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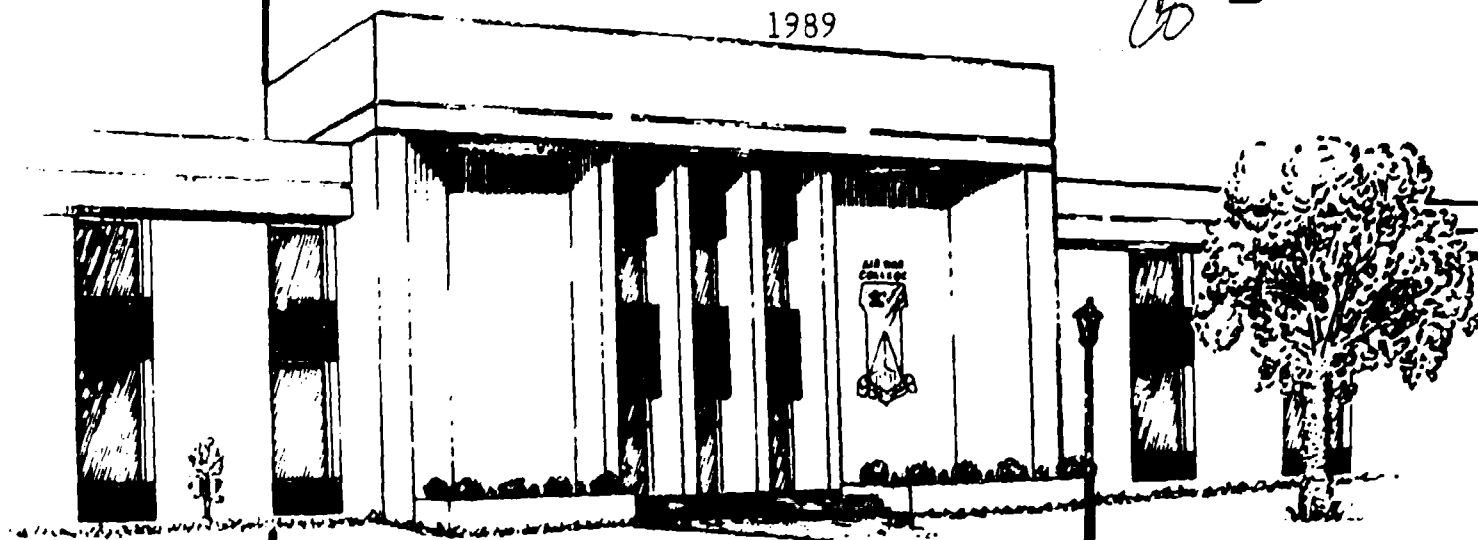
CENTER OF GRAVITY - LIBYA 1989

LT COL LAWRENCE A. GRANNIS

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CENTER OF GRAVITY--LIBYA 1989

by

Lawrence A. Grannis
Lieutenant Colonel

A DEFENSE ANALYTICAL STUDY SUBMITTED TO THE FACULTY
IN
FULFILLMENT OF THE CURRICULUM
REQUIREMENT

Advisor: Dr. D. Wayne Robinson

MAXWELL AIR FORCE BASE, ALABAMA

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EXECUTIVE SUMMARY

TITLE: Center of Gravity--Libya 1989

AUTHOR: Lawrence A. Grannis, Lieutenant Colonel, USAF

Colonel Muammar Qadhafi, as a key practitioner of state-sponsored terrorism targeted against the United States, has become a focus of US national security concerns. US passive, defensive measures complicated Qadhafi's operations, but did little curb his determination. With the El Dorado Canyon operation, the US moved toward a more offensive policy against terrorism. However, the operation did not support the proper national objectives, did not apply force to Libya's center of gravity, and hence, did not deter future Libyan sponsored terrorism. Libya's center of gravity is evaluated in the context of US national policy and objectives, characteristics of the Libyan theater of operations, and the nature of the threat. Libya is found to have two strategic centers of gravity: Qadhafi and Libya's overdependence on petroleum revenues. Its operational center of gravity is the pipeline network that transport the oil to shipping terminals.



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BIOGRAPHICAL SKETCH

Lieutenant Colonel Lawrence A. Grannis is an Electronic Warfare Officer and Master Navigator. He recently served at the Pentagon as a program manager specializing in the research, development, and acquisition of avionics and electronic combat equipment. He has flown Operational Test and Evaluation in F-4C/D/E, F-4G Wild Weasel, and RF-4C aircraft, and flew three combat tours in B-52s during the Vietnam War. He has a B.S. in Applied Physics from Columbia University and an M. S. in Systems Analysis from the University of West Florida. Lieutenant Colonel Grannis is a graduate of the Air War College, class of 1989.

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CHAPTER I

INTRODUCTION

Problem Statement

Clausewitz defined the center of gravity as the "hub of all power and movement, on which everything depends. That point against which all our energies should be directed."¹ If the US were required to use military force against Libya in 1989, what would be the center of gravity for its application and what national security interests would it serve? This question will be investigated in light of El Dorado Canyon, the US raid on Libya in 1986, what we learned from it, and what influences it may have on adjudging the center of gravity.

Historical Background to US Interest in Libya

The US is a conventional country trying to survive in an increasingly unconventional world. Reflect on the following:²

- The Marine barracks in Lebanon is bombed – killing 271 Americans.
- The cruise liner Achille Lauro is hijacked. Leon Klinghoffer is singled out and killed – an American.
- TWA Flight 847 is hijacked. Robert Stethem is brutally beaten and killed – an American serviceman.
- Civilians are massacred at Rome and Vienna airports. Americans are among the casualties.
- Egyptian Flight 648 is hijacked. A US DoD representative is singled out and killed.

- A Berlin night club frequented by US servicemen is bombed. One American is killed and four injured.

These are acts of Libyan sponsored terrorism that have evoked American frustration in being unable to prevent or effectively respond to them. This is just a list of notable incidents. In 1985, there were a total of 91 terrorist actions targeting the United States, with the result that 54 Americans died and 160 were injured.³ "Why is it that a super power with overwhelming economic and military superiority can't deal effectively with the relatively insignificant actors that sponsor terrorism - Libya, Syria, Iran, the Palestinians, etc.?" Being conventional, we do not condone responding to terrorism with terrorism - fighting crime with crime. The Qadhafis of the world revel in our dilemma and hide behind its perceived safety. Add to this the more conventional military adventurism evidenced by overt Libyan attacks on US forces. Qadhafi declared that Libyan national waters extended to 21 degrees 30 minutes north latitude in the Gulf of Sidra, beyond the internationally recognized 12 NM limit. US forces crossing this "line of death" would be violating Libyan territory and would be dealt with. To prevent de facto recognition of the new national limits and to maintain freedom of navigation within established international waters, the US Navy conducted training exercises in the disputed waters in March 1986. In response to the exercises, US aircraft were fired upon by Libyan SA-5 surface-to-air missiles and attacked by Libyan MiG-23 air interceptor aircraft, and US ships were engaged by Libyan patrol boats. Pursuant to the attacks, US aircraft heavily damaged the SA-5 sites with anti-radiation missiles and shot down two MiG-23 aircraft and sunk or damaged the patrol

boats. Although these incidents were dealt with effectively on an ad hoc basis, our actions did not effectively deter future actions as illustrated by the unprovoked attacks against US Navy fighters operating over undisputed international waters in the Mediterranean Sea on 5 January 1988. Although we again downed two MiG-23s, there can be little solace in its efficacy as a deterrent to future actions.

On 14 April 1986, at 12:36 pm (Eastern Standard Time), 24 F-111 aircraft departed from RAF Lakenheath, United Kingdom, heralding the beginning of a "message" to Qadhafi et al that they are deluding themselves with a false sense of security. For 13 minutes beginning at 7:00 pm, the joint forces of the US Air Force and Navy executed surgical strikes targeted against some of the means of Libyan terrorism. "The military objective of [the operation] was to inflict damage to headquarters associated with terrorist activities, terrorist facilities, and military installations that support Libyan subversive activities."⁴ Five specific targets were hit:

1. El Azzizaya barracks – Qadhafi's headquarters and residence, and garrison for his elite guards.
2. Sidi Bilal port facility – school for terrorist frogmen.
3. Jamahivijah barracks – alternate command post for Qadhafi's guards.
4. Benina airfield.
5. Tripoli Military Airport.

US endorsement of military operations in combating terrorism was a departure point for future consideration by all parties concerned.

The difficulty in combating terrorism lies in its ambiguous and diffuse nature. Motivations are not always clear and identifying the responsible actors, of whom there are many, is difficult. Terrorists don't seek material fortifications but hide among the innocent populace. There are many disaffected groups that willingly accept sponsorship, and as surrogates, provide their sponsors with an air of deniability. It is the state sponsors that the US seeks to influence and deter through our national security instruments.

US response to state-sponsored terrorism has been traditionally "fire engine diplomacy." Policy has been "fragmented, reactive, defensive, ad hoc, dealing with separate incidents as isolated."⁵ As intelligence efforts began to piece together the picture of Libyan involvement, our policies became more concerted. The US instituted diplomatic and economic sanctions against Libya, but, without solid support from a broad base of our allies, these measures were doomed to be ineffective. Even though many allies were themselves victims of Libyan backed terrorism, they lacked the resolve to act. They had economic ties (including oil), were concerned over reprisals against their citizens, or were not convinced of the efficacy of such sanctions. We demonstrated our own concerns by the withdrawal of American citizens from Libya. We also feared that our actions could push some moderate Arab nations closer to the Qadhafi camp.

The inability of diplomatic and economic sanctions to moderate Qadhafi's behavior led the US military to actively deal with the problem. The use of US Navy fighters to force the plane carrying the Achille Lauro

hijackers to land in Italy was the prelude to our taking the "war" directly to the actors - signalling our intent to exercise our military forces as a instrument of foreign policy. The liberal rules of engagement under which we employed our forces in the Gulf of Sidra (inside Qadhafi's "Line of Death") to destroy attacking aircraft and boats emphasized our intent to Qadhafi. In his address to the nation after the raid on Libya, President Reagan best stated our position: "When our citizens are abused or attacked, anywhere in the world, on the direct orders of a hostile regime - we will respond. Self defense is not only our right, it is our duty."⁶

Focus of the Study

Due to historical precedent and the existing capabilities of the Libyan state (to be discussed later), the study will focus on the center of gravity as it relates to state-sponsored terrorism and limited military raids on US forces afloat in the Mediterranean Sea.

Terrorism Defined

Although "limited military raids" as already evidenced is easily defined for the reader by example, the ambiguous nature of state-sponsored terrorism leads to a diversity of working definitions. Additionally, a definition of terrorism must be viewed from a societal context. The social, political and moral values of a society determine what is or is not state-sponsored terrorism. Hence, terrorism for one country may be viewed as legitimate foreign policy by another. Within the US context, Dr Yonah Alexander⁷ offers the following working definition of terrorism:

The deliberate employment of violence or the threat of use of violence by sovereign states or sub-national groups encouraged or assisted by sovereign states to attain strategic and political objectives by acts in violation of law intended to create overwhelming fear in a target population larger than the civilian or military victims attacked or threatened.⁸

Secretary of Defense Weinberger provided further insight into the meaning of state-sponsored terrorism by breaking it down into three levels of state involvement: The "policy level" where the state provides encouragement and legitimacy to sub-national terrorist groups; the "logistic level" where the state provides training material, and transportation support to sub-national terrorist groups; and the "operational level" where the state actively participates in terrorist actions.⁹

Since counteraction is implicit to the concept of center of gravity, it will be useful to have a working definition of "counterterrorism." JCS Pub 1 defines counterterrorism as "offensive measures taken to prevent, deter, and respond to terrorism,"¹⁰ in this case, state terrorism. In the context of center of gravity, we will not be specifically concerned with the types of offensive measures applied (e.g. preemptive, punitive, or reprisal) but with the focus of its application.

Center of Gravity Considerations

The ultimate success of military operations rests with identifying and resolutely attacking the opposing force's center of gravity while protecting your own center of gravity. In attacking a nation state, one must view it and its instruments of national power as having many interdependent parts with widely diverse characteristics. These parts all contribute in varying degrees

to a nation's security. Generally, attacking any part of the system degrades the system as a whole. However, there are certain key parts of the system that if successfully attacked will lead to certain defeat of the enemy. This is the concept known as the center of gravity. Clausewitz said of the center of gravity:

One must keep the dominant characteristics of both belligerents in mind. Out of these characteristics a certain center of gravity develops, the hub of all power and movement, on which everything depends. That is the point against which all our energies should be directed.¹¹

US Army Field Manual 100-5, Operations, refers to the center of gravity as "...that characteristic, capability, or locality from which the force derives its freedom of action, physical strength, or will to fight."¹² Attacking the center of gravity is designed to deprive the enemy of these attributes and hence his ability to resist the will of the attacking force. It is the "point where the enemy is most vulnerable [and]... where an attack has the best chance of being decisive."¹³ There may be more than one center of gravity and, if this is the case, then pressure needs to be applied to all the points otherwise a residual enemy capability will remain and military operations could fall short of their objectives. Obviously, it is important that the center of gravity is correctly identified and that adequate resources are available.¹⁴ Otherwise, one may be wasting critical resources pursuing a bankrupt battle plan. However, one may, due to inadequate resources, be forced to pursue lesser military objectives.

The concept of center of gravity is operative at all levels of conflict. For this study we will consider only the strategic and operational levels. At the strategic level we will use the following definition: "Military strategy is the

art and science of employing the armed forces of a nation or alliance to secure [national] policy objectives by application or threat of force."¹⁵ With regard to the operational level we have: "Operational art is the employment of military forces to attain strategic goals in the theater of war or theater of operations through the design, organization, and conduct of campaigns and major operations."¹⁶ Strategic centers of gravity generally deal with the national fabric of a country and are characteristically economic, logistic, political, diplomatic, etc, in nature.¹⁷ Operational centers of gravity are typically military in nature such as the point where an enemy has his greatest concentration of forces, lines of communications, and command, control and communications (C3) or, more abstractly, "the cohesion among allied forces...or the mental and psychological balance of a key commander."¹⁸ As we will see, it is difficult to separate strategic and operational levels of concern with respect to state-sponsored terrorism and, therefore, we will consider both levels in this study.

Determination of an enemy's center of gravity doesn't evolve solely from an examination of the enemy but is also intimately tied to the national objectives of the attacker. Clausewitz put this connection into perspective when he wrote:

War is not merely an act of policy but a true political instrument, a continuation of political intercourse, carried on with other means...Political objective is the goal, war is the means of reaching it, and means can never be considered in isolation from purpose.¹⁹

War, in the context of US involvement with Libya, is not restricted to the classic case of operations conducted under declaration of war but spans undeclared war to include limited (in time and space) operations such as

preemptive, punitive, and retaliatory raids. No meaning is lost in this broad interpretation. A commander is responsible for conducting military operations that support attainment of a nation's political objectives.²⁰ Those objectives may not be total defeat. Indeed, the objectives may be limited in scope, implying a different cause and effect relationship between military means and political objective, i.e., force may have to be applied to a different aspect of the enemy system.

Lastly, although the application of force at an enemy's center of gravity may be the most decisive, it is seldom the easiest. An enemy ascertaining his opponent's center of gravity can be expected to also identify his own and will take stringent measures to protect it.

Assumptions

US foreign policy instruments such as economic sanctions and diplomacy have failed, necessitating military intervention to counter an egregious situation posed by Libya that threatens US national security interests. The reasonableness of this assumption is supported by the demonstrated ineffectiveness of unilateral US trade sanctions²¹ and the lack of European Economic Community (EEC) support of multinational sanctions.

Hard, demonstrable intelligence exists that support and legitimize US employment of military forces against Libya. An illustrative example would be the intelligence intercepts of Libyan communications that were perceived to directly tie them to the bombing of the Berlin discotheque in April 1986. Those intercepts provided the final justification for El Dorado Canyon under Article 51 of the United Nations (UN) Charter.

CHAPTER 11

THEATER AREA EVALUATION

Theater area evaluations constitute the considerations of the theater commander with respect to the political context in which he must operate. As already discussed, the commander must have a clear understanding of the political objectives that he is being called upon to support. The political objectives are the basis for developing his military objectives, influence the constraints under which he must execute military operations, and are integral to the determination of an enemy's center of gravity. To gain a clear perspective on the commander's considerations, the United States' national security interests and relevant policy instruments and statements will be examined.

National Security Interests and Objectives

Contrary to how terrorism plays in the media, it is "not a plague of mindless violence."²² State-sponsored terrorism is international in scope and has definitive objectives with respect to United States national security interests. President Reagan stated that:

...the strategic purpose behind the terrorism sponsored by these outlaw states is clear: to disorient the United States, to disrupt or alter our foreign policy, to sow discord between ourselves and our allies, to frighten friendly Third World nations working with us for peaceful settlement of regional conflicts, and, finally, to remove American influence from those areas of the world where we're working to bring stable and democratic government.²³

Add to this: the overextensions of the responsibilities and capabilities of US forces by coordinated terrorist activities that are compressed in time or diverse in geographic span; and the imperilment of the free world economy by impeding vital trade of the United States and other free world nations.²⁴ In short, "their real goal is to expel America from the world."²⁵

The United States is an ideal target for terrorism. Fear is an operative tool of terrorism and this requires highly visible actions. The fact that the United States is a super power provides high propaganda value and is manifest in our highly visible worldwide presence.²⁶ We are also an open society as are many of the nations where we have presence. This provides an opportunity-rich environment for terrorism. Being a democratic society, our leaders are subject to political pressure from the populace and it is the populace that is most vulnerable or impressionable to the theatrics of terrorism. The inherent divergence of modus operandi of the United States and states sponsoring terrorism automatically put us in conflict. Whereas the United States embraces the peaceful and gradual resolution of international differences, "the terrorist is by nature a fanatic, a revolutionary, a person committed to radical change."²⁷ Lastly, our "lack of a coherent realistic policy for response"²⁸ invites terrorist activity. Terrorists are sensitive to the price they have to pay for their actions. It is the small investment required and the safety they enjoy due to the inherent ambiguity and anonymity of their actions that makes terrorism attractive. It's warfare on the cheap. Without clear, concerted, consistent, and

aggressive reaction from the United States, terrorists have little to fear from counterterrorism.

According to the "National Security Strategy of the United States", the key national interests which our strategy seeks to assure and protect include:

1. The survival of the United States as a free and independent nation...
2. A healthy and growing US economy...
3. A stable and secure world, free from major threats to US interests.
4. The growth of human freedom, democratic institutions, and free market economies throughout the world, linked by a fair and open trading system.
5. Healthy and vigorous alliance relationships.²⁹

Major national security objectives that support these interests and have relevance to the threat to our security posed by terrorism are:

[a.] To maintain the security of our nation and our allies...specifically:

[1.] To deter hostile attack against the United States, its citizens, military forces or allies, and to defeat attack if deterrence fails.

[2.] To deal effectively with threats to the security of the United States and its citizens short of armed conflict, including the threat of international terrorism.

[3.] To assure unimpeded US access to the oceans...

[b.] To resolve peacefully disputes which affect US interest in troubled regions of the world... Specifically:

[1.] To maintain stable regional military balances vis-a-vis the Soviet Union and states aligned with it.

[2.] To neutralize the efforts of the Soviet Union to increase its influence in the world.

[3.] To aid in combatting threats to the stability of friendly governments and institutions from...state-sponsored terrorism...³⁰

Within the categorization of the relative importance of national security interest outlined in the Joint Long Range Strategic Appraisal (JLRSA), Libyan state-sponsored terrorism constitutes both a "major" and "peripheral" interest since it creates an international environment that is both deleterious to our political, economic, and ideological well being, and seriously impacts on the activities of US citizens and businesses abroad, respectively.³¹ As we shall see later, Libya does not possess the resources to challenge the survival of United States as a polity nor the capability to seriously affect the political, economic, and social fabric of our nation. As such, it does not constitute a "survival" or "vital" national security interest.³² Our sovereignty is not challenged. With regard to the North African and Middle Eastern regions, the JLRSA lists our pertinent national security interests as:

- a. "...regional peace and stability."
- b. "...access to Middle East oil and gas by the [US] and other friendly nations..."
- c. "Preservation of independence and territorial integrity of Israel."
- d. "Encouragement of moderation in the key Arab states to check the growth of radicalism in the area."
- e. "Limitations of USSR or any other hostile [Libyan] influence in the area."

f. Continued use of international waterways and airspace on a nondiscriminatory basis.

g. Discouragement of nuclear weapons proliferation.³³

Obviously, chemical warfare (CW) proliferation needs to be added to this list, in view of the emerging Libyan CW capability.³⁴ Also, in the context of the President's national security strategy, regional peace and stability infers "fostering [the] security and prosperity of ... Arab friends."

Within the context of our national security interests and objectives, what has Libya, under the reigns of Qadhafi, done that should cause the United States concern?

Qadhafi threatens the peace and stability in the North African and Middle Eastern regions. Libya has targeted Egypt, Tunisia, Lebanon, and Saudi Arabia for a campaign of terrorism.³⁵ Egypt is high on his list because of their peace accord with Israel that ensued from the Camp David meetings.³⁶ Qadhafi has openly "advocated and supported the eliminations of the State of Israel, what he calls the Zionist enemy, and will try to subvert any peaceful resolution of the Arab-Israeli problem."³⁷ Moderate Arab states that no longer support an armed struggle against Israel, or are pro-western end up on his target list.³⁸

In Egypt, Qadhafi sought the overthrow of the Egyptian government after the death of Sadat. Today, he actively seeks to undermine Egypt's economy, has expelled numerous Egyptian nationals from Libya while expropriating their assets, and has attempted to bomb the US embassy in Cairo. His mining of the Red Sea and Gulf of Suez imperilled the transit of vital international shipping.

"In Tunisia, Qadhafi has long sought to bring down the pro-western government of Habib Bowiguila."³⁹ He has also expelled Tunisian workers and expropriated their assets. Terrorist attacks against Tunisian personnel and facilities, including an oil pipeline, have lead Tunis to sever diplomatic relations.⁴⁰

The factious political environment of Lebanon invites Libyan involvement. Qadhafi has thrown his support behind "radical Palestinian Groups" that oppose the Arab-Israeli peace process and seeks the demise of more moderate factions.⁴¹

Saudi Arabia is a target due to its highly visible involvement with the United States and its anti-terrorism stance.⁴² In the Sudan, Qadhafi supports Sudanese dissidents and rebels. He has sponsored an unsuccessful coup in 1983, bombed an anti-Qadhafi radio station with a TU-22 bomber, and is exploiting its renewed diplomatic ties to subvert a move toward a parliamentary democracy.⁴³

Of broader concern is the expanding geographic dimensions of Libyan involvement. Qadhafi has decreed that "we must force America to fight on one hundred fronts all over the earth."⁴⁴ He is promulgating instability into regions of US interests. In Pakistan, he supports the "al-Zulfigar" terrorist group. In the Southeast Asian area, he is providing "paramilitary training to the small Muslim insurgency in southern Thailand". In the Philippines, he backs the Muslim Moro separatists on Mindinao.⁴⁵ Closer to the United States, he is providing substantial military and economic aid to the Sandinistas in Nicaragua and at a moderate level to insurgent elements in Guatemala, El Salvador, and Colombia, greatly complicating the US mission in

South and Central America.⁴⁶ In the Caribbean, Qadhafi lost his foothold with the US invasion of Grenada and has been unsuccessful in reestablishing an operable presence in the area.⁴⁷ A notable incursion into the European arena other than the perpetration or support of attacks on United States and Alliance targets, has been Qadhafi's support of the Irish Republican Army (IRA) in the United Kingdom (UK). In 1987, French authorities intercepted 150 tons of weapons and explosives aboard a boat loaded in Libya. Members of the IRA were on board.⁴⁸

"Qadhafi has threatened to send his squads to kill Americans in the United States,"⁴⁹ however his focus has been primarily anti-Qadhafi Libyans living in the United States. A plot reflecting such behavior was uncovered by the US government in 1985.⁵⁰ Attacking US citizens and facilities is far less risky if done outside the United States. Qadhafi has also attempted to foster seditious behavior in the United States. At the 1985 Chicago convention of the Nation of Islam, "Qadhafi, speaking over closed circuit television, called for black Americans to immediately leave the military and fight with his support for an independent black state. We are ready to give you arms."⁵¹

Further compounding our national security interests is Libya's connection with...a radical entente of nation states, including Libya, Syria, Iran, Cuba, and North Korea, ... which ... has attempted to coordinate a worldwide strategy ... to expel United States military, political, and economic presence from key areas of the world.⁵²

The potential burden that can ensue from the concerted actions of this entente are profound and will strain the resiliency of our capability to respond to the threat.

Of particularly severe implications is the recent revelation of Libya's construction of a chemical warfare production facility at Rabtah, south of Tripoli.⁵³ CW weapons are weapons of mass destruction and provide a low-cost, low-technology alternate to nuclear weapons. Reflect on Iraqi CW employment against their minority Kurdish population. Then consider the possible indiscriminate supply of CW weapons to surrogate terrorist groups by Libya. CW weapons are relatively cheap to manufacture and do not require high technology capability, and employment would not be difficult considering the magnitude of the end result. Although Qadhafi maintains that the CW plant is really a pharmaceutical plant, UK and West German governments corroborate the US claims that it is for CW production.⁵⁴

In the spectrum of less probable scenarios we must still acquaint ourselves with the extremes of our security interests - the fact that Qadhafi has nuclear ambitions.⁵⁵ This is in spite of being a 1975 signatory of the Nuclear Non-proliferation Treaty.⁵⁶ Libya maintains a nuclear research facility at Tajura near Tripoli.⁵⁷ Fortunately, Libyan attempts to gain nuclear expertise, technology, and materials through Pakistan, India, China, and Belgium, and through dealing with former CIA employee Edwin Wilson, have been relatively unsuccessful.⁵⁸ The spread of nuclear weapons to additional nations threatens to exacerbate regional conflicts and could conceivably involve the United States and the Soviet Union.⁵⁹

Libya represents a strategic Mediterranean position that the Soviets would like to exploit in order to further its influence in the area. However, the Soviet-Libyan relationship is rather rocky. The Soviets and Soviet bloc nations maintain numerous military and technical advisors in Libya and the

Soviet Union is Libya's main arms supplier. However, the Soviets have denied the defense pact that Libya wants due to Qadhafi's unpredictability. For its part, Libya is substantially in arrears for arms payments and has denied Soviet basing in their country.⁶⁰

Freedom of navigation is a concern and has already been discussed in Chapter I.

Lastly, even though trading was to stop with Libya and American personnel were to vacate the country as a part of economic and diplomatic sanctions against Libya, substantial US assets remain in the country. Showing concern for this situation, President Reagan, on 16 January 1989, indicated that he was thinking about relaxing restrictions on US oil firms in Libya for fear that Qadhafi may confiscate the assets.⁶¹

United States Policies

Ambassador Robert B. Oakley, Director of the Office for Counter-Terrorism and Emergency Planning, Department of State, stated that the US policy toward terrorism is:

US policy is direct. We will make no concessions to terrorists. We pay no ransoms nor permit releases of prisoners nor agree to other acts which might encourage additional terrorism. We make no changes in US policy because of terrorists' threats or acts. If US personnel are taken hostage or endangered, we are prepared to consider a broad range of actions appropriate to the threat. We encourage other governments to take similar strong stands against terrorism. Finally, we are determined to act in a strong manner against terrorists without surrendering our basic freedoms or endangering our democratic principles.⁶²

Additionally he has stated that:

Our overall policy is to seek to obtain long-term cooperation of the world community against the use of terrorism for political ends, no matter how worthy one may consider those ends. We have also concluded that while increased security, an essentially defensive action, is important and must be energetically pursued, there is also a need for more offensive, active measures if the spread of terrorism is to be stopped.⁶³

This echoes the words of Secretary of State George Schultz who in 1984 said:

From a practical standpoint, a purely passive defense does not provide enough of a deterrent to terrorism and the states that sponsor it. It is time to think long, hard, and seriously about a more active means of defense--about defense through appropriate preventive or preemptive actions against terrorist groups before they strike.⁶⁴

The US government was clearly moving away from a reactive policy based predominantly on defensive measures. Confidence in traditional foreign policy instruments, such as diplomatic and economic instruments, was waning. Although these instruments were not being abandoned, it was now time to adopt a more pro-active policy that would take the war on terrorism directly to its perpetrators and supporters. In 1984, National Security Decision Directive (NSDD) 138 was implemented. It embraced this more pro-active stance being voiced within the government. Although the specific terms of NSDD 138 are classified, in general it stated: terrorism cannot be condoned and "states that use or support terrorism" must suffer the consequences; terrorism is not solely a concern of the United States but it is an international problem and the United States is prepared to join with other nations in combatting terrorism; the United States will increase its defensive measures and will continue to use "all channels available" to discourage terrorism; and if all other measures fail, the United States will

invoke its right to defend itself.⁶⁵ National Security Advisor Robert McFarlane further expounded on the right to self-defense when he said, "We must be free to consider an armed strike against terrorists and those who support them where elimination or moderations of the threat does not appear to be feasible by any other means."⁶⁶

In 1987, the State Department outlined a four-point policy on US Counterterrorism that codified Ambassador Oakley's and Secretary Schultz's statements.⁶⁷

a. "Firmness toward terrorists." We will make no concessions to terrorists and encourage other governments to do the same.

b. Exact a price from terrorists and their sponsors for their acts. Although El Dorado Canyon "most graphically demonstrated" this facet of our policy, our other elements of national power are still operative, i.e., diplomatic and economic elements.

c. "A program based on practical measures." These are cooperative international measures to "identify, track, apprehend, prosecute, and punish terrorists," and security measures to protect US citizens.

d. The State Department's Anti-Terrorism Training Assistance Programs (ATA). This provides "training in anti-terrorism techniques to law enforcement officials [worldwide]."

Whatever the US response is to terrorism, President Reagan stated that it would be "developed in accordance with the principles of international and domestic law."⁶⁸ The implied thrust of this statement is the legitimacy of the use of military force against a sovereign state which is guilty of state-sponsored terrorism against the United States or its allies

This premise was considered operative in the case of El Dorado Canyon. The United States had been voicing its concern to the United Nations (UN) over Libyan atrocities for years and "finally found it necessary, in accordance with Article 51 of the UN Charter, to act in self-defense on April 15 and 16 of this year."⁶⁹ Although the UN Charter entreats all members "[to] refrain ... from the threat or use of force against the territorial integrity ... of any state,"⁷⁰ Article 51 allows the following exception:

Nothing in the present Charter shall impair the inherent right of individual or collective self-defense 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.⁷¹

The term "collective" connotes alliance relationships.

Constraints

There are numerous risks associated with conducting a military operation against Libya with the purpose of combatting terrorism: international and domestic political liability; civilian casualties, escalation and reprisals, US military casualties, and hostages. Political liabilities can be manifest in alienating Arab and European allies and further driving Libya into the Soviet camp and thereby enhancing Soviet influence in the region. In using the US military instrument against terrorism, the inherent difficulties and costs must be considered and influence the rules-of-engagement that constrain a commander with respect to operations and the evaluation of an enemy's center of gravity.

The operation must be of short duration and, hence, must provide a quick, decisive blow at the center of gravity. A lengthy military operation would likely result in a large number of US casualties and an exorbitant expenditure of funds and equipment. This would not be commensurate with the threat. As already mentioned, Libya does not pose a threat to the survival or vital interests of the United States. Populace and political support, a prolonged operation, would be difficult to garner especially with the lessons of Vietnam still fresh and the War Powers Act available to Congress. Public opinion is one of the United States' centers of gravity. A short operation would not allow adverse domestic and world opinion to coalesce and would deprive Qadhafi time to generate internal and external support.

There must be hard intelligence linking terrorists and their sponsors to attacks, or eminent attacks, on US national security interests. Otherwise, it would be difficult to establish the legitimacy of a US attack, especially in the context of Article 51 of the U.N. Charter.

The operation must present a minimum risk to civilians. Targeting civilians would not deter terrorism and would likely promote their cause and give them legitimacy. The greatest recruiter for terrorist causes is the picture of the rubble following [a raid].⁷² The impact is that targets either need to be isolated from civilians or must be hit with surgical accuracy to avoid unwanted collateral damage.

The operation must minimize risks for US servicemen. This stems from keeping the cost commensurate with the threat and from the negative impact of captured soldiers being paraded in front of world media or being used as hostages. Recall the US prisoners of war in North Vietnam.

The operation must have a high probability of success. Visible failure would make the United States appear impotent and damage US influence and prestige in the region. Additionally, the more successes that terrorist are able to attain, especially at the expense of a US loss, the greater perceived legitimacy of terrorism as a means of foreign policy.

Alliance Considerations

Two months prior to El Dorado Canyon, Senator Jeremiah Denton said:

... The cooperation of our allies may be essential to the success of any diplomatic, economic, or military sanctions we might choose to impose in response to a terrorist act or to discourage further sponsorship and support for terrorism by the Soviet Union and other states.⁷³

However, El Dorado Canyon demonstrated that the United States must be prepared to act unilaterally without the direct support of alliance structures. The European member nations of NATO do not see Libya as an Alliance problem, rather that it falls outside of the Alliance area of responsibility and should be addressed at the national level. Ironically, during the formation of NATO the United States insisted that North Africa and the Middle East be explicitly excluded from the NATO area of responsibility.⁷⁴ Now the United States would like to see a concerted Alliance response based on the common

threat posed by Libya and terrorism in general. Although the European nations, in the context of the EEC, were moving to institute nonmilitary sanctions against Libya prior to El Dorado Canyon, only the United Kingdom agreed to US requests for assistance in conducting the operation. After El Dorado Canyon some European nations expanded diplomatic and economic measures against Libya but cannot be expected to embrace a military approach to the problem of state-sponsored terrorism. They see the United States overstating the problem of Qadhafi and see a high price to be paid for supporting military operations. The United States is relatively unconstrained by direct interests in Libya. There are few economic or ethnic ties and Libya is a minor peripheral in the Arab-Israeli problem. However, the Europeans have significant economic ties with Libya, many Europeans work in Libya, and terrorist reprisals in response to either US or European military actions would likely take place on European soil. Therefore, US military actions should be viewed to have significant potential impact on NATO allies.

The reactions of Arab states was rather mild, consisting primarily of public condemnation of the US raids on Libya. The reaction of North African states was moderated largely by their view that Qadhafi is a threat to their security and is destabilizing to the region. The state of US relations with Libya is, in part, a result of support for allied North African States, primarily Egypt and Sudan. Referring to the 1983 US involvement in Chad, a White House spokesman said,

If Libya or Libyan-supported forces were to gain control of Chad, close US allies, such as Egypt and Sudan would be seriously concerned about their own security. Other states would also be deeply worried.⁷⁵

Therefore, US actions that may curb Libyan adventurism can be stabilizing for the region.

CHAPTER III

CHARACTERISTICS OF THE THEATER

The theater commander must understand the characteristics of the theater in which he will operate. This is important not only from the viewpoint of the advantages or disadvantages that the area's characteristics may impart on the prosecution of his campaign, but also from the viewpoint of determining the enemy's center of gravity. The enemy is constrained by such factors as theater topography, his reliance on his lines of communications and agro-industrial base, and his government institutions. Any of these factors may be vital to his capability to resist the will of his adversary and hence may constitute a center of gravity.

Theater Geography

Libya is the fourth largest country in Africa, yet 95 percent of the country is wasteland--unusable desert.⁷⁶ Geographically the country is divided into three regions with distinct characteristics: Tripolitania in the northeast, Cyrenaica in the east, and the Fezzan in the southwest (see figure 1 for regional topography).

Tripolitania consists of a series of steps that rise in elevation as one proceeds south. In the north, Tripolitania begins with a narrow fringe of coastal plains called the Jefara. Immediately south of the Jefara is the Jebel, a series of scarp edged hills of volcanic origin rising from 200-500 meters. Beyond the Jebel is an upland plateau consisting of "sand [desert], scrub, and irregular masses of stone."⁷⁷ (See figure 2 for soil conditions.)

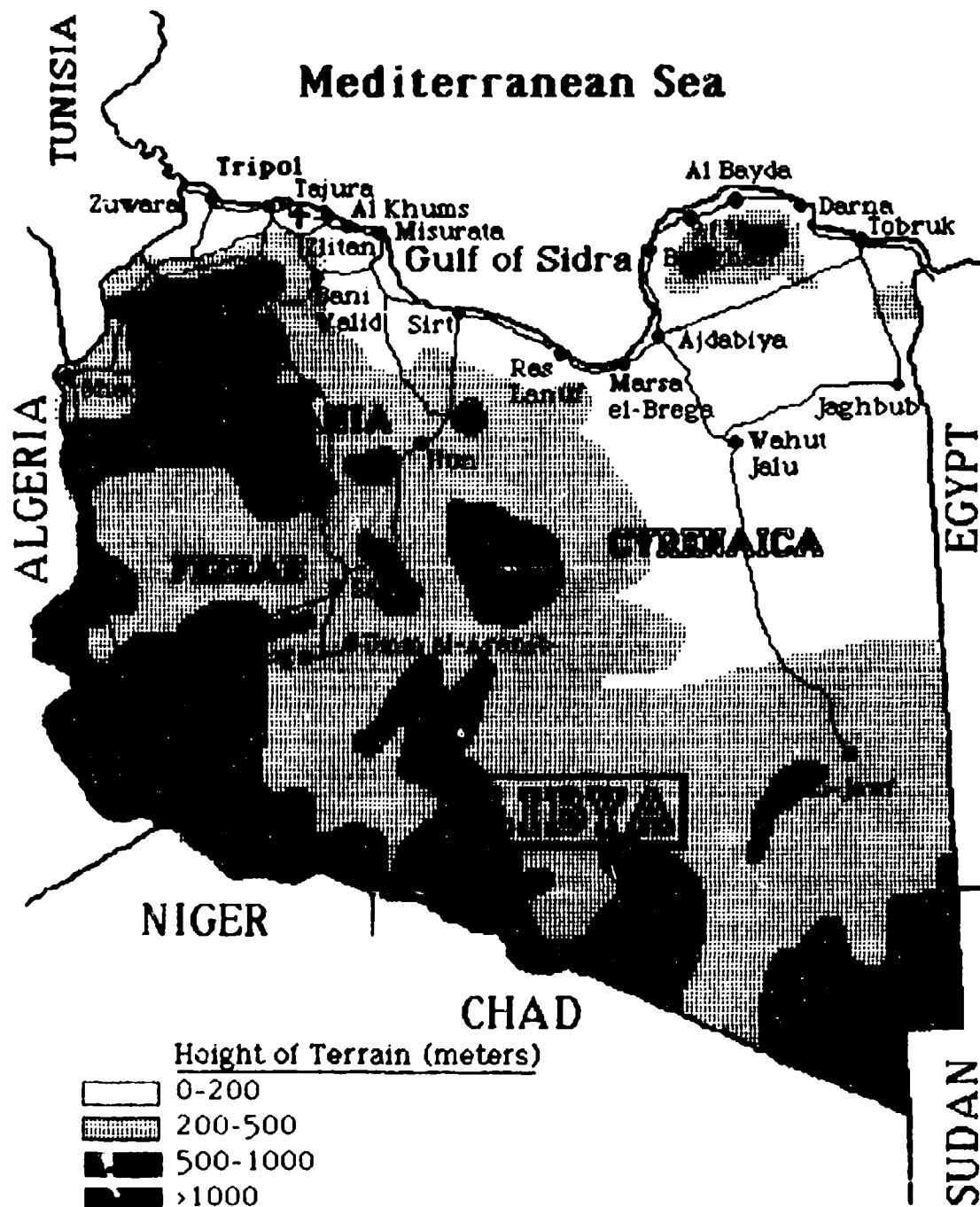


Figure 1. Topology

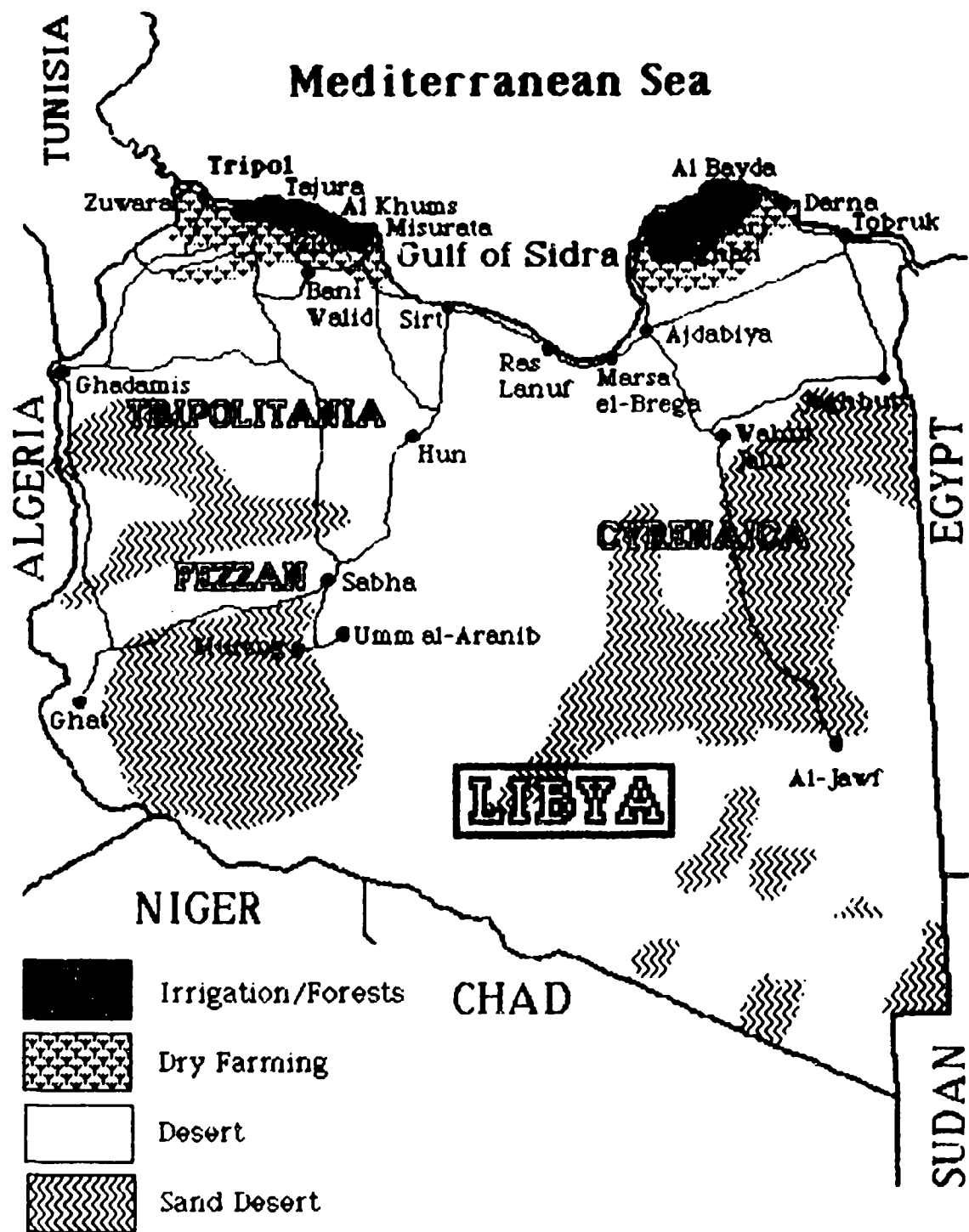


Figure 2. Soil Conditions

The Fezzan is a depression that lies south of the upland plateau of Tripolitania. It is primarily a region of oases and sand desert with extensive dunes.

Cyrenaica has a coastline that contrasts sharply with Tripolitania. Instead of low lying flatlands, the coast rises steeply into two narrow plateaus called Jebel Akhdar, that are greater than 500 meters in elevation. The terrain drops off sharply toward the Gulf of Sidra in the west and somewhat more gradually in a series of steps toward Tobrak in the east. To the south of Jebel Akhdar has a broad low land consisting of sand desert and large sand dunes with relatively few oases compared to the Fezzan.

There is very little mountainous terrain in Libya. Most mountainous terrain that does exist is located south of Cyrenaica and is an extension of the Tibesti range in Chad. Terrain in this region exceeds 1500 meters in elevation.

Hydrology

There are no rivers in Libya,⁷⁸ however, there are numerous dry river beds that become flooded during the infrequent rain showers. Additionally, except for numerous oases, there are no standing bodies of water inland. Substantial irrigation is evident along the coastal plains of Tripolitania.

The main Libyan ports are Tripoli and Benghazi. In addition there are port facilities at Misurata, Darna, and Marsa el-Brega. Due to increasing imports, all the port facilities are either being expanded or reconstructed.⁷⁹

Weather

There are no mountains to moderate Libya's weather with respect to the competing weather systems of the Mediterranean Sea and the Sahara Desert. Hence, Libya weather is unpredictable and can exhibit large transients in short periods of time. The country has five distinct climate zones tied to its topography: the humid coastal plain, the narrow hill region just south of the coastal plain, the upland plateaus of Tripolitania and Cyreniaco, the "predesert and the desert itself."⁸⁰ Rainfall varies from as little as 2mm average annual rainfall in extreme parts of the desert up to 500mm on the coastal plateaus of Cyrenaica. Generally, most of Libya's rain falls along the coastal plains and contiguous hills and ranges from 100 to 400mm per annum.⁸¹

Temperatures along the coastal plains of Tripolitania are typically moderate in the winter but can climb in excess of 40 degrees centigrade in the summer. The interior desert is even hotter.

The adjacent hills are colder in winter and snow is not uncommon. Northern Cyrenaica is somewhat cooler than Tripolitania in the summer, and during the rest of the year is subject to southerly desert winds that can produce extreme temperature increases and damaging sandstorms.⁸²

Lines of Communication (LOCs)

Although road construction has not received great emphasis with respect to the North African region in general, Libya has maintained a relatively aggressive road building program. According to Libyan claims, they have built 10,990 km of paved roads and 6,250 km of rural roads

during the [last] 17 years."⁸³ Their main road system is depicted in figure 3. Other roads exist but are of marginal quality. In the last decade, the emphasis has been on building roads to the interior and the construction of a coastal expressway which would connect their main centers of population and industry.

Libya does not currently have an operable railway system. The only existing rail line was abandoned in 1964.⁸⁴ There are currently plans to build standard gauge rail lines connecting Tripoli with the coastal rail lines of Tunisia and with the city of Sabha in the Fezzan through Misurata. Also proposed, is a coastal rail line that would connect Misurata with Egyptian coastal rail lines thereby providing continuous rail service along the entire North African coast (see figure 3).⁸⁵

The main Libyan ports are Tripoli and Benghazi. In addition there are port facilities at Misurata, Zuwaytinah, Darna, and Tobruk, and three facilities in the Marsa el Brega area. These facilities are augmented by single bouy moorings along the southeast coast of the Gulf of Sidra (see figure 3).⁸⁶

Libya's major operating oil and gas pipelines are all located in northeren Cyrenaica. The majority of the pipelines are routed to the southeastern coastline of the Gulf of Sidra where there are oil refinery and gas liquifaction plants and tanker terminals. In addition, the oil fields east of Wahut Jala are connected via pipeline to the Port of Tobruk. There are also oil pipelines proposed or under construction that will connect Tripoli with the scattered oil fields in Tripolitania.⁸⁷ (See figure 4.)

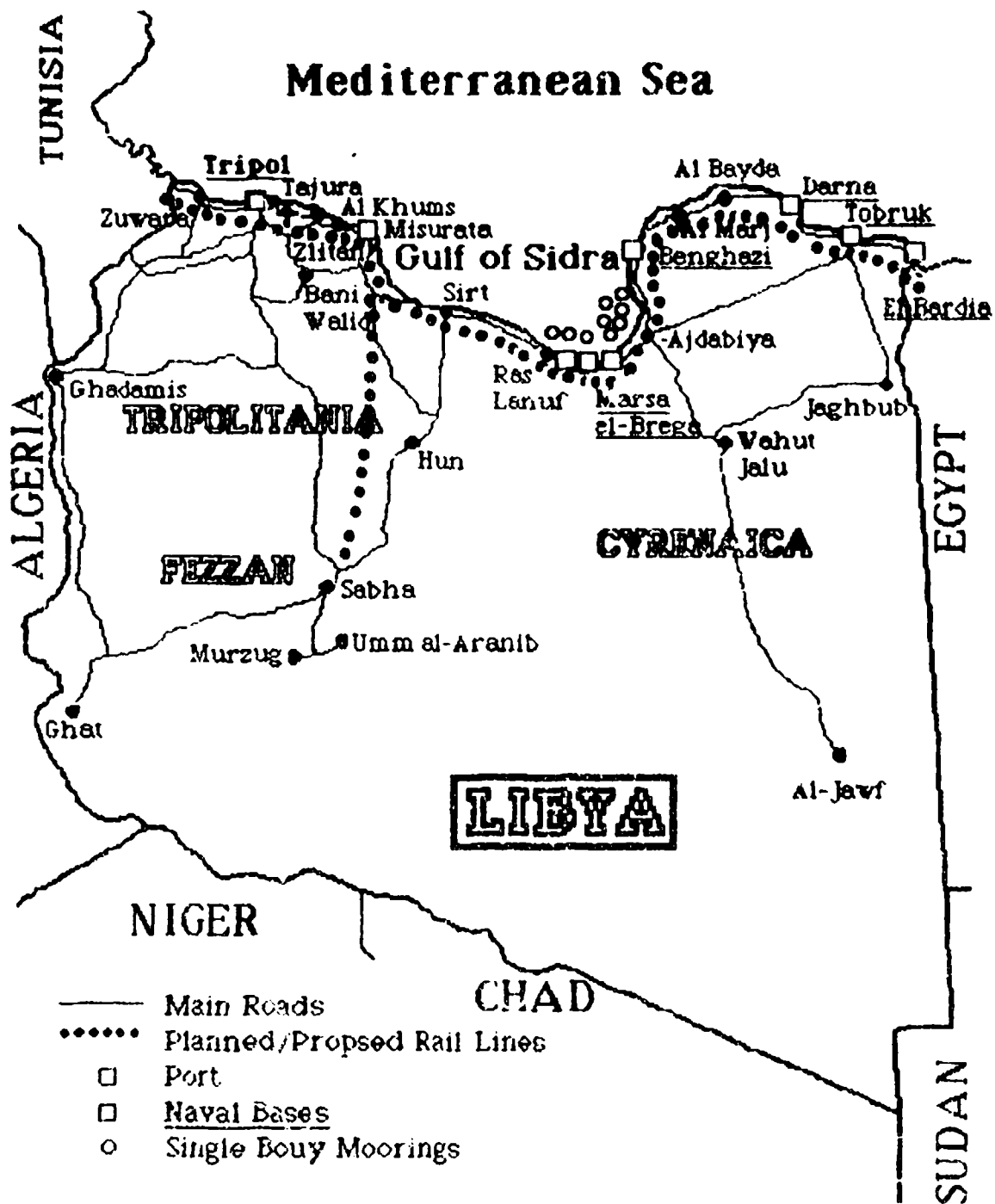


Figure 3. Roads, Railways, and Port Facilities

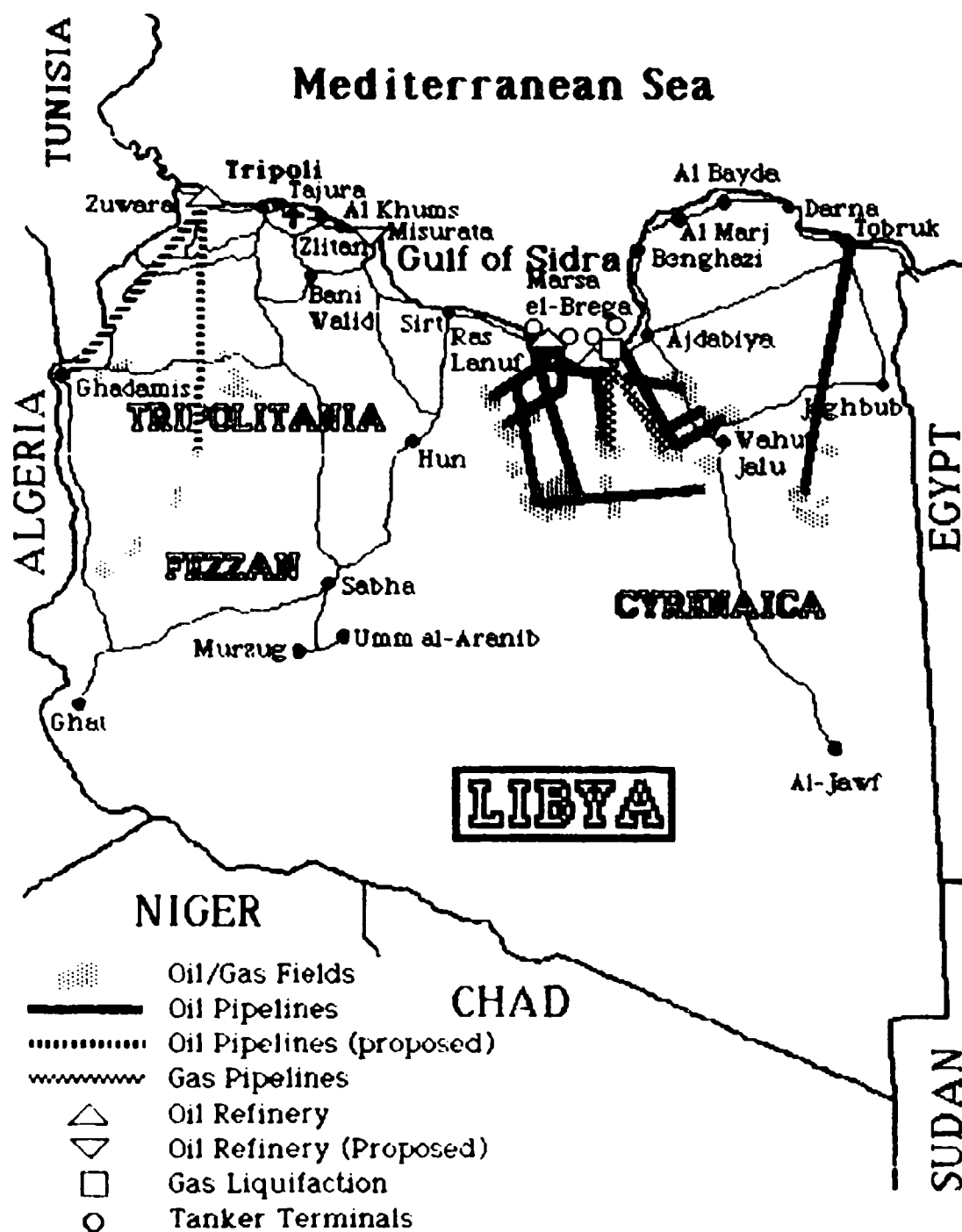


Figure 4. Petroleum Industry

Libya has a relatively large number of airfields for a small country with 3.6 million people.⁸⁸ Airfields with runways greater than 6000 feet are plotted in figure 5. As expected, they are concentrated along the coast which provides service for the main population and industry centers and supports the air defense of the region. Numerous small or unimproved airstrips are scattered throughout the country but are primarily concentrated in the oil producing regions of northern Cyrenaica.⁸⁹

The Economy

Libya is referred to as a *rentier* state, that is, it is a country that was underdeveloped economically and socially and suddenly found itself infused with great wealth as a result of the discovery of large petroleum reserves in 1957. Prior to that discovery, Libya was primarily an agrarian society that generated export revenue by selling scrap metal left over from World War II. Although the new oil fields soon began to generate significant revenue, very little of the wealth trickled down to the masses. Instead it fattened the Libyan upper class and fueled widespread corruption under King Idris. This situation helped promote Qadhafi's coup in 1969.⁹⁰ Libya has made great strides forward under Qadhafi. Oil revenue has been responsible for increasing per capita income to a high of \$8500, the highest in Africa; decreasing the death rate and infant mortality; and increasing the literacy rate significantly. However, as a *rentier* state, Libya lacks the human resources and technical expertise to create a long-term, robust economy.

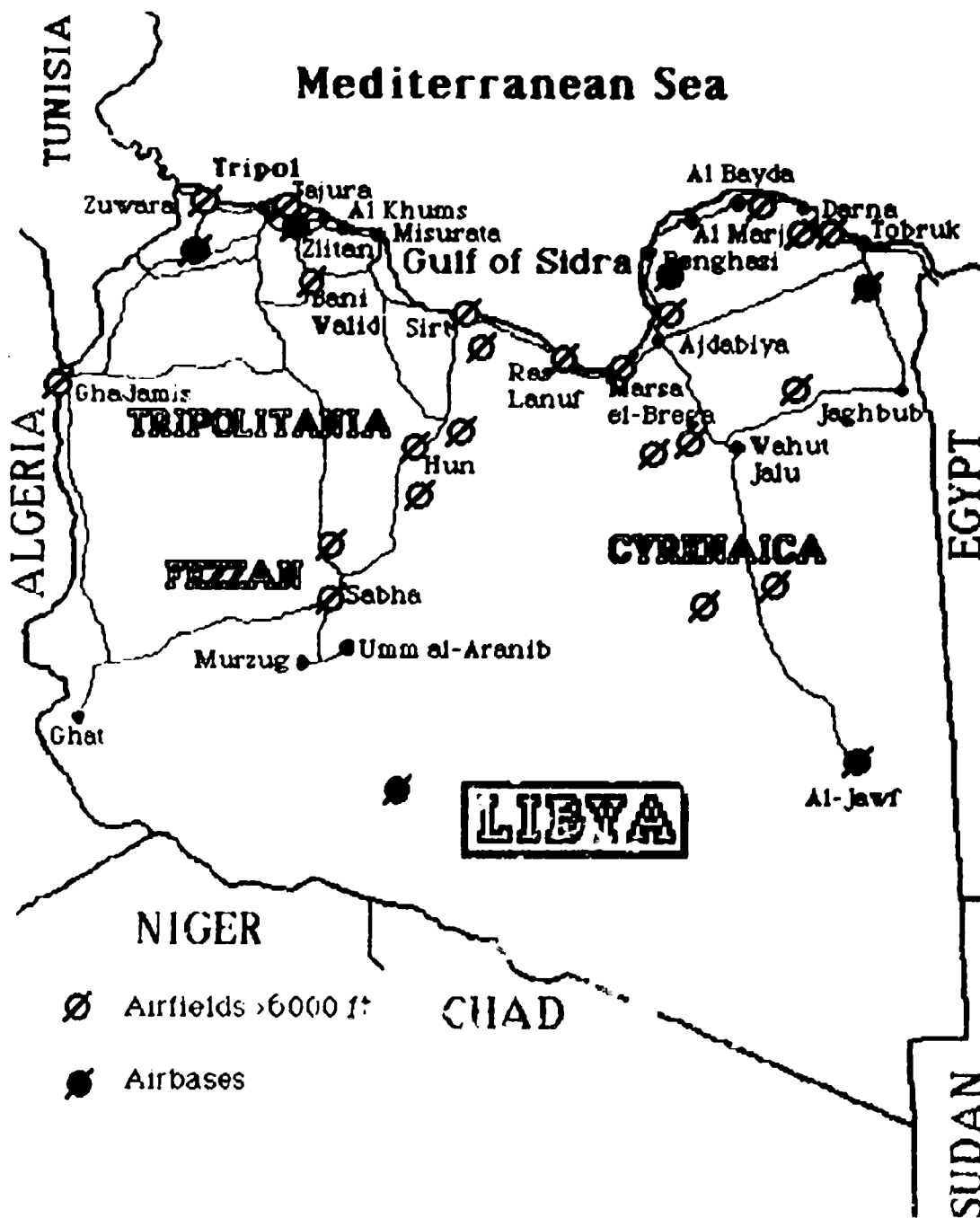


Figure 5. Airfields and Airbases

The petroleum industry currently accounts for 99 percent of Libya's export revenue.⁹¹ This is a key economic vulnerability since these revenues are directly tied to world oil prices which are not under Libya's control. In 1981, oil exports accounted for approximately \$23 billion in revenue.⁹² However, due to the world oil glut, this plummeted to \$14 billion in 1982 and to \$5 billion in 1985-86,⁹³ a 78 percent reduction! Compare this with the fiscal requirements of Libya's 1981 five-year plan for development designed to move Libya away from a petroleum dependent economy. The total outlay was to be \$62.5 billion which included \$10.1 billion for agriculture development, \$13.5 billion for industrial development, \$7.3 billion for electrical generation and desalinization capability, \$3.6 billion for housing, \$4 billion for education, and \$1.9 billion for health care.⁹⁴ Add to the plan's requirement for approximately \$12 billion per year the annual expenditure of \$2-4 billion for Soviet arms and \$5-6 billion for imports and paying foreign workers.⁹⁵ The result is a total annual requirement of up to \$22 billion versus revenues, shrinking below \$10 billion per year. This has caused increased taxes and prices, decreased imports, consumer goods, and government pensions,⁹⁶ a drop in annual per capita income to \$7000,⁹⁷ and slow down of Soviet arms exports due to nonpayment on delivered goods.⁹⁸ However, even with empty supermarket shelves and reduced income, Libyans are still better off than most Africans. Additionally, Libya's funding of state-sponsored terrorism is unaffected due to its inherently low costs.

The agricultural sector has both inherent and imposed difficulties. Less than 2 percent of Libya is arable.⁹⁹ Except for the desert oases, farming is restricted to the coastal region of the country. Limited land and water

resources combined with the tripling of the country's population since the discovery of oil has resulted in Libya importing "more than 80 percent of its food requirements."¹⁰⁰ Attempts to improve output through irrigation of coastal lands has resulted in salinization of the land through infusion of sea water into the aquifer. Overpumping of fossil ground water in the desert has resulted in drastic lowering of the water table which cannot be re-established. This is compounded by cultivating water intensive crops such as citrus fruits. Mismanagement of this sector of the economy has partly resulted from the lack of expertise in the agricultural community.

Attempts to develop the industrial sector and relieve petroleum dependence has also not fared well. Libyan industry is "largely confined to the processing of local agricultural products and ... traditional crafts."¹⁰¹ The government has pushed small industry efforts such as textiles, but higher prices and poor quality have made products noncompetitive.¹⁰² Other than petroleum, Libya has only one major industrial resource, that is, the iron deposits discovered in the Fezzan in 1974. Steel works are being completed at the coastal city of Misurata and a rail line has been proposed to transport the iron ore. Key to Libyan industrial efforts is the development of a power grid. Although increased power generation is coming on line, Libyan efforts to develop nuclear power have been thwarted by limited revenues and the world community's concern over Qadhafi's nuclear ambitions, as mentioned previously.¹⁰³

As already indicated, a critical problem in Libya's economy is the lack of technical and managerial expertise. This has fostered a dangerous dependence on foreign personnel to alleviate the deficiency. In 1981,

Libya's labor force was approximately 800,000 people, however, there were over 500,000 foreigners also working in Libya.¹⁰⁴ Although the number of foreigners have fluctuated due to the drop in oil revenues, the requirement for large numbers of foreign workers will remain. The wages for such a large foreign work force has created a "substantial drain on Libya's reserves of foreign exchange."¹⁰⁵

Libya's foreign trade is primarily with the European Economic Community (EEC). In 1980, approximately 40 percent of Libya's exports went to the EEC whereas the EEC accounted for 62 percent of its imports.¹⁰⁶ Complete trading figures for the mid-1980s are not available, but specifically with respect to the United States from 1982 to 1986, exports to Libya decrease 85 percent and imports decreased by more than 99 percent.¹⁰⁷ From 1985 to 1986 (during which El Dorado Canyon was executed), France, Germany, and Greece drastically reduced Libyan oil imports by approximately 14, 25, and 30 percent respectively, while Italy and Spain increased their imports 4 and 54 percent respectively. Regardless of trade measures taken against Libyan oil exports, there has been little impact on Libya's ability to market its oil.¹⁰⁸

Many of Libya's economic problems can also be traced to Qadhafi's economic philosophies found in his "Green Book." His goal was to rid the people of exploitation. Profit is considered exploitation and hence was to be abolished. Also, "wage earners are a type of slave, however improved their wages may be."¹⁰⁹ The act of renting was also exploitive. He, therefore, pushed for public ownership where income reverts to the society and "he who produces is the one who consumes."¹¹⁰ Merchants were considered

parasites and their stores became government supermarkets. He also wrote, "land is no one's property, but everyone has the right to use it."¹¹¹ This has resulted in significant land redistribution, to the detriment of many wealthy landowners. In 1980, he also called for the elimination of "private sources of savings ... which effectively removed the wealth of all Libyans except those with funds abroad."¹¹²

Within political circles, there is great disagreement over economic policies and the problems they create. This resulted in an unsuccessful coup attempt in 1975.¹¹³ While the Libyan military appears to be placated by its special treatment (perks and privileges), the decline in oil revenue and the floundering of economic development have continued to provide an atmosphere for political infighting and represent a real danger to Qadhafi's government as long as it is dependent on oil.¹¹⁴ With respect to the populace, wide spread shortages and empty supermarket shelves have fueled a significant black market which further deprives the government of revenue and costs the consumer more money. Although the people still enjoy a relatively high standard of living compared to a generation ago, the economic problems have disquieted them as is evident in reported violent attacks against government stores.¹¹⁵

Government

"Power to the people"¹¹⁶ and the "state of the masses," or *jamahiriyya*,¹¹⁷ are the bywords of Qadhafi's government, however, the confused form of government that has evolved after the 1969 coup is more of an autocracy. Qadhafi wanted to institute a direct populace democracy

since he felt that coalition or republican forms of government misrepresent the people. "[A] true democract exists only through the participation of the people, not through the activity of their representatives."¹¹⁸

A parallel system of government was developed to institute Qadhafi's direct populace democracy. The administrative side of government consisted of committees. At the local level were the Basic Peoples Committees which were to handle industry, schools, etc., that is, the matters of daily life. Delegates from the Basic Peoples Committees were members of the Municipal Peoples Committees which were responsible for administrations at the regional level. On the other side were the Basic Peoples Congresses which controlled the political aspects of Libyan life.¹¹⁹ Delegates from the Basic and Municipal Committees and the Basic Peoples Congresses were selected to participate in the General Peoples Congress (GPC). The GPC acted as both the legislative and executive branches of government¹²⁰, constituted the sovereign power of the state, and presided over all national issues.¹²¹

Participation in the basic committees and congresses was marginal and the political system that Qadhafi considered perfect was being criticized. To Qadhafi, these critics had lost faith with his revolution and were "reactionary and malicious" and needed to be eliminated.¹²² Out of this perception grew the Revolutionary Committee Movement in 1979-1980. The Revolutionary Committee's (RCs) mission was to "[encourage] the people to establish peoples' congresses ... to struggle against the bureaucracy of the poeple's committees ..."¹²³ The RCs constituted an informal or unofficial side of government and were firmly in control of Qadhafi and the Revolutionary Command Council (RCC) which was made up of the main players in the 1969

coup. Although Qadhafi has no official role in the government, he and his RCC are in command. The RCs are becoming more powerful. They have membership in the GPC and have assumed control of the courts where they try "crimes against the revolution. The revolutionary courts have no formal appeals procedure, and defendants may be tried *in camera* and with no legal representation."¹²⁴ The RCs have also fostered death squad activities against dissidents both at home and abroad.¹²⁵ The RCs have thus far been unable to significantly impact on the military and have been excluded from venturing into banking and the petroleum industry for fear of the economic consequences of their influence. Over all, if their increasing influence is not abated, the RCs pose a problem to the stability and survival of the government.

CHAPTER IV

THREAT EVALUATION

Threat evaluation constitutes the considerations of the theater commander with respect to the capability that the opposing side can bring to bear on a military operation. An enemy's capability lies not only in the hardware he possesses but also in the opposing commander, his doctrine, his popular, political, and military support, his subordinant command structure, the readiness of his forces, and the contributions of supportive alliances.

The Opposing Commander

Qadhafi was born in 1942, the son of a Berber Bedouin of the al-Qadhafi tribe in the Fezzan.¹²⁶ At that time, Libya was under Italian occupation. During his formative years, Qadhafi witnessed his country under the collective, post-war occupation of Britain and France followed by the rule of King Idris after Libyan independence in 1951. Under King Idris, there was wide spread corruption fueled by the discovery of oil. British and American oil companies and King Idris and his entourage were reaping the benefits of the oil wealth but little good fortune made its way to the masses. Qadhafi saw the wrong in this. He also saw Nasser in neighboring Egypt throw off the reigns of King Farouk and promote Arab nationalism. Qadhafi embraced Nasserism and sought King Idris' overthrow. Recognizing that this could only be done through the military, Qadhafi and his revolutionary supporters joined the military. Having secretly engendered widespread

support in the military, Colonel Qadhafi and his supporters overthrew King Idris on 1 September 1969 and assumed control of Libya. He and his Revolutionary Command Council developed a constitution which espoused "Freedom through opposition to imperialism...; unity through creation of the Arab nationalism...; and development through socialism."¹²⁷ This was Nasserism. Talking to a reporter shortly after the coup, Qadhafi said, "Tell President Nasser we made a revolution for him."¹²⁸ Qadhafi developed his "Third Universal Theory" that stated that the government should protect the weak and poor from exploitation. This was codified in Qadhafi's Green Book that provided the precepts for the running of government and human affairs and has been discussed previously.

Qadhafi's Doctrine and Foreign Policy

Qadhafi's doctrine has its basis in his zeal for the Nasserist unification of the Arab peoples--Pan-Arabism with Qadhafi as its head--and forms the rationale for his "legitimate" destabilization of the North African region and the Middle East. Qadhafi lays the blame for the current Arab disunity on colonialism and imperialism. Current Arab nations are the manifestation of the artificial partitioning of the Arab peoples by colonial powers and the maintenance of those partitions through the interests of the imperialist West (the United States and Europe). Qadhafi has stated, "We do not recognize the borders which have been drawn up by colonial powers to partition the single Arab people. We support ...[realizing] Arab unity by force... Our existence without Arab unity is threatened with destruction and extinction."¹²⁹ This statement has two important implications. Qadhafi does not recognize the

sovereignty of any Arab nation and he believes the time has passed for gradual unification through instruments such as economic integration. He has failed at attempts at unification with Egypt, Sudan, Syria, Tunisia, Algeria, South Yemen, and Morocco.¹³⁰ Therefore, an Arab revolution is required, since he feels Arab existence is at stake. This is an internal Arab problem. Acts that he and other Arabs must commit are acts of internal revolution. They are not terrorism and are of no legitimate concern of outsiders, e.g., the United Nations.

The United States and western Europe are seen as impediments to Pan-Arabism and Qadhafi's actions against them are designed to rid the region of their influence. He sees US interests in the region tied to the US attempts to encircle and contain the Soviet Union and to the Arab-Israeli conflict. The United States will try to subjugate the Arabs in order to support its national security interests. In response, Qadhafi said, "No understanding can be reached with America except through challenge."¹³¹ Qadhafi's mode of operations is to engage US and European interests elsewhere in order to divert their actions from Pan-Arabian concerns. As already discussed, Qadhafi is supporting actions worldwide.

Qadhafi considers himself the prophet of Pan-Arabism. El Dorado Canyon has made him cautious. However, there is no indication that he has abandoned his quest.

Qadhafi's Support Base?

One might assume that Qadhafi's tenure as the *de facto* head of Libya derives from a broad popular, political, and military support. In fact, he

survives despite broad based oppositions to his rule and his ideology. An explicit indication of his opposition can be seen in the numerous coups that have been attempted. The Ministers of Defense and Interior attempted a coup only three months after Qadhafi's 1969 coup. External royalist elements attempted a coup in 1970. In 1975, the Minister of Planning and a member of the RCC attempt a coup due to disenchantment over management of Libya's economy. In 1980, a military uprising was reported at Tobruk. Qadhafi's most serious challenge came in May 1984 when commandos attacked his home and command center at Azziziya barracks.¹³² The commandos were of the Libyan National Salvation Front (LNSF). The abortive coup had the negative result of enhancing the influence and power of the Revolutionary Committees. Additionally, some members of the RCC were demoted, effectively leaving rule to a three-member RCC made up of Qadhafi, Jalloud (Qadhafi's second-in-command), and Colonel Hamaidi who is chief of the general staff and commander of the Revolutionary Committee shock forces.¹³³ Lastly, there were two assassination attempts against Qadhafi in 1985.

Even though the military is pacified with privileges and perks, Qadhafi is mindful that the military that launched his overthrow of King Idris can be expected to do the same to him. The military is nervous about Qadhafi's plan for peoples in arms and the elimination of a professional military. Additionally, the radicals of the Revolutionary Committees are gaining influence over the military. The careers of the military professionals are extremely uncertain and demoralizing. They suffer unexpected demotions, promotions, and short notice reassignments in addition to Qadhafi's

pronouncement that they will be no rank greater than colonel.¹³⁴ The bottomline question facing the military is in the view of the increasing power of the revolutionary Committees, should they dispose of Qadhafi rather than let the nation fall to the vagaries of the Revolutionary Committees?

Libyan technocrats do not possess much political influence and are suffering large cuts in salaries in the face of increasing prices and taxes. They are concerned over the possible economic havoc that could result from the increasing involvement of the Revolutionary Committees in the previously off-limits oil industry.

The merchants were labeled the parasites of the Libyan society. Many have lost their businesses as a result of Qadhafi's Third Universal Theory. Those that still own businesses fear further confiscation, are limited to the number of employees they can employ, and suffer import restrictions and rising taxes.¹³⁵

Students abroad are subject to recall and "political examinations" at home. Those that are not pure to the ideals of the revolution are punished.¹³⁶ Some students have been publically hanged for sedition.

The farmers are placed at the end of the line with respect to health and education benefits. They find themselves short of supplies and see their water tables shrinking as a result of misguided agricultural efforts. They are also subject to having their farm machinery confiscated without recourse by the Revolutionary Committees.

Religious leaders see their regional base being eroded by Qadhafi's elimination of tribal distinctions. Qadhafi's non-orthodox Islam is

immediately at odds with the orthodox clergy. Although the constitution drafted after the 1969 coup made Islam the national religion, it also guaranteed freedom of religion¹³⁷ which undermined their political involvement. If the military ever plans to overthrow Qadhafi, they can expect to receive the support of the clergy.

Popular support overall has waned. A number of the reasons have already been discussed: "excess of the revolutionary committees...; resentment over assassination campaigns against Libyans abroad; nationalization practices...; restrictions on saving...; restrictions on...ownership...; massive arms purchases [at the expense of] consumer [goods]...; state run supermarkets...; [and] military intervention in Africa..."¹³⁸

Libyan Military

Libya maintains approximately 76,000 people in the active military which includes an army, navy, and air force. In addition, there is a 40,000 man militia.¹³⁹ In spite of Qadhafi's multi-billion dollar spending campaign to equip his forces, the Libyan military is relatively ineffective. They lack the adequate manpower and expertise to man the equipment on hand. Only half of the tanks and armored personnel carriers are operational and only a third of the air force is combat ready.¹⁴⁰ The countries' air defenses are similarly over-equipped and are operating at less than 60 percent of equipment capability. Even with external augmentation, the air defense forces, air force, and navy exhibit marginal readiness.¹⁴¹ The army, air force, and naval orders of battle are listed in Tables 1, 2, and 3, respectively.¹⁴² Due to its size, the army is primarily relegated to defense of

strategic locations. However, the navy is capable of "attacks on the high seas" and the air force can conduct "long range operations and hit-and-run attacks."¹⁴³ In essence, the existing force structure does not give a viable power projection capability beyond areas contiguous to its borders.

The Libyan air defenses have the responsibility for protecting major military and industrial installations and facilities, major cities and ports, and the petroleum industry. The air defenses are under the Libyan Arab Air Defense Command (LAADC) that is divided into three Regional Air Defense Sectors (RADSS) centered on Tripoli, Benghazi, and Tobruk (see Figure 6). The surface-to-air missile (SAM) and anti-aircraft artillery (AAA) order of battle is listed under the army in Table 1, and the SA-5 coverage is plotted on Figure 6. The El Dorado Canyon operation provided insight into the operation of their air defenses. Overall, there was no integration of SAMs and AAA, there was little coordination between RADSSs, and the RADSSs were easily rate saturated by the magnitude of the El Dorado Canyon operations, especially in the presence of electronic countermeasures.¹⁴⁴

Due to their low combat readiness and size, the Libyan military is considered capable of mounting only small scale and unconventional operations and are not capable of sustained operations.¹⁴⁵ They do not pose a challenge to the United States and Western European powers but do constitute a threat to their African neighbors.¹⁴⁶

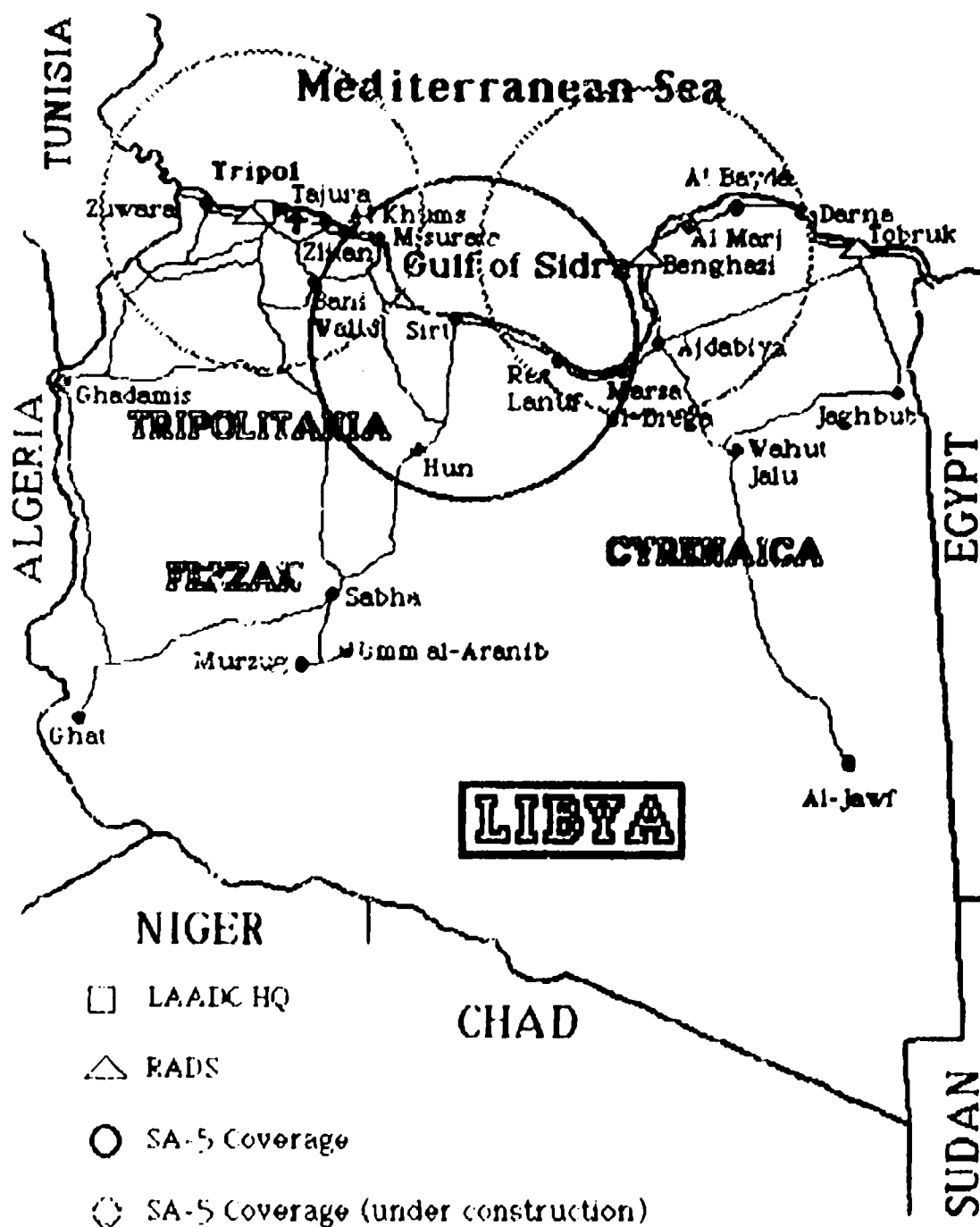


Figure 6 Air Defense

Manpower	60,00	
Landforces	20	Armored Battallions
	30	Mechanized Infantry Battallions
	10	Paratroop Battallions
	1	National Guard Battallion
	2	Special Forces Brigades
	10	Artillery Battallions
	2	Anti-Aircraft Battallions
	2	Special Forces Groups
	2	Surface-to-Surface Missile (SSM) Battallions
Tanks	3156	T-34/54/55/62/72/85, OP-40 Lions, Centurion
Armored Cars	1200	BRDM-2, EE-9 Cascavels, Ferret, Fiat 6614, Saladin
APCs	1410	BTR-50/60, OT-62/64, EE-11 Urutu, M-1BA1, Saracens, M-113, OTO Melara
Artillery	1000	105mm, 122mm, 130mm, 152mm (self-propelled), 155mm (SP)
AAA	450	23mm, 57mm, 30mm M-53/59 (SP)
SAMs		SA-2/3/5/6/7/8/9/13
		Thunderbird, Crotale
SSM	138	FROG-7, SCUD A/B
Anti-Tank Missiles		SS-11/12, AT-3 Sagger, AT-2 Swatter, AT-4 Spigot, Milan, Vigilante
Aviation	81	AB-206, Bell 47G, Alouette III, Cessna O-1, CH-47C, SA342 Gazelle

Table 1. Army Order of Battle

Manpower	9000	
Fighters	644	MIG-21/23/25/27, SU-22, Mirage F-1 Mirage 5D
Bombers	20	TU-22
Transports	84	C-130, Falcon-20, Jetstar, G-222, Boeing 707, Twin Otter, F-27, C-47, IL-76
Helicopters	72	Alouette II/III, AB-47G, Super Frelons, AS-61A-4, MI-2/8/24, AB-212, CH-47, AB-206
Missiles, Air-to-Air		AA-2 Atoll, AA-6 Acrid, R-550 Magic
Missiles, Air-to-Gnd		AS-11/12, Marte, Swatter, Otomat
Major Air Bases		Tripoli, Okba Ibn Nafa, Gamal Abdel Nasser, al-Awai, Kufra, Benina, Lutiyya

Table 2. Air Order of Battle

Manpower	7000	
Frigates	1	Vosper Thornycroft MK-7
Corvettes	11	Vosper, Wadi, Nanuchka, Assad
Light Forces	33	Combattante, Osa-II, Susa, Thornycroft, Garian
Submarines	8	Foxtrot, Yugoslavian midgets
Amphibious	19	PS-700(LST), Polnochny(LCT), C-107(LCT), Mine/tug/maintenance craft
Missiles	S-S S-A	SS-11/12, Exocet AM-39, Otomat, SS-N-2 Styx, Seacat, SA-N-4, Albatros/aspide
Major Bases		Benghazi, Barna, Tobruk, El Bardia, Tripoli, Marsa el-Brega

Table 3. Naval Order of Battle

CHAPTER V

CENTER OF GRAVITY

Speaking of the El Dorado Canyon operation, President Reagan said:

We believe that this pre-emptive action against his terrorist installations will not only diminish Colonel Qadhafi's capacity to export terrorism, it will provide him with incentives and reasons to alter his behavior.¹⁴⁷

This was a statement of US objective that was operative in the planning and execution of El Dorado Canyon--to 'diminish' and 'alter'-- and was the most demonstrable example of the US's departure from a policy of passive defense against terrorism. However, was the objective consistent with US national objectives and did it fulfill these objectives? Also, in the context of these objectives, were the strategic and operational centers of gravity identified and attacked, and, if not, what are Libya's centers of gravity?

El Dorado Canyon and National Objectives

To 'diminish' and 'alter' do not support an effective deterrence to attacks against the interests of the United States. "The primary objective of military operations should be to deter future attacks on the United States, its citizens and its interests [e.g., allies]."¹⁴⁸ After El Dorado Canyon, Ambassador Robert Oakley reported that Qadhafi was no longer committing or supporting terrorism. However, his assessment of the situation was in error. Although the raid is credited with a "temporary moderation of Qadhafi's open support for terrorist organizations,"¹⁴⁹ evidence supports that

he had not abandoned his commitment to the Qadhafi Doctrine, nor its primary instrument, terrorism. In August 1986, the British air base at Akrotiri, Cyprus, was rocketed by Libyan supported terrorists. That was quickly followed by the discovery of a plot to blow up the American Embassy in Togo. Add to this the hijacking of a Pan Am jet at Karachi, Pakistan, an attack on a synagogue in Istanbul, Turkey, the shooting of an American Embassy employee in Khartoum, the grenade blast near the US Consulate in Costa Rica, and the slaying of American hostage Peter Kilburn and two British captives in Beirut.¹⁵⁰ Qadhafi's commitment to international revolution and his willingness to use every means to further that aim appear to be undiminished by the American raid.¹⁵¹ The Reagan administration had hoped that the raid would exacerbate existing dissension within the populace and primarily within the military. To show Qadhafi's vulnerabilities to US attacks would provide the Libyan military with the impetus and confidence to mount a coup. This did not happen. Although some fighting allegedly occurred, Qadhafi remained in charge and the overall level of discontent and disaffection among the Libyans remained unchanged.¹⁵² In some ways, the raid had a negative impact on US interests. Qadhafi, being a master at playing to the Third World, used the raid to add credibility to his assertions that the United States was the enemy of Third World revolutions. However, more critically, the raid facilitated Qadhafi's identification and elimination of much of his opposition in the military and enhanced the power of the Revolutionary Committees. Rather than losing power, Qadhafi strengthened his position. He is still a threat to the stability of the Third World.

Unimpeded access to the oceans is still a concern with respect to Libya. Although Libyan forces have not posed a significant threat by their actions, they still harass US forces in the Mediterranean Sea. In January 1989, two Libyan MiG 23s executed threatening maneuvers against US Navy F-14s. When the MiG-23s refused to disengage from their offensive posture, they were shot down by the F-14s.¹⁵³

The level of Soviet influence in the region was not changed in the region. The Soviets were still wary of Qadhafi, especially since Libya is in arrears for military equipment delivered by the Soviets. Although the Soviets have agreed to reinforce Libyan defenses after the attack, [they were] bitterly criticised by Qadhafi for failing to come to Libya's aid.¹⁵⁴

Overall, the raid did not support stated US national security objectives. The raid was designed to send a message to Qadhafi (and other states that sponsor terrorism). The message was received but was not compelling. The interests of the United States and its allies are still at risk.

Strategic Center of Gravity

Recall that a strategic center of gravity is relevant to a nation's military strategy which is aimed at securing national policy objectives. In formulating the guidance for El Dorado Canyon, a political strategic center of gravity was correctly identified--Qadhafi--although, as just discussed, the objective of the operation was wrong.

Qadhafi is the hub from which Libyan-sponsored terrorism emanates. He sees himself as the personification of Pan-Arabism and Third World revolution. Terrorism is the instrument of power that he uses to dissuade the West from challenging his crusade for Pan-Arabism and to eliminate and

subdue opposition from Libyans at home and abroad--to punish those Libyans who have lost their revolutionary purity. He uses the Qadhafi Doctrine to legitimize his program of terrorism. Qadhafi often maintains that the terrorism is the work of the Revolutionary Committees, but the Revolutionary Committees are marching to Qadhafi's ideological desires, although sometimes over zealously. However, Qadhafi has also been quoted as admitting, "I am a terrorist."¹⁵⁵

There is no evidence that terrorism has a popular mandate in Libya. Most sectors of Libyan society have substantial disaffections with Qadhafi, much of which emanates from their dislike of the Revolutionary Committees and terrorism against Libyans abroad.

Another strategic center of gravity is the extreme overdependence of the economy on petroleum revenues. Although terrorism requires relatively little funding, its sponsor, Qadhafi, depends on petroleum revenue to stay in power. It was the maldistribution of these revenues that brought him to power and his redistribution of the wealth that has kept him in power. However, the current down turn in revenues and his disastrous meddling in the economy in the name of his Third Universal Theorum have created wide spread discontent and have put Qadhafi in a precarious position. If oil revenues were to cease, especially as a direct result of his international adventurism, Qadhafi would be quickly deposed. It has been questions of economic management and the state of the economy under Qadhafi that has lead to significant political infighting and attempted coups. These instances have even occured during times of plentiful revenues and trade surpluses.

It has been speculated that the bureaucratic clique responsible for the day-to-day management of the government "may even conclude that [Qadhafi] is a luxury that Libya cannot afford and act accordingly."¹⁵⁶ "If he does fall, it will be because of internal dissent, not because the international community opposes him."¹⁵⁷ The "likeliest--almost only-- way Qadhafi could lose power would be a military coup."¹⁵⁸ If the United States applies its military power to disrupting Libya's oil revenue, then Qadhafi, along with support for his Revolutionary Committees, should fall due to internal forces. Regarding El Dorado Canyon, a Western diplomat said, "The Americans have attacked Libya in the wrong place. They should be hitting the economy. That would be the basis for promoting dissent."¹⁵⁹ Vernon Walters, as the US Ambassador to the U.N., said, "If you could get people to stop buying their oil, the whole economy would grind to a halt."¹⁶⁰ Disrupting the supply of oil would be equivalent. Without Qadhafi, Libyan sponsored terrorism should be deterred, not just "diminished" or "altered". To accept the substantial risks associated with a military operation without pursuing decisive results is bankrupt.

Operational Center of Gravity.

In the context of deterrence, the targets hit during El Dorado Canyon were not operational centers of gravity. This is evident from the continuation of Libyan supported terrorism after the raid. Of the five targets attacked, three dealt directly with the command and control and training of terrorists. However, there are over 30 terrorist training facilities operating in Libya.¹⁶¹ Given that less than ten percent of the facilities were attacked and the inherent low construction and operating cost of these facilities, El Dorado

Canyon represented a minimal loss to the Libyans other than their prestige. Deterrence was unlikely to be an outcome of the raid. Also, the loss of the terrorist training facilities does not represent a direct loss to the general populace and can not be expected to generate a substantial increase in popular disaffection with Qadhafi or the possibility of his overthrow, although US officials had hoped the Army would stage a coup.

The strategic centers of gravity and ROE constrain the choice of operational centers of gravity. Traditionally, the search for an operational center of gravity focuses on the greatest concentration mass of troops and how to decisively defeat them. However, in the case of Libya, defeat of the armed forces would not serve US interest. Defeat of a force of 76,000 troops would require a large US force and the possibility of a protracted, costly campaign. This is contrary to operative ROE. Also, the Libyan military is expected to be the instrument of Qadhafi's overthrow. Their defeat would obviate that fact. It is in the above contexts that other considerations are eliminated. The Libyan transportation infrastructure is not very robust. Cutting the road system would have vital consequences to the Libyan army both logistically and in support of maneuver warfare. However, it would constitute a center of gravity only if the US forces were engaged long enough to exploit its effects. A similar argument can be made for disrupting Libyan C3 air bases or exploiting the topological, hydrological, and meteorological characteristics of the theater--characteristics that have minimal impact. An added difficulty with air bases is the large number of hard surface runways over 6000 feet in Libya that would allow for dispersal of air assets making an offensive counter air campaign difficult in the short term.

The strategic centers of gravity and ROE are not just constraints but also point to the operational center of gravity. Since Qadhafi and the Libyan economy's overdependence on petroleum revenues are the strategic centers of gravity, the infrastructure that constitutes the LOC to transport the oil from the wellhead to the tanker terminals in the Mediterranean Sea is the operational center of gravity. Effectively sever the LOC and petroleum revenues cease. The LOC is one dimensional in that the oil is transported through pipelines. The infrastructure essentially has no other measurable means of oil transport. Within the context of the ROE, severing the pipelines and destroying many of the associated pump stations presents a desirable center of gravity. Pipelines and pump stations are very difficult to defend. Attacking them in the open desert could constitute a relatively low risk operation. It would be quick with measurable results and lasting effects that would be cumulative over time. However, the results would be much more repairable than destroying the wellheads that feed the pipelines. The goal is not to destroy the Libyan economy but to hobble it long enough to incite the overthrow of Qadhafi and his Revolutionary Committees. In 1985, Libyan foreign exchange reserves had declined to a point where Libya could only cover its imports for about four months without petroleum revenues.¹⁶² Another goal would be to minimize the impact of the cessation of Libyan petroleum exports to our allies. Allied interests would also be a reason not to target the tankers' terminals and risk damaging allied shipping. This is in addition to the increased risk posed by such a mission.

CHAPTER VI

SUMMARY

Two months before El Dorado Canyon, Senator Patrick Leahy said, "I think state-sponsored terrorists pose the most serious threat to the United States, other than the constant threat of nuclear war. They drive our diplomatic responses, often military responses, foreign policy responses, and very often we find ourselves at a disadvantage."¹⁶³ Qadhafi, as a key practitioner of state-sponsored terrorism targeted against the United States, became the focus of US national security concerns. US passive defensive measures complicated Qadhafi's operations, but did little to curb his determination. With the El Dorado Canyon operation, the US moved toward a more offensive policy against terrorism. However, the operation did not support the proper national objectives, and as a result, US military force was not applied against Libyan centers of gravity except for its focus on Qadhafi. To deter Qadhafi's state-sponsored terrorism, military force needed to be applied against the operational center of gravity, i.e., the LOC represented by the oil pipelines. If this LOC is severed, then the sustainment of Libya's dependence on oil revenue is also severed. Qadhafi's power would soon suffer the same consequences.

Attacking the center of gravity is the surest way to success. However, with respect to terrorism, great uncertainty accompanies success. If Qadhafi is deposed, who will follow? Qadhafi has successfully undercut the power base of many opponents making it difficult to predict who would rise to

power, what would be his ideology, and what camp would he be in--the US or Soviet camp or non-aligned?

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¹⁰Department of Defense, Dictionary of Military and Associated Terms, ES Pub 1 (Washington 1 June 1987), 94

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