

DEFENSE & TECHNOLOGY PAPER

Combating Transnational Organized Crime: Strategies and Metrics for the Threat

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May 2012

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Acknowledgments

The author acknowledges the funding support from the Office of Deputy Assistant Secretary for Defense (DASD) Counternarcotics/Global Threat (CN>). Also, the author is pleased to acknowledge Allen McKee, Joint Interagency Task Force-South for his input and review of this paper.

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INTRODUCTION

Transnational Organized Crime (TOC) refers to those individuals and organizations that operate transnationally for obtaining power and monetary gains by illegal means. TOC includes drug trafficking, weapons smuggling, intellectual property theft, cybercrime, and human smuggling operations. TOC networks pose a growing threat to national and international security. These criminal networks often penetrate state institutions, especially law enforcement, resulting in weak governance and significant corruption. They threaten the respective economies and damage the world financial system. The World Bank estimates that the TOC spends \$1 trillion per year to bribe public officials. Terrorists and insurgents are using the TOC networks to generate additional funding and leveraging logistical support. The Department of Justice (DoJ) reported that 29 of 63 organizations in its fiscal year (FY) 2010 Consolidated Priority Organization Target list (CPOT), which includes the major drug trafficking organizations, were involved with terrorist groups. The Drug Enforcement Administration (DEA) claims that 19 foreign terrorist organizations have ties with drug trafficking organizations. Drug trafficking has significantly expanded within Central and Southern America as drugs move north to the United States across the Mexican border. Latin American cartels are expanding their markets and exploiting criminal organizations in West Africa to move cocaine into Western Europe and the Middle East. Afghan drug trafficking organizations, in collaboration with illicit trafficking groups in West Africa, smuggle heroin into Europe and to a lesser degree, into the United States. Furthermore, trafficking groups in Russia, China, Italy, and the Balkans are establishing ties to drug producers to develop their own distribution networks and markets.

These statistics are taken from the *Strategy to Combat Transnational Organized Crime*, published by the White House in July 2011, and demonstrate the scale of TOC: Human smuggling from Latin America to the United States is estimated to generate \$6.6 billion per year for these illicit organizations. Of the total weapons market, illicit trafficking, is roughly 10 percent to 20 percent of all sales in firearms. Intellectual property theft leaped from \$94 million in FY 2003 to \$188 million in FY 2010—products originating from China account for 66 percent of intellectual property seizures in 2010. Furthermore, Central European networks engaged in cybercrime have defrauded U.S. citizens of approximately \$1 billion in a single year.

This paper provides an overview of the strategic and policy initiatives that the United States and international community have taken, including an assessment of the TOC threat. The overview is followed by the metrics developed to evaluate the relative magnitude and direction of the threat over a 5-year period. This paper concentrates on one aspect of TOC—drug trafficking—and provides metrics for that threat to the United States.

STRATEGIC AND POLICY INITIATIVES AND LIMITATIONS

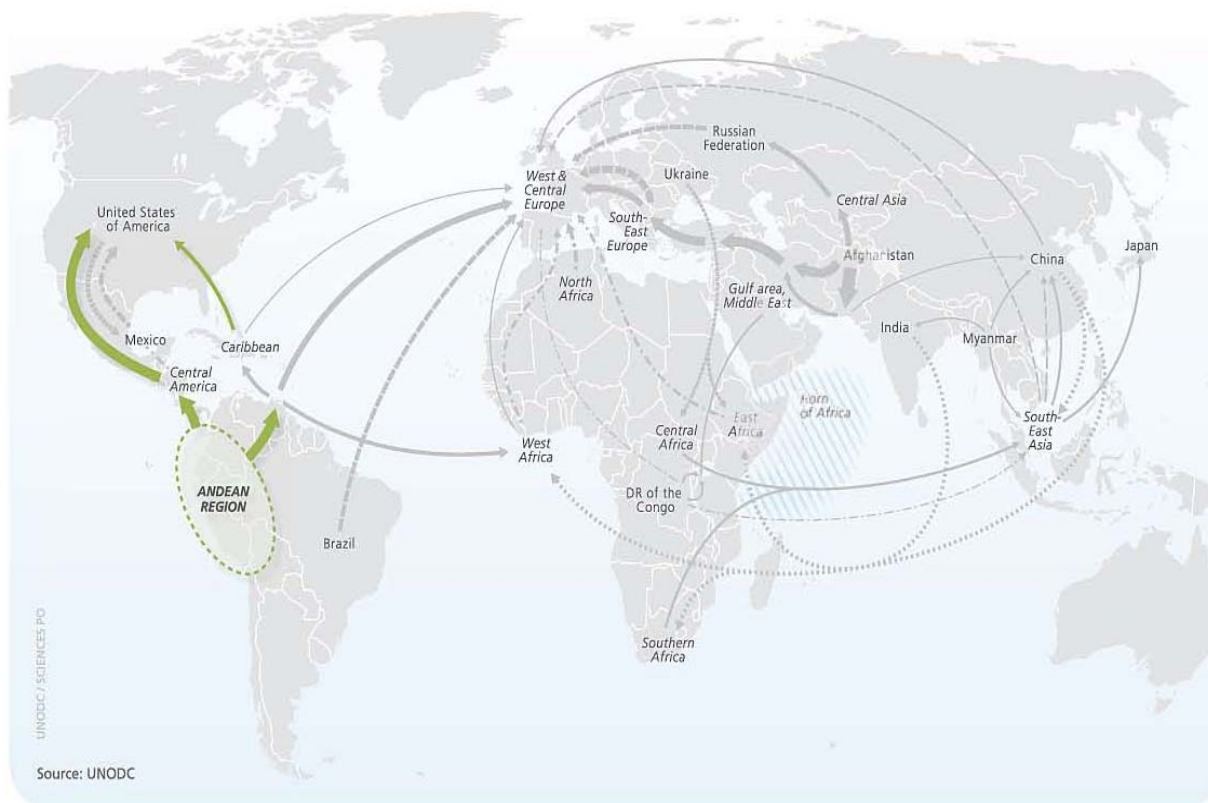
A number of major initiatives by the international community and the United States evaluate the TOC threat to national security, but most have not achieved the intended outcome. The United Nations Office on Drugs and Crime (UNODC) conducted the most recent international initiative and published two reports: *World Drug Report 2010*¹, and *The Globalization of Crime: A Transnational Organized Crime Threat Assessment*.² The *World Drug Report* provides an in depth analysis of the transnational drug markets and trends regarding the world drug status as well as the impact of transnational drug trafficking on transit countries. The report includes an extensive discussion of the key transnational drug markets (heroin, cocaine, and amphetamine). Detailed statistical trends for these markets include drug production, seizures, and consumption. The growing concern of the community toward the relationship between drug trafficking and instability and violence is also addressed. A summary of the major findings of the report follows.

Since 2007, the global area under opium poppy cultivation has declined by 23 percent, and as a result, global opium production fell by 13 percent, and potential heroin production declined by 13 percent during the same time period. The global area under coca cultivation has declined by 13 percent since 2007, and by 28 percent since 2000. Global cocaine production fell by 16 percent since 2007. In the area of cocaine trafficking, disruptions have flat lined in recent years in North America and Europe, but declined in the international waters and airspace of South and Central America. Trafficking through West Africa has also declined. The estimate of the users of illicit substances ranges from 3.5 percent to 5.7 percent of the 15- to 64-year-old population *in the world*. North America is the largest cocaine market having close to 40 percent of the global cocaine using population. The second largest cocaine market is Europe. As for heroin, the largest market is Western Europe followed by the Russian Federation. The impact of drug trafficking on the political instability of any one nation has been widely documented. The *World Drug Report 2010* estimates that 50 percent of the maritime shipments of cocaine to Europe between 2006 and 2008 came from Venezuela, followed by the Caribbean (11 percent), West Africa (11 percent), Brazil (10 percent), and Columbia (5 percent). Ecuador has also been affected by the increase in transit trafficking. All of these countries have experienced problems with rising violence directly related to illicit trafficking. The report also indicates that the decline of the U.S. cocaine market has contributed to an increase in violence in the Caribbean. Furthermore, the northern countries of Central America, Guatemala, Honduras, and El Salvador, have experienced drug-related violence that is destabilizing the governments.

The second UNDOC report, *The Globalization of Crime*, estimates that 90 percent of the global heroin supply comes from Afghanistan and is mostly consumed in Europe and the Russian Federation. Cocaine flows from the Andean region of South America toward North America via Central America and Mexico; to Europe via West Africa; and into the Southern Cone of South America. An estimated 90 percent of the cocaine enters through the U.S./Mexico land border. This UNDOC report provides a map of the estimated transportation routes of the cocaine from the Andean Region to North America, and it is reproduced on the next page.

¹ United Nations Office on Drugs and Crime, *World Drug Report 2010*, United Nations, New York.

² United Nations Office on Drugs and Crime: *The Globalization of Crime: A Transnational Organized Crime Threat Assessment*, UNDOC, Vienna.



4.1. From the Andean Region to North America

Route

Source: *Mostly Colombia, to a lesser extent Peru*

Vector: *Maritime to Central America and Mexico, especially along the Pacific Coast*

Destination: *Mexico, United States of America, Canada*

Dimensions

Annual market volume: *309 tons depart; 196 tons consumed in North America (2008)*

Annual value at destination: *US\$38 billion (2008)*

Traffickers

Groups involved: *Colombian, Mexican*

Residence of traffickers: *Colombia, Mexico, United States of America*

Threat

Estimated trend: *Declining in terms of volume of cocaine; increasing in terms of violence*

Potential effects: *Addiction across the trafficking routes; drug-related crime, corruption and violence in the Andean region; links with illegal armed groups in the Andean region; destabilization and corruption in neighbouring states, Central America and Mexico*

Likelihood of effects being realized: *High*

Current estimates assess that 80 percent of the cocaine initially departs South America by boat and other water vessels, and 20 percent departs by air. Of this flow, approximately 67 percent will move north using the eastern Pacific, Central American, and western Caribbean corridors; approximately 10 percent through the central Caribbean corridor, and approximately 17 percent directly toward Europe. Most of the south-to-north flow is not destined for the U.S. market. Rather, the majority of cocaine departing South America makes interim stops in Central America and Southern Mexico before continuing its journey to final destinations worldwide. The report estimates that the United States consumed 196 tons of cocaine in 2008. However, considering purity-adjusted seizures along the transit route, close to 309 tons left South America for the North American market in 2008. ONDCP estimates 20 metric tons were seized at the border and 20 metric tons were seized in the United States. Although cocaine consumption in Mexico is very hard to estimate, 100 metric tons consumed in Mexico and 20 tons seized in Mexico are common numbers. The UNDOC report, combined with additional reporting from agencies within the United States, indicates a total of approximately 469 metric tons of cocaine leave South America; however, other experts provide a larger estimate of metric tons of cocaine leaving South America and entering Mexico³.

Recognizing the estimates for consumption are very soft and susceptible to a wide margin of error, simple subtraction of U.S./Mexican consumption and seizure from the estimated total flow leaves a sizable amount of metric tons of cocaine-arriving within Mexico, but destined for other locations— possibly Europe and other parts of the world. By any measure, far more cocaine enters Mexico beyond the needs of the U.S./Mexico markets; the total impact of the drug money and violence is directly measureable in Mexico and Central America. Most of the trafficking of cocaine to Europe is estimated to be by sea, and the main hubs are Spain and Portugal in the south, and the Netherlands and Belgium in the north.

To appreciate the magnitude of illicit drug trafficking, consider these statistics: between 172 and 250 million adults in the global population were estimated to use drugs in 2007. Problem drug users amount to 18 to 38 million people, and 4.4 million people are in drug treatment programs. These figures demonstrate the seriousness of the problem and the urgency to counter this threat. Moreover, one of the key findings in the UNDOC report is that drug cartels are spreading violence in Central America, the Caribbean, and West Africa.

A third major report on drugs and crime was issued by the White House.⁴ This report develops a strategy to combat TOC. Following are the key objectives of the strategy:

1. Protect Americans and partners from TOC.
2. Help partner countries strengthen means to combat TOC.
3. Break economic power of TOC and protect strategic markets and U.S. financial system.
4. Defeat criminal networks that pose threat to national security.
5. Build international consensus, multilateral cooperation, and public private partnerships to defeat TOC.

The new capabilities highlighted in the strategy are as follows:

³ Private conversation with Allen McKee, JIATF-S.

⁴ Strategy to Combat Transnational Organized Crime: Addressing Converging Threats to National Security, White House, July 2011.

1. New Executive Order to establish a sanctions program to block property of and prohibit transactions with significant transnational criminal networks.
2. Proposed legislative package to enhance authorities available to combat TOC.
3. Presidential proclamation to deny U.S. entry to transnational criminal aliens.
4. Rewards program for obtaining TOC information.
5. Interagency Threat Mitigation Working Group to identify threat and coordinate efforts to combat TOC.

This report identifies a number of TOC's global threats. More specifically, in the western hemisphere, the tri-border area of Paraguay, Brazil, and Argentina is a key location for converging threats. In Afghanistan and Southeast Asia, the insurgency in some areas is criminally driven. In Russia and Eurasia, the TOC networks are establishing new ties to global drug trafficking organizations (DTO). In the Balkans, TOC groups are seizing control of key DTO routes. West Africa has major transit points for drug shipments to Europe and heroin to the United States. The Asia/Pacific region has significant human trafficking, threats to intellectual property, and illicit drug production.

The White House report also identifies intelligence and information sharing priorities for countering TOC:

1. Enhance the collection of signal intelligence (SIGINT) and human intelligence (HUMINT), which can be used to identify the role of TOC to facilitate weapons of mass destruction (WMD).
2. Use open source intelligence (OSINT) sources to develop profiles of individuals and institutions linked to TOC.
3. Coordinate with Interagency International Organized Crime Intelligence and Operations Center (IOC-2) to use databases of Organized Crime Drug Enforcement Task Force (OCDETF) Fusion Center (OFC) and with DEA's Special Operations Division (SOD) to share intelligence.
4. Expand collection capabilities in TOC hotspots around the world.
5. Develop protocols for TOC data flows to selected agencies involved in combating TOC.
6. Use DEA El Paso Intelligence Center, Immigration and Customs Enforcement (ICE) Bulk Cash Smuggling Center, National Export Coordination Center, and Cyber Crimes Center to coordinate the TOC threat.
7. Use the ICE National Intellectual Property Rights Coordination Center to assist in combating intellectual property theft.
8. Enhance Department of Defense (DoD) support to law enforcement through the Narcotics and Transnational Crime Support Center.

These priorities provide an enhanced capability for intelligence collection, analysis, and counterintelligence on TOC. The report also recommended a number of specific actions for selected agencies and community analysis of the TOC threat and means to counter it.

A number of major U.S. assistance programs in Latin America are designed to defeat the TOC and reinstate the rule of law and justice. One of these programs is Plan Colombia, which was started in 2000 with a total assistance of \$7 billion. The programs in this Plan include counternarcotics, military, counterterrorism, and law enforcement assistance. This program is

considered a *strategic and tactical* success.⁵ The state control of Colombian territory has been significantly increased as a result of sustained capability building by the U.S. military in providing training support, capacity building, Air Bridge Denial Program, and planning and assistance teams. The U. S. State Department provided support to the Colombian national police, as well as aerial eradication. The DOJ provided measures to strengthen the judicial system and improve the rule of law. As a result, the number of terrorist acts has decreased by 72 percent from 2002 to 2010, and the number of homicides has declined by 46 percent over the same period. The number of coca fields has been reduced by 33 percent, and the number of illegally armed groups has dropped by 63 percent.

Another U.S. assistance program is the Merida Initiative for Mexico. It started in 2008 with a total assistance of \$1.8 billion through 2011. Since 2006, when President Calderon was declared the president, more than 35,000 drug-related deaths have occurred.⁶ The initiative called for inspection equipment such as helicopters to interdict drugs, equipment and training for the armed forces, improvement of communication systems, and technical advice for strengthening the rule of law.⁷ Further evaluation of the Merida Initiative indicates continuing gaps in interagency coordination between the two countries, particularly in intelligence sharing. The cartels' response to government efforts has been far greater than anticipated, including the ability of the cartels to outgun the police and the army. The cartels are employing psychological operations; arranging anti-government protests; assassinating political officials; and corrupting the military, police, and political officials.

A third effort is the Central American Regional Security Initiative for Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama. This initiative was started in 2008 with a total funding to date of \$348 million. The funded programs include counternarcotics, military, counterterrorism, and law enforcement assistance. More specifically, the funding will be used in El Salvador to create vetted police units to work with the U.S. DEA, improve policing programs, support the International Law Enforcement Academy (ILEA), enhance the Transnational Anti-Gang Initiative, and improve prison management.⁸ It is well known that El Salvador, Guatemala, and Honduras have some of the highest homicide rates in the world, ranging from 50 to 71 homicides per 100,000 citizens,⁹ compared with 5 homicides per 100,000 in the United States. DEA estimates that 547 to 707 metric tons of cocaine are shipped toward the United States each year from Colombia, and 90 percent of that cocaine enters through the Central America-Mexico route. Roughly 69 percent of the product passes through the Eastern Pacific vector, which includes these countries.¹⁰

⁵ Gen Fraser, Commander, U.S. Southern Command presentation, at NDU CTNSP, Case Study: Colombia, July 26, 2011.

⁶ Bob Killebrew and Mathew Irvine, Security Through Partnership: Fighting Transnational Cartels in the Western Hemisphere, Policy Brief, Center for a New American Security, March 2011.

⁷ Sidney Traub and Duncan Wood, Cooperative Mexican-U.S. Antinarcotics Efforts, Report of the CSIS Center for Strategic and International Studies, August 2010.

⁸ Douglas Farah, Organized Crime in El Salvador: The Homegrown and Transnational Dimensions, Woodrow Wilson International Center for Scholars, December 2010.

⁹ Bob Killebrew and Jennifer Bernal, Crime Wars: Gangs, Cartels and U.S. National Security, Center for a New American Security, September 2010.

¹⁰ Ibid 8.

The primary shipment of the drugs from Colombia and Ecuador to El Salvador is through go-fast light boats, or semi-submersible and fully submersible crafts. The semi-submersibles ride very low in the water, about 16 inches above the water line. Because so much of the boat is below the water, it is very difficult to detect. The semi-submersible boats can carry up to 10 tons of cocaine, average about 5 tons per shipment, and are discarded after making a single, one-way run. As for Guatemala, The U.S. authorities estimate that 250 to 300 tons of cocaine go through that country en route to the United States.¹¹ The drugs come from Colombia to Guatemala/southern Mexico, which is a transit point and a warehouse. The two major foreign drug trafficking organizations that operate in Guatemala are the Mexican Sinaloa Cartel and Los Zetas. These organizations transport drugs by plane to Honduras, with a few flights to Guatemala. In 2008, 30 to 40 planes landed in Guatemala, each one carrying 300 to 500 kilos of cocaine. The number of narco-flights has declined between 2008 and 2010. As for Honduras, there were at least 154 flights in 2009 according to the government.¹² The majority of the cocaine moving through Honduras arrives by sea via the Caribbean coast. Cocaine also enters Honduras by land through El Salvador and Nicaragua. Honduras and Guatemala are thought to be the location where the handoff of cocaine is made and controlled by the Mexican drug cartels. The widespread corruption of the government in these countries makes it difficult to maintain law and order. The depth of corruption throughout the government is significant. As for the other countries in the region, Belize plays a role in the Columbian cartels drug transshipment infrastructure, and Panama has a major TOC activity in the banking sector. U.S. assistance in this region, although modest, may provide some relief in combating TOC.

A review of the U.S. strategic initiatives to counter the TOC threat followed by an assessment of the threat and the trends in various countries leads to the next section of the study on threat metrics. In this section, an evaluation of the magnitude and direction of the threat is presented.

¹¹ Julie Lopez, Guatemala's Crossroads: Democratization of Violence and Second Chances, Woodrow Wilson International Center for Scholars, December 2010.

¹² James Bosworth, Honduras: Organized Crime Gaining Amid Political Crises, Woodrow Wilson International Center for Scholars, December 2010.

THREAT METRICS

This section presents a structured approach for assessing the TOC threat to U.S. national security. It is scenario-based and takes into account the opinions of selected experts from DoD and the Commands. The goal is to provide a relative ranking of the contribution of the threats for current U.S. national security and for a 5-year period. The process for identifying the contribution of the threat was divided into an assessment of various measures of impact and risk associated with the threat. A comprehensive list of factors was then developed, in collaboration with some experts from the Commands, in each major category of impact and risk. The impact factors of the threat are defined as those elements that contribute to the assessment of the contribution of the TOC threat to U.S. national security. This paper emphasizes the narcotics category of TOC. The risk factors are defined as those elements that contribute to the assessment of the uncertainty associated with the execution of the TOC threat. Numerous methodologies are available for assessing the contribution and direction of the threat. The approach used in this paper is based on what was developed when the author was part of a Defense Science Board Study for the Technology Base.¹³ The board adopted a figure of merit technique, which is widely used in assessing the relative value of different approaches and balances opportunity and risk for decision making in the DoD technology base. The same methodology was used in a recent assessment of risk-informed decision making for Science and Technology.¹⁴

The methodology in this paper is based on the Delphi method, which Project RAND developed in the 1950s to forecast the impact of technology on warfare. With this method, experts in the field prioritize each of the factors in each category using a voting technique of high, medium, or low. The process provides a judgment on relative value of factors. This judgment is quantified in the following manner:

- High impact = 9
- Moderate impact = 4
- Low impact = 1
- High risk = 9
- Moderate risk = 4
- Low risk = 1

A logarithmic spread (9,4,1, which is the square of 3,2,1) is used instead of a linear spread to sharpen differences among the three levels of high, medium, and low. The figure of merit is determined by summing the impact factors and dividing by the sum of the risk factors:

$$\text{Figure of Merit (FOM)} = \frac{\sum \text{Sum of Impacts}}{\sum \text{Sum of Risks}}$$

Care must be taken in interpreting the figure of merit in certain cases, where the risk is very low, which can significantly impact the magnitude of the FOM. A list of impact and risk factors was

¹³ Report of the Defense Science Board 1981 Summer Study Panel on the Technology Base, November 1981, Office of the Undersecretary of Defense for Research and Engineering, Washington, D.C.

¹⁴ Samuel Musa, William Berry, Richard Chait, John Lyons, and Vincent Russo, Risk-Informed Decisionmaking for Science and Technology, DTP 76, CTNSP, September 2010.

developed in consultation with experts in the community, and the guidance for the scoring for each factor was then generated. Following is the list of both impact and risk factors that were used.

Impact Factors:

1. Mission Value. Threats which:
 - Affect U.S. national security (H)
 - Affect U.S./Allies interests (M)
 - Affect third-party interests (L)

2. Pervasiveness. Threats which:
 - Contribute to a wide variety of scenarios with cumulative impact (H)
 - Contribute to one mission/class of scenarios (M)
 - Contribute to one specific scenario (L)

3. Duration of Impact. To identify threats needing urgent “counter” resources:
 - Immediate mission impact (H)
 - Near-term mission impact (M)
 - Long-term mission impact (L)

4. Value of Impact: Applying counter-threat resources with highest target value payoff:
 - Fully/semi submersibles (H)
 - Surface vessels/boats (M)
 - Land centric, Aircraft (L)

5. Leverage. Threats exploiting asymmetric technology to move people/cargo:
 - Fully submersible/semi-submersibles (H)
 - Aircraft/vessels/boats (M)
 - Land centric (L)

6. Simplicity of execution. Threats which are:
 - Easy to execute (H)
 - Require moderate logistics (M)
 - Require highly trained personnel/most operationally complex (L)

7. Cost. Threats requiring the least level of resources/skill score highest:
 - Lowest cost (H)
 - Moderate cost (M)
 - Highest cost (L)

Risk Factors:

1. Mission-related risks. Threats that have low probability of detection:
 - New systems, fully/semi-submersibles (H)
 - Land (M)
 - Aircraft/surface vessels/boats (L)

2. Maturity. Threats requiring sophisticated building/high level of operational skills to execute; nearly always successful when employed; innovative systems score highest:

- Fully/semi-submersibles (H)
- Land centric (M)
- Aircraft/surface vessels/boats (L)

3. Political environment. Initiatives to counter threats compromising state actors score highest:

- Legislative reform (H)
- Apply current law effectively (M)
- Ineffectual application of current law (L)

4. Level of operational support. Initiatives requiring a great level of support for success pose highest risk and score highest:

- Requires significant shift in personnel and support infrastructure (H)
- Requires moderate shift in personnel and support infrastructure
- Can tap available support (L)

5. Economic/Financial. Initiatives requiring a high level of financial support have higher risks for successful implementation.

- Fully/semi-submersibles (H)
- Land centric (M)
- Aircraft/surface vessels/boats (L)

The areas of operation/scenarios that were considered in this evaluation were as follows:

- Southern Command (SOUTHCOM)
 - Central America, South America, Caribbean
- Pacific Command (PACOM)/Joint Interagency Task Force West (JIATF-W)
 - Detects and monitors precursor chemicals used for methamphetamine production from China and India to western hemisphere illicit markets
- Mexico/U.S. Border
- West Africa
 - Transit point for shipments to Europe and for Southwest Asian heroin to United States, source and transit point for methamphetamine for Far East
- Joint Interagency Task Force South (JIATF-S)

A limited number of experts from these commands (only two from SOUTHCOM and one from JIATF-W) and others from academic centers of excellence noted in their field were consulted to provide the scoring, in particular, two experts on the Mexico/U.S. border and one on West Africa. As for JIATF-S, five experts provided scoring for this study. In order to determine the direction of the threat, the experts were asked to score the factors for the current and future time period of 5 years. The results of the scoring are shown in Figure 1.

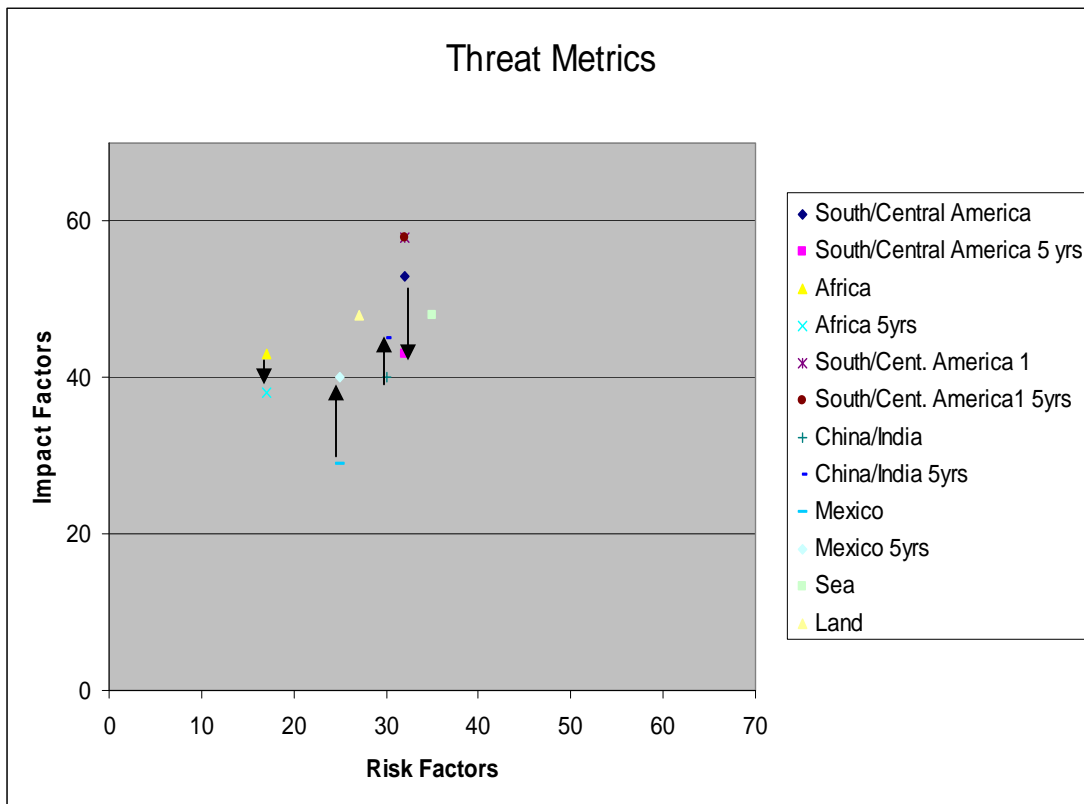


Figure 1. Threat Metrics

The sum of the scores from the experts for the impact factors, for each area of operation, is the vertical axis. The sum of the scores from the experts of risk factors, for each area of operation, is the horizontal axis. The colored marks in the key area of figure 1 identify the areas of operation for which the TOC threat is evaluated. For example, South/Central America refers to the area of operation in South America, Central America, and the Caribbean for the current and the 5-year period. The arrows in the figure show the direction of the threat over a 5-year period. Based on the opinion of the experts from the various Commands and Centers, the risk factors for each area of operation are unchanged over a 5-year period. Thus, in the judgment of the experts, the TOC threat actors are willing to take the same risk in 5 years as now. The results could also imply that the experts have difficulty in making a judgment over a 5-year period in this field because of the many uncertainties in the political environments in those countries and the measures taken to counter the threat. It is also clear that the impact factors of the threat vary over 5 years depending on the region. For example, the impact factor for the South/Central America area of operation changes from a relative value of 53 to 43 over 5 years, while the change for the China/India area of operation changes from 40 to 45 over the 5 years. This illustrates the sensitivity of the TOC regions of operation to the factors of infrastructure, organization, financial, and political factors.

In addition to the above scores, an evaluation of the threat was obtained from selected experts, by mode of transportation. In particular, the land and sea mission threat was assessed. The former is

of interest to the SOUTHCOM Command because the land threat is expected to be a potential area of growth for its operations in the future. The scoring for the land mission was obtained from a leading expert at JIATF-S, and for the sea mission from a leading expert from the Coast Guard who was the Division Director for Maritime Science and Technology at Homeland Security. These were plotted in figure 1 even though the figure represents areas of operation versus mode of transportation. The impact scores were the same for both missions, but the risk factors were greater for the sea than the land mission. This results in an FOM of 1.77 for the land mission and 1.37 for the sea mission. The higher FOM reflects the increased interest in the land mission. Currently the detection and monitoring is limited to an area reaching as close as 10 miles from the coasts. As a result, the TOC adversaries are taking advantage of this limitation and using the corridors closer to the coasts to conduct their operations. By focusing on these regions closer to the shorelines, which are considered to be part of the land mission, the adversaries will be forced to conduct their operations in the open seas which are in the current Area of Responsibility (AOR) of the commands. Consequently the land mission will result in an increased probability of detection of the TOC threat.

The scoring for JIATF-S was conducted in much more depth. In particular, the experts scored each factor and sub-factor to provide a more comprehensive assessment of the threat. For example, the scores were provided for each element of Mission Value: Affects U.S. national security, Affects U.S./Allies interests, and Affects third-party interests. This was done for all of the factors and sub-factors of Impact and Risk. The results of the scores are shown in Figure 2.

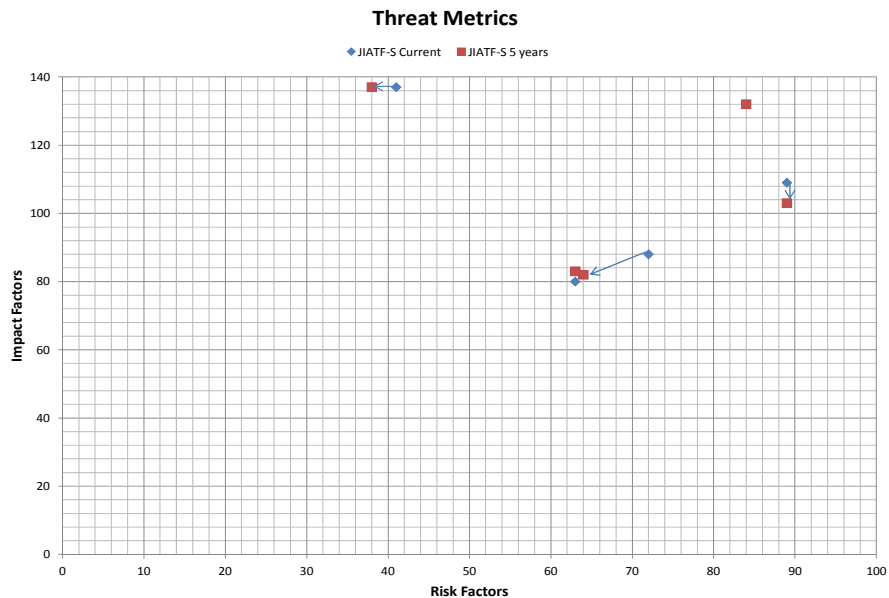


Figure 2. JIATF-S Threat Metrics

The axes in figure 1 are the same to those in figure 2. The blue markers represent the scores for the current period, while the red markers represent the scores for the 5-year time frame. The data show, in the opinion of some of the experts, that the risk factors change over the 5-year period, while in some of the others they remain the same. The spread of the data demonstrate the breadth of opinion relating to the TOC threat in the area of operations of JIATF-S. This could be because of the experts' experience and understanding of the factors. The FOM, which is the ratio of the

sum of the impact factors divided by the sum of the risk factors, is plotted for each scenario for the current and the 5-year time frame, and provided in Figure 3.

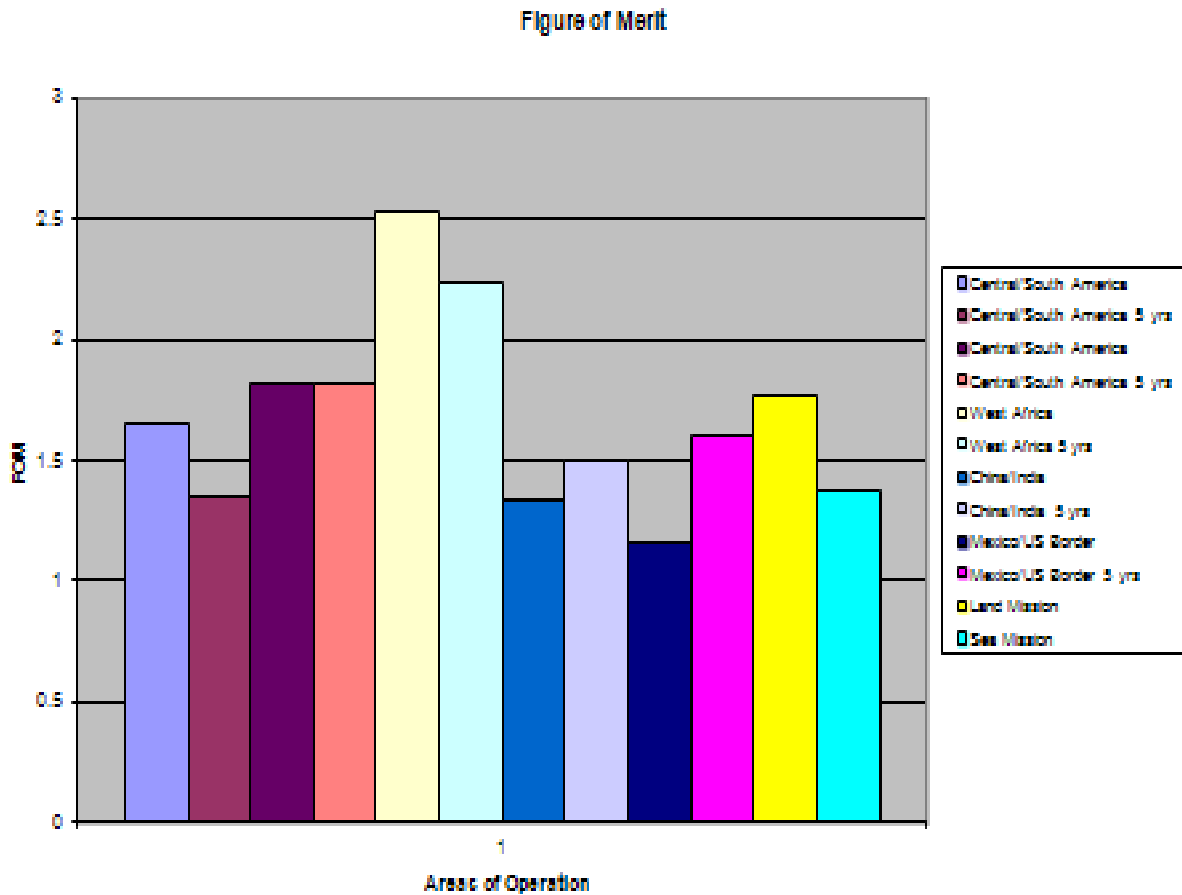


Figure 3. FOM

It should be emphasized that the goal of this analysis is not to provide comparisons between the various Commands; the responses from these Commands were limited and the scoring only reflects the assessments of selected individuals regarding the TOC threat. The analysis for the various scenarios shows that the African region has the highest FOM (ratio of impact to risk), as scored by the experts, or highest potential contribution of the TOC threat to U.S. national security. This score implies that more attention may be required to address the TOC threat in this region. Furthermore, the sensitivity of the FOM to the period of time (current versus 5-year period) demonstrates that it decreases for Africa and Central and South America, while it increases for the Mexico/U.S. border and the China/India area of operations. These differences are possibly the result of the emphasis and resources that have been placed and are expected to be placed in these regions over the 5-year period to address the threat. The value of this analysis is for the Commands to consider the methodology presented here and use it internally to assess the TOC threat and validate the thinking between the various divisions within the Command regarding the threat.

The FOM for the more comprehensive analysis of the impact and risk factors that JIATF-S has undertaken is shown in Figure 4.

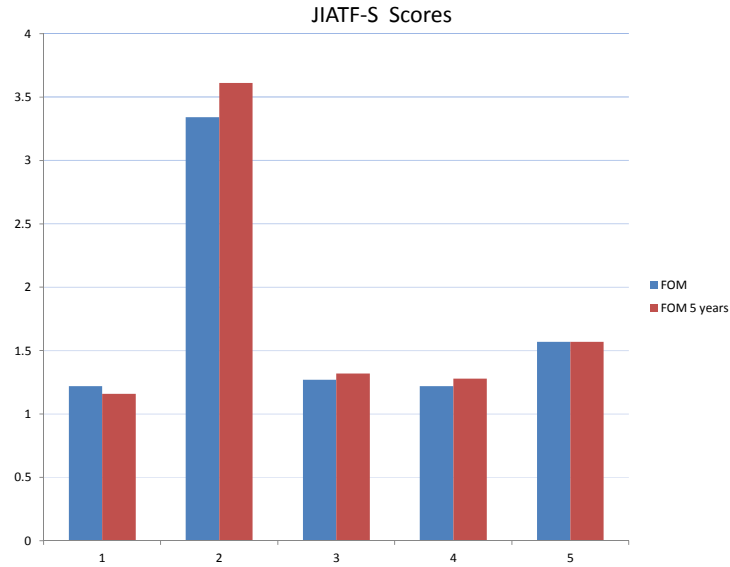


Figure 4. JIATF-S FOM

The vertical axis represents the magnitude of the FOM, while the horizontal axis represents the specific scoring for each expert from JIATF-S (expert 1 to 5). The blue charts represent the FOM for the current time frame, while the red represent the 5-year time frame. With the exception of one expert, the FOMs from JIATF-S are about the same and generally tend to change nominally in 5 years. They also tend to be in approximately the same range as those provided by SOUTHCOM experts, even though they represent a much more comprehensive scoring of all the factors in each category of impact and risk.

The methodology that has been developed in this paper is a tool that can provide the relative contribution of the current and 5-year TOC threat to national security for various areas of operation. The data used in these figures came from an expert in each Command or academic Center. The metrics provided in this paper need to be exercised by the Commands/Centers with a larger number of expert responders to obtain a more valid assessment.

In order to obtain a better understanding of the magnitude and direction of the threat, the relationship must be explored between the number of targets versus the value of the targets during the process from assembly to transport to consumption. This is shown in Figure 5 in a qualitative form.

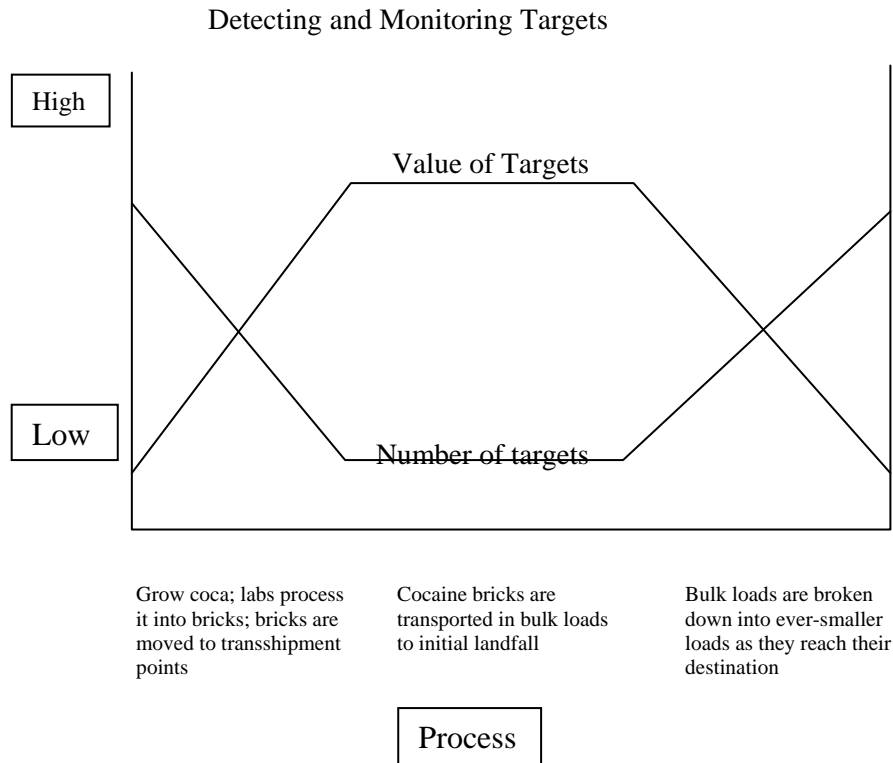


Figure 5. Detection and Monitoring of Targets

The vertical axis on the left represents the value of the targets in relative terms from low to high, while the right vertical axis reflects the number of targets from low to high. The horizontal axis reflects the process from the growth of the coca fields in South America, to transport of cocaine via Central America to the Mexico/U.S. border, to reaching the destination in the mainland for consumption. The figure is a qualitative description of the value of detection and monitoring during the various phases of the target process. The number and value of the cocaine target is rather flat at specific points, such as when the cocaine is in bulk shipments during the primary movements off South America. This figure demonstrates that as the drugs move from cultivation and assembly to transport via air, land, or sea to the final consumption phase, the value of targets is inverse to the number of targets. For example, as the drugs are cultivated and processed in Colombia via land, the number of targets (fields, processing plants) can be large, while their value per target can be small. As the targets are transported through the Caribbean/Eastern Pacific via sea vessels, the value of the target goes up because of the amount of cocaine in the shipments while the number of vessels (targets for transport) goes down. As the drugs move across the Mexico/U.S. border via land for consumption in the United States, the number of targets for distribution and consumption goes up while the value per target goes down. In particular, the process is examined in more detail, the assembly portion of roughly 700 kg. of dry drug leaves becomes about 3.3 kg. of paste (most cocaine labs skip making the paste and proceed directly to making base), or 1.1 kg. of base, or 1kg. of Hydrochloride (HCL). Therefore, the counter TCO activity should be more focused when the target has the highest value, which in this case, during the primary transport phase, when the cocaine is shipped from South America to the northern isthmus/southern Mexico.

It is interesting to note the variation in the value of drugs per kilo. According to a rough estimate by an expert, the value of a kilo of cocaine is about \$2000 in Colombia, \$5000 in Guatemala, \$8000 in Mexico, \$17,000–\$20,000 in Florida, and \$35,000–\$40,000 in New York.¹⁵ This variation reflects the dramatic value changes from origin to final destination of the drugs.

¹⁵ Private communication with Allen McKee, JIATF-S.

CONCLUSIONS

The paper provides an overview of transnational organized threat to the United States and discusses the strategic and policy initiatives by the United States and the international community. Next, the development of metrics for the magnitude and direction of the threat with emphasis on drug trafficking is addressed. An FOM was developed using several factors of impact and risk. The impact factors consisted of mission value, pervasiveness, duration of impact, value of impact, leverage, simplicity of execution, and cost. The risk factors included mission-related risks, maturity, political environment, leverage of operational support, and economic and financial risks. Experts from Commands and academic Centers scored the factors based on supplied guidelines. The goal was to provide a relative ranking and direction of the threats with major impact on U.S. national security.

The conclusions of this study, based on the scoring of the experts, indicate that the risk factors of the threat remain constant over a 5-year period. This implies, in part, that the TOC threat actors are willing to take the same risk in 5 years as they are now, as perceived by the judgment of the experts. It could also imply that the experts have difficulty in making judgment over this period of time in this field because of the many uncertainties in the political environments and the actions taken to counter the threat. In addition, the analysis in this paper shows that the impact factors of the threat vary over 5 years depending on the region. Of interest is the sensitivity of the TOC regions of operation to the various factors of infrastructure, organization, and financial and political elements.

The analysis of a number of scenarios, taking into consideration the limited number of experts that were consulted, shows that the African region has the highest FOM (ratio of impact to risk factors) or potential contribution of the TOC threat to national security. This means that more attention is needed to address the TOC threat in this region. Furthermore the results show that the FOM decreases for Africa and the area of operations in Central and South America, while it increases for the Mexico/U.S. border and China/India area of operations over a 5-year period. The methodology that has been developed here is only a tool that can provide relative measures and direction of the threat as well as the FOM for each threat; it is recommended that many experts be used from each Command to obtain a more accurate assessment.

It is also noted that as the drugs move from cultivation and assembly to transport via air, land, or sea to the final consumption phase, the value of targets is inverse to the number of targets. This is because the size of the target is more concentrated during the transport phase than during the other phases of cultivation and distribution. Thus one of the key findings of this study is that detection and monitoring should be maximized when the target has the highest value, which in this case is during the transport phase.