to their integration into ATAK helicopters and most of the UAV systems, the CİRİT, MAM-C, MAM-L, UMTAS and SOM ensured a crucial operational capability against the terrorist threats.

As a result of these operations conducted since 2016, Türkiye has achieved the planned aims and succeeded in military, social and political dimensions. Consequently, the safe heavens of terrorists were cleaned and maintained a peaceful and safe social life in the operation zones, more than 17.500 terrorists were

neutralized, numerous weapons, explosives, shelters, caves and illegal materials were seized, the casualties of the Turkish Army minimized, thousands of displaced Syrians have returned to their homes and the created safe zones by Türkiye. Thus, Türkiye has accomplished the goals of preventing the terror corridor along the borders, damaging the US, Russia backed YPG activities in the region and destroying the plans of a canton structure of the PKK/PYD.

At this point, the key question arises that without the domestic military capabilities and the considerable support of the technological advances of the Turkish Defence Industry, would the cross-border operations have accomplished these intended goals? Although it might be difficult to give a concrete and absolute answer to this question from a civilian perspective, it is quite possible to say that the domestic and national products of TDI have made great contributions to the cross-border operations of the Turkish Armed Forces.

Although an analysis of the cross-border military operations in the past was not included in the study since it's difficult to obtain, compare the data and correlate the past and present conditions, the technological advances and innovative developments of the TDI has provided a great convenience for the Turkish Army in terms of overcoming the challenging geographical locations, decreasing the number of the participant military personnel and the casualties, finding, tracking, and destroying the terror targets and accomplishing the operations in a short time period.

Following the crucial developments and the insistence on domestic production in the defence industry, these attempts of Türkiye has gained considerable capabilities not only in production but also exportation and using the national resources in battlefield. Today, since the achievements in defence sector also reflect the military success on the field, Türkiye can be regarded as one of the key actors in the region.

In conclusion, using domestic land, air platforms, weapon systems and ammunition in the cross-border operations has strengthened the military capacity of the Turkish Armed Forces and has led to various achievements during the operations in Syria.

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