



# NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

## THESIS

**THE SOCIAL NETWORKS OF SMALL ARMS  
PROLIFERATION: MAPPING AN AVIATION ENABLED  
SUPPLY CHAIN**

by

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December 2007

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**THE SOCIAL NETWORKS OF SMALL ARMS PROLIFERATION: MAPPING  
AN AVIATION ENABLED SUPPLY CHAIN**

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## **ABSTRACT**

A complex network of dealers, brokers, financiers, and traffickers continue to funnel large quantities of small arms and ammunition into African conflict-zones despite the presence of United Nations arms embargoes. Weapons are often transported from arms producing countries in Eastern Europe and the post-Soviet States to remote locations in Africa by civil aircraft. This thesis will focus on the process by which weapons are bought and sold and the illicit nexus of arms brokerage and transportation networks that facilitate the deadly trade. This supply chain will be presented as the “anatomy of an arms deal” which can be further described using the statistical tools and measures of social network analysis. Selected case studies of proliferation events into the West African state of Liberia will be used to construct networks that can be compared to the supply chain model and possibly suggest additional points of intervention to halt this deadly trade.

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# I. INTRODUCTION

## A. THE PROBLEM OF SMALL ARMS IN AFRICA

Africa is awash with weapons. The widespread availability of weapons in Africa presents a unique challenge to regional and international organizations that make efforts to resolve conflicts and then participate in subsequent disarmament, demobilization, and reintegration projects. Speaking at a United Nations ministerial meeting on security, the former Secretary General of the United Nations declared that:

Small arms have damaged development prospects and imperiled human security in every way. Indeed there is probably no single tool of conflict so widespread, so easily available, and so difficult to restrict, as small arms.<sup>1</sup>

These weapons by themselves are not a root cause of conflict; however, the availability of small arms and light weapons<sup>2</sup> can “destabilize regions; spark, fuel and prolong conflicts; obstruct relief programmes; undermine peace initiatives; exacerbate human rights abuses; hamper development; and foster a culture of violence.”<sup>3</sup> Nowhere in the world are these effects more pronounced than in developing regions such as sub-Saharan Africa. The Human Security Centre recently revealed that “[a]t the beginning of the new millennium the battle-death toll in sub-Saharan Africa was greater than the toll in all other regions combined.”<sup>4</sup> In its first *Human Security Report*, this non-governmental

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<sup>1</sup> Kofi Annan, “Statement by the Secretary-General at the Ministerial Meeting of the Security on the Question of Small Arms,” United Nations, September 24, 1999, <http://disarmament.un.org/cab/smallarms/presskit/sheet16.htm> (accessed July 27, 2007).

<sup>2</sup> The United Nations defines small arms as “weapons designed for personal use...[to] include revolvers and self-loading pistols, rifles, sub-machine guns, assault rifles, and light machine guns;” and light weapons as “weapons designed for use by several persons serving as a crew...[to] include machine-guns, mortars, hand grenades, grenade launchers, portable anti-aircraft guns and portable missile launchers,” <http://disarmament.un.org/cab/smallarms/brochure.htm> (accessed July 27, 2007).

<sup>3</sup> Statement from the United Nations Office for Disarmament Affairs (UNODA) website related to small arms and light weapons, <http://disarmament.un.org/cab/salw.html> (accessed 24 August 2007).

<sup>4</sup> Human Security Centre, *The Human Security Report 2005*, (Vancouver, BC: Simon Fraser University, 2005), [http://www.humansecurityreport.info/HSR2005\\_HTML/Part1/index.htm](http://www.humansecurityreport.info/HSR2005_HTML/Part1/index.htm) (accessed August 24, 2007).

organization revealed that while the number of conflicts has dropped throughout much of the world during the last half-century, sub-Saharan Africa has experienced a steady rise in violence from World War II until 1991, and then remained high until 2002.<sup>5</sup> Despite a recent decline in conflict, Africa remains a volatile continent characterized by tenuous peace agreements and ineffective arms embargoes.

The availability of small arms in Africa during the late-twentieth century can be attributed to a post-Cold War sell-off of formerly state controlled weapons stockpiles. More recently, state-owned and private weapons manufacturing firms have recognized the demand for weapons in the world's conflict zones and responded with increased production and proliferation. While small arms are not themselves a root cause of conflict, they can be classified as a precondition for violence in underdeveloped regions of the world. These weapons are available in abundance and are flowing into the region from a thriving global arms market. The process to buy and transport these weapons is facilitated by a complex network of arms dealers, brokers, financiers and traffickers. Weapons are often transported from their origin in state controlled stockpiles or from international arms manufacturers to Africa by civil aircraft. The most proficient arms traffickers control their own aircraft through direct ownership or leasing arrangements to ensure the safe delivery of their illicit cargoes.

## **B. CONTROLLING SMALL ARMS PROLIFERATION**

Efforts to regulate the illegal international trafficking of small arms to African conflict zones by civil aircraft have been led primarily by the UN. The principle method of enforcement has been the establishment of a number of arms embargoes imposed on both state and non-state actors. These efforts have been largely ineffectual considering the claim by Amnesty International that "sometimes the embargoes have made it logistically more difficult and expensive to acquire the desired arms, but available evidence suggests that on the whole violations of UN arms embargoes appear persistent, widespread and systematic." In fact, as recently as August 2007, Amnesty International's arms

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<sup>5</sup> Human Security Centre, *The Human Security Report 2005*.

control research manager claimed that aircraft had been observed offloading weapons in violation of the current UN embargo on Sudan. Referencing photographs of containers being transferred from an Antonov An-12 cargo aircraft to Sudanese Air Force helicopters, the official stated that the “Sudanese government is still deploying weapons into Darfur in breathtaking defiance of the UN arms embargo and Darfur peace agreements.”<sup>6</sup>

Some governments have developed national level instruments to monitor and control the illicit trafficking of conventional weapons. The United States, for example, has guidance, procedures, and regulations to monitor and report the sale and transfer of small arms to foreign buyers. The Department of Defense is responsible for government to government arms transfers while the State Department oversees the licensing and monitoring of commercial exports.<sup>7</sup> Part of the process to export arms from the U.S. to a foreign buyer is a pre-delivery check to review the proposed transfer and post-delivery checks to ensure the weapons are being used as intended. This system of accountability is intended to stop third-party transfers in which a perceived destination country is actually a transit point for the eventual delivery to a possible prohibited buyer. The U.S. mechanism to control conventional arms transfer is unique within a largely unregulated global market that involves numerous government and private producers and suppliers of weapons.

To address the issue of conventional weapons proliferation, the United Nations Department for Disarmament Affairs initiated a Programme of Action (PoA) “to prevent, combat, and eradicate the illicit trade in small arms and light weapons.” The PoA was agreed upon in 2001 and remains the key international agreement on the illicit trade and subsequent misuse of small arms. The objective of this conference was to reinforce and better coordinate efforts to

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<sup>6</sup> “Khartoum ‘defying Darfur embargo,’” *BBC News*, August 24, 2007, <http://news.bbc.co.uk/2/hi/africa/6961066.stm> (accessed December 7, 2007).

<sup>7</sup> U.S. General Accounting Office, *Conventional Arms Transfers: U.S. Efforts to Control the Availability of Small Arms and Light Weapons*, (Washington, DC: July, 2000), 4.

combat the proliferation of small arms and light weapons by developing standards for use at the national, regional, and global level.<sup>8</sup>

### **1. National Level**

Combating small arms proliferation at the national level involves “laws, regulations, and administrative procedures” put in place and enforced by the state.<sup>9</sup> The focus on national level control of weapons proliferation is shared equally between the destination countries that intend to use weapons and the origination countries that manufacture or otherwise procure and export weapons. There are currently a limited number of explicit prohibitions on arms transfers between nations. National level regulation is often dependent upon non-binding codes of conduct “which require exporting states to assess respect for fundamental principles of international law by recipient states and to refrain from authorizing exports in cases where it is foreseeable that weapons will be used in violation of these principle.”<sup>10</sup>

### **2. Regional Level**

Regional alliances are increasingly being leveraged to promote socio-economic cooperation and address political and security concerns between nations. Examples of regional alliances in Africa include the Economic Community of West African States (ECOWAS), the South African Development Community (SADC), and the African Union (AU). The UN maintains that these alliances can support anti-weapons proliferation initiatives by establishing “trans-border customs cooperation and networks for information-sharing among law enforcement, border and customs control agencies.”<sup>11</sup>

### **3. Global Level**

Finally, at the global level, trade sanctions and arms embargoes are among the most common methods to control the illicit delivery of small arms to

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<sup>8</sup> UN, *Report of the United Nations Conference on the Illicit Trade in Small Arms and Light Weapons in All Its Aspects*, A/CONF.192/15 (New York, NY: UN, July 9-20, 2001).

<sup>9</sup> Ibid, 10.

<sup>10</sup> Emanuela-Chiara Gillard, “What’s Legal? What’s Illegal?” in *Running Guns: The Global Black Market in Small Arms*, ed. Lora Lumpe (London: Zed Books, 2000), 27.

<sup>11</sup> UN, *Report of the United Nations Conference on the Illicit Trade in Small Arms and Light Weapons in All Its Aspects*, 13.

both prohibited state and sub-state actors. These instruments can be implemented by regional alliances or international bodies such as the UN Security Council. The current territorial arms embargoes imposed by the UN within sub-Saharan Africa affect Somalia, Liberia, and the Ivory Coast. Additionally, the Security Council has imposed embargoes on non-state actors within Rwanda, Sierra Leone, the Democratic Republic of Congo, and the Sudan.<sup>12</sup> The Security Council can pass a resolution to impose both territorial and non-state actor arms embargoes when it determines a “threat to the peace, breach of the peace or act of aggression” has occurred that could be exacerbated by a flow of weapons.<sup>13</sup>

### **C. AN ALTERNATIVE APPROACH**

Despite the efforts of individual nations, regional alliances, and international bodies to restrict the illicit flow of small arms, profit-motivated brokers and transportation agents continue to buy, sell, and transport weapons into sub-Saharan Africa. The most successful traffickers can circumvent national licensing requirements and both territorial and non-state actor arms embargoes by leading an inclusive business enterprise that combines brokerage, financing, and transportation service to successfully deliver illicit cargoes to their clients by surreptitious means. Their clients range from national dictators to guerrilla warlords and the payment for services rendered can be in U.S. dollars, business concessions, or in exchange for illegally exploited natural resources such as diamonds and timber.

Small arms are transported from faraway markets in Eastern Europe and the post-Soviet States to the African continent by both ship and aircraft. They are further transported within Africa by truck, train, and aircraft. However, unscrupulous arms brokers and transportation agents often rely on aircraft alone for their rapid and relatively anonymous transportation capabilities. These capabilities are further enhanced by the vast scale of unregulated airspace and

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<sup>12</sup> United Nations Security Council resolutions on arms embargoes can be found under “Sanction Committees” on the website [http://www.un.org/Docs/sc/unsc\\_structure.html](http://www.un.org/Docs/sc/unsc_structure.html)

<sup>13</sup> UN Charter Article 39 quoted by Emanuela-Chiara Gillard, “What’s Legal, What’s Illegal?”

airports that are spread across the African continent. Additionally, most of Africa's inland regions are fraught with an inadequate terrestrial transportation infrastructure that is only further degraded during the rainy seasons. The combination of armed conflict and problematic land transportation "have often made air transport the modality of choice for international arms transfers to the interior of countries subject to arms embargoes even though they have viable seaports such as Angola, Liberia, Sierra Leone, Ivory Coast, Sudan and the DRC, as well as to land-locked countries when they were renowned for diverting arms, such as Burkina Faso, Uganda and Zambia."<sup>14</sup>

The 2005 UN Disarmament Yearbook outlined the Security Council's response to the Secretary General's concern for the continued proliferation of small arms and has sought "international and regional cooperation in identifying the origin and transfer of [small arms and light weapons] in order to prevent their diversion" to prohibited recipients.<sup>15</sup> This thesis will shed light on the origins of weapons most often found in the hands of combatants engaged in the world's deadliest conflicts and describe the civil aviation enabled global supply chain that continues to create a supply-side market for small arms.

## **1. Methodology**

Contemporary arms traffickers have built an extensive and highly adaptable supply network designed to circumvent national, regional, and international regulatory efforts to clandestinely deliver arms to prohibited buyers. This network constitutes a supply chain for the international trans-shipment of goods and can be represented as a flow chart of individuals and their associated roles that are required to facilitate this transaction between buyers and sellers. This qualitative study will rely on literature and case studies made available by inter-governmental organizations, such as the United Nations, and non-governmental organizations, such as the Norwegian Initiative on Small Arms

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<sup>14</sup> Amnesty International, *Dead on Time: Arms Transportation, Brokering and the Threat to Human Rights*, ACT 30/008/2006 (Amnesty International, May 10, 2006), <http://web.amnesty.org/library/index/engact300082006> (accessed December 12, 2007), 90.

<sup>15</sup> UN, *The United Nations Disarmament Yearbook*, (New York, NY: UN, 2005), <http://disarmament.un.org/yearbook-2005/DY2005.htm> (accessed August 24, 2007).

Transfers (NISAT) and Amnesty International, to construct the global supply chain of small arms transfers. This foundation will serve as a point of departure for further analysis of trafficking networks.

Network analysis is not a new academic discipline. However, it is increasingly being applied to the complex law enforcement challenges posed by organized criminal activity and international terrorism. Social network analysis is a sub-discipline of network analysis that focuses on the relations that exist between a discrete set of individual actors and suggests that these relations are more representative of the overall network than the unique attributes of each individual actor. Sociologists suggest that studying the relationships between a set of actors is instrumental to the development of useful disruption strategies.<sup>16</sup> Jörg Raab and H. Brinton Milward used the case of arms-trafficking in West Africa as a representation of a complex and mutually reinforcing network between warlords, criminals, and terrorists. The authors stated that “[t]he trade in diamonds in exchange for guns and military hardware exists at the intersection of the failed nation-states of Africa with tribal warlords who control both natural resources and sometimes the organs of state power, such as national banks, commerce, and foreign relations.”<sup>17</sup> The network constructed by Raab and Milward includes African warlords and dictators; rebel and terrorist groups; diamond mine owners; and the arms brokers, financiers, and traffickers that helped fuel the deadly conflicts of West Africa.

Social network analysis is used in this study to add another dimension to the understanding of the global arms supply chain. The finite set of actors involved in the arms trafficking network includes suppliers, brokers, financiers, banking institutions, insurance providers, transportation agents, customs and port

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<sup>16</sup> While there is a comprehensive literature on networks and social network analysis, this research will focus on those authors that have applied these analytical techniques to criminal and terrorist networks. These include, and are not limited to Jörg Raab & H. Brinton Milward, “Dark Networks as Problems”; Valdis E. Krebs, “Mapping Networks of Terrorist Cells”; Stuart Koschade, “A Social Network Analysis of Jemaah Islamiyah”; and Kathleen M. Carley, Ju-Sung Lee, and David Krackhardt, “Destabilizing Networks.”

<sup>17</sup> Jörg Raab and H. Brinton Milward, “Dark Networks as Problems,” *Journal of Public Administration Research and Theory* 13 (October 2003): 425.

authorities, and buyers. Central among these actors are the brokers and transportation agents. Many of the affiliated companies established by unscrupulous brokers and transportation agents are intended to further obfuscate the delivery of illicit weapons or serve as the non-prohibited destination for arms that can further be diverted to an embargoed state or sub-state actor. Upon developing a model for the global small arms supply chain, several case studies will be presented and used to illustrate the techniques used to clandestinely deliver arms to prohibited buyers. A final analysis should reveal the strength of the model and possibly provide the context for new strategies intended to disrupt arms trafficking networks.

## **2. Research Objectives**

There are two main objectives to this research. The first is to provide a general understanding of the proximate argument that small arms can both exacerbate and prolong intrastate conflict. The background will segue into a description of the global small arms supply chain that often relies on the rapid and relatively autonomous delivery characteristics of civil aircraft. This description, characterized as the “anatomy of an arms deal” will provide the contextual background for further description of small arms proliferation using network terms. The second main objective, therefore, is to demonstrate the use of social network analysis to further describe this global supply chain and the relational characteristics between individual actors. The underlying research question is: *Can the statistical tools and measures of social network analysis provide the means to systematically dissect the global small arms supply chain and reveal vulnerabilities that are neglected by the national, regional, and international counter-proliferation advocates?*

## **D. PRELUDE TO INDIVIDUAL CHAPTERS**

### **1. Chapter II: Conflict in Africa**

This chapter sets the stage for understanding the role that small arms play in African conflicts. It will not deliver a comprehensive understanding of the root cause of conflict in Africa but rather present the issue of small arms proliferation and the general widespread availability of small arms as a precondition that acts



to destabilize regions and subsequently prolong conflict. The Collier-Hoeffler model of civil war onset will be used to demonstrate that the availability of small arms and the weak status of nation states are quantifiable conditions that can explain intrastate (civil) war in Africa. The chapter will also include an introduction into the role of arms brokers and transportation agents in the complex nexus of arms trafficking networks and leaders of African intrastate conflicts. This chapter will conclude with a brief discussion of the regulatory environment for arms trafficking and civil aviation.

## **2. Chapter III: The Global Small Arms Supply Chain**

This chapter is intended to provide a primer for the methods of small arms proliferation and specifically the role that civil aircraft play in the networked operations of arms traffickers. The goal is to develop a step-by-step understanding of the global small arms supply chain which involves negotiation, brokerage, financing, insuring, and delivery. The focus will be on the illicit deals that violate regional or international arms embargoes. This process will be described as “the anatomy of an arms deal,” which can be graphically represented as a flow chart of actors and functions.

## **3. Chapter IV: Mapping Proliferation Networks of Liberia**

While Chapter III identifies and defines each actor involved in illicit small arms proliferation, this chapter will demonstrate how each of these actors are tied together by unique relationships that can be represented as a social network. To demonstrate the validity of the small arms supply chain, four separate case-studies will be outlined that identify central actors and functions that enabled the delivery of small arms despite international prohibitions. Each of the case studies will introduce separate brokers and transportation agents that were involved with illicit arms trafficking to the embargoed nation of Liberia during the second civil war from 1999 to 2003.

## **4. Chapter V: Analytical Findings and Conclusion**

After developing the principle case studies for this thesis, the concluding chapter will demonstrate social network analysis techniques and their ability to systematically dissect, describe, and analyze an arms trafficking network.

Instrumental in this analysis is the commonality that exists between seemingly discrete arms trafficking networks. This thesis will close by returning to the original research questions. If successful, the statistical tools and measures of social network analysis will be demonstrated as value-added techniques for further describing arms trafficking networks.

## II. HISTORY OF WEAPONS AND REGULATION IN AFRICA

### A. NEW WAY OF THINKING ABOUT AFRICA

The combined effect of the global small arms trade and increasing incidence of low intensity conflict have evolved to become a major security threat to the modern era. While the high-profile terrorist attacks of the late 1990s and early 2000s have supplanted this threat in most international security forums, small arms still present a serious challenge to the developing world. Many developing states have failed or are failing in their attempt to control the political, economic, and social impact of low intensity conflict. One of the greatest challenges to the security of these nations is the widespread availability of small arms to a variety of state and sub-state actors.

The end of the Cold War resulted in a decline in regional conflict and a rise in intrastate warfare. These conflicts are waged in part by sub-state actors such as insurgents, guerrillas, militias, and paramilitary groups that are equipped for the most part with rudimentary conventional weapons from former Cold-War stockpiles. The Human Security Report of 2005 documents this phenomenon through a comprehensive and evidence-based analysis of the trends in global security. The report indicates that civil wars, genocides, and international crises have all experienced a sharp decline. The traditional interstate wars and intrastate wars have been replaced by low-intensity civil wars “or ‘asymmetric’ wars in which high-tech forces fight poorly armed opponents.”<sup>18</sup> The report identifies the developing regions of the world as the most vulnerable to the increased incidence of low intensity intrastate war. The African sub-continent has been described as the “most conflict-ridden and underdeveloped [region] of the world and exhibits many of the symptoms which exacerbate the proliferation and impact of light weapons.”<sup>19</sup>

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<sup>18</sup> Human Security Centre, *The Human Security Report 2005*, (Vancouver, BC: Simon Fraser University, 2005), [http://www.humansecurityreport.info/HSR2005\\_HTML/Part1/index.htm](http://www.humansecurityreport.info/HSR2005_HTML/Part1/index.htm) (accessed August 24, 2007), 34.

<sup>19</sup> Chris Smith, “Areas of Major Concentration in the use and Traffic of Small Arms,” in *Small Arms Control: Old Weapons, New Issues*, ed. Jayantha Dhanapala, et al., (Geneva: UNIDIR/United Nations Institute for Disarmament Research, 1999), 63.

Despite this diagnosis for a continent that was largely ignored by the international community over the latter half of the twentieth century, development and security issues for Africa are currently seeing a sharp increase in international discourse. The United States, for example, established a unified military command responsible for a majority of the African continent in October 2007. The establishment of this new Africa Command underscores the perception of strategic policymakers that the African continent will play a significant role in the future of international relations. From an economic standpoint alone, trade between the U.S. and Africa has tripled between 1990 and 2005.<sup>20</sup> Continued development of trade relations, however, is dependent upon stable nation-states that can combine good governance with economic viability and security from internal conflict.

This chapter will explore the challenges faced by African nations that result from the widespread availability of small arms. The issue of conventional weapons proliferation is not new to the international community. However, traditional analysis and policy recommendations that were dominant during the Cold War focused on major weapon systems that were employed and proliferated by the two superpowers. The conventional weapons race that involved several proxy governments was largely accepted to be a potential cause for conflict and tension. The issue of small arms proliferations represented “a minor aspect of the larger arms traffic and thus not worthy of analysis.”<sup>21</sup>

The end of the Cold War shifted this world view on weapons proliferation by creating a second and third order effect that can be further explored to establish the contextual background for small arms trafficking. Most significantly, this near half-century long standoff ended with enormous stockpiles of weaponry amassed by NATO countries and the former Eastern bloc and post-Soviet states. These weapons, especially small arms from the Eastern bloc and post-Soviet

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<sup>20</sup> Lauren Ploch, “Africa Command: U.S. Strategic Interests and the Role of the U.S. Military in Africa,” *CRS Report for Congress* RL34003 (Washington, DC: July 6, 2007): 12.

<sup>21</sup> Michael Klare, “An Overview of the Global Trade in Small Arms and Light Weapons,” in *Small Arms Control: Old Weapons, New Issues*, ed. Jayantha Dhanapala, et al., (Geneva: UNIDIR/United Nations Institute for Disarmament Research, 1999), 3.

states, were flooded onto the international market by enterprising arms brokers. A majority would find their way to conflict zones of sub-Saharan African and South West Asia. This has resulted in a third order effect of exacerbating and prolonging conflicts in the developing regions of the world. Today these weapons are increasingly being provided by the emerging industrial giants such as China, who are rapidly opening trade concessions with African nations in the pursuit of much needed natural resources. These emerging suppliers of small arms will be further discussed along with a final review of the current national, regional, and international instruments designed to combat the spread of small arms.

## **B. SOURCE OF THE PROBLEM**

In his chapter of *Small Arms Control: Old Weapons, New Issues*, titled “Causation and the Arms Trade,” Ian Anthony describes the causes of the conventional arms trade as both profound and proximate.<sup>22</sup> The profound causes can be attributed to the existence of armed conflict or perception that conflict can occur. This explains the accumulation of small arms as a tool to preserve state sovereignty and deter aggressors. The United Nations Panel of Governmental Experts on Small Arms recognizes this profound case of the arms trade but concluded that a causal relationship did not exist between the stockpiles of small arms and the conflicts in which they were used.<sup>23</sup>

Anthony states that there is no single proximate cause for the arms trade but that they are often associated with any number of political, military, or economic factors present within both exporting and importing states.<sup>24</sup> The motivating factors for exporting states range from pure financial gain, to gaining economic concessions or expanding political influence. For arms buyers, both at the state and sub-state level, accumulation of weapons can be pursued as a

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<sup>22</sup> Ian Anthony, “Causation and the Arms Trade, with Reference to Small Arms,” in *Small Arms Control: Old Weapons, New Issues*, ed. Jayantha Dhanapala, et al., (Geneva: UNIDIR/United Nations Institute for Disarmament Research, 1999), 63.

<sup>23</sup> UN General Assembly, *Report of the Panel of Governmental Experts on Small Arms*, A/52/298 (New York, NY: UN, August 27, 1997), para. 38; quoted in Ian Anthony, “Causation and the Arms Trade, with Reference to Small Arms,” in *Small Arms Control*, 63.

<sup>24</sup> Ian Anthony, “Causation and the Arms Trade, with Reference to Small Arms,” 61-65.

means to maintain security, enhance status and prestige, or challenge the incumbent government regime. In the case of African conflicts, proximate causes for small arms accumulation are often associated with other forms of illicit activity such as drug trafficking or mineral exploitation ventures.

The widespread proliferation and availability of small arms will, ultimately, make “it more likely that potential belligerents will choose violence, and not negotiation, as the way to satisfy their grievances.”<sup>25</sup> This thesis does not chronicle the well documented cases of conflict, human rights violations, and both criminal and terrorist acts that can be attributed to the availability of small arms, but rather it will expose the method by which small arms are transferred between suppliers and buyers. This international trade in small arms constitutes a global supply chain of suppliers, buyers, and intermediaries that work to negotiate deals and arrange transportation of their deadly goods. The next section will focus on the sources of small arms that have been funneled into African conflict zones from the post-Colonial years up to the present. This will be followed by a review of the emerging weapon exporters that have embraced rapid globalization to satisfy the worlds abiding demand for small arms.

### **1. Collapse of the Soviet Union**

In preparation for global conflict, the diametrically opposed superpowers of the Cold War amassed massive quantities of arms, ammunition, and other conventional military equipment. These weapons were stockpiled in depots of both the United States and former Soviet Union as well as being dispersed and stored by their respective allies around the world. The combined stockpiling and dispersion of weapons resulted in a global proliferation of arms during the half-century stalemate that would only be surpassed in volume by the immense liquidation of stockpiles following the breakup of the Soviet Union.

Before the end of the Cold War, weapons were flooded into Africa through the “practice of arming ideologically opposed factions.... [by] powers with a

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<sup>25</sup> Michael Klare, “An Overview of the Global Trade in Small Arms and Light Weapons,” 9.

vested interest in different regional conflicts.”<sup>26</sup> The Soviet Union, for example, provided arms to a variety of independence or liberation movements including, opposition groups in Ethiopia, the Popular Movement for the Liberation of Angola (MPLA) from 1964 onwards, the South West Africa People’s Organization (SWAPO) in Namibia from 1961 onwards, the Liberation Front of Mozambique (FRELIMO) in Mozambique prior to and following independence from Portugal, and the anti-apartheid African National Congress (ANC) in South Africa.<sup>27</sup> Most of these arms deals were conducted to provide sub-state groups with the capacity to undermine or overthrow the government of their respective states. The end of the Cold War would only exacerbate this flow of weapons as arms dealers emerged with the requisite credentials to liquidate state-owned weapons to clients that ranged from warlords and guerrilla forces to incumbent and opposition leaders of African nations.

The end of the Cold War and subsequent economic turmoil of the post-Soviet states resulted in a massive sell-off of military hardware that ranged from AK-47 assault rifles to Ilyushin IL-76 cargo aircraft. This surplus military equipment would find its way to new users through both legitimate and illicit markets. The German government, for example, would liquidate former East German military wares through trade to less affluent NATO countries, including Greece and Turkey.<sup>28</sup> Conversely, massive quantities of unneeded weapons were dispersed around the world through illicit, black-market channels. These weapons first emerged on the black-market as Soviet soldiers sold off stockpiles of weapons while withdrawing from Eastern Europe.<sup>29</sup> Then, recognizing the financial windfall from moving former military weapons, a number of enterprising dealers and brokers would emerge and claim their stake of this lucrative market. These individuals would exploit the enormous supply of weapons and the corrupt

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<sup>26</sup> Virginia Gamba, “Problems and Linkages in Controlling the Proliferation of Light Weapons,” in *Small Arms Control: Old Weapons, New Issues*, ed. Jayantha Dhanapala, et al., (Geneva: UNIDIR/United Nations Institute for Disarmament Research, 1999), 39.

<sup>27</sup> Lucy Mathiak and Lora Lumpe, “Government Gun-Running to Guerrillas,” in *Running Guns: The Global Black Market in Small Arms*, ed. Lora Lumpe (London: Zed Books, 2000), 55.

<sup>28</sup> Michael Klare, “An Overview of the Global Trade in Small Arms and Light Weapons,” 7.

<sup>29</sup> *Ibid.*, 8.

and often impoverished status of military and government officials to obtain high quality weapons at rock bottom prices.

Viktor Bout, who will be revealed as a central figure in West African arms trafficking in Chapter IV, is one such individual who used his business savvy and international experience to create a global arms trafficking empire. Although his background is unclear, Bout acknowledges serving as an Air Force officer and is a graduate of the Soviet Military Institute of Foreign Languages. This language school was known as a training ground for the GRU (*Glavnoje Razvedyvatel'noje Upravlenije* or Main Intelligence Directorate), which was deeply involved in the flow of Russian arms to revolutionary movements and communist client states around the World.<sup>30</sup> Whether or not Bout was an intelligence agent of the Soviet Union, following the end of the Cold War, and at the ripe age of 25, he would purchase former Soviet Air Force cargo aircraft and employ their displaced crews to transport abandoned state arsenals of weapons to conflict zones in Africa, the Middle East, and Latin America. The logistics network that Bout would construct relied on the demand of “former Soviet clients, unstable governments, dictators, warlords, and guerilla armies.”<sup>31</sup>

## **2. Globalization**

While the first arms traffickers on the scene in Africa were well connected within the former Soviet Union and Easter bloc military bureaucracy, and a range of state and sub-state level clients that spanned the continent, the effects of globalization would quickly transform the arms trade into a highly complex and continually adjusting enterprise. Phil Williams, a leading scholar in the field of transnational organized crime, describes the effect of globalization on financial, commercial, transportation, and communication networks as having “enabled buyers and sellers to locate each other, identify points of common interest, and establish terms of cooperation.”<sup>32</sup> As formerly state-owned stockpiles of arms

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<sup>30</sup> Douglas Farah and Stephen Braun, “The Merchant of Death,” *Foreign Policy* 157 (November/December 2006): 40.

<sup>31</sup> *Ibid.*, 41.

<sup>32</sup> Quoted in Glenn E. Curtis and Tara Karacan, *The Nexus Among Terrorists, Narcotics Traffickers, Weapons Proliferators, and Organized Crim Networks in Western Europe* (Washington, DC: Library of Congress-Federal Research Division, 2002), 3.



were depleted, arms manufactures would continue to advance the supply-side economy of the global arms market through increased production and trade. During this time frame, however, the top arms manufacturers no longer simply built weapons, but rather they integrated components of weapons that are sourced from suppliers located around the globe. To support this type of manufacturing, “production facilities are set up in new, often developing, countries, brokers and dealers flourish, technology is traded, and arms companies produce their branded weapons in many locations.”<sup>33</sup>

The global trade in military quality arms is still dominated by the United States, Russia, the United Kingdom, France, and Germany. These five countries contributed to an estimated 82 percent of major conventional arms transfers in 2005.<sup>34</sup> However, emerging arms producers and exporters are gaining ground and are contributing to a growing segment of the global arms trade. The 2007 Small Arms Survey estimates that 60 to 80 percent of all military rifles, assault rifles, and carbines are manufactured by producers that acquired the technology from others. This “licensed production” of small arms is increasing to enhance the market share and research and development contributions of the licensor while at the same time developing the domestic industry and decreasing import dependence on the part of the licensee.<sup>35</sup>

While globalization is expanding the production potential of the major arms suppliers, it can also weaken the states that ultimately fall victim to their destructive capability. H. C. R. Muggah argues that the effect of globalization on Africa has been to weaken the state which is unable to compete with new social and economic actors who operate across boundaries.<sup>36</sup> The global actors in the

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<sup>33</sup> Control Arms Campaign, *Arms Without Borders: Why a Globalised Trade Needs Global Controls*, (Control Arms Campaign: October, 2006), 7, [http://www.controlarms.org/documents/Arms%20Without%20Borders\\_Final\\_21Sept06.pdf](http://www.controlarms.org/documents/Arms%20Without%20Borders_Final_21Sept06.pdf) (accessed December 5, 2007).

<sup>34</sup> *Ibid.*, 9.

<sup>35</sup> Small Arms Survey, *Small Arms Survey 2007*, under "Chapter 1: Multiplying the Sources (Summary)," <http://www.smallarmssurvey.org/files/sas/publications/yearb2007.html> (accessed December 7, 2007).

<sup>36</sup> H. C. R. Muggah, "Globalisation and Insecurity: The Direct and Indirect Effects of Small Arms Availability," *IDS Bulletin* 32, no. 2 (2001): 71.

illicit small arms trade capitalize on the inability of weak states to regulate their borders. Profit motivated actors of the global economy work to reduce trade barriers resulting in a massive increase in the flow of freely traded goods. These factors have “facilitated smuggling and illicit arms trafficking and overwhelmed state capacities to police their physical and electronic frontiers.”<sup>37</sup> The supply of this illicit flow of weapons is increasingly being provided by the emerging industrial nations who have a vested interest in Africa and its abundant natural resources.

### **3. Emerging Exporters**

Worldwide military spending in the year 2006 exceeded the highest adjusted dollar amount reached during the height of the Cold War.<sup>38</sup> Between 1985 and 2000, military spending doubled in Botswana, the Democratic Republic of Congo, Nigeria, Rwanda, Sudan, and Uganda.<sup>39</sup> The Control Arms campaign<sup>40</sup> claims that this growth in spending is not related to expanding defense requirements, but rather the increasing availability of arms in a growing global market. Increased availability of small arms can be attributed to the emerging exports of countries such as Brazil, China, India, Israel, Pakistan, Singapore, South Korea, South Africa, and Turkey.

Most of the nations listed above are engaged in the production of advanced conventional military hardware which is outside the scope of this thesis; however, there are many more countries that are producing the less expensive weapons that have become instrumental to African conflicts. This includes at least 92 countries that produce small arms, at least 14 of which are manufacturing the ubiquitous Kalashnikov AK-47 assault rifle or one of its

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<sup>37</sup> H. C. R. Muggah, "Globalisation and Insecurity: The Direct and Indirect Effects of Small Arms Availability," 71.

<sup>38</sup> Control Arms Campaign, *Arms Without Borders: Why a Globalised Trade Needs Global Controls*, 6.

<sup>39</sup> *Ibid.*

<sup>40</sup> The Control Arms Campaign is jointly run by Amnesty International, IANSA and Oxfam, <http://www.controlarms.org/> (accessed December 7, 2007).

derivatives.<sup>41</sup> Recent efforts to document the source of Africa's conflict arms estimate that 95 per cent of the most commonly used weapons in Africa have origins from outside the continent.<sup>42</sup> The most prevalent weapon is the AK-47 assault rifle which has become symbolic of guerrilla movements, opposition groups, and terrorist organizations around the world. The AK-47, described as "the weapon that changed the face of war," has increased the level of destruction between warring groups and due to its low weight and simplicity in design and operation has enabled combatants to enlist child soldiers into many of the world's bloodiest intrastate conflicts.<sup>43</sup>

While not currently the largest supplier of weapons to Africa, China is a quickly growing arms producer and has been the topic of a growing multilateral discourse related to international trade standards. Longstanding trade networks between China and Africa are increasingly being leveraged to help fuel China's rapid emergence on the global market place. The past few years have seen "an increasingly confident and prosperous China [initiate] a wave of diplomacy designed to expand its trade and influence throughout the third world."<sup>44</sup> Chinese efforts have been focused on resource-rich countries such as Angola, Guinea, Nigeria, and Sudan. Consequently, weapons such as the Chinese Type 56, a derivative of the Kalashnikov AK-47 assault rifle, have made their way to the stockpiles of groups such as the Lord's Resistance Army (LRA). The LRA is a rebel guerrilla army operating from northern Uganda and parts of Sudan who have been accused of widespread humanitarian rights violations while pursuing a region ruled in accordance with the Ten Commandments.<sup>45</sup> Western nations

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<sup>41</sup> Control Arms Campaign, *Arms Without Borders: Why a Globalised Trade Needs Global Controls*, 9.

<sup>42</sup> Control Arms Campaign, *Africa's Missing Billions: International Arms Flows and the Cost of Conflict*, Briefing Paper 107 (Control Arms Campaign: October 11, 2007), [www.oxfam.org/en/files/bp107\\_africas\\_missing\\_billions\\_0710.pdf](http://www.oxfam.org/en/files/bp107_africas_missing_billions_0710.pdf) (accessed October 25, 2007).

<sup>43</sup> Larry Kahaner, *AK-47: The Weapon that Changed the Face of War* (Hoboken, NJ: John Wiley & Sons, 2006).

<sup>44</sup> James Traub, "China's African Adventure," *The New York Times Magazine* (November 19, 2006), 78.

<sup>45</sup> Nick Grono, "What Comes First, Peace or Justice?" *International Herald Tribune*, (October 27, 2006), <http://www.crisisgroup.org/home/index.cfm?id=4474&l=1> (accessed October 29, 2007).

have been quick to criticize China for its unconditional support of government regimes and sub-state actors commonly known to perpetrate egregious human rights violations. Chinese agreements with suspect government regimes, such as Sudan and Zimbabwe, include “low-cost loan guarantees that subvert international lending requirements” in turn for resource concessions to include oil exploration and extraction rights.<sup>46</sup>

Another consequence of the Chinese influence in Africa is expanded concessions on weapons sales. Chinese Type 56 assault rifles, for example, are increasingly finding their way to African conflict zones.<sup>47</sup> These concessions became evident following the charges against Dutch-national Gus van Kouwenhoven for allegations of crimes against humanity during his tenure as president of the Liberian-based Oriental Timber Company. Van Kouwenhoven was arrested in Rotterdam, Netherlands, in March 2005 after it was discovered that he brokered an arms deal involving Chinese weapons shipped into Liberia in violation of the UN arms embargo against the Charles Taylor regime.<sup>48</sup> It should come as no surprise that during the timeframe of violations, van Kouwenhoven’s company held the largest logging concessions in Liberia and was providing timber to China. The effect of these concessions and other sources of weapons in Africa have had an immeasurable effect on development and the prospects for peace that still confound efforts to end the intrastate conflicts of the eastern provinces of the Democratic Republic of Congo and the Darfur region of Sudan.

### **C. THE ROLE OF SMALL ARMS IN AFRICAN CONFLICTS**

Amnesty International claims that “between one-third and three-quarters of all grave human rights violations and 85 per cent of [reported] killings...over the past decade have involved the use of small arms and light weapons.<sup>49</sup> The

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<sup>46</sup> Benjamin Pauker, “Congo: On the Trail of an AK-47,” *Frontline World Rough Cut* (August 2007), [http://www.pbs.org/frontlineworld/rough/2007/08/congo\\_on\\_the\\_trgen.html](http://www.pbs.org/frontlineworld/rough/2007/08/congo_on_the_trgen.html) (accessed December 7, 2007).

<sup>47</sup> *Ibid.*

<sup>48</sup> Amnesty International, *Dead on Time: Arms Transportation, Brokering and the Threat to Human Rights*, ACT 30/008/2006 (Amnesty International: May 10, 2006), <http://web.amnesty.org/library/index/engact300082006> (accessed December 12, 2007).

<sup>49</sup> Control Arms Campaign, *Arms Without Borders: Why a Globalised Trade Needs Global Controls*.

United Nations claims that the availability of small arms plays a significant role in “sustaining conflicts, in exacerbating violence, in contributing to the displacement of innocent populations and threatening international law, and in fuelling crime and terrorism.”<sup>50</sup> These claims are only further reinforced by a wide body of literature that suggests small arms and armed violence are one of the greatest threats to the peace, stability, and development of Africa.

While Cold-War era military depots have been largely depleted of surplus small arms, rapid globalization and the emergence of new arms producing nations have ensured that supply-side conditions continue to provide sources of weaponry for African conflicts. In fact, many of these emerging exporters are able to provide cheaper weapons which the Small Arms Survey demonstrates to increase the risk of civil war, independent of other conflict risk factors.<sup>51</sup> These conflict risk factors, or root causes of conflict, are often measured through the evaluation of “socio-economic development, effective democracy and a credible law and order mechanism.”<sup>52</sup>

Small arms alone are rarely attributed as a root cause of conflict, however, they are widely accepted to be a precondition for violence that can exacerbate and increase the lethality of conflict. Presented as an independent variable, therefore, the availability of small arms is a quantifiable element that can be controlled to reduce levels of violence. Economists Paul Collier and Anke Hoeffler advance this argument by suggesting that the motivating factors for conflict are tied to measurable conditions of greed and that fighting will only occur with the presence of atypical opportunities to combatants on either side of a

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<sup>50</sup> UN Security Council, *Report of the Panel of Experts appointed pursuant to Security Council Resolution 1306 (2000), paragraph 19, in relation to Sierra Leone, S/2000/1195* (New York, NY: UN, 2000), 31.

<sup>51</sup> Small Arms Survey 2007, *What Price the Kalashnikov: The Economics of Small Arms* (Small Arms Survey: 2007), <http://www.smallarmssurvey.org/files/sas/publications/yearb2007.html> (accessed October 10, 2007).

<sup>52</sup> Virginia Gamba, “Problems and Linkages in Controlling the Proliferation of Light Weapons,” 38.

conflict.<sup>53</sup> Using this context, Collier and Hoeffler developed a model to predict the onset of intrastate conflict based on opportunity as the determining factor to predict the onset or nonoccurrence of armed conflict.

The *Collier-Hoeffler Model of Civil War Onset* incorporates factors that contribute to atypical opportunities such as the available finances of both incumbent regimes and potential opposition groups. Available capital is thus compared to the overall cost of rebellion and the military advantage of the opposition group to the state security apparatus. The sources of finance can be further divided by the circumstances that generate profitable opportunities to include the exploitation of resources, donations from diasporas, and subventions from external governments.<sup>54</sup> Availability of finances can buy, among other things, weapons, which further create the conditions of atypical opportunities contributed by the Collier-Hoeffler model to increase the likelihood of civil war.

Considering weapons an a quantitative indicator for the opportunity to rebel, which is demonstrated by the Collier-Hoeffler model as a determining factor for intrastate conflict, provides the rational to focus on intervention strategies of the global supply chain of small arms. The rational is further reinforced by the recent research of the Control Arms Campaign to estimate the economic cost of armed conflict to Africa's development. Using factors such as the decline in gross domestic product (GDP) for countries at war, the cost of armed conflict for 23 African countries was conservatively estimated to be \$284 billion lost between 1990 and 2005. This estimated value, which represents an average annual loss of 15 per cent of GDP, "amounts to an average of \$18 [billion] per year lost by Africa due to armed conflict."<sup>55</sup> The underlying theme to the Control Arms effort to quantify the cost of armed conflict is to represent a lost

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<sup>53</sup> Paul Collier, Anke Hoeffler, and Nicholas Sambanis, "The Collier-Hoeffler Model of Civil War Onset and the Case Study Project Research Design," in *Understanding Civil War (Volume 1: Africa): Evidence and Analysis*, ed. Paul Collier and Nicholas Sambanis, (Washington, DC: World Bank Group, 2005), 1-34.

<sup>54</sup> *Ibid.*, 6-7.

<sup>55</sup> Control Arms Campaign, *Africa's Missing Billions: International Arms Flows and the Cost of Conflict*.

opportunity for investment in stability and development initiatives that could have mitigated the complex political, commercial, and socio-economic causes for conflict.

Recognizing that small arms are a precondition for conflict and considering the economic cost to development that can be attributed to armed conflict, controlling the transfer of small arms “is therefore an indispensable element in the effort to make a more peaceful world.”<sup>56</sup> The final section of this chapter will introduce the reader to the international, regional, and state level efforts to control the illicit proliferation of small arms and hold accountable those individuals, organizations, and states responsible for the repercussions.

#### **D. CONTROLLING THE SPREAD OF SMALL ARMS**

The watershed event for international action against the spread of small arms occurred at the United Nations *Programme of Action to Prevent, Combat and Eradicate the Illicit Trade in Small Arms and Light Weapons in All Its Aspects* held in New York from 9 to 20 July 2001. The most recent conference to review the implementation of the Programme of Action (PoA) ended without consensus on an outcome document, but it did “succeed in recalling the issue of small arms and light weapons to the attention of the international community.”<sup>57</sup> During the opening session, Secretary-General Kofi Annan stated:

Our energy, our emphasis, and our anger is directed against illegal weapons, not legal ones. Our priorities are effective enforcement, better controls and regulation, safer stockpiling, and weapons collection and destruction. Our targets remain unscrupulous arms brokers, corrupt officials, drug trafficking syndicates, criminals and others who bring death and mayhem into our communities, and

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<sup>56</sup> Control Arms Campaign, *Arms Without Borders: Why a Globalised Trade Needs Global Controls*.

<sup>57</sup> UN Secretary-General, “Secretary-General Disappointed Small Arms Conference Ended Without Agreement, But Says Global Community Committed to Action Plan to Curtail Illicit Trade,” statement issued by SG spokesman at the UN Conference to Review the implementation of the Programme of Action on the Illicit Trade in Small Arms and Light Weapons, (New York, NY: UN, July 10, 2006), <http://www.un.org/News/Press/docs/2006/sgsm10558.doc.htm> (accessed October 4, 2007).

who ruin lives and destroy in minutes the labour of years. To halt the destructive march of armed conflict and crime, we must stop such purveyors of death.<sup>58</sup>

It is important to note that the “purveyors of death” who broker weapons deals and arrange trans-shipment rely on a variety of modes for transportation which include trucks, aircraft, and maritime vessels. A variety of spatial and temporal factors will influence the decision to use one or multiple methods over others. A United Nations Monitoring Group investigating the implementation of the embargo on Somalia noted a downward trend in the use of aircraft to smuggle weapons while the use of sea transport has increased due to the relative ease of arranging shipments and the overall cost effectiveness.<sup>59</sup> The Group identified the commercial supply chain that provides weapons to actors on both sides of the Somali political divide to “generally [consist] of buyers (recipients) and associates (individuals and organizations), sellers and middlemen, the shipment itself, transport and finally the means and methods of payment.”<sup>60</sup> In other regions, such as the conflict zones of West Africa and the Eastern regions of the Democratic Republic of Congo, aircraft remain the preferential means to traffic weapons. This is largely due to the isolated locations for delivery and the presence of inadequate road networks that often become impassible during the rainy season.<sup>61</sup>

The means of transport is an independent variable in a process that engages many of the same elements within the supply chain including brokers, financiers, and the transportation agents that ultimately determine the mode of delivery. Some of the instruments advocated by the 2001 PoA focus on mode-specific means of transportation, however, most policy has been focused on the

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<sup>58</sup> Kofi Annan, “Address to United Nations Small Arms Review Conference,” (UN Secretary-General address, New York, NY: UN, June 26, 2006), <http://www.un.org/events/smallarms2006/pdf/arms060626anna-eng.pdf> (accessed October 4, 2007).

<sup>59</sup> UN Security Council, Report of the Monitoring Group on Somalia pursuant to Security Council resolution 1558 (2004), S/2005/153, (New York, NY: UN, 2005). 7.

<sup>60</sup> Ibid., note 1.

<sup>61</sup> Amnesty International, *Dead on Time: Arms Transportation, Brokering and the Threat to Human Rights*, 35.



larger proliferation system with recommendations at the national, regional, and international level to combat illicit arms proliferation.

### **1. National Level Regulations**

Most of the measures agreed upon by states participating in the 2001 Programme of Action (PoA) were focused on enhancing national level regulations and administrative procedures to prevent, combat, and eradicate the illicit trade in small arms. All signatories agreed that central to these efforts is the identification of groups and individuals “engaged in the illegal manufacture, trade, stockpiling, transfer, possession, as well as financing for acquisition, or illicit small arms and light weapons.”<sup>62</sup> While the conference would not create legally binding instruments to enforce small arms export, import, transit, or retransfer methods, it would create the framework that many nations have used to develop strict licensing procedures.

The global supply chain for small arms will be outlined in detail throughout Chapter III of this thesis. For the purpose of this chapter, however, a brief introduction is necessary to further discuss the regulatory environment that unscrupulous individuals, groups, and nations will exploit to engage in the illicit trade of small arms. To outline the arms acquisition process and provide a basis to explain national arms export policies, Ian Anthony describes arms sales as an act of state policy.<sup>63</sup> By using the state as the unit of analysis, Anthony further disaggregates buyers and sellers into the categories represented in Table 1. The arms transfers that are relevant to this thesis and those that will be used to construct the global supply chain of small arms transfers can be accommodated on this matrix.

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<sup>62</sup> UN, *Report of the United Nations Conference on the Illicit Trade in Small Arms and Light Weapons in All Its Aspects*, A/CONF.192/15, (New York, NY: UN, July 9-20, 2001).

<sup>63</sup> Ian Anthony, “Causation and the Arms Trade, with Reference to Small Arms,” 68.

	<i>Supplier</i>			
		Government agency	Manufacturing company	Trading company
<i>End-user</i>	Government (armed forces)	←	←	←
	Government (paramilitary forces)	←	←	←
	Licensed manufacturer	←	←	←
	Non-state armed forces	←	←	←

Table 1. Matrix of Suppliers and Recipients in Small Arms Transfers<sup>64</sup>

To coordinate weapon sales between the suppliers and end-users identified on this matrix are a number of intermediaries that are each responsible for one or multiple segments of the supply chain. The most central of these figures are the arms brokers who can be described as the “middlemen who organize arms transfers between two or more parties.”<sup>65</sup> For the context of this section, it is important to note that brokers are involved in both the mediation or negotiation of arms deals and the associated activities of arms transfers to include making arrangements for “transportation, financing, insurance and the provision of technical services” to their prospective clients.<sup>66</sup>

The activity of brokers and those involved in illicit weapons deals has been the focus of United Nations conferences that followed the 2001 PoA. In December 2005 the General Assembly decided to establish a group of governmental experts “to consider further steps to enhance international cooperation in preventing, combating and eradicating illicit brokering in small

<sup>64</sup> Ian Anthony, “Causation and the Arms Trade, with Reference to Small Arms,” 69.

<sup>65</sup> Brian Wood and Johan Peleman, “Making the Deal and Moving the Goods: The Role of Brokers and Shippers,” in *Running Guns: The Global Black Market in Small Arms*, ed. Lora Lumpe (London: Zed Books, 2000), 129.

<sup>66</sup> Holger Anders and Silvia Cattaneo, *Regulating Arms Brokers: Taking Stock and Moving Forward the United Nations Process*, (Belgium: GRIP, 2005), 9, [http://www.grip.org/pub/rapports/rg05-hs\\_courtage.pdf](http://www.grip.org/pub/rapports/rg05-hs_courtage.pdf) (accessed December 7, 2007).

arms and light weapons.”<sup>67</sup> As of June 2007, this group of 25 member states has adopted a consensus report to be considered by the General Assembly which “suggests a set of optional elements for inclusion in national legislation, and [calls] for consistent attention to the issue of illicit brokering in small arms at future United Nations meetings.”<sup>68</sup> The United States has responded to illicit brokerage activity by declaring that weak or non-existent national laws and regulations “allows arms brokers to procure military-grade weapons for terrorist and violent insurgent groups, often in violation of United Nations sanctions as well as national laws, with impunity.”<sup>69</sup>

The overwhelming response of the United Nations and many civil society organizations toward illicit brokerage activities has been focused on establishing common national systems of control. The national legislation and administrative procedures to regulate this activity can be divided between regulating the individual brokers by establishing or strengthening licensing requirements and regulating individual arms transfers by introducing comprehensive export and import licensing procedures. Additionally, regulatory efforts that target arms brokers are often expanded to include the transportation agents that are instrumental in the shipment of goods between suppliers and end-user. As will be demonstrated later in this thesis, the line between brokers and transportation agents is often ill-defined.

**a. *Licensing Brokers and Transportation Agents***

The subject of licensing procedures for the transfer of weapons and licensing procedures that govern the activity of both brokers and transportation agents is a principal component to most policy recommendations designed to curb the illicit spread of small arms. Since adopting the 1996 “Framework for Arms Control,” the Organization for Security and Co-operation in Europe (OSCE)

<sup>67</sup> UN General Assembly, *Resolution 60/81 of The Illicit Trade in Small Arms and Light Weapons in All Its Aspects*, A/RES/60/81, (New York, NY: UN, January 11, 2006).

<sup>68</sup> UN, “Expert Group on Illicit Brokering in Small Arms, Light Weapons Concludes Work,” (UN press release DC/3072, New York, NY: UN, June 12, 2007), <http://www.un.org/News/Press/docs/2007/dc3072.doc.htm> (accessed October 29, 2007).

<sup>69</sup> U.S. Department of State, “U.S. Arms Export Control Compliance and Enforcement and the UN Program of Action for Small Arms and Light Weapons (SA/LW),” (Fact Sheet, July 3, 2006), <http://www.state.gov/t/pm/rls/fs/68550.htm> (accessed October 2, 2007).

has continued to advocate a strict licensing regiment to control import and export activities and the individuals and organizations involved.<sup>70</sup> This model for licensing arms import, export, brokerage, and transportation procedures is the most widely accepted and applicable to this thesis considering the participatory status of the most of Africa's arms suppliers within the OSCE. The OSCE requires that participating states use national licensing procedures on shipments of small arms imported into, or exported from their territory "to prevent the diversion of the small arms to any party other than the declared recipient."<sup>71</sup>

Enhancing the licensing requirements for brokers and transportation agents involved in the small arms trade is becoming increasingly accepted as an effective means to limit illicit arms transfers. The International Air Transport Association (IATA) has adopted a mechanism to register freight forwarders, an intermediary between brokers and transport agents; however, this has not yet translated into a binding international requirement for agents who handle air freight.<sup>72</sup> The lack of systematic and standardized registration and licensing requirements leads brokers and transportation agents to shift their activities to territories with nominal restrictions. The same phenomenon is evident in the often vague characterizations of exactly what an arms broker or transport agent is responsible for. The United States was one of the first countries to require that arms brokers are licensed and further considers financing, freight forwarding, and transportation as functions of brokering.<sup>73</sup> This broad interpretation of arms brokerage activities has been adopted by the Economic Community of West African States (ECOWAS), which requires

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<sup>70</sup> Organization for Security and Co-operation in Europe (OSCE), *OSCE Document on Small Arms and Light Weapons*, (adopted at the 308<sup>th</sup> Plenary Meeting of the OSCE Forum for Security Co-operation on November, 24, 2000).

<sup>71</sup> *Ibid.*, sec. III.B.2.

<sup>72</sup> UN Security Council, *Report of the Panel of Experts pursuant to paragraph 22 of Security Council resolution 1521 (2003) concerning Liberia*, S/2004/396 (New York, NY: UN, 2004), 8.

<sup>73</sup> BASIC, International Alert, and Saferworld, *Controlling Arms Brokering and Transport Agents*, (BASIC, February, 2001) <http://www.saferworkd.org.uk/publications.php?id=131> (accessed October 3, 2007).

member states to register its citizens, and companies that are brokering small arms to include financial and transportation agents.<sup>74</sup>

**b. Licensing Individual Arms Deals**

Whether licensed or not, arms brokers and transportation agents are subject to specific regulation each time they engage in the export of controlled commodities. The irregularity of national regulations on export activity, however, has resulted in both brokers and transportation agents avoiding nations with strict rules and practices while exploiting others.<sup>75</sup> This practice, known as “third-country” or “third-party” brokering involves a weapons shipment that is “not exported, imported or transited through the country from which the broker operates.”<sup>76</sup> Nations lacking strict legislation on brokering activities, therefore, have become havens for unscrupulous agents who would otherwise be stymied by strict governmental oversight in their home country.

While there is a limited number of explicit prohibitions on weapons proliferation, national level export controls are among the body of law that when combined, will act to limit the freedom of a state to export weapons.<sup>77</sup> The U.S. government, for example, mandates the monitoring and reporting of small arms and light weapons transfers under the Arms Export Control Act and the Foreign Assistance Act. The Arms Export Control Act divides responsibility for licensing, monitoring, and reporting the export of small arms and light weapons among the executive branches. Specifically, the Department of Defense is responsible for government-to-government arms transfers while the State Department licenses and monitors commercial arms exports.<sup>78</sup> This legislation recognizes the U.S.

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<sup>74</sup> ECOWAS, *ECOWAS Convention on Small Arms and Light Weapons, Their Ammunition and Other Related Material*, (ECOWAS Article 20, 2006), <http://www.iansa.org/regions/wafrica/documents/CONVENTION-CEDEAO-ENGLISH.PDF> (accessed October 17, 2007).

<sup>75</sup> Holger Anders and Silvia Cattaneo, *Regulating Arms Brokers: Taking Stock and Moving Forward the United Nations Process*, 9.

<sup>76</sup> *Ibid.*

<sup>77</sup> Emanuela-Chiara Gillard, “What’s Legal? What’s Illegal?” in *Running Guns: The Global Black Market in Small Arms*, ed. Lora Lumpe (London: Zed Books, 2000), 27.

<sup>78</sup> U.S. General Accounting Office, *Conventional Arms Transfers: U.S. Efforts to Control the Availability of Small Arms and Light Weapons*, report to the Honorable Dianne Feinstein, U.S. Senate, GAO/NSIAD-00-141 (Washington, DC: July 2000), 8.

concern for the widespread proliferation of conventional weapons and calls for “greater global efforts to restrain transfers of these items to regions of conflict.”<sup>79</sup>

Despite the efforts of the United States and several other countries, illicit proliferation remains widespread because of inadequate control on authorized transfers and losses due to inadequate management or security of legitimate weapon stockpiles.<sup>80</sup> The lack of control over weapons transfers can result in the diversion of an otherwise legitimate arms transfer to an unauthorized recipient either while the weapons are in transit or after they have been delivered. Such transfers occur “as a result of inadequate or inconsistent national regulations or systems, poor enforcement practices, or due to deliberate, corrupt or neglectful performance by some officials, in one or more of the states responsible for regulating the transfer.”<sup>81</sup>

Speaking before the United Nations group of governmental experts on illicit brokering in 2006, Nicholas Marsh of the International Action Network on Small Arms (IANSA) recommended that arms brokers “may not take possession of the arms in question; brokers should be registered by governments; specific brokering activities should require individual licenses before they are carried out; governments should exchange information on brokers... [and] legal sanctions should be introduced to punish those parties that do not abide by brokering regulations.”<sup>82</sup> The African continent is particularly susceptible to exploitation by unscrupulous brokers because of, among other factors, ineffective governmental

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<sup>79</sup> U.S. General Accounting Office, *Conventional Arms Transfers: U.S. Efforts to Control the Availability of Small Arms and Light Weapons*, 6.

<sup>80</sup> Owen Greene and Elizabeth Kirkham, *Small Arms and Light Weapons Transfer Controls to Prevent Diversion: Developing and Implementing Key Programme of Action Commitments*, (Biting the Bullet: August 2007), 9, [http://www.saferworld.org.uk/images/pubdocs/070828%20tB%20SALW%20diversion%20paper%20\(2\).pdf](http://www.saferworld.org.uk/images/pubdocs/070828%20tB%20SALW%20diversion%20paper%20(2).pdf) (accessed October 3, 2007).

<sup>81</sup> *Ibid.*, 3.

<sup>82</sup> Nicholas Marsh, “IANSA Presentation,” (lecture given to the United Nations Group of Governmental Experts to Consider Further Steps to Enhance International Cooperation in Preventing, Combating and Eradicating Illicit Brokering in Small Arms and Light Weapons, Geneva, November 27, 2006), [http://www.prio.no/files/file49133\\_presentation\\_to\\_the\\_united\\_nations\\_group\\_of\\_governmental\\_experts\\_to\\_consider\\_further\\_steps\\_to\\_enhance\\_internat.pdf?PHPSESSID=b8a3+ac](http://www.prio.no/files/file49133_presentation_to_the_united_nations_group_of_governmental_experts_to_consider_further_steps_to_enhance_internat.pdf?PHPSESSID=b8a3+ac) (accessed October 2, 2007).

control, open borders, and a lack of resources and information necessary to provide national or regional level oversight of the problem.<sup>83</sup> As a result, regional alliances have been formed to address the individual weaknesses of member states.

## **2. Regional Efforts**

Controlling the illicit flow of arms to prohibited end-users is dependent upon the ability of individual states to monitor imports of specific goods entering their international ports or crossing state lines. The states most susceptible to armed violence in Africa, however, often lack “the necessary equipment, training and manpower for border control, while arms smugglers exploit the un-patrolled areas between checkpoints.”<sup>84</sup> These resource constraints extend to international ports, specifically airports, where port authorities or customs officials are either lacking in capability or susceptible to corruption payments that are often used to facilitate illicit import activity. Variations on the lack of national export and import control or oversight of ports and borders can be mitigated by regional agreements.

There are several regional alliances present in Africa which are organized to address a variety of economic and security concerns. The Southern African Development Community (SADC) agreed in 1998 to strengthen their control on arms transfers as part of a wider *Regional Action Programme on Light Arms*.<sup>85</sup> This led to the 2001 *Protocol on the Control of Firearms, Ammunition and other Related Material* which aims to “promote and facilitate cooperation and exchange of information and experience in the Region to prevent, combat, and eradicate the illicit manufacturing of, excessive and destabilizing use and accumulation of, trafficking in, possession and use of, firearms, ammunition and other related

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<sup>83</sup> UN, *Report of the Panel of Government Experts on Small Arms*.

<sup>84</sup> Kerry Maze and Hyunjoo Rhee, *International Assistance for Implementing the UN Programme of Action on the Illicit Trade in Small Arms and Light Weapons in All Its Aspects: Case Study of East Africa*, (Geneva: UN Institute for Disarmament Research, 2007).

<sup>85</sup> Control Arms Campaign, *Arms Without Borders: Why a Globalised Trade Needs Global Controls*, 22.

materials.”<sup>86</sup> In October, 1998, the member states of the Economic Community of West African States (ECOWAS) declared a voluntary moratorium on the import, export, and manufacture of small arms. This moratorium has since been extended and “has emerged as a vital instrument for micro-disarmament to the extent of being a model to other sub-regions.”<sup>87</sup>

In contrast to these non-legally binding agreements, the Nairobi Protocol, which was signed in 2004 and entered into force in May 2006, is tailored to the regional concerns of East Africa and requires its member states<sup>88</sup> to implement the stated provisions.<sup>89</sup> Taking the lead on implementation is Burundi, Kenya, Rwanda, Tanzania, and Uganda which are addressing the illicit small arms trade through development of new legislation, defining national objectives, and implementing action plans in coordination with the Regional Center on Small Arms and Light Weapons.<sup>90</sup>

The regional alliances to combat small arms proliferation and misuse in Africa, including the SADC, ECOWAS, and the Nairobi Protocol, can provide a basic framework for the enforcement of anti-proliferation initiatives by criminalizing illicit trafficking, manufacturing, possession, and misuse of small arms and developing specific legislation to regulated the import of small arms. Regional alliances also affect weapon producing countries as evidenced by the 1993 agreement between the Organization for Security and Cooperation in Europe (OSCE) on the Criteria on Conventional Arms Transfers. This agreement requires that exporting governments avoid transfers that are likely to result in

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<sup>86</sup> SADC, *Protocol on the Control of Firearms, Ammunition and Other Related Materials in the Southern African Development Community (SADC) Region*, (SADC, August, 2001), Article 3, Objective b.

<sup>87</sup> International Action Network on Small Arms (IANSA), “About the Economic Community of West African States,” <http://www.iansa.org/regions/wafrica/ecowas.htm> (accessed October 30, 2007).

<sup>88</sup> The member states of the Nairobi Protocol are Burundi, the Democratic Republic of Congo, Djibouti, Ethiopia, Eritrea, Kenya, Rwanda, the Seychelles, Somalia, Sudan, Tanzania, and Uganda.

<sup>89</sup> Kerry Maze and Hyunjoo Rhee, *International Assistance for Implementing the UN Programme of Action on the Illicit Trade in Small Arms and Light Weapons in All Its Aspects: Case Study of East Africa*.

<sup>90</sup> Ibid.



human rights violations.<sup>91</sup> This action initiated subsequent agreements such as the 1998 European Union Code of Conduct on Arms Transfers and the 2002 Best Practice Guidelines for Exports of Small Arms and Light Weapons.<sup>92</sup>

The intent to control exports from arms producing countries such as the member states of the OSCE can be lost, however, through the practice of licensed production of small arms. While the technology for weapons production can originate from a country that complies with international standards for arms exports, “they retain little or no control over production levels or the onward export of arms produced overseas under license.”<sup>93</sup> In July 2006, Russia, a member-state of the OSCE, authorized the licensed production of its new AK-103 rifle in Venezuela with the imposed condition that no rifles would be exported without prior consent. Despite this agreement, there are no binding global standards for such regulation and many governments have not exercised meaningful control over licensed weapons export that they would not allow themselves.<sup>94</sup>

Another role of regional alliances that receive attention in counter-proliferation discussions is port and border security and the systems to monitor trucks, aircraft, and ships that carry freight across borders and into international ports. Regulating and monitoring air traffic over Africa is complicated by the near complete lack of radar coverage across much of the continent. Furthermore, functional radar sites are limited to providing approach and departure control for aircraft at a limited number of large international airports. To monitor aircraft transiting the airspace between these locations, flight information regions (FIRs) have been established to provide both an information and alert service.<sup>95</sup> In western Africa, for example, the FIRs are “managed either by agencies to which

<sup>91</sup> Control Arms Campaign, *Arms Without Borders: Why a Globalised Trade Needs Global Controls*, 21.

<sup>92</sup> Ibid.

<sup>93</sup> Ibid., 17.

<sup>94</sup> Ibid.

<sup>95</sup> UN Security Council, *Report of the Panel of Experts appointed pursuant to Security Council Resolution 1306 (2000), paragraph 19, in relation to Sierra Leone, S/2000/1195* (New York, NY: UN, 2000), 44.

governments have delegated responsibility, or by state managed administrations.”<sup>96</sup> West African airspace is divided into a number of jointly operated FIRs, such as the Roberts and Accra FIR, which manage Guinea, Liberia, and Sierra Leone, and Benin, Sao Tomé, and Togo, respectively. Ghana manages its own airspace.<sup>97</sup>

While the FIRs consolidate national level air traffic management capabilities into regional organizations, they won’t guarantee corrupt aviation practices by individual countries. Following the release of the United Nations Panel of Experts report on Sierra Leone (S/2000/1195), Liberia decided to take control of its own airspace which had previously been managed by the Roberts FIR in Conakry, Guinea. This decision was most likely attributed to the compliance of the Roberts FIR with United Nations investigator requests for flight records which revealed the occurrence of several sanction busting flights into Liberia. The United Nations subsequently commented that every state has a right to control its own airspace and doesn’t think the issue should be subject to any sanctions.<sup>98</sup> While there was no intervention to prevent the transfer of authority over airspace from the Roberts FIR to Liberia, the issue was dropped following President Charles Taylor’s ouster in 2003.

Enhancing the control of airspace and the security capacity in ports is instrumental to preventing the unauthorized diversion of legitimate arms shipments. Diversions occur when an arms deal is made by initially identifying a legitimate buyer as the final recipient of weapons. At some point along the supply chain, the shipment is diverted from the legitimate buyer to a prohibited recipient by using one of several techniques that often involve corrupt officials or fraudulent documents. The 2001 United Nations PoA specifically addressed the incident of diversion and the requirements to verify end-users, monitor the

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<sup>96</sup> UN Security Council, S/2000/1195, 44.

<sup>97</sup> Ibid.

<sup>98</sup> UN Security Council, *Report of the Panel of Experts appointed pursuant to Security Council resolution 1395 (2002), paragraph 4, in relation to Liberia*, S/2002/470 (New York, NY: 2002), para. 74-75.

transshipment process, and provide post-delivery verification of arms use.<sup>99</sup> Verification of an authorized small arms transfer can be accomplished by numerous methods ranging from “mobile patrols and checkpoints along frontiers and monitors at airports and seaports to intercepts at sea, the use of maritime and aerial assets, including satellite surveillance, provided from national, multilateral and regional resources.”<sup>100</sup>

Monitoring for potential diversions is a responsibility of individual nations and is enhanced through effective cooperation within regional alliances. These multilateral bodies can act to pool national resources and mitigate the challenges that result from largely unregulated territory and airspace which is commonly exploited by pilots who fly illicit cargoes to prohibited recipients. Regional alliances are also instrumental to the enforcement of arms embargoes, which are the most common instrument of the international community to restrict illicit proliferation activity.

### **3. Role of the International Community**

Conflicts such as the civil wars in the Democratic Republic of Congo, Sierra Leone, and Liberia, in addition to the current genocide in the Darfur region of Sudan, have prompted the UN Security Council to impose sanctions against both geographically bounded states and non-territorial actors. Chapter VII of the UN Charter authorizes the Security Council to use sanctions to “maintain or restore international peace and security.”<sup>101</sup> Sanctions used by the Security Council range from comprehensive economic and trade sanctions to more targeted measures such as arms embargoes and travel bans. Biting the Bullet, a joint project between International Alert, Saferworld, and the University of Bradford, United Kingdom, credits arms embargoes as “one of the principal tools of states in seeking to prevent, limit and bring an end to armed conflict and

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<sup>99</sup> UN, *Report of the United Nations Conference on the Illicit Trade in Small Arms and Light Weapons*, A/CONF.192/15, (New York, NY: UN, July 9-20, 2001), sec. II.2.

<sup>100</sup> Brian Wood, *Strengthening Compliance with UN Arms Embargoes: Key Challenges for Monitoring and Verification*, IOR 40/005/2006 (Amnesty International, March 16, 2006), 8, <http://web.amnesty.org/library/index/engior400052006> (accessed December 7, 2007).

<sup>101</sup> UN, “Security Council Sanctions Committees: An Overview,” <http://www.un.org/sc/committees/> (accessed November 23, 2007).

human rights abuses.”<sup>102</sup> Embargoes, however, are generally not unilateral instruments but rather mandated by regional or international organizations. The 2001 United Nations PoA considers embargoes to be a global measure that can prevent, combat, and eradicate the illicit trade in small arms.<sup>103</sup> The veracity of embargoes is codified in Chapter VII of the Charter which declares that states “have a legal obligation to comply strictly with arms embargoes imposed by the Security Council.”<sup>104</sup>

The UN Security Council is responsible for monitoring both territorial and non-state actor arms embargoes. The African continent is currently subject to territorial arms embargoes against the Ivory Coast, Liberia, and Somalia. Additionally, there are non-state actor arms embargoes targeting groups within Liberia, the Democratic Republic of Congo (DRC), Rwanda, Sierra Leone, and Sudan, in addition to al-Qaeda and associated persons.<sup>105</sup> The history of sanctions against Liberia goes back to November, 1992, when the Security Council adopted resolution 788 imposing a “general and complete embargo on all deliveries of weapons and military equipment to Liberia.” During the first civil war in Liberia, the United Nations delegated the responsibility of enforcing the territorial arms embargo to the Economic Community of West African States (ECOWAS).<sup>106</sup> By 1998, a non-state arms embargo was extended to the rebel group Revolutionary United Front (RUF) which operated primarily in neighboring

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<sup>102</sup> Owen Greene and Elizabeth Kirkham, *Small Arms and Light Weapons Transfer Controls to Prevent Diversion: Developing and Implementing Key Programme of Action Commitments*.

<sup>103</sup> United Nations, *Report of the United Nations Conference on the Illicit Trade in Small Arms and Light Weapons*, A/CONF.192/15 (New York, NY: UN, July 9-20, 2001), sec II.32.

<sup>104</sup> Brian Wood, *Strengthening Compliance with UN Arms Embargoes: Key Challenges for Monitoring and Verification*, Amnesty International, March 2006, 1, [http://web.amnesty.org/library/pdf/IOR400052006ENGLISH/\\$File/IOR4000506.pdf](http://web.amnesty.org/library/pdf/IOR400052006ENGLISH/$File/IOR4000506.pdf) (accessed October 30, 2007).

<sup>105</sup> Brian Wood provides a summary of current UNSC imposed arms embargoes and their associated resolution in *Strengthening Compliance with UN Arms Embargoes: Key Challenges for Monitoring and Verification*, 3.

<sup>106</sup> UN Security Council, *Resolution 1132 (1997)*, S/RES/1132 (New York, NY: UN, October 8, 1997).

Sierra Leone.<sup>107</sup> The current embargo, mandated in March 2001 as part of UN Security Council resolution 1343, was included within a wider package of sanctions.<sup>108</sup>

Complicating the regulatory effect of sanctions and embargoes to prevent the illicit trafficking of small arms are the limited resources at the national and regional level and the continual adjustments made by unscrupulous arms traffickers to stay in business. Following the delegation of enforcing West African arms embargo to ECOWAS, the UN has remained guarded in their overall assessment and noted that the region “is still awash with small arms.”<sup>109</sup>

## **E. SUMMARY**

The future development and prosperity of African nations is dependent upon preventing conflict. The *Collier-Hoeffler Model of Civil War Onset* suggests that the availability of small arms represents an opportunity for opposition groups to rival incumbent government regimes and thus instigate intrastate conflict. The United Nations in addition to several civil society organizations conclude that small arms can both exacerbate and prolong conflict, especially in developing regions of the world such as Africa. Despite the near-exhaustion of Eastern European and the post-Soviet states weapons stockpiles, emerging arms producers are capitalizing on the tenets of globalization to continue the deadly supply-side economy of the global arms trade.

While the 2001 United Nations PoA *to Prevent, Combat and Eradicate the Illicit Trade in Small Arms and Light Weapons in All Its Aspects* has established the framework for national, regional, and international progress toward disrupting the spread of small arms, there is still work to be done. As evidenced by recent cases of sanction busting weapons flights into the Democratic Republic of Congo

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<sup>107</sup> UN Security Council, *Resolution 1171 (1998)*, S/RES/1171 (New York, NY: UN, June 5, 1998).

<sup>108</sup> Quoted in UN Security Council, *Report of the Panel of Experts pursuant to Security Council resolution 1343 (2001), paragraph 19, concerning Liberia*, S/2001/1015 (New York, NY: UN, 2001),

<sup>109</sup> UN Security Council, *Report of the Panel of Experts appointed pursuant to Security Council Resolution 1306 (2000), paragraph 19, in relation to Sierra Leone*, S/2000/1195 (New York, NY: UN, 2000), 31.

and Sudan, unscrupulous arms traffickers have managed to stymie regulatory attempts to halt their deadly trade. To better inform policy makers working to disrupt illicit international arms trafficking networks, more empirics are needed as to the principal actors and functions that combine to enable the flow of this supply chain. The next chapter will develop this understanding by constructing “the anatomy of an arms deal” which will be used in further analysis of Liberian arms trafficking networks that were active during the second civil war.

### III. THE GLOBAL SMALL ARMS SUPPLY CHAIN

#### A. WHY SMALL ARMS?

The post-Cold War liquidation of small arms and subsequent proliferation of weapons into sub-Saharan African conflict zones was generally accomplished through illicit transfers. ‘Illicit’ arms transfers can be defined as “those that occur outside the control, or against the wishes, of exporting states.”<sup>110</sup> The problems that arise from illicit proliferation of small arms has evolved to a level of magnitude that restricts the developmental prospects of African states and further handicaps their ability to compete in the global economy. Additionally, the availability of small arms is one of several elements that when combined can provide an opposition group with the required capacity to wage war against the incumbent government.<sup>111</sup> Despite the threat associated with the widespread availability of small arms, the principal proliferation concerns of most developed nations remain fixed on chemical, biological, and nuclear weapons of mass destruction.<sup>112</sup> The fact remains, however, that with the exception of isolated cases such as Pakistan’s proliferation of nuclear technology to Libya, Iran, and North Korea, trafficking weapons of mass destruction are either extremely rare or not publicly documented.

Unlike chemical, biological, and nuclear weapons, small arms, or the “\$10 Weapon of Mass Destruction,” have been widely proliferated throughout the world through both legitimate and illicit transfers. Cases of illicit small arms trafficking have been well documented by groups such as the United Nations panels of experts that are assembled to investigate sanction violations to prohibited regimes and sub-state actors. These cases provide the empirics to

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<sup>110</sup> Emanuela-Chiara Gillard, “What’s Legal? What’s Illegal?” in *Running Guns: The Global Black Market in Small Arms*, ed. Lora Lumpe (London: Zed Books, 2000), 27.

<sup>111</sup> This concept is demonstrated by the *Collier-Hoeffler Model of Civil War Onset* presented in Chapter II, Section C.

<sup>112</sup> The United States, for example, declares that counter-proliferation efforts will focus on preventing adversaries “from threatening us, our allies, and our friends with weapons of mass destruction.” *National Security Strategy of the United States*, <http://www.whitehouse.gov/nsc/nss/2006/> (accessed November 23, 2007).

construct a global supply chain of small arms proliferation. The previous chapter illustrated the role that small arms play to exacerbate and prolong conflict and the current national, regional, and international regulatory efforts to control arms export, trans-shipment and import. This next chapter will make use of the available literature on small arms trafficking to develop a comprehensive understanding of the supply chain. To develop this “anatomy of an arms deal,” each of the primary actors and their associated roles in arms trafficking will be identified. This will set the stage for further description of the network through the use of social network analysis.

## **B. THE ANATOMY OF AN ARMS DEAL**

A common observation made by multiple case studies of the most prolific arms traffickers is their tendency to broker and transport anything to anyone. Douglas Farah and Stephen Braun recently wrote an exposé on Viktor Bout, who is described as the world’s most notorious arms trafficker. In detailing the worldwide network of logistics that sustains the Bout enterprise, the authors describe his reputation “to deliver everything from fresh-cut flowers, frozen poultry, and U.N. peacekeepers to assault rifles and surface-to-air missiles.”<sup>113</sup> While establishing his comprehensive air cargo network, Bout learned that aircraft can’t make money when flying empty and therefore flights that had delivered weapons from the former eastern European and post-Soviet state stockpiles into Africa would return with commodities that could easily be sold in distant marketplaces. The fundamentals of transporting gladiolas, therefore, are not that different that that of AK-47s.

The global small arms supply chain, whether it constitutes legitimate or illicit transactions, is a highly complex process that involves several steps to be coordinated through a network of individuals, companies, and government authorities. Most of the literature on small arms and light weapon proliferation divide the process into two broad categories. First is the act of sourcing and purchasing the weapons. The central figure throughout this process is the arms

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<sup>113</sup> Douglas Farah and Stephen Braun, “The Merchant of Death,” *Foreign Policy* 157 (November/December 2006): 39.



broker who will act to interpret customer requirements, source the most appropriate weapons, and make arrangements for the purchase. During this process, the broker is likely to be involved with licensing, financing, insuring, and arranging transportation of the goods. The second broad category of an arms deal involves the continuation of the delivery process which is typically orchestrated by transportation agents. Just like brokering, the transportation process can involve several additional intermediaries who must navigate the litany of required authorizations and make arrangements with the ultimate transporters of goods. Often at the forefront of this process is a freight forwarder who works between brokers and transportation agents to provide shipping cost estimates and generate the required documents to complete a sale. Also involved are the transportation operators, customs and port authorities, and air traffic controllers who facilitate the transit of aircraft. These actors and their associated functions are accommodated below in Figure 1:

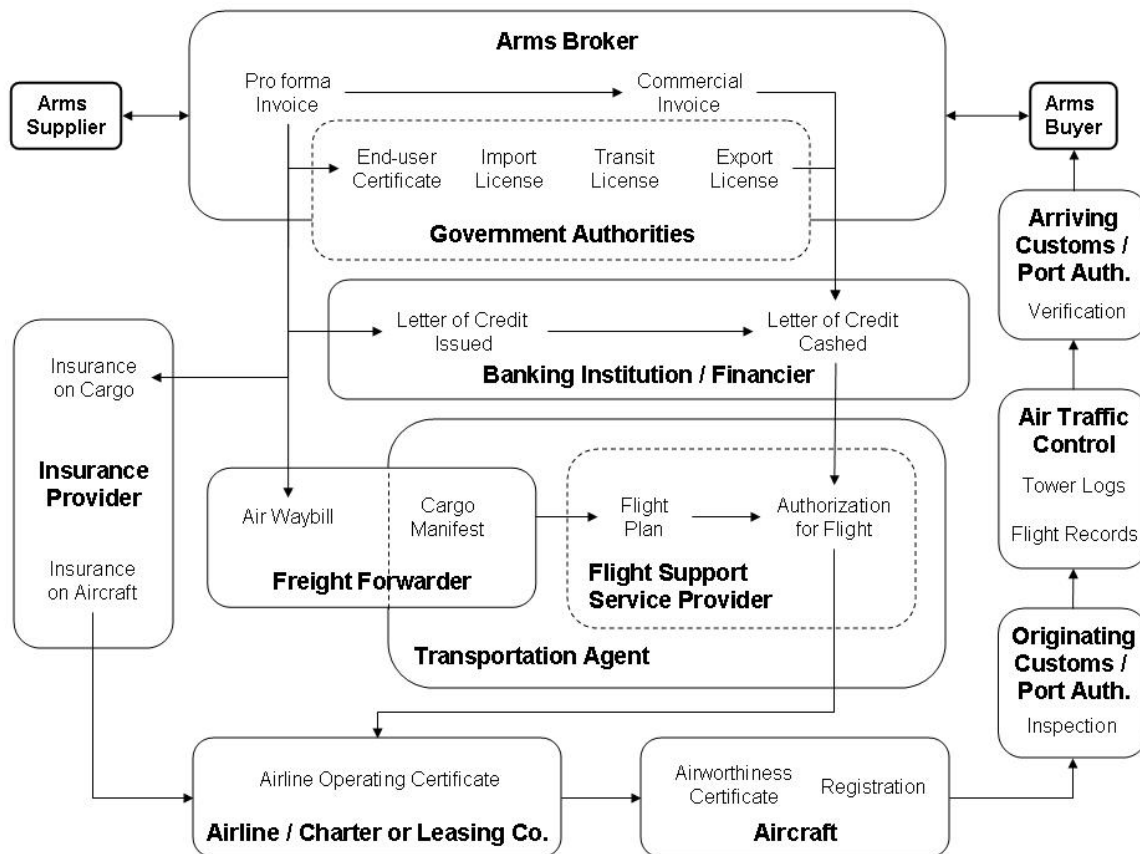


Figure 1. Small Arms Supply Chain Flowchart

This flowchart sets the stage for a detailed discussion of each actor and their associated functions within the supply chain. The next section will start by describing the buyers and sellers of arms and explain their sources of weapons and motivations for purchase. Following this introduction will be a detailed description of each intermediary that exists between buyers and sellers who act to facilitate an arms deal. Developing an understanding at this level is essential to the design and implementation of policies that intend to disrupt the process. This will be done by dissecting the anatomy of an arms deal and then further demonstrated by selected case studies and the application of social network analysis.

### **1. Buyers and Sellers**

An interstate arms deal will involve the organs of national power considering that both buyers and sellers will be involved in a process that requires government authorized licenses for export, import, and trans-shipment of weapons.<sup>114</sup> The proximity between the buyer or seller and state will vary as either one can range from a private individual or organization operating at the sub-state level all the way up to and including the state itself. Recalling Ian Anthony's matrix of suppliers and buyers presented in Chapter II, there are a variety of arms purchasing scenarios that range from state-to-state transfers to non-state actors purchasing from private trading companies.<sup>115</sup>

The buyers most often associated with illicit grey market deals range from prohibited state-level actors such as government security or paramilitary forces to sub-state actors such as warlords, insurgent groups, and criminal or terrorist organizations.<sup>116</sup> The world's premier gunrunner, Viktor Bout, included among his clients in the 1990 and early 2000's Ahmed Shah Massoud of the Northern Alliance, UNITA rebels in Angola, Charles Taylor of Liberia, and Libya's leader

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<sup>114</sup> In his discussion on "Causation and the Arms Trade, with Reference to Small Arms," Ian Anthony describes arms deals as an act of state policy regardless of the public or private status of the arms manufacturer or trading firm.

<sup>115</sup> See Chapter II, Table 1.

<sup>116</sup> Ian Anthony, "Causation and the Arms Trade, with Reference to Small Arms," in *Small Arms Control: Old Weapons, New Issues*, ed. Jayantha Dhanapala, et al., (Geneva: UNIDIR/United Nations Institute for Disarmament Research, 1999), 68.

Muammar el-Qaddafi.<sup>117</sup> It is interesting to note that Bout's magnanimous tendency to stay neutral in many regional conflicts was demonstrated by his commensurate arms trafficking services provided to Afghanistan's Taliban and Angolan government forces, each of which were battling the Northern Alliance and UNITA, respectively.

The recipients of weapons in interstate arms deals can also be represented by front organizations acting on behalf of prohibited buyers. Legitimate procurement agencies can initiate the authorization for an arms purchase that will ultimately be diverted to an illicit end-user. Industrial agents also buy weapons components or technologies that are combined for the licensed production of weapons outside of the country of origin.<sup>118</sup> A recent example of this phenomenon is the licensed production of Russian Kalashnikov's in Venezuela.<sup>119</sup> While the country of origin may place conditions on this type of arrangement, it is ultimately unable to control future sales and proliferation of weapons constructed in a third-country.

A company spokesman for Izmash, one of the Russian manufacturers of Kalashnikov assault rifles, estimates that only 10-12 per cent of the million Kalashnikov rifles sold annually originate from licensed production.<sup>120</sup> The remaining weapons are manufactured around the world and sold through a variety of companies that provide arms sales related services. These range from small "fly-by-night" firms that are established to perform a limited number of deals to the large well known state-run companies that dominate Eastern European

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<sup>117</sup> Douglas Farah and Stephen Braun, "The Merchant of Death," 39-40.

<sup>118</sup> Ian Anthony, "Causation and the Arms Trade, with Reference to Small Arms," 68.

<sup>119</sup> Control Arms Campaign, *Arms Without Borders: Why a Globalised Trade Needs Global Controls*, (Control Arms Campaign: October, 2006), 17, [http://www.controlarms.org/documents/Arms%20Without%20Borders\\_Final\\_21Sept06.pdf](http://www.controlarms.org/documents/Arms%20Without%20Borders_Final_21Sept06.pdf) (accessed December 5, 2007).

<sup>120</sup> "Russia Pushing Ban on Illegal Production of Kalashnikov Rifles," *RIA Novosti News Agency*, April 28, 2006, <http://www.globalsecurity.org/wmd/library/news/russia/2006/russia-060428-rianovosti03.htm> (accessed November 10, 2007).

and Russian arms markets.<sup>121</sup> These arms trading firms, or exporters, can “be a direct agent of the government or an economic agent operating at arms length from the government.”<sup>122</sup>

Since the international arms market is heavily influenced by the state, the motivations for selling weapons go beyond simple financial gain. Payments for arms can be made in political, commercial, or financial terms. Political payments include favors and concessions that can buy a selling country regional influence or expanded national security. Commercial payments include deals for counter-trade and are usually leveraged by the buying nation to bolster the sales of its own exports. Countries that are subject to arms prohibitions generally prefer pure financial arrangements that are easier to hide at the international level.<sup>123</sup>

As previously described, the majority of regulations on arms suppliers are mandated at the national level. Since the 2001 United Nations *Programme of Action on Small Arms* the efficacy of controls on arms suppliers have been inconsistent. Suppliers and trading firms in nations with strong controls on weapons exports have increasingly relied on the establishment of third-country foreign subsidiaries through which to route transactions.<sup>124</sup> This is one of the most common loopholes exploited by arms dealers who would otherwise be stymied by the restrictions on direct state-to-state sales. Even within states that monitor and enforce arms export standards, trading firms can win favors with the organs of state commerce through corruption payments. This added cost, which is simply added to the manufacturing costs or individual commissions on weapon deals, can pave the way for delivering arms that would otherwise be prohibited

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<sup>121</sup> Human Rights Watch, *Ripe for Reform: Stemming Slovakia's Arms Trade with Human Rights Abusers*, (Human Rights Watch: February, 2004), 59-60, <http://www.hrw.org/reports/2004/slovakia0204/> (accessed December 5, 2007).

<sup>122</sup> Ian Anthony, “Causation and the Arms Trade, with Reference to Small Arms,” 68.

<sup>123</sup> R. T. Naylor, “Gunsmoke and Mirrors: Financing the Illegal Trade,” in *Running Guns: The Global Black Market in Small Arms*, ed. Lora Lumpe (London: Zed Books, 2000), 159.

<sup>124</sup> *Ibid.*, 161.

for export.<sup>125</sup> A central figure in such deals is the arms broker, one of several intermediaries that operate between buyers and suppliers in the small arms supply chain.

## **2. Negotiating and Arms Deal: The Role of Brokers**

Arms deals, whether legal, illegal, or occupying the wide margin of space between these imprecise boundaries, involves the “import, export, trans-shipment, re-export, intangible transfer, [and] licensed movement during production, brokering, and transport” of weapons.<sup>126</sup> Navigating the complex bureaucratic and regulatory requirements to move weapons and acting on behalf of the buyer or seller is the arms broker. There are no precise definitions of an arms broker or brokering activity within the lexicon of individual states’ legal framework. However, a broker is generally accepted to be the person or legal entity that facilitates the “transfer of arms between persons in different third countries.”<sup>127</sup>

Most arms deals will involve one or multiple brokers who act to coordinate “buyers, sellers, transporters, financiers, and insurers to make a deal.”<sup>128</sup> The brokerage process can “involve two or more countries other than that in which the broker is located.”<sup>129</sup> The attractiveness of using a broker for an illicit arms deal is largely due to the added layer of obfuscation that a third party can

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<sup>125</sup> Naylor, “Gunsmoke and Mirrors,” 156.

<sup>126</sup> Adapted from the definition of “Transfers” provided by: Hugh Griffiths and Adrian Wilkinson, *Guns, Planes and Ships: Identification and Disruption of Clandestine Arms Transfers*, SEESAC Activity Report AR/105, (Belgrade, Serbia: South Eastern and Eastern Europe Clearinghouse for the Control of Small Arms and Light Weapons, 2007), Extract, 1.

<sup>127</sup> Adapted from the definition of “Brokering” provided by: Hugh Griffiths and Adrian Wilkinson, *Guns, Planes and Ships: Identification and Disruption of Clandestine Arms Transfers*, Extract, 1.

<sup>128</sup> Brian Wood and Johan Peleman, “Making the Deal and Moving the Goods: The Role of Brokers and Shippers,” in *Running Guns: The Global Black Market in Small Arms*, ed. Lora Lumpe (London: Zed Books, 2000), 129.

<sup>129</sup> Nicholas Marsh, “IANSA Presentation,” (lecture given to the United Nations Group of Governmental Experts to Consider Further Steps to Enhance International Cooperation in Preventing, Combating and Eradicating Illicit Brokering in Small Arms and Light Weapons, Geneva, November 27, 2006), [http://www.prio.no/files/file49133\\_presentation\\_to\\_the\\_united\\_nations\\_group\\_of\\_governmental\\_experts\\_to\\_consider\\_further\\_steps\\_to\\_enhance\\_internat.pdf?PHPSESSID=b8a3+ac](http://www.prio.no/files/file49133_presentation_to_the_united_nations_group_of_governmental_experts_to_consider_further_steps_to_enhance_internat.pdf?PHPSESSID=b8a3+ac) (accessed October, 2 2007).

provide.<sup>130</sup> Additionally, the arms manufacturers and suppliers can be subject to government audits while payments and other records of transactions through private brokers can be protected from scrutiny by bank secrecy laws.<sup>131</sup> By complicating the process to buy and sell weapons, brokers introduce alibis that make it easier for all parties involved to deny involvement.

A broker's principal task at the outset of an arms deal is matching the buyers demand with the supply of the most appropriate arms firm or manufacturer. This will lead to a process of negotiating between buyer and seller to reach an agreed upon price that in legitimate arms deals will cover manufactures' cost and profit in addition to transportation or shipping charges and insurance. Illicit arms deals and transportation to prohibited recipients involve a much more "complex commercial chain that adds 'service' charges at each stage."<sup>132</sup> The addition of service charges will be dependent upon the source of the arms and the potential for complications of delivery to the prohibited customer. If the weapons originate from a state-controlled stockpile, such as the liquidation of post-Cold War surplus from Eastern European and post-Soviet states, then there are generally additional charges required to "free them up."<sup>133</sup> Other costs will be added if the sale and delivery of weapons require the establishment of cut-outs, front-men, or subcontractors to create a complex intermediation process that is intended to disguise the ultimate recipient. Another consideration are the potential payoffs that will be required to obtain fraudulent paperwork from the country of origin or to support corrupt practices of customs, police, or military officials at either ports of transit or entry.<sup>134</sup>

The brokers role in facilitating an arms deal is far from over once the parties involved have agreed on a price. In order to cover up their trail and secure future business from unscrupulous clients, arms brokers will go to

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<sup>130</sup> Brian Wood and Johan Peleman, "Making the Deal and Moving the Goods: The Role of Brokers and Shippers," 140.

<sup>131</sup> R. T. Naylor, "Gunsmoke and Mirrors: Financing the Illegal Trade," 156.

<sup>132</sup> Ibid., 156.

<sup>133</sup> Ibid., 156.

<sup>134</sup> Ibid., 157.

considerable lengths to “establish intricate international webs involving multiple subcontractors, front companies, and circuitous transport routes.”<sup>135</sup> These efforts are made to complicate the enforcement of brokers who leverage the inconsistent national prohibitions on trafficking in an effort to seek regulatory safe havens from which to conduct ‘third-country’ brokerage.<sup>136</sup> Such practices can bypass the strict export or transit controls of one country by involving the lax standards of another. Despite efforts to evade regulations and restrictions on arms trafficking there is a sequence of events and documentation that is routinely followed for both legitimate and illicit transactions that can serve to develop a model for the small arms supply chain.

**a. Documenting the Sale: Invoices**

The final purchase price for weapons is determined either through negotiations with a broker or through a mediation process where the broker arranges for buyer and seller to meet and make their own arrangements. Regardless of method, this process will conclude with an invoice that documents basic information about the sale to include a description of the commodity and the purchase price. An illicit arms deal will rarely involve only one invoice throughout the full duration of the deal. At a minimum, there is typically one public invoice that specifies the cost of supply, manufacture, profit, transportation, and insurance.<sup>137</sup> These costs are typically found on a *pro forma* invoice which is used to obtain the additional required licenses and documentation without identifying the specific accounting information necessary to complete the transaction. This information will be included on a subsequent commercial invoice which is generated after licenses have been obtained and the delivery process initiated. In addition to these “public” invoices, a second

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<sup>135</sup> Brian Wood and Johan Peleman, “Making the Deal and Moving the Goods: The Role of Brokers and Shippers,” 129.

<sup>136</sup> Brian Wood and Johan Peleman use the term “third-country brokering” to describe arms deals that never transit the territory or jurisdiction where brokers live or base their companies.

<sup>137</sup> R.T. Taylor, “Gunsmoke and Mirrors: Financing the Illegal Trade,” 155.

artificially inflated invoice is often used to cover the aforementioned service charges which can include corruption payments or the cost of fraudulently produced documentation.<sup>138</sup>

***b. Financing the Arms Deal***

There are a variety of mechanisms used to compensate suppliers or the supplying states of arms for international deals. Payments can be categorized as political, commercial or financial.<sup>139</sup> A political payment can be made by exchanging arms for favors or concessions granted by the recipient country. While private businesses are still involved with brokering and transportation functions, they are likely to be compensated by the supplier state's government and not directly from the buyer. Commercial payments can be made in the form of counter-trade deals that are designed to benefit the recipient countries gross domestic product by arranging for the sale of its own goods and services. While there are specific cases of commercial arrangements for arms deals the most common form of payment is financial arrangements that involve bank transfers through letters of credit.<sup>140</sup>

The documentary letter of credit is the traditional trade tool of global supply chain finance.<sup>141</sup> A letter of credit is extended between the buyer's bank and the seller, or subsidiary of the seller, to document the buyer's ability to fund a purchase. The use of this instrument has been on the decline in most trade relationships because of their high administrative costs and manual processes involved. In fact, the World Trade Organization estimates that over 80 per cent of global trade is now conducted in the form of open accounts, "whereby a supplier simply invoices his customer who then settles the invoice after a period of trade credit."<sup>142</sup> The exception for this growing trend in supply chain finance is

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<sup>138</sup> R.T. Taylor, "Gunsmoke and Mirrors: Financing the Illegal Trade," 156.

<sup>139</sup> R.T. Taylor, "Gunsmoke and Mirrors: Financing the Illegal Trade," 159.

<sup>140</sup> *Ibid.*, 160.

<sup>141</sup> Marcus Hughes and Banco Santander, "The Best Kept Secrets in Supply Chain Finance," *GTnews.com* (June 26, 2007) <http://www.gtnews.com/article/6819.cfm> (accessed October 18, 2007).

<sup>142</sup> *Ibid.*



evident in fledgling relationships between new buyers and suppliers and markets involving illicit or prohibited trade as in many arms deals. Buyers and sellers involved in illicit transactions have little course for holding parties accountable for goods not received or misrepresented. The traditional process involving a letter of credit provides the buyer with a higher degree of confidence in the deals legitimacy since the letter of credit is not cashed until an air waybill and cargo manifest have been generated to account for the goods. In his article titled, "Gunsmoke and Mirrors: Financing the Illegal Trade," R.T. Taylor summarizes the arms purchase process up to this point:

[T]he seller provides the potential purchaser with a quote. The buyer must then satisfy himself about the reliability of both product and seller. If satisfied, the buyer has his bank telex the seller's bank, stating that the buyer's bank is willing and able to open a letter of credit for a certain sum, provided certain conditions are met. Preliminary agreement made, the buyer's bank sends an irrevocable LC to the seller's bank. The LC will specify such things as delivery date, the date of manufacture of the material being supplied, the price of the merchandise, and the currency in which payment is being made . . . . The seller's bank will cash the LC once certain documents are presented attesting to the existence and condition of the cargo, and its readiness for shipment.<sup>143</sup>

As this passage illustrates, a letter of credit is not paid until other documents are presented along with it. This includes "certificates of origin and of quality, cargo manifests, insurance policies," and the air waybill.<sup>144</sup> These documents are primarily required to attest to the validity of an order that a buyers bank is about to extend credit for. Once the buyer's bank is satisfied that the goods are properly represented, the letter of credit is cashed and subsequently initiates an inter-bank transfer of funds between the buyer and seller's bank. Additional security is provided through insurance policies which are often stipulated by the letter of credit for the transported freight. Insurance protects the buyer's financial interests while the cargo is exposed to the risk of transport. Insurance requires a bill of lading, or airway bill, "which states the liability

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<sup>143</sup> R.T. Taylor, "Gunsmoke and Mirrors: Financing the Illegal Trade," 163-4.

<sup>144</sup> *Ibid.*, 164.

assumed by the carrier.”<sup>145</sup> These documents will be further discussed in Section 3 of this chapter which describes the role of freight forwarders and transportation agents.

A successful grey market arms broker will develop a complex financial path between buyer and seller. This often involves using numerous banks in both the originating and receiving country in addition to possible third-country banks used to provide cover and concealment for fund transfers.<sup>146</sup> These banking institutions coordinate the necessary financial documents between buyers and sellers and ensure compliance of all letter of credit terms and conditions required prior to exporting arms.<sup>147</sup> Financing an arms deal, much like the brokerage and transportation functions, is not a linear process. While the *pro forma* invoice might be the first document produced, other documents can be applied for or generated simultaneously. While the broker is working with banks to generate the letter of credit, he is also working with government officials to initiate the required licenses to export the arms from the country of origin.

**c. *End-User and Export Documentation***

As an internationally controlled commodity, small arms and light weapons are subject to specific licensing requirements that govern both sale and transfer. These controlled commodities are classified by a system developed by the UN Committee of Experts on the Transport of Dangerous Goods. Each category of controlled goods is given a specific identification code designated by this UN committee. The regulations for the transport of controlled and dangerous commodities and the associated classification system serve a variety of

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<sup>145</sup> Southern United States Trade Association, *The Basics of Exporting*, (New Orleans, LA: 2004), [http://www.susta.org/downloads/Basics\\_of\\_Exporting\\_2004.pdf](http://www.susta.org/downloads/Basics_of_Exporting_2004.pdf) (accessed October 15, 2007).

<sup>146</sup> R. T. Naylor, “Gunsmoke and Mirrors: Financing the Illegal Trade,” 156.

<sup>147</sup> Amnesty International, *Dead on Time: Arms Transportation, Brokering and the Threat to Human Rights*, ACT 30/008/2006 (Amnesty International, May 10, 2006), 39, <http://web.amnesty.org/library/index/engact300082006> (accessed December 12, 2007).

purposes.<sup>148</sup> These range from considerations for safety of flight when transporting dangerous goods aboard aircraft to the monitoring and restriction of transporting specific items to embargoed nations. To monitor for violations of these regulations, a series of licenses are required by both countries of origination and destination of weapons which starts with a verification of the intended recipient.

Most cases of illicit trafficking start with the identification of a legitimate end-user and end with a diversion of cargo to a prohibited recipient. A general principle behind the efficacy of export control, therefore, lies in the process to verify the final destination and intended use, especially in the case of small arms. Before an export license is granted by the country representing the weapon supplier, an end-user certificate must be granted which provides both the identity and associated country of the arms recipient and the intended use for the arms. The end-user certification process is designed to facilitate the approval of export to legitimate buyers but is not by itself sufficient to prevent diversion. The United States requires that an end-user certificate be submitted with the request for authorization to export. Along with the quantity and description of the exported commodity the U.S. end-user certificate, titled: *Nontransfer and Use Certificate*, lists the name of foreign end-user, country of ultimate destination, and certification by the recipient government that the shipment will not be re-exported or otherwise disposed without prior approval.<sup>149</sup>

The process to grant end-user certificates varies from country to country and there are no common international standards to suggest basic requirements such as the mandatory content. Illicit arms deals are often initiated by brokers who prepare fake end-user certificates or enlist the help of corrupt

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<sup>148</sup> Classification of dangerous cargoes that has been adopted by the air freight industry originates from the European Agreement Concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN). The list of shipping codes is contained in the 2007 ADN Guide Table A, <http://www.unece.org/trans/danger/adnreg2007.html> (accessed December 5, 2007).

<sup>149</sup> Derived from Form DSP-83, "Nontransfer and Use Certificate," required for export of "Significant Military Equipment," by United States Code, Title 22, Chapter 39, Section 2778, *Control of Arms Exports and Imports*.

national authorities to prepare legitimate certificates for a shipment that will ultimately be delivered to a third party.<sup>150</sup> The cost of either fraudulently produced documents or corruption payments made to government officials is added to the secondary invoice, and hidden from public scrutiny by bank secrecy laws.<sup>151</sup> In an investigation of arms trafficking to the embargoed nation of Liberia, a UN panel of experts discovered a list provided by a broker that outlined the availability and prices of specific weapons and ammunition. The price of a fraudulent end-user certificate was listed as 50,000 U.S. dollars with a disclaimer that stipulated “24 hours required to obtain end-user.”<sup>152</sup>

In an interview regarding the Viktor Bout arms trafficking network, Douglas Farah characterizes grey market arms deals by the use of fraudulent end-user certificates to facilitate diversion of arms shipments from a legitimate recipient to one sanctioned by a regional or international organization. Farah claims that arms exports approved for shipment to a legitimate recipient are often carried out with knowledge that they are destined for a prohibited buyer. An example of the grey market is “where one may know the weapons are destined for Liberia, but the [end-user certificate] says it is for Rwanda, and the Bulgarian company selling the weapons, while knowing the [end-user certificate] is likely a forgery, proceeds with the sale anyway.”<sup>153</sup> Black market arms sales, conversely, are conducted in a manner that is clearly illegal and punishable.

#### ***d. Import and Transit Documentation***

At the same time that the intermediaries of the small arms supply chain are working to obtain end-user certificates and export authority, they are coordinating with countries along the route of delivery and the destination country for shipping authorizations. The Organization for Security and Co-operation in

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<sup>150</sup> Human Rights Watch, *Ripe for Reform: Stemming Slovakia's Arms Trade with Human Rights Abusers*, 11.

<sup>151</sup> R.T. Taylor, “Gunsmoke and Mirrors: Financing the Illegal Trade,” 157.

<sup>152</sup> UN Security Council, *Report of the Panel of Experts pursuant to Security Council resolution 1343 (2001), paragraph 19, concerning Liberia*, S/2001/1015 (New York, NY: UN, 2001), para. 267.

<sup>153</sup> Douglas Farah, “Meet Viktor Bout, the Real-Life ‘Lord of War,’” Interview by Laura Rozen, September 13, 2007, <http://www.motherjones.com/interview/2007/09/viktor-bout.html> (accessed November 6, 2007).

Europe (OSCE) requires that participating states receive “the appropriate import license or some other form of official authorization” prior to permitting a shipment in order “to retain adequate control over such transfers and to prevent the diversion of the small arms to any party other than the declared recipient.”<sup>154</sup> The OSCE also requires that transit licenses are obtained from states involved in the trans-shipment by the responsible parties within the exporting state.<sup>155</sup>

The import and transit licenses that are required along with the end-user certificate to obtain export authorization are granted by national level authorities in each of the responsible nations. The weapons supplier or trading firm, arms broker, freight forwarder, or transportation agent can all be involved in obtaining these documents. In the United States, the State Department is responsible for the approval of export licenses for conventional arms sales. U.S. Code governing arms exports requires end-user certification and import licenses are obtained prior to issuing an export license to the supplier thus monitoring each transaction.<sup>156</sup> An alternative approach to export control is the granting of “open licenses” which permit specific individuals and companies to export a designated commodity to specific destinations or end-users.<sup>157</sup> Nations like Slovakia have combined the two methods of regulation into a two-staged licensing procedure “in which the government grants a license authorizing companies or individuals to trade in weapons and also issues individual permits for each transaction.”<sup>158</sup>

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<sup>154</sup> Organization for Security and Co-operation in Europe (OSCE), *OSCE Document on Small Arms and Light Weapons*, adopted at the 308<sup>th</sup> Plenary Meeting of the OSCE Forum for Security Co-operation on November, 24, 2000, section III.B.

<sup>155</sup> Ibid.

<sup>156</sup> U.S. Code, Title 22, Chapter 39, Section 2778, *Control of Arms Exports and Imports*, [http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=browse\\_usc&docid=Cite:+22USC2778](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=browse_usc&docid=Cite:+22USC2778) (accessed October 17, 2007).

<sup>157</sup> BASIC, International Alert, and Saferworld, *Controlling Arms Brokering and Transport Agents*, (BASIC, February, 2001) <http://www.saferworld.org.uk/publications.php?id=131> (accessed October 3, 2007).

<sup>158</sup> Human Rights Watch, *Ripe for Reform: Stemming Slovakia's Arms Trade with Human Rights Abusers*, 48.

While there is no clear division of labor in the complex regulatory environment of international arms trade, the processes described thus far are most often coordinated by brokers. For conceptualizing the global small arms supply chain this division will be used as a point of departure to discuss the process outputs of the freight forwarders and transportation agents that are responsible for arranging the final delivery of weapons. The bureaucratic wrangling that involves authorization of exporting small arms will continue as these actors must coordinate the physical delivery of weapons by sourcing aircraft, assuming responsibility of the cargo, and obtaining authorization for departure, transit, and landing in the destination country.

### **3. Freight Forwarders and Transportation Agents**

While some of the most notorious and successful arms brokers have established a combined enterprise of brokerage and transportation capabilities, many rely on the expertise of freight forwarders and transportation agents to arrange for the delivery of goods between buyer and seller. The freight forwarder, also known as a consolidator, is an intermediary that functions between an arms trading firm or their representative brokers and the transportation agents that will ultimately arrange deliver of the weapons. This agent can be involved in the initial arms deal by providing a dollar estimate on the cost of transportation which includes freight costs, port charges, consular fees, required documentation, and insurance. The freight forwarder can then make the actual arrangements for shipping which includes: “booking space with the carrier; completing export documentation; arranging for cargo insurance; advising on foreign import regulations; providing guidance on packaging, marking, and labeling; arranging for products to be packed and containerized at the exporter’s request; and export clearance.”<sup>159</sup>

The domain of transportation agents includes “all actors responsible for the organization and management of a network of individuals and companies”

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<sup>159</sup> Description of a freight forwarder from the U.S. Department of Agriculture website: “Transportation and Marketing: Shipper and Exporter Assistance,” USDA, [http://www.ams.usda.gov/tmd/freight/freight\\_forwarder.htm](http://www.ams.usda.gov/tmd/freight/freight_forwarder.htm) (accessed October 1, 2007).

involved with the physical transportation of freight between supplier and buyer.<sup>160</sup> These individuals and their associated companies utilize trucks, ships, or aircraft that are owned, leased, or chartered by the agent for any particular shipment.<sup>161</sup> Deliveries can also be made by affiliated transporters that are further subcontracted by the transportation agent. The process to physically transport arms “is usually the most vulnerable aspect of a clandestine or illegal arms transaction.”<sup>162</sup> This is in part due to the transition from virtual processes executed through electronic document and fund transfers to the physical and more visible processes of loading, unloading, and trans-shipping cargo. Before a consignment of arms departs the exporting country and thus enters this physical realm, freight forwarders or transportation agents are responsible for fulfilling specific documentary requirements stipulated by the countries of origin and destination and as required by financiers as a condition to cash the letter of credit.

**a. Air waybill and Cargo Manifests**

While some licenses and authorizations are obtained sequentially, the intermediaries of the arms supply chain will initiate the procurement of several documents concurrently. The generally accepted revised Kyoto Convention on Customs stipulates that trans-shipment of military related cargo, to include small arms and light weapons, is only permissible following the receipt of an invoice, end-user certificate, export license, air waybill, and cargo manifest.<sup>163</sup> While the principal arms broker will generally coordinate invoices

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<sup>160</sup> UN Security Council, *Report of the Panel of Experts appointed pursuant to Security Council Resolution 1654 (2006), paragraph 2, in relation to the Democratic Republic of Congo*, S/2006/525 (New York, NY: UN, 2006), 18.

<sup>161</sup> Brian Wood and Johan Peleman, “Making the Deal and Moving the Goods: The Role of Brokers and Shippers,” 129.

<sup>162</sup> *Ibid.*, 131.

<sup>163</sup> Kyoto Convention on Customs cited in United Nations Security Council, *Report of the Panel of Experts appointed pursuant to Security Council Resolution 1306 (2000), paragraph 19, in relation to Sierra Leone*, S/2000/1195, (New York, NY: UN, 2000), 41. The World Customs Organization describes the revised Kyoto Convention as a key instrument covering Customs procedures, providing customs administrators “with a modern set of uniform principles for simple, effective and predictable Customs procedures that facilitate effective Customs control.”

and licenses, the freight forwarders or transportation agents can produce the required air waybill and cargo manifest.

The air waybill, arranged between the consignor<sup>164</sup> and transportation agent, acts as the “official contract concerning transportation of cargo by air.”<sup>165</sup> The consignor is most often identified on the air waybill as the supplying firm. The consignee, however, is a contracting person or company who is listed on the air waybill as entitled to receive and assume responsibility of the shipment.<sup>166</sup> Sometimes a distinction is made between an intermediary and the ultimate consignee whereupon the former is “an agent for a principal party in interest” and the latter is the final end-user of the cargo.<sup>167</sup>

The air waybill, also known as the consignment note, includes carrier conditions such as limits of liability and instructions for claims. The contract also specifies “shipping instructions to airlines, a description of the commodity, and applicable transportation charges.”<sup>168</sup> A related document that is used predominantly for maritime shipping is the bill of lading. Amnesty International describes the function of the bill of lading as threefold: “a) it is a receipt for goods shipped on board; b) it is a document of title for these goods; and c) although not a contract, it is evidence of a previous contract.”<sup>169</sup> As was the case with the letter of credit, the bill of lading or air waybill produced for an illicit arms deal “will normally misrepresent the nature of the cargo.”<sup>170</sup>

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<sup>164</sup> Consignor is a synonym for shipper, according to the Air Bridge Cargo Company, “Cargo Glossary,” <http://www.airbridgecargo.com/eng/cargocenter/glossary/> (accessed October 19, 2007).

<sup>165</sup> Air Bridge Cargo Company, “Cargo Glossary,” <http://www.airbridgecargo.com/eng/cargocenter/glossary/> (accessed October 19, 2007).

<sup>166</sup> *Ibid.*

<sup>167</sup> MIT Export Control, “Glossary,” [http://web.mit.edu/osp/www/Export\\_Controls/index\\_files/glossary.htm](http://web.mit.edu/osp/www/Export_Controls/index_files/glossary.htm) (accessed October 19, 2007).

<sup>168</sup> Amnesty International, *Dead on Time: Arms Transportation, Brokering and the Threat to Human Rights*, note 166.

<sup>169</sup> *Ibid.*, 2.

<sup>170</sup> R.T. Taylor, “Gunsmoke and Mirrors: Financing the Illegal Trade,” 161.



Another requirement for trans-shipment of goods, albeit cursory at best, is the cargo manifest. This document will reference the air waybill number and provide basic information such as aircraft registration number and flight number; point of origin and destination of cargo; and the description and weight of goods carried. A manifest often identifies an entire shipment of multiple containers under one description such as “general cargo.” Related to the manifest is the General Declaration certificate “which specifies who was on board and where the flight originated and landed.”<sup>171</sup> This document will not include details about the cargo carried on a particular flight. Furthermore, the cargo manifest and air waybill do not require detailed descriptions of cargo and are typically not cross-referenced with the export or import license by customs inspectors or port authorities.<sup>172</sup>

**b. Customs and Port Authorities**

The arms supply chain will pass through several layers of customs and port authority officials represented in both the country of origination and destination in addition to the countries of transit. This regulatory function is intended to ensure that the items declared on the air waybill and cargo manifest match the export and import licenses and ultimately correspond to the physical contents of the aircraft. As previously described, however, this process is often cursory at best or presents a minimal level of regulation on transport agents because of the limited capacity for inspections that is characteristic of many destinations for illicit arms.

The World Customs Organization (WCO) describes the major roles of customs inspectors to include the collection of “duties and taxes, the preparation of foreign trade statistics, trade compliance, supply chain security and facilitation, and the protection of society, the environment and cultural heritage.”<sup>173</sup> A component of ensuring trade compliance is the verification of

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<sup>171</sup> BASIC, International Alert, and Saferworld, “*Controlling Arms Brokering and Transport Agents*.”

<sup>172</sup> Brian Wood and Johan Peleman, “Making the Deal and Moving the Goods: The Role of Brokers and Shippers,” 140.

<sup>173</sup> World Customs Organization, “The World Customs Organization in Brief,” WCO Brochure, 2, <http://www.wcoomd.org/home.htm> (accessed November 13, 2007).

export and import licenses that authorize the trans-shipment of controlled goods. The freight forwarders or transportation agents often coordinate directly with customs officials, although some deals can involve a customhouse broker who is “responsible for documentation and direct interface with customs and other government agencies.”<sup>174</sup> As described by the WCO, customs inspectors are responsible for collecting import or export tariffs which introduce motives for financial gain. As previously described, the financial details of illicit arms deals frequently includes corruption payments which will be made to these officials to “rubber stamp” the inspection process and allow the passage of illicit cargoes.

The port authorities involved in the small arms supply chain described by this thesis are limited to the air traffic controllers located at airports. These authorities are responsible for the safety of operations into and out of their respective airports. This includes de-conflicting aircraft that are landing and taking-off as well as monitoring the movement of aircraft on the ground and the operation of cargo trans-loading activity.<sup>175</sup> In addition to these controllers, however, there are authorities responsible for de-conflicting aircraft in flight and outside of the terminal control provided during take-off and landing. These controllers are located in a central Flight Information Center (FIC) and have responsibility for the airspace bounded by their respective Flight Information Region (FIR). The airspace covering Liberia and Sierra Leone, for example, is included within the Roberts FIR, named after Roberts International Airport in Freetown, Sierra Leone. The FIC controllers for the Roberts FIR are located in Conakry, Guinea, and are responsible for all over-flights and ascending or descending aircraft above 3,000 feet. Controllers transfer responsibility between FIC and local airport towers when crossing this threshold.<sup>176</sup> In addition to

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<sup>174</sup> Amnesty International, *Dead on Time: Arms Transportation, Brokering and the Threat to Human Rights*, 39.

<sup>175</sup> Ibid.

<sup>176</sup> UN Security Council, *Report of the Panel of Experts appointed pursuant to Security Council Resolution 1306 (2000), paragraph 19, in relation to Sierra Leone, S/2000/1195* (New York, NY: UN, 2000), para. 295-313.

maintaining standards for safe flight practices, FIC and local tower air traffic controllers document aircraft flight activity for the purpose of charging over-flight or landing and take-off fees.

Despite the complicated and seemingly well regulated process to monitor global supply chains, unscrupulous brokers, transportation agents, and aircraft operators have each devised techniques to facilitate the clandestine delivery of arms to prohibited buyers. The final section will focus on the operators involved with the trans-shipment of arms and outline several techniques used by operators who are involved with illicit arms trafficking.

#### **4. Air Operators and Illicit Arms Flights**

The supply chain that funnels weapons from Eastern European and post-Soviet states to African conflict zones can involve transportation by air, land, and sea. Aircraft are often the preference to move high value and perishable cargoes onto and off of the African continent. This is in part due to the vast distances that are linked by inadequate ground transportation infrastructure which further deteriorates during the rainy seasons.<sup>177</sup> The United Nations has observed that the establishment of arms embargoes upon African states and non-state actors will drive traffickers to the skies because of the advantages that are offered by the scant regulatory capacity of African nations over their airspace.<sup>178</sup> In fact, after years of investigating the flow of arms into Liberia, the United Nations declared that “[a]ir transportation is the preference of sanctions busters.”<sup>179</sup>

This final section to this anatomy of an arms deal will introduce the air operators and the process by which they physically transport arms to buyers. There are a variety of business practices and aircraft ownership schemes within

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<sup>177</sup> Amnesty International, *Dead on Time: Arms Transportation, Brokering and the Threat to Human Rights*, 35.

<sup>178</sup> A UN Panel of Experts noted that air transport has become the primary method for transporting arms and ammunition into the Great Lake countries of Africa following the establishment of the arms embargo on the Democratic Republic of Congo. See UN Security Council, *Report of the Panel of Experts appointed pursuant to Security Council Resolution 1654 (2006), paragraph 2, in relation to the Democratic Republic of Congo, S/2006/525* (New York, NY: UN, 2006), 15.

<sup>179</sup> UN Security Council, *Report of the Panel of Experts appointed pursuant to Security Council resolution 1408 (2002), paragraph 16, concerning Liberia, S/2002/1115* (New York, NY: UN, 2002), para. 60.

the international air cargo industry that range from large commonly recognized airlines to the small “fly-by-night” operators that can further subcontract their services. In addition to sourcing aircraft, the air operators are responsible for flight planning; obtaining departure, transit, and landing authorizations; and providing the flight crews who will ultimately fly the aircraft. Individual airlines must have air operating certifications and their aircraft must have certification of airworthiness, registration, insurance, maintenance, and fuel. Furthermore, the operators involved in the clandestine delivery of small arms to prohibited buyers have developed techniques to prevent detection of their illicit activity.

**a. Operators: Airlines, Integrators, and Charter Companies**

According to the 2005/2006 JP Airline Fleet data, there are over 5,930 active aviation companies worldwide including over 600 main cargo airlines operating with either owned or leased aircraft under 204 separate aviation registries.<sup>180</sup> There are dozens of other airlines whose business life is “too short or shadowy to be recorded.”<sup>181</sup> These are the companies that are often involved in illicit or questionable arms transfers using vintage cargo aircraft such as former Soviet military Antonov AN-12s and AN-24s, Ilyushin IL-18s and IL-76s, and former Western passenger and cargo aircraft such as Boeing 707s, Douglas DC-8s, and Lockheed C-130s.

The aircraft used in proliferation networks, just like aircraft involved in a variety of legitimate transportation roles, often have an obscure lineage that complicates the efforts to regulate and monitor their activity. The operators of the cargo aircraft generally fall into one of three categories: major airlines, integrators, and small charter companies.<sup>182</sup> The major airlines utilize aircraft that are configured for all-cargo, combined passenger and cargo or “combi”, and all-passenger which can still have substantial cargo space in the aircraft’s belly. Air cargo integrators provide “door-to-door” transportation to clients by combining

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<sup>180</sup> JP Airline Fleets International 2005/2006, quoted in Amnesty International, *Dead on Time: Arms Transportation, Brokering and the Threat to Human Rights*, 35.

<sup>181</sup> Amnesty International, *Dead on Time: Arms Transportation, Brokering and the Threat to Human Rights*, 35.

<sup>182</sup> Ibid.

freight forwarding and airline functions within the supply chain.<sup>183</sup> These operators are also known as express air companies and include companies such as Federal Express, DHL, and UPS.<sup>184</sup> Most legitimate air freight, including the majority of legitimate arms transfers and contracted military air freight, is carried by major airlines and integrators.<sup>185</sup>

The air operators that are most often implicated in illicit or questionable arms transfers are the smaller “and sometimes shadowy cargo companies” that offer charter services.<sup>186</sup> These companies can provide an initial estimate for delivery, while working directly with the freight forwarder or arms broker. They can arrange delivery of freight on aircraft they own or further subcontract or lease aircraft from other operators.<sup>187</sup> Many of the aircraft involved in illicit smuggling operations are Cold-War vintage former military cargo aircraft that have long surpassed their useful service dates. Unscrupulous operators keep these aircraft flying by supporting a network of maintenance facilities that stretch across the Middle East and Africa and by obtaining forged registration, operating licenses, and airworthiness certificates.<sup>188</sup>

**b. Aircraft Registration**

The vintage cargo aircraft that perform the heavy lifting for the global arms supply chain are often found based at “airports where economic or political factors have made the scrutiny of cargoes a rare event.”<sup>189</sup> The airport authorities at these locations, which include Sharjah, UAE and Ostend, Belgium,

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<sup>183</sup> International Air Cargo Association, “TIACA Manifesto,” under 1.3.4: Air-Integrators, <http://www.tiaca.org/content/chapter1.asp> (accessed November 14, 2007).

<sup>184</sup> Amnesty International, *Dead on Time: Arms Transportation, Brokering and the Threat to Human Rights*, 35.

<sup>185</sup> *Ibid.*

<sup>186</sup> *Ibid.*, 36.

<sup>187</sup> UN Security Council, *Report of the Panel of Experts appointed pursuant to Security Council Resolution 1654 (2006), paragraph 2, in relation to the Democratic Republic of Congo*, S/2006/525 (New York, NY: UN, 2006). 17.

<sup>188</sup> UN Security Council, *Report of the Panel Of Experts appointed pursuant to Security Council resolution 1408 (2002), paragraph 16, concerning Liberia*, S/2002/1115, (New York, NY: UN, 2002), 17.

<sup>189</sup> Amnesty International, *Dead on Time: Arms Transportation, Brokering and the Threat to Human Rights*, 36.

are often more concerned with attracting capital investments than verifying the legitimacy of the air operators. The aircraft are commonly registered under what amounts to an aviation equivalent of the maritime “flag of convenience.” This term refers to a common practice of shipping operators who register their vessels in nations that offer the least amount of regulatory oversight and associated expense. The vessel will then fly the flag of that particular country, from which is derived the term. Countries that have become synonymous with the “flag of convenience” moniker include both Panama and Liberia. Countries known as flags of convenience for aircraft operators are described by the United Nations as having open aviation registries. These registries are sought out by illicit transport agents as they offer “poor oversight of aircraft and operator by the country where the aircraft is registered.”<sup>190</sup> These attributes often result from the combined desire of specific countries to attract foreign investment and from their already limited monitoring capacity.

Liberia has extended the benefits of registration from maritime vessels to aircraft through its use of lenient license and tax laws. This is combined with the fact that Liberia’s aviation rules are already limited and poorly enforced which offers aircraft operators with discretion, operational cover, and minimal regulatory interference. While investigating the connection between illicit registration practices for aircraft and the increased frequency of arms flights to West Africa, the United Nations discovered that in the year 2000 the government of Liberia only listed 7 aircraft on its official registry. During this same investigation, however, at least 15 additional aircraft were documented with Liberian registration that did not appear on the official government record.<sup>191</sup> These aircraft were effectively operating unbeknownst to the Liberian government, suggesting that they were evading further registration expenses and periodic inspections for airworthiness. Aircraft registration numbers and even the name of the airline leasing or operating the plane “can be readily switched to

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<sup>190</sup> UN Security Council, *Report of the Panel of Experts pursuant to Security Council resolution 1343 (2001), paragraph 19, concerning Liberia, S/2001/1015* (New York, NY: UN, 2001), 63.

<sup>191</sup> *Ibid.*

conceal an operation.”<sup>192</sup> Using a fictitious registration number or exchanging registration numbers between aircraft is difficult to monitor because of the inability of many African civil aviation authorities to exchange information. The United Nations claims that tracing the origins of an aircraft carrying an unknown registration number is practically impossible.<sup>193</sup>

**c. Flight Planning**

In addition to documentary requirements for the air operators, each flight is subject to specific regulations in the countries of departure, transit, and arrival. The air waybill and cargo manifest are generally produced well in advance of the associated flight as a required term for the seller to cash the letter of credit. However, flight plans, airport landing permits, and over-flight permissions will be generated closer to the actual date of flight. These functions can be performed by the air operator responsible for the aircraft or subcontracted out to a flight support service provider. These agents are established to provide fuel, weather, and flight planning services to operators that are unfamiliar with the unique procedural requirements of foreign air travel or who operate on smaller scale and cannot fully accommodate this resource intensive process. Flight support service providers can also obtain permits for landing and over-flight; security for crew, aircraft, and cargo while *en route*; and coordinate ground handling of cargo at the point of origin and destination.<sup>194</sup>

The detailed flight plans generated by flight support service companies are made to ensure compliance with international safety of flight requirements and facilitate payment of appropriate charges for take-off and landings, over-flight, and use of any airport facilities while *en route*. Of note, the “forms for requesting permission to fly over and subsequently land in certain countries do not require any detailed statements concerning the nature of the

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<sup>192</sup> Brian Wood and Johan Peleman, “Making the Deal and Moving the Goods: The Role of Brokers and Shippers,” 140.

<sup>193</sup> UN Security Council, *Report of the Panel of Experts appointed pursuant to Security Council Resolution 1306 (2000), paragraph 19, in relation to Sierra Leone, S/2000/1195* (New York, NY: UN, 2000), 37.

<sup>194</sup> Details regarding flight support service providers obtained from websites such as “Baseops International,” <http://www.baseops.com/> (accessed October 1, 2007).

cargo on board the aircraft.”<sup>195</sup> The routes preferred for arms flights into Africa will involve a number of landings and refueling in locations that range from across Northern African and around the Mediterranean Sea to the Sudan, and are designed for the express purpose of further concealing the transfer.<sup>196</sup> The flight support service providers operate under the veil of “client confidentiality” which often stymies international efforts to collect data on illicit flights.<sup>197</sup>

**d. Common Practices of Sanction Busting Flights**

The efforts made by unscrupulous air operators to disguise an illicit arms flight starts with registering aircraft under “flags of convenience”, or using outright false registration numbers, or further subcontracting operations to complicate tracking efforts. In addition to these initial efforts to obfuscate an illicit arms shipment, air operators and pilots employ additional tactics to further increase their chance of arriving undetected. These efforts assume that the aircraft crew is fully aware of the contents of the cargo and the prohibited nature of the recipient.

Illicit small arms trafficking conducted by civil aircraft can be accomplished by one of two ways. Either the operator of the aircraft and the associated flight crew are aware of the illicit cargo and will make every effort to conceal it from the authorities; or the cargo is hidden by association with a legitimate item and the flight crew is subsequently unaware of its presence. Small-scale smuggling operations often occur unbeknownst to the flight crew because the risk of detecting a small quantity of contraband is low and therefore the monetary loss to the smuggler, should the contraband be seized, is also low. Larger shipments, however, are often conducted with the full knowledge of the flight crew who will thus make every effort to avoid detection.

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<sup>195</sup> UN Security Council, S/2006/525, 18.

<sup>196</sup> A UN Panel of Experts identified the preferred stops for arms trafficking flights into Africa as: Benghazi and Tripoli (Libya), Larnaka (Cyprus), Cairo and Luxor (Egypt), and Khartoum (Sudan) in, UN Security Council, S/2006/525, 18-19.

<sup>197</sup> A UN Panel of Experts was denied flight plans generated by Baseops International during an investigation into arms embargo violations in the DRC, see UN Security Council, S/2006/525, 16.



The most notorious cases of illicit arms flights to prohibited recipients in Africa involve large scale shipments of weapons and ammunition aboard commercially operated aircraft. These shipment required flight-crew complicity to handle a variety of forged documents that misrepresented the cargo, and to conduct surreptitious flight routes involving unannounced transit stops and concealed loading and offloading of cargo. The rewards for the flight-crew to take these risks are purely financial. Journalist Brian Johnson-Thomas documented the case of arms embargo busting flights from Europe to Khartoum, Sudan, in the late-1990s in which each of the five-man crew of one cargo aircraft netted \$5,000 for each of at least 20 flights.<sup>198</sup> The risk to conducting the flights, conversely, was “either being imprisoned *en route* or, conceivably, back in Europe if the authorities should ever find out.”<sup>199</sup>

False flight planning and unannounced stops are the most commonly documented method for delivering small arms to prohibited buyers. The United Nations has investigated multiple cases of sanction busting arms flights that involved the use of fraudulent end-user certificates that identified a legitimate buyer to gain approval for export. A false flight plan is then generated that indicates this location as the ultimate destination for the delivery of goods. At some point *en route*, however, the aircraft diverts to another destination and because the airspace over Africa is largely uncontrolled, there is no means to determine the final destination of the aircraft after leaving Europe.<sup>200</sup> This practice can be made to look legitimate by making an unscheduled or emergency landing along the way to the declared destination with the intent of offloading goods for delivery to a prohibited user.<sup>201</sup> The UN Mission in the Democratic Republic of Congo (MONUC) has observed this technique used by pilots who

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<sup>198</sup> Brian Johnson-Thomas, “Anatomy of a Shady Deal,” in *Running Guns: The Global Black Market in Small Arms*, ed. Lora Lumpe (London: Zed Books, 2000), 18.

<sup>199</sup> *Ibid.*, 18.

<sup>200</sup> UN Security Council, S/2002/1115.

<sup>201</sup> UN Security Council, S/2006/525, 19.

make unscheduled stops in Kisangani to offload weapons and load illegally procured natural minerals aboard their aircraft.<sup>202</sup>

Another documented diversion technique is the practice of misreporting aircraft position while *en route* to the declared destination. The management of aircraft transiting African FIRs is coordinated by controllers who receive position reports from pilots over VHF radio. A position report is provided by a pilot operating outside of controlled airspace every hour.<sup>203</sup> Since aircraft cannot be seen on radar, pilots conducting illicit flights can provide false position reports or no position reports while transiting airspace. The intent of providing a false position report is to create the appearance of flying to a legitimate destination that is declared on the flight plan and corresponds to the export and import licenses. While the aircraft appears to be on the declared course, it can land and offload cargo inside a prohibited country and subsequently return to the declared flight plan prior to raising any suspicions. Aviation authorities in West Africa receive reports of violations by pilots and note that “aircraft operators can operate with impunity in their sphere of sovereignty, without their knowledge.”<sup>204</sup>

In addition to surreptitious flight planning and the use of unscheduled stops and transmitting false position reports, transport agents and the operators of aircraft have devised additional methods of concealed delivery. Another technique involves the practice of sub-leasing the permissions for international over-flight to another airline or handling agency. This allows an air carrier with a shady past to use the call sign of a carrier in good standing and thus reducing the suspicion of illicit activity and further disguising arms deliveries.<sup>205</sup> Operators can also use corruption payments to win favors with customs and airport officials that monitor trans-shipment activity. This technique was documented by the UN while investigating sanction busting arms flights into

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<sup>202</sup> UN Security Council, S/2006/525, 19.

<sup>203</sup> ENR 1 – General Rules and Procedures, ASECNA ENR 1.3: Instrument Flight Rules, 16 October 2002, Para 5.3.3., available at: <http://www.ais-asecna.org/en/enr/enr1.htm> (accessed October 1, 2007).

<sup>204</sup> UN Security Council, S/2000/1195, 46.

<sup>205</sup> Brian Wood and Johan Peleman, *The Arms Fixers* (NISAT: 1999), Ch. 5.

Liberia. While seeking an explanation as to why some flights had not been logged in the 2003 flight register<sup>206</sup> the panel of experts found that “[w]hen aircraft carrying weapons are expected (generally, such flights arrive at night), the air traffic controllers, who are civilians, are replaced by military air traffic controllers.”<sup>207</sup> The panel noted that specific flights are not logged in the register and subsequently do not file flight plans upon departure. These efforts combine to conceal the delivery of embargoed goods and eliminate the paper trail that can be used for subsequent implication of wrong doing.

The surreptitious operational techniques employed by arms smugglers can be summed up by the anecdotal information obtained by Brian Wood and Johan Peleman through conversations with pilots, loadmasters, and aviation inspectors described below:

A cargo plane was named as flying in at an airport with one registration number and then flying out with a different one. Another airline was said to have changed its corporate structure and name overnight when its name became linked to illicit activities. One operator used an old license that had been cancelled by aviation authorities to fly several ‘ghost planes’ to hot spots in Africa. Another corporate owner used the logo and colours of a licensed company to fly non-licensed planes.<sup>208</sup>

### **C. SUMMARY OF THE SMALL ARMS SUPPLY CHAIN**

In practice, there are no fixed boundaries between sellers, buyers, or intermediaries. Additionally, there can be multiple brokers, banks, or transport agents involved within and outside of the country of origin and destination for the weapons. Brokers and transport agents continue to refine their methods of delivery because of the substantial financial rewards that can be gained. Brokers

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<sup>206</sup> The flight register, also known as a tower log, is a record of all aircraft movements (takeoffs and landings) for a particular airfield. This register is maintained by the air traffic controllers and is often manually scribed onto blank spreadsheets.

<sup>207</sup> UN Security Council, *Report of the Panel of Experts pursuant to paragraph 22 of Security Council resolution 1521 (2003) concerning Liberia*, S/2004/396 (New York: 2004). 23

<sup>208</sup> Brian Wood and Johan Peleman, “Making the Deal and Moving the Goods: The Role of Brokers and Shippers,” 141.

manipulate inadequate licensing and end-user certificate systems<sup>209</sup> and take advantage of secrecy laws that make it a criminal offence for bank officials to reveal information about clients.<sup>210</sup> The transportation agents devise “[c]omplex corporate structures showing the registration of the aircraft, the insurance for the plane, insurance for the cargo, the operating agent of the aircraft and the owner of the aircraft all registered in different countries and sometimes represented by third parties.”<sup>211</sup> Complicating the matter is the “shell game” that is often played by transport agents to create front companies to represent airlines. These companies can then be used to shuffle registration numbers, airline names and liveries, and call-signs for aircraft that appear to be subcontracted or leased but are still operating within the same corporate structure.

The graphic representation of the small arms supply chain presented at the beginning of this chapter represents a theoretical process for conducting an arms deal. The process starts with the coordination between buyers and sellers through a broker who can either mediate or negotiate a sale. The broker, which can be represented by one or more individuals or brokerage companies, coordinates directly with national level government authorities in the export, import, and transit countries to obtain these licenses. At the same time that brokers are working on obtain legitimate licenses, or create fraudulent versions, the arms buyer’s bank is extending a letter of credit to the supplier. Like other actors represented by this flowchart, there can be a number of banks and fiduciaries involved with this process. The arrangements for transportation can be made between broker and freight forwarder or directly between broker and transportation agent. Before the letter of credit is cashed, the freight forwarder or transportation agent must obtain insurance coverage for the cargo and produce the air waybill, cargo manifest, and flight plan. With these outputs performed, and the letter of credit cashed, the final authorization for flight will initiate the last

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<sup>209</sup> Owen Greene and Elizabeth Kirkham, *Small Arms and Light Weapons Transfer Controls to Prevent Diversion: Developing and Implementing Key Programme of Action Commitments*.

<sup>210</sup> R.T. Taylor, “Gunsmoke and Mirrors: Financing the Illegal Trade,” 166.

<sup>211</sup> UN Security Council, S/2002/1115.

step in the process. The weapons are now loaded aboard an aircraft, inspected by customs officials, and approved for departure by local airport air traffic controllers.

In Chapter IV, an analysis of Liberian arms trafficking networks will demonstrate the fluidity in function of each of these actors. The problem with clearly defining the specific roles and responsibilities of individual actors involved in the arms trade has left the door open for exploiting national and international instruments for counter-arms proliferation.

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## IV. MAPPING THE PROLIFERATION NETWORKS OF LIBERIA

### A. INTRODUCTION

The anatomy of an arms deal described in Chapter III provides the context for further analysis of proliferation networks. Proliferation and criminal networks thrive in the failed nation-states of West Africa where tribal warlords “control both natural resources and sometimes the organs of state power, such as national banks, commerce, and foreign relations.”<sup>212</sup> In their work on illegal networks, or in their terms: *dark networks*, Jörg Raab and H. Brinton Milward suggest reformulating the problem of illegal activity into network terms to better inform policy recommendations designed to disrupt and destroy them.<sup>213</sup> Dark networks support a variety of illegal activity in West Africa, including natural resource exploitation, small arms proliferation, and terrorist financing. This chapter will focus on the West African nation of Liberia and multiple cases of illicit arms trafficking events that occurred over the course of the second civil war. To frame these cases in network terms, a brief discussion of basic network properties and social network analysis will be included. First, however, is a background on the violence in Liberia and the history of United Nations sanctions designed to prevent it.

#### 1. Liberia’s Culture of Violence

Over the course of the last two decades, Liberia has suffered a complete breakdown of law and order during two distinct civil wars that have claimed the lives of almost 150,000 people and resulted in the external displacement of close to 1 million more.<sup>214</sup> The first phase of violence began in 1989 as the opposition group, National Patriotic Front of Liberia (NPFL), clashed with government forces. As violence between these groups intensified, the United Nations reacted with an arms embargo in 1992 that was intended to restrict the flow of both

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<sup>212</sup> Jörg Raab and H. Brinton Milward, “Dark Networks as Problems,” *Journal of Public Administration Research and Theory* 13 (October, 2003): 425.

<sup>213</sup> *Ibid.*, 415.

<sup>214</sup> UN, “Liberia – UNMIL – Background,” <http://www.un.org/Depts/dpko/missions/unmil/background.html> (accessed November 5, 2007).

weapons and ammunition that proved instrumental to the level of violence. By 1993, the United Nations would establish its Observer Mission in Liberia (UNOMIL) which acted to assist the Economic Community of West African States (ECOWAS) Military Observer Group (ECOMOG) to broker peace. An agreement was reached in 1993 in Cotonou, Benin, which was delayed in implementation because of continued fighting among multiple factions and would eventually lead to the election of the NPFL leader, Charles Taylor, in July 1997.<sup>215</sup>

While hostilities had largely dissipated and with the original mandate completed, UNOMIL withdrew from Liberia in September 1997 followed by ECOMOG in November 1999.<sup>216</sup> The United Nations established a Peace-building Support Office in Liberia (UNOL) with the responsibility to initiate national reconciliation programs designed to reconstruct the failed state. However, a political stalemate would follow as both government and opposition party leaders were unable to resolve their key differences which led to the emergence in 1999 and 2002, respectively, of the Liberians United for Reconciliation and Democracy (LURD) and the Movement for Democracy in Liberia (MODEL).<sup>217</sup> Both rebel groups vowed to overthrow President Taylor's government through violent armed conflict and won control of nearly two thirds of the country by May, 2003. By June of that year, the efforts of the international community culminated in peace negotiations between all concerned Liberian parties in Accra, Ghana. In September, the United Nations Security Council adopted resolution 1509 (2003) which established the United Nations Mission in Liberia (UNMIL).<sup>218</sup> UNMIL initially consisted of 15,000 peacekeepers and was described as "a multidimensional operation composed of political, military, civilian police, criminal justice, civil affairs, human rights, gender, child protection,

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<sup>215</sup> UN, "Liberia – UNMIL – Background."

<sup>216</sup> UN Security Council, *Report of the Secretary-General to the Security Council on Liberia*, S/2003/875 (New York, NY: UN, 2003).

<sup>217</sup> *Ibid.*, 2.

<sup>218</sup> UN, "Liberia – UNMIL – Background."



disarmament, demobilization and reintegration, public information and support components, as well as an electoral component.”<sup>219</sup>

## **2. Current Arms Embargo on Liberia**

Resolution 1509 (2003) recognized the culture of violence that had been inculcated in Liberian government forces, rebel groups, and civilians alike, and intended to act on recommendations by ECOWAS to focus on curbing the proliferation of small arms and reviewing the current regime of sanctions against Liberia.<sup>220</sup> By December 2003, the Security Council adopted a revised arms embargo against Liberia which declared:

that all States shall take the necessary measures to prevent the sale or supply to Liberia, by their nationals or from their territories or using their flag vessels or aircraft, of arms and related material of all types, including weapons and ammunition, military vehicles and equipment, paramilitary equipment and spare parts for the aforementioned, whether or not originating in their territories.<sup>221</sup>

This embargo was last renewed in December 2006 for a period of 12 months and will be further extended or modified by the end of 2007.<sup>222</sup> Additionally, the mandate of UNMIL has been extended through at least September 2008. The fifteenth and latest United Nations progress report on UNMIL stated that the Government of Liberia “continued to implement its agenda for peace consolidation, governance reform and economic recovery.”<sup>223</sup> The same report, however, identifies that there is still risk of renewed violence posed by the possible resurgence of armed groups, especially those who remain loyal to former President Charles Taylor.<sup>224</sup>

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<sup>219</sup> UN Security Council, S/2003/875, 14-15.

<sup>220</sup> *Ibid.*, 5.

<sup>221</sup> UN Security Council, *Resolution 1521 (2003)*, S/RES/1521 (New York, NY: UN, December 22, 2003), para. 2(a).

<sup>222</sup> UN Security Council, *Resolution 1731 (2006)*, S/RES/1731 (New York, NY: UN, December 20, 2006).

<sup>223</sup> UN Security Council, *Fifteenth Progress Report of the Secretary-General on the United Nations Mission in Liberia*, S/2007/479 (New York, NY: UN, August 8, 2007), 1.

<sup>224</sup> *Ibid.*, 4.

During Taylor's Presidency, Liberia became the nexus of many dark networks.<sup>225</sup> The remainder of this chapter will illustrate the arms proliferation network by focusing on 4 interrelated events. These events will be further described using the network terms further described below.

## **B. NETWORK FUNDAMENTALS**

As suggested by Jörg Raab and H. Brinton Milward, complex problems are increasingly being reformulated in network terms to better inform policy. In one of the first studies on the application of network analysis to criminal activity, Malcolm Sparrow claimed that despite an obvious awareness of the importance of intelligence analysis to understanding complex criminal networks, the responsible agencies "have remained for the most part relatively unsophisticated in their use of analytic tools and concepts."<sup>226</sup> Recently, however, these analytic tools and concepts are being used to identify and isolate key individuals and organizations incorporated within both criminal and terrorist networks. For example, Stuart Koschade employed social network analysis as a conceptual framework to deconstruct the structure of the Indonesian-based *Jemaah Islamiyah* terrorist organization. Among his analytical findings, Koschade is able to measure "the level of each cell member's activity, ability to access others, and the control over the flow of information within networks," thus identifying the most important individuals involved with the 2002 Bali bombing.<sup>227</sup>

### **1. Social Network Analysis**

The same social network methodology that Koschade used to describe the *Jemaah Islamiyah* terrorist organization can be applied to proliferation networks. A social network is generally defined as the representation of relations that exist between a finite set of individual actors.<sup>228</sup> Social network analysis (SNA), therefore, is the methodological approach that can identify key actors in a

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<sup>225</sup> Jörg Raab and H. Brinton Milward, "Dark Networks as Problems," 425.

<sup>226</sup> Malcolm K. Sparrow, "The Application of Network Analysis to Criminal Intelligence: An Assessment of the Prospects," *Social Networks* 13 (1991).

<sup>227</sup> Stuart Koschade, "A Social Network Analysis of Jemaah Islamiyah: The Applications to Counterterrorism and Intelligence," *Studies in Conflict & Terrorism* 29 (2006): 571.

<sup>228</sup> Stanley Wasserman and Katherine Faust, *Social Network Analysis: Methods and Applications* (Cambridge, MA: Cambridge University Press, 1994), 20.

network through the analysis of the relations between actors. Social network analysis is a distinct research perspective that has flourished within the social and behavioral sciences. It is “distinct because social network analysis is based on an assumption of the importance of relationships among interacting units.”<sup>229</sup> This emphasis on relations forms the basis for network theory that not only defines the actors in a network but seeks to explain how actors are connected to one another.

**a. Actors**

The main goal of social network analysis can be described as “detecting and interpreting patterns of social ties among actors.”<sup>230</sup> The actor within social network analysis is a social entity that can be a “discrete individual, corporate, or collective social” unit.<sup>231</sup> In proliferation networks, actors include buyers and sellers, brokers, insurance and financial agents, government licensing and export officials, and transportation agents and aircraft operators among many others. These actors and their actions are interdependent of one another within the context of the proliferation process.<sup>232</sup> The contextual chapters of this thesis were intended to identify the principal actors of proliferation networks and provide a preview of the relationships that exist between them by constructing a graphic representation of the small arms supply chain.

**b. Ties**

Found between the actors of a social network are relational ties that link specific actors with one another. The defining feature of this tie is the relation that “establishes a linkage between a pair of actors.”<sup>233</sup> In social

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<sup>229</sup> Stanley Wasserman and Katherine Faust, *Social Network Analysis: Methods and Applications*, 4.

<sup>230</sup> Wouter de Nooy, Andrej Mrvar, and Vladimir Batagelj, *Exploratory Social Network Analysis with Pajek* (Cambridge, MA: Cambridge University Press, 2005), 5.

<sup>231</sup> Stanley Wasserman and Katherine Faust, *Social Network Analysis: Methods and Applications*, 17

<sup>232</sup> A basic principle of social network analysis offered by Stanley Wasserman and Katherine Faust is that actors and their actions are interdependent of one another rather than independent, autonomous units.

<sup>233</sup> Stanley Wasserman and Katherine Faust, *Social Network Analysis: Methods and Applications*, 18.

networks, this tie between actors is often formed through friendship, kinship, or common association such as school or church attendance. The linkage can also be formed through participation or affiliation with a distinct event. These relational ties are central to social network analysis as they represent channels for transfer or “flow” of material or nonmaterial resources between actors. This linkage will become central to establishing affiliation networks of actors involved within specific arms trafficking events described later in this chapter.

### **c. Groups**

Social network analysis requires the collection of data on a set of actors and the relational ties that exist between them. Social network data “consist of at least one structural variable measured on a set of actors.”<sup>234</sup> The intent of the network analyst will determine the variables to measure and will result in a group, or “the collection of all actors on which ties are to be measured.”<sup>235</sup> This group can be distilled into individual subgroups, or “any subset of actors, and all ties among them,” based on specific attributes or affiliations. Subgroups are also referred to as cliques, which can be defined as “a subset of a network in which the actors are more closely and intensely tied to one another than they are to other members of the network.”<sup>236</sup>

## **2. Visualizing Social Network Data**

The two principle methods to visualize social network data are in graphs and matrices. A graph is “a model for a social network with an undirected dichotomous relation; that is, a tie is either present or absent between each pair of actors.”<sup>237</sup> Simply speaking, a graph “consists of points (or nodes) to represent actors and lines (or edges) to represent ties or relations.”<sup>238</sup> The term coined by sociologists to describe these graphs is a *sociogram*, which will be

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<sup>234</sup> Ibid., 28.

<sup>235</sup> Ibid., 19.

<sup>236</sup> Robert A. Hanneman and Mark Riddle, *Introduction to Social Methods*, (Riverside, CA: University of California, 2005), under “Chapter 11: Cliques and Subgroups,” <http://www.faculty.ucr.edu/~hanneman/nettext/> (accessed December 7, 2007).

<sup>237</sup> Stanley Wasserman and Katherine Faust, *Social Network Analysis: Methods and Applications*, 94.

<sup>238</sup> Robert A. Hanneman and Mark Riddle, *Introduction to Social Methods*, (Riverside, CA: University of California, 2005), under “Chapter 5: Using Matrices to Represent Social Relations.”

used to describe the graphic representation of proliferation networks. Matrices, in contrast, used to collect data on the relations between actors depicted in a structure of rows and columns. Matrices and the data structure for proliferation events will be described in more detail throughout this chapter. Listed below are a few final concepts that will be used to describe these networks and the relational ties that exist between actors.

**a. Levels of Measuring Relations**

The ties between actors depicted on a graph can either be binary, signed, or valued. At the most basic level, binary relations describe only whether a tie exists or not.<sup>239</sup> A binary relation can be depicted on a matrix by entering a one at the intersection of column and row between actors that have an identified relationship and with a zero for actors who do not. Representing preferences between actors that have a relationship, such as like or dislike, can be accomplished with signed data. Signed data can be displayed on a graph by assigning “a + to indicate ‘liking,’ zero to indicate ‘don’t care’ and – to indicate a negative choice.”<sup>240</sup> Finally, a valued relation between actors can be measured by rank ordering a constant variable that exists such as who each actor likes the “most, next most, and least.”<sup>241</sup> The approach taken to represent relationships between actors of proliferation networks will be to find common participation within organizations or with specific trafficking events. For this reason, only binary relations will be used between actors to represent the presence or absence of a tie.

**b. Directed Ties**

Just as relations between actors can be measured to accommodate various discriminators, they can also represent a directional tie that exists between actors. Directed or “bonded” ties are often used in advice or trust networks that display whom each actor goes to for advice or who they trust. Since advice and trust are not necessarily reciprocal, they are considered to be

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<sup>239</sup> Robert A. Hanneman and Mark Riddle, *Introduction to Social Methods*, (Riverside, CA: University of California, 2005), under "Chapter 3: Using Graphs to Represent Social Relations."

<sup>240</sup> *Ibid.*

<sup>241</sup> *Ibid.*

directed ties and are displayed on a graph with arrow heads “indicating who is directing the tie toward whom.”<sup>242</sup> Much like the decision to use only binary values to represent relations between actors of proliferation networks, the available data for each case study does not support the use of directed ties.

**c. *Simplex and Multiplex Relations***

One of the inherent values of using social network analysis to describe complex illegal, or dark networks, is the ability to represent multiple relations between individual actors. Simplex relations “represent a single type of relation among actors” while multiplex relations display “more than one kind of relation.”<sup>243</sup> The ability to graph multiplex relations will become instrumental in the discussion of proliferation networks that exhibit commonality between organizations involved in discrete trafficking events. For example, a freight forwarder that was established and subsequently coordinated logistics for multiple events will have multiplex relations between actors associated with that organization through association with each of the events.

**d. *Matrices***

With very large networks, either containing a large number of actors or depicting many kinds of relations, graphs can become cluttered to the point that patterns are not easily discernable. In this case, matrices can be used to input social data into mathematical and computer tools that perform analytical functions. A matrix “is nothing more than a rectangular arrangement of a set of elements...described by the number of rows of elements and columns of elements that they contain.”<sup>244</sup> The simplest matrix is binary and represents a tie between actors with a one and the lack of tie with a zero.

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<sup>242</sup> Robert A. Hanneman and Mark Riddle, *Introduction to Social Methods*, (Riverside, CA: University of California, 2005), under "Chapter 3: Using Graphs to Represent Social Relations."

<sup>243</sup> *Ibid.*

<sup>244</sup> *Ibid.*

	Bob	Carol	Ted	Alice
Bob	--	1	1	0
Carol	0	--	1	0
Ted	1	1	--	1
Alice	0	0	1	--

Table 2. Example of an Asymmetric Adjacency Matrix<sup>245</sup>

A matrix such as this represents the starting point for most network analysis, and “is called an ‘adjacency matrix’ because it represents who is next to whom in the ‘social space’.”<sup>246</sup> The example provided in Table 2 depicts directed ties, the source of which is listed in the rows with the targets found in the columns. This matrix is, therefore, asymmetric as Bob chooses Carol, but Carol does not choose Bob.<sup>247</sup>

The terminology and principals presented thus far will be further elucidated in this chapter; they will form the basis for the subsequent analysis of weapons proliferation networks and their behavior as social networks. Using this construct will provide a point of departure to assess the current structure for regulating arms proliferation and provide the context for recommendations to stem the flow of small arms to the world’s conflict zones.

### 3. Suitability of Liberian Case-Study

The second Liberian civil war that was waged from 1999 to 2003 between the Armed Forces of Liberia (AFL) and both LURD and MODEL rebel groups has several attributes that makes it appropriate for this particular course of study. The time frame for violence follows the post-Cold War liquidation of small arms and surplus military equipment described in previous chapters. The United Nations reacted to the atrocities of the first civil war through the imposition of an arms embargo which lasted through the second phase of violence and is still in effect today. The combined effect of a global supply-side weapons market and

<sup>245</sup> Adapted from Figure 5.5, Robert A. Hanneman and Mark Riddle, Introduction to Social Methods, (Riverside, CA: University of California, 2005), under "Chapter 5: Using Matrices to Represent Social Relations."

<sup>246</sup> Robert A. Hanneman and Mark Riddle, Introduction to Social Methods, (Riverside, CA: University of California, 2005), under "Chapter 5: Using Matrices to Represent Social Relations."

<sup>247</sup> Ibid.

the implementation of an internationally recognized arms embargo resulted in enterprising arms brokers capitalizing on the available resource wealth by adopting creative methods to clandestinely transport and deliver small arms.

Using social network analysis to describe proliferation networks can serve many purposes. Social scientists study the human aspects of the world and argue that “society is not an aggregate of individuals and their characteristics, as statisticians assume, but a structure of interpersonal ties.”<sup>248</sup> The unit of analysis for social sciences is not, therefore, an individual alone, but rather that individual and the surrounding social, economic, or cultural ties. Viewed through this lens, proliferation networks are not merely a collection of discrete actors but rather a unique structure of relationships that exist between actors and function in concert to deliver illicit cargoes to prohibited regimes.

Two distinct outputs of social network analysis is the ability to visualize network data and the ability to run calculations or measurements of the quantifiable structural features of networks. This thesis does not propose to test any particular hypothesis on proliferation networks but rather to describe the small arms supply chain and subsequent efforts for regulation in network terms. The application of social network analysis in the case study on Liberia should reveal features that are already commonly accepted. This approach has been described as exploratory social network analysis which “assumes that the structure or pattern of ties in a social network is meaningful to members of the network and, hence, to the researcher.”<sup>249</sup>

### **C. LIBERIAN CASE STUDIES: SANCTION BUSTING EVENTS**

The case studies described below represent four separate arms trafficking events that have been documented by various United Nations Panels of Experts charged with investigating arms embargo violations. For the most part, each case study involves separate arms brokers and transportation agents. However, there are common actors that in the end will tie each of the discrete arms

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<sup>248</sup> Wouter de Nooy, Andrej Mrvar, and Vladimir Batagelj, *Exploratory Social Network Analysis with Pajek*, 3.

<sup>249</sup> *Ibid.*, 4.



trafficking events into an extensive network designed for the express purpose of clandestine arms delivery to prohibited buyers. Each of these events occurred during the second Liberian civil war that waged from 1999 to 2003 between the AFL and both LURD and MODEL rebel forces.

### **1. Event 1: Leonid Minin's 68-ton Arms Shipment**

A PBS Frontline investigation of international arms dealers describes the arrest of renowned trafficker Leonid Minin as a scene out of a Quentin Tarantino film:

Minin, a pale Ukrainian, abundantly fleshy and naked, freebasing cocaine, flanked by a quartet of Russian, Albanian, Italian and Kenyan prostitutes. A pornographic film flickers in the background, Minin, the majority owner of the Europa Hotel in Cinisello Balsamo, a small town outside Milan, Italy, has transformed his two-room suite into a bedroom/office and den of debauchery.<sup>250</sup>

The arrest of Minin in Italy resulted in the seizure of \$500,000 worth of uncut diamonds, \$35,000 of American, Italian, Hungarian, and Mauritian currency, and most importantly, 1,500 documents that detailed a wide variety of business operations.<sup>251</sup> Among these operations were multiple weapons deals that were brokered by Minin and shipped into the embargoed nation of Liberia. The weapons imported into Liberia by Minin, who was a business partner and confidant of Liberian President Charles Taylor, ended up in the hands of AFL government troops, both LURD and MODEL rebel forces, and resulted in further proliferation across the border into Sierra Leone to support the rebel Revolutionary United Front (RUF).<sup>252</sup>

One of the weapons deals uncovered by the Milan customs police was a March 13, 1999, shipment of 68 tons of arms that included "3,000 AKM assault rifles, 1 million rounds of ammunition, 25 RPG-7s and related ordnance, Strela-3

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<sup>250</sup> Matthew Brunwasser, "Leonid Efimovich Minin: From Ukraine, a New Kind of Arms Trafficker," PBS Front Line World (May, 2002), <http://www.pbs.org/frontlineworld/stories/sierraleone/minin.html> (accessed November 28, 2007).

<sup>251</sup> Ibid.

<sup>252</sup> UN Security Council, *Report of the Panel of Experts appointed pursuant to Security Council Resolution 1306 (2000), paragraph 19, in relation to Sierra Leone, S/2000/1195* (New York, NY: UN, 2000), para. 20 & 208.

and Metis systems and 80 related missiles.”<sup>253</sup> The deal was initiated between the Ukrainian state-owned arms marketing company, *Ukrspetsexport*, and Minin’s front company, Chartered Engineering & Technical Company Ltd.<sup>254</sup> The deal was authorized on the basis of an end-user certificate provided by Minin to the supplier which identified the Burkina Faso Ministry of Defense as the ultimate consignee. The end-user certificate was signed by Lieutenant Colonel Gilbert Diendéré, head of the Presidential Guard of Burkina Faso.<sup>255</sup>

This case of illicit trafficking represents a diversion of arms that initially appeared to be destined for Burkina Faso. The first leg of the delivery was accomplished by an Antonov An-124 operated by the British company, Air Foyle, who was acting as an agent for Ukrainian air carrier, Antonov Design Bureau.<sup>256</sup> Upon arrival in Ouagadougou, Burkina Faso, the consignment was trucked to Bobo Dioulasso, and then carried aboard multiple flights to Liberia aboard Minin’s personal BAC-111. Minin’s aircraft was registered in the Cayman Islands and operated by a company registered in Monaco named LIMAD. A total of three flights were required to transport the weapons, and eye-witness accounts reported the involvement of another aircraft operated by the Liberian-based company Weasua.<sup>257</sup>

Several intermediaries were involved in this initial consignment of weapons trans-shipped from Burkina Faso to Liberia. A Lebanese business man named Talal El-Ndine, who was a part of Liberian President Charles Taylor’s inner-circle, negotiated the deal with Minin and provided payment for the arms.<sup>258</sup> Additional logistic support was provided by Dutch national Gus Van Kouwenhoven, who among other services, provided lodging for brokers, pilots,

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<sup>253</sup> Amnesty International, *Dead on Time: Arms Transportation, Brokering and the Threat to Human Rights*, ACT 30/008/2006 (Amnesty International, May 10, 2006), 61, <http://web.amnesty.org/library/index/engact300082006> (accessed December 7, 2007).

<sup>254</sup> UN Security Council, S/2000/1195, para. 204.

<sup>255</sup> *Ibid.*, para. 204-205.

<sup>256</sup> *Ibid.*, para. 204.

<sup>257</sup> *Ibid.*, para. 209-210.

<sup>258</sup> *Ibid.*, para. 214.

and crew while in Liberia at his Hotel Africa in Monrovia.<sup>259</sup> Van Kouwenhoven was also part of Taylor's inner-circle through his contact with the former Liberian finance minister Emmanuel Shaw.<sup>260</sup>

## **2. Event 2: Minin's Second Consignment of Weapons**

Another widely documented case of violating the Liberian arms embargo was Leonid Minin's follow-on delivery to the 68 tons of weapons described in Event 1. This case began with a sizeable, albeit legal, order for military hardware and ammunition from the Ivorian head of state, General Robert Gueï in July, 2000. The now disposed ruler placed the million dollar order of Kalashnikov rifles, rocket-propelled grenades, night-vision goggles, and five million rounds of ammunition directly to Minin.<sup>261</sup> Although Minin coordinated directly with Gueï, he subcontracted out to the brokerage services of Finnish-national Erkki Tammivuori and his Turkish company MET A.S. to make the final arrangements for a diversion to Liberia. Tammivuori worked directly with the Liberian president's son, Charles "Chuckie" Taylor, Jr.<sup>262</sup>

Like the illicit delivery described in Event 1, this case involved a diversion of arms from an approved buyer. The deal consisted of 113 tons of arms brokered through the Ukrainian state-owned company, *Spetstehnoexport*.<sup>263</sup> The export of arms, which included 10,500 AK-47s, was approved by the Ukraine using an end-user certificate signed by General Gueï on May 26, 2000. Gueï, who had a genuine interest in bolstering his own military forces to remain in power, struck a deal with the Liberian emissary to his country, Mohamed Salamé. Minin would later claim that "the deal had been organized by Mohamed Salamé on behalf of the Liberian President" and would include expanded concessions for

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<sup>259</sup> UN Security Council, S/2000/1195, para. 215.

<sup>260</sup> Ibid.

<sup>261</sup> John A. Kruger, "Merchants of Death: In a Booming Business, Small Arms Brokers Make a Killing," *The International Economy*, (Summer 20002), [http://findarticles.com/p/articles/mi\\_m2633/is\\_3\\_16/ai\\_89816200](http://findarticles.com/p/articles/mi_m2633/is_3_16/ai_89816200) (accessed November 9, 2007).

<sup>262</sup> UN Security Council, *Report of the Panel of Experts pursuant to Security Council resolution 1343 (2001), paragraph 19, concerning Liberia*, S/2001/1015 (New York, NY: UN, 2001), para. 212.

<sup>263</sup> Amnesty International, *Dead on Time: Arms Transportation, Brokering and the Threat to Human Rights*, 62.

Minin's timber business in Liberia.<sup>264</sup> The Ivorian ambassador in Moscow provided the required authentication of the end-user certificate and a Ukrainian military officer traveled with the cargo under the auspice of verifying the delivery.<sup>265</sup>

The weapons were delivered to Abidjan, Ivory Coast, from Gostomel on July, 15, 2000 following a fuel stop in Libya.<sup>266</sup> The aircraft used was the same Antonov An-124 that delivered the 68 tons of arms to Burkina Faso in 1999, however, this time it was chartered by the Moscow-based company, Aviatrend.<sup>267</sup> A representative of Aviatrend, Valery Cherny, chartered the aircraft from the Antonov Design Bureau. The financial aspects of this deal involve a mix of business concessions and cash payments. Bank transfers indicated that Minin paid \$1 million to Aviatrend using the Alpha Bank in Nicosia, Cyprus, and Chase Manhattan Bank in New York. These payments were transferred by one of Minin's many offshore holding companies, Sulico Holdings, and would be referred to in the documentation as for the purpose of "Buying Technical Material/Wood Extraction Tools."<sup>268</sup>

While some of the arms delivered to Abidjan may have stayed in the country, the vast majority would continue on their journey to Liberia. Instrumental in this segment of the supply chain was Kenyan national Sanjivan Ruprah. Ruprah, a close associate of Viktor Bout and the Liberian Deputy Commissioner of Maritime Affairs, has been linked to several cases of arms embargo violations and is perhaps most well known for his role in the Liberian aviation registry during which time he accepted corruption payments in exchange for issuing certificates of registration on aircraft involved in illicit activity.<sup>269</sup> Ruprah's involvement in the delivery of Ukrainian arms involves the establishment of the

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<sup>264</sup> UN Security Council, S/2001/1015, para. 217.

<sup>265</sup> *Ibid.*, para. 211.

<sup>266</sup> *Ibid.*, para. 210.

<sup>267</sup> Amnesty International, *Dead on Time: Arms Transportation, Brokering and the Threat to Human Rights*, 62.

<sup>268</sup> UN Security Council, S/2001/1015, para. 213.

<sup>269</sup> UN Security Council, S/2001/1015, para. 435.

“ghost airline” West Africa Air Services to complete transportation from Abidjan to Monrovia. The operation of West Africa Air Services was run through San Air in the United Arab Emirates. The airline leased a single Ilyushin IL-18 from the Renan air cargo company of Moldova. The leasing contract between West Africa Air Services and Renan was signed by Ruprah and LeRoy Urey, the brother of Benoni Urey who was the Liberian Commissioner of Maritime Affairs.<sup>270</sup>

The leased Ilyushin IL-18 would make a total of 8 trips between Abidjan and Monrovia to complete the diversion. The public record for West Africa Air Services reflects a total lifespan of the airline from 2000 to 2002. The aircraft, which had been temporarily registered in Liberia as EL-ALY, was in the possession of West Africa Air Services from July to October, 2000, after which time it was transferred back to Renan and returned to the original Moldovan registration number of ER-ICJ.<sup>271</sup> The United Nations panel of experts investigating this case discovered the fleeting nature of West Africa Air Services and the surreptitious flight activity of the Ilyushin-18 through a collection of tower records and overflight authorizations. While Roberts International Airport in Monrovia had no record of any landings or departures by an aircraft registered EL-ALY, overflight and landing authorizations of several adjacent West African countries list this aircraft as flying over or landing upon departing or traveling to Monrovia.<sup>272</sup> Additionally, the call-sign used for many of these flights is assigned by the International Civil Aviation Organization to an airline in Ontario, Canada.<sup>273</sup>

### **3. Event 3: Ugandan AK-47s Diverted on Return**

Success in the illicit arms brokering and transportation business is dependent upon establishing a comprehensive network of individuals that are attune to buyers needs and the arms availability of suppliers. In October 2000, a batch of one thousand assault rifles delivered to the Ugandan military by the

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<sup>270</sup> UN Security Council, S/2001/1015, para. 436.

<sup>271</sup> AeroTransport Data Bank, <http://www.aerotransport.org/> (accessed November 9, 2007).

<sup>272</sup> UN Security Council, S/2001/1015, para. 190.

<sup>273</sup> *Ibid.*, para. 193.

Slovak Republic was determined to be unsatisfactory. The original deal was brokered by the Egyptian-national, Sharif Al-Masri, of the brokerage company Culworth Investments. Al-Masri was involved in making arrangements to return the weapons from Uganda to the original manufacturer in the Slovak Republic when he found a new buyer in Guinea.<sup>274</sup>

In the original deal with the Slovak Republic, the Ugandan military agreed that the rifles would not be re-exported to another user. Uganda was not aware of the deal being brokered by Al-Masri with the new buyer. The buyer was the Guinea-based Pecos Company and arrangements were made through its representative, Peter Jusko. At the time, Jusko was also the director of the arms brokerage company Joy Slovakia, who along with Alexander Islamov was involved in brokering an illicit deal for Liberia that included the sale of Mi-24 HIND attack helicopters from Kyrgyzstan.<sup>275</sup> In the case of the returned weapons from Uganda, Pecos would act as a buying agent and purchase the weapons through Al-Masri using an end-user certificate signed by the Director of Cabinet of the Guinean Ministry of Defense. This end-user certificate was dated July 2, 2000, almost 5-months prior to the initial shipment of weapons to Uganda.

The United Nations panel of experts investigating this case described Pecos as “a front company for illicit arms imports into Africa for arms exporting countries.”<sup>276</sup> The company was established in Conakry, Guinea, in 1997 by Slovak-national Peter Jusko and Guinean citizen Mohamed Yasané. Pecos, which was removed from the Guinean register of corporations in November 2001, provided fake end-user certificates to Islamov, Bout, and Ruprah, among others.<sup>277</sup> Jusko provided the end-user certificate to authorize export of the weapons out of Uganda. A document resembling the air waybill, described by the panel of experts as “a handwritten statement that was made up to confirm the

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<sup>274</sup> UN Security Council, S/2001/1015, para. 174.

<sup>275</sup> *Ibid.*, para. 231.

<sup>276</sup> *Ibid.*, para. 259.

<sup>277</sup> UN Security Council, *Report of the Panel of Experts appointed pursuant to Security Council resolution 1395 (2002), paragraph 4, in relation to Liberia, S/2002/470* (New York, NY: UN, 2002), para. 64 & 66.

loading of 1,000 of the submachine guns” was signed by the Ugandan Inspector General, a representative of Culworth Investments, and Pavel Popov on behalf of Peter Jusko of Pecos.<sup>278</sup>

The first consignment of weapons to depart Uganda was flown by an Ilyushin IL-18 cargo aircraft in November, 2000. The aircraft, which was presumed to be flying back to the Slovak Republic, was registered in Moldova, using the tail number ER-75929, and was operated by Centrafican Airlines of Bangui, Central African Republic.<sup>279</sup> When the aircraft returned three days later to pick up a second consignment of 1,250 submachine guns, the Ugandan authorities became suspicious of the deal and impounded the weapons.

The IL-18 used to smuggle the weapons out of Uganda was owned by Vichi, a private agent of the Moldovan Ministry of Defense. Representatives of Vichi claimed that during this time-frame the aircraft had been chartered by MoldTransavia to conduct a passenger flight from Ras-al-Khaimah, UAE, back to Moldova. The aircraft, however, was unaccounted for from November 4 to November 24, 2000. The United Nations Panel of Experts would later learn that while in the UAE, the crew of the IL-18 was contacted by Sergei Denissenko of Centrafican Airlines, and agreed to contract their services to transport cargo from Uganda to Liberia. The cargo was described as “technical equipment” on the official documentation.<sup>280</sup>

MoldTransavia is managed by Pavel Popov who also leases aircraft from San Air in Sharjah, UAE. Popov had a history of involvement with illicit arms trafficking while working as a logistics agent for Air Cess, a company owned and managed by Viktor Bout and his brother Sergei.<sup>281</sup> He has also been described as “the ground manager for Victor Bout’s arms shipments from Central Europe.”<sup>282</sup> It is therefore likely that Popov and Denissenko coordinated the deal

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<sup>278</sup> UN Security Council, S/2001/1015, para. 186.

<sup>279</sup> *Ibid.*, para. 176.

<sup>280</sup> *Ibid.*, para. 181.

<sup>281</sup> *Ibid.*, para. 183.

<sup>282</sup> *Ibid.*, 53.

to use the IL-18 for flights between Uganda and Liberia. Additionally, one day prior to the first flight conducted by the IL-18, Centrafican Airlines signed a contract with West Africa Air Services, suggesting that more weapons were expected. This document was signed by Kenyan-national, Sanjivan Ruprah.<sup>283</sup>

Centrafican Airlines was owned by Russian-national, Viktor Bout.<sup>284</sup> Bout is described by the United Nations as well-known supplier of arms to embargoed nations and non-state actors who oversees a complex network of over 50 planes, 10 airline companies, multiple cargo charter companies, and multiple freight-forwarding companies.<sup>285</sup> He operates out of the free trade zone in Sharjah, UAE, which is known as an “airport of convenience” for aircraft registered in many other countries. Centrafican obtained an Air Operator Permit from the Civil Aviation Authority of the Central African Republic in July, 1998, with authorization for the company to operate domestic flights.<sup>286</sup> The records of the Civil Aviation Authority indicate that Centrafican’s fleet was limited to three aircraft. However, it was discovered in early-2000 that a Director of Civil Aviation worked directly with Victor Bout to obtain false permits for about 20 aircraft that operated throughout the world.<sup>287</sup>

The United Nations concluded that Centrafican, San Air, and MoldTransavia, are one in the same company and are used by Viktor Bout and his partners to disguise their activity. An example of this relationship traces the lineage of one aircraft registered with Centrafican in Bangui, but insured through San Air of the UAE, and received flight planning services such as landing and overflight requests from MoldTransavia in Moldova. The actual flights would be

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<sup>283</sup> UN Security Council, S/2001/1015, para. 187.

<sup>284</sup> *Ibid.*, para. 272.

<sup>285</sup> UN Security Council, S/2000/1195, 11.

<sup>286</sup> UN Security Council, S/2001/1015, para. 273.

<sup>287</sup> *Ibid.*, para. 274.



conducted under Centrafrican's three letter designator, CET, and the billing address for accounts payable is Transavia Travel Agency which shares an address with San Air in the UAE.<sup>288</sup>

#### **4. Event 4: Slobodan Tešić Brokers Serbian Weapons**

Between 2000 and 2002, increasing international pressure on brokers and transportation agents resulted in several arrests or international warrants for arrest. This did not stop the flow of arms into Liberia, but rather led to the emergence of additional brokers who would employ the same tactics and often utilize the existing transportation networks. One such case is that of Slobodan Tešić, who between June and August 2002 orchestrated the delivery of over 200 tons of weapons into Liberia aboard civilian cargo aircraft.<sup>289</sup> The panel of experts found that inventories of weapons delivered over the course of these six flights was a near identical match to a sequence of weapons shipments that originated from Belgrade, Serbia, and claimed to be destined for Nigeria. Additionally, serial numbers of weapons listed on the end-user certificates that identified Nigeria as the recipient were later discovered in the possession of both AFL troops and LURD rebel fighters in Liberia.<sup>290</sup> The Ministry of Foreign Affairs for Nigeria would later declare that "end-user certificates purportedly issued by the Nigerian Government for the purchase of arms and ammunition from a Yugoslav company are not, repeat not, genuine documents."<sup>291</sup>

The dynamics of this grey market arms deal illustrate the complicated web of forgery and deceit employed by unscrupulous brokers to supply prohibited buyers with weapons and ammunition. The central figure in this particular transaction, which included 5,000 M70 AB2 (7.62 x 39 mm) automatic rifles, was

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<sup>288</sup> UN Security Council, S/2001/1015, para. 276.

<sup>289</sup> UN Security Council, *Report of the Panel of Experts appointed pursuant to Security Council resolution 1408 (2002), paragraph 16, concerning Liberia*, S/2002/1115 (New York, NY: UN, 2002), para. 4.

<sup>290</sup> The United Nations Panel of Experts discovered Serbian produced M70 assault rifles (a derivation of the AK-47) in the possession of Armed Forces of Liberia (Taylor loyalist) troops and LURD rebel forces, quoted in UN Security Council, *Report of the Panel of Experts appointed pursuant to paragraph 25 of Security Council resolution 1478 (2003) concerning Liberia*, S/2003/937 (New York, NY: UN, October 28, 2003), para 87.

<sup>291</sup> UN Security Council, S/2003/498, 19.

the arms broker Slobodan Tešić and his partner Orhan Dragas of the Serbian-based Temex Company. Tešić's efforts to make the deal appear legitimate include erroneous or fraudulently produced packing lists, cargo manifests, bills of lading, flight plans, and two Nigerian end-user certificates.<sup>292</sup> Tešić would involve several intermediaries to include Nigerian-based Aruna Import Company, the Liberian-based Finding Investment Company, Liechtenstein-based Waxom Company, and the Serbian-based freight forwarder Interjug AS. The Finding Investment Company initially acted as a consignee for the falsely declared end-user during the first series of shipments until Yugoslav authorities requested Temex use a company without ties to Liberia.<sup>293</sup> The Waxom Company would later fill this role while still maintaining the Nigerian Ministry of Defense as its ultimate client. Interjug AS would remain involved throughout the entire weapons deal making arrangements for false documents to include the paperwork for flights that identified Lagos, Nigeria, as the final destination.<sup>294</sup>

Financing the deal involved a complicated chain of actors that Tešić later revealed would originate with a \$500,000 payment from the Aruna Import Company.<sup>295</sup> A summary of invoices compared to the bank transfers and cash deposits for the weapons reveals that Tešić may have underreported his profits in an effort to avoid suspicion of money-laundering activity. The United Nations panel of experts determined that in order to appear in compliance with Serbian law, Tešić would have to ensure that the value of weapons he alleged to have exported to Nigeria was commensurate to the incoming money flow. Any additional money "he had been able to earn for his sanction-busting efforts" would be hidden through an elaborate scheme using Waxom and their Swiss bank accounts.<sup>296</sup> The full extent of this financial process was left unsolved by the last panel of experts' report on the subject, but it involved additional banks in

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<sup>292</sup> UN Security Council, S/2002/1115, para. 69.

<sup>293</sup> *Ibid.*, para. 75.

<sup>294</sup> *Ibid.*, para. 80.

<sup>295</sup> *Ibid.*, para. 80.

<sup>296</sup> UN Security Council, S/2003/498, para. 85.

Lebanon, Switzerland, and Bulgaria, and a British Virgin Island registered company that transferred money between them.<sup>297</sup>

Transporting the weapons from Belgrade to Monrovia would prove to be an equally baffling process that involved a separate freight forwarder, contracted and leased aircraft, and false flight plans. Interjug AS initially contracted the delivery of arms to the Serbian-based air charter company Aviogenex. The first four consignments of weapons were further subcontracted to Aerocom, a Moldovan-registered airline associated with Viktor Bout and later shut down for suspicion of arms trafficking activity.<sup>298</sup> Interjug and Aviogenex arranged the final flights through an arrangement with Ducor World Airlines, which would later be shut down following a ban by the European Union in March, 2006, for illicit weapons flights into Africa.<sup>299</sup> The Liberian national Emanuel Shaw, managing director of LoneStar Airways and an economic advisor to President Taylor, worked with Interjug and Aviogenex throughout this process and was likely instrumental in coordinating the arrival of illicit flights into Liberia. Each of the six flight authorizations obtained by the United Nations panel of experts investigating the case indicated Lagos as the final destination. Other authorizations such as the individual over-flight requests, however, show that each of the six aircraft was bound for Monrovia.<sup>300</sup> Shaw's aviation expertise and government connections proved to be an invaluable asset in the coordination of these sanction busting flights.

This illicit weapons deal proved to be very lucrative for Tešić and the Temex Corporation. A United Nations report in late-2003 concluded that the company may have cleared between \$3 and 4 million by doubling the price from

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<sup>297</sup> This final reference is to the Jeff Corporation and the associated Bulgarian national, Petar Sinapov, who had previous business ties to Slobodan and Temex; quoted in UN Security Council, S/2003/498, 25.

<sup>298</sup> Amnesty International, *Democratic Republic of Congo: Arming the East*, ACT 62/006/2005 (Amnesty International, July 5, 2005), <http://web.amnesty.org/library/index/engaf620062005> (accessed November 7, 2007).

<sup>299</sup> The commercial aviation database "AeroTransport Data Bank" identifies Ducor World AL as extinct, and listed on EU ban list 22/3/06, <http://www.aerotrtransport.org> (accessed November 8, 2007).

<sup>300</sup> UN Security Council, S/2002/1115, para. 80-81.

\$129 to \$294 off the 5,000 AK-47 derivative assault rifles delivered to Liberia.<sup>301</sup> The profit margin for ammunition was even higher. This particular case involved several actors, some of whom were complicit with the violations that occurred and others who were innocently drawn in by Tešić or one of his intermediaries. Graphically visualizing this network can be a useful analytical tool to confirm what is already known about the significance of each individual and the associated organizations. This will also be the first step in developing a comprehensive understanding of the complexity and commonality between networks that may ostensibly appear to work in isolation of one another.

#### **D. ANALYSIS**

The Coalition for International Justice has documented 42 multi-ton weapons shipments that arrived in Liberia during the presidency of Charles Taylor.<sup>302</sup> This organization further claims that while international authorities occasionally seized illicit weapons shipments destined for Liberia, Taylor used a variety of middlemen and weapons merchants to maintain “unimpeded access to international markets throughout his presidency.” The four cases described above are not intended to provide a comprehensive outline of all weapon imports into Liberia, but rather a small sample that illustrates the various techniques for illicit arms trafficking that involve delivery by civil aircraft. The actors involved in each of these cases possess a source of relational ties based on their association with an organization and through their participation in a specific trafficking event that can be used for social network analysis.<sup>303</sup>

##### **1. Data Collection**

To perform analysis on these networks, social relations between individuals and organizations must be measured and coded.<sup>304</sup> The traditional method to collect data on social relations involves direct contact with the individuals to be studied in order to determine the structure of an identified social

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<sup>301</sup> UN Security Council, S/2003/937, text box on 24.

<sup>302</sup> Coalition for International Justice, *Following Taylor's Money: A Path of War and Destruction*, (Washington, DC: May 2005), 22.

<sup>303</sup> Wouter de Nooy, Andrej Mrvar, and Vladimir Batagelj, *Exploratory Social Network Analysis with Pajek*, 101.

<sup>304</sup> *Ibid.*, 21.

entity. The data used to describe proliferation networks in this thesis, however, is limited to archived reports written primarily by United Nation panels of experts investigating arms embargo violations. Without the luxury of questioning each of the brokers, transportation agents, financiers, and buyers involved in these illicit deals, other methods of data collection must be employed. To start with, each of the individual actors participating in the small arms supply chain for Liberia will be identified along with their organizational affiliation and affiliation to each of the four case studies. These affiliations between individuals and organizations or between individuals and events are an important source of social ties considering that “people gather because they have similar tasks or interests and they are likely to interact.”<sup>305</sup>

**a. Organization Affiliation**

To organize the social network data of each actor involved in illicit trafficking networks, an  $N$ -dimensional matrix is created, where the  $N$  rows refer to the specific actors being studied and the  $N$  columns list the affiliated organizations.<sup>306</sup> The presence or value of a relationship between each vertex depicted in the rows and columns is then indicated in the intersecting cell of the matrix.<sup>307</sup> The row vertices of the matrices used for analysis in this study are comprised of the 38 actors identified in the four separate proliferation events. The organization matrix will include each of the identified organizations as column vertices. The intersection between row and column, therefore, will indicate the presence of a relationship between an individual and that organization.

For illustrative purposes the individuals and organizations of Event 1, involving the March 1999 delivery of 68 tons of weapons to Liberia, will first be described in isolation of the other three events. The primary broker who

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<sup>305</sup> Wouter de Nooy, Andrej Mrvar, and Vladimir Batagelj, *Exploratory Social Network Analysis with Pajek*, 101.

<sup>306</sup> Linton C. Freeman, "Graphical Techniques for Exploring Social Network Data," University of California, Irvine (June 23, 2001) <http://moreno.ss.uci.edu/86.pdf> (accessed December 7, 2007).

<sup>307</sup> Robert A. Hanneman and Mark Riddle, *Introduction to Social Methods*, (Riverside, CA: University of California, 2005), under "Chapter 5: Using Matrices to Represent Social Relations."

arranged the delivery of small arms from the Ukraine to Liberia, by way of Ouagadougou, Burkina Faso, was Leonid Minin through his Gibraltar-based Chartered Engineering and Technical Services company. Minin used a signed end-user certificate that represented the buyer as Burkina Faso to obtain an export license for weapons supplied by *Ukrspetsexport*. Upon delivery to Burkina Faso, the weapons were diverted to Liberia aboard Minin’s BAC-111 which was operated by the company LIMAD and used the logistic assistance of Gus Van Kouwenhoven. Payments for the weapons were arranged by Lebanese business man Talal El-Ndine on behalf of the ultimate buyer, Charles Taylor. These affiliations between individuals and organizations are depicted in the matrix below:

	MOD Burkina Faso	Ukrspetsexport	Chartered Engineering & Technical Services	LIMAD	Liberian Government
Minin	1	1	1	1	1
Diendere	1	0	0	0	0
El-Ndine	0	0	1	0	1
Van Kouwenhoven	0	0	1	1	0
Taylor	0	0	0	0	1

Table 3. Two-Mode Organization Affiliation Matrix for Event 1

This matrix of organization affiliations results in a two-mode network in which “vertices are divided into two sets and vertices can be related only to vertices in the other set.”<sup>308</sup> One set of vertices are the individuals and the other set of vertices are their affiliated organizations. The Liberian government and the Burkina Faso Ministry of Defense are represented as organizations because the associated individuals are not acting on behalf of any other commercial entity. If a tie is present between an individual and an organization, a one is entered in the adjacent cell; if there is no tie, then a zero is entered.

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<sup>308</sup> Wouter de Nooy, Andrej Mrvar, and Vladimir Batagelj, *Exploratory Social Network Analysis with Pajek*, 103.

This two-mode network can also be viewed graphically. The sociogram shown in Figure 2 graphically depicts the same data entered in the two-mode organization affiliation matrix from Table 3.

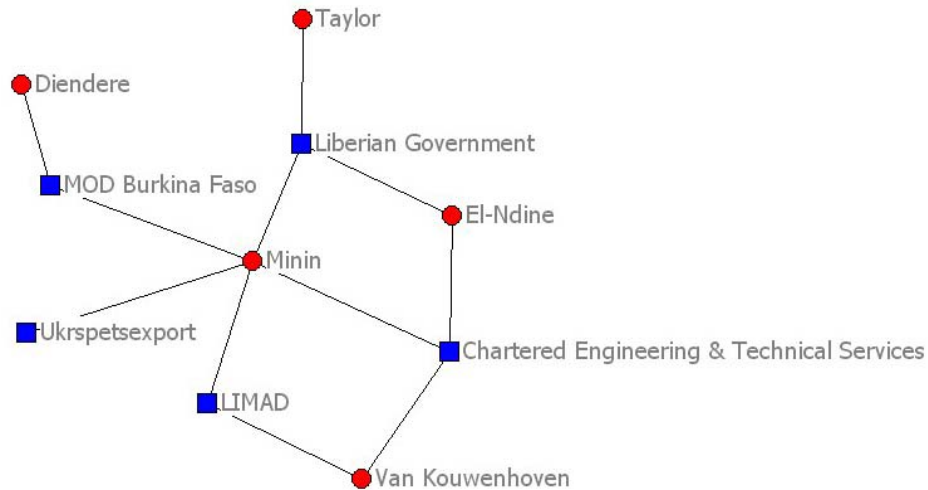


Figure 2. Two-Mode Organization Affiliation Sociogram for Event 1<sup>309</sup>

Viewing the presence of ties in either the matrix or within the sociogram for Event 1 provides a visual indication of Leonid Minin's central position in the network. Another technique that can be used to visualize Minin's centrality in this simple network is to convert the two-mode data into one of two possible one-mode data sets. In this particular two-mode data set, the rows represent individuals and the columns represent organizations associated with the arms proliferation event. Converting this two-mode data will result in either one data set of individual-by-individual ties, measuring the strength of the tie between each pair of individuals related to the number of common organization affiliations, or one data set comparing organization-by-organization ties.<sup>310</sup> The values derived in this conversion are calculated by taking each entry of the row for one individual and multiplying it times the same entry for the next individual and then summing the result. When this method is used for binary data, as was this original two-mode data set, the resulting value represents a count of co-

<sup>309</sup> Sociogram drawn using NetDraw 2.062.

<sup>310</sup> Robert A. Hanneman and Mark Riddle, *Introduction to Social Methods*, (Riverside, CA: University of California, 2005), under "Chapter 17: Two-Mode Networks."

occurrence with organizations.<sup>311</sup> For this example, individual-by-individual ties are represented in the one-mode matrix depicted in Figure 3.<sup>312</sup>

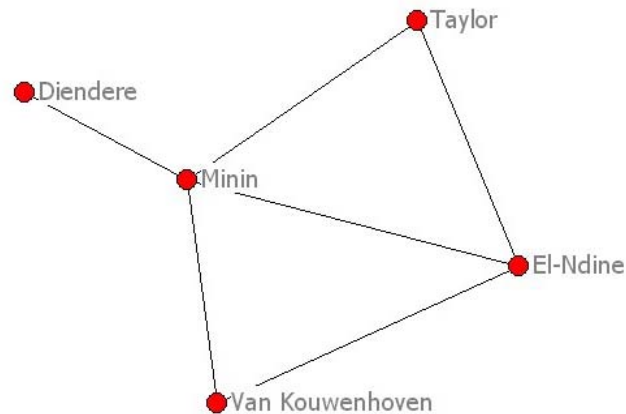


Figure 3. One-Mode Organization Affiliation Sociogram for Event 1

The matrices and sociograms presented thus far represent the affiliation between individuals and organizations of one isolated arms trafficking event. Further analysis of the entire network requires a combined matrix of all 38 individuals and the affiliated organizations from each event. The matrix containing this data is too large for inclusion in this text; however, it is included in Appendix B. The sociogram depicting the two-mode network of individual-by-organization affiliations is more compact as reflected in Figure 4.

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<sup>311</sup> Robert A. Hanneman and Mark Riddle, *Introduction to Social Methods*, (Riverside, CA: University of California, 2005), under “Chapter 17: Two-Mode Networks,” <http://faculty.ucr.edu/~hanneman/nettext> (accessed November 8, 2007).

<sup>312</sup> This conversion is completed in UCINET by selecting [Data>Affiliations, row mode and cross-product \(co-occurrence\) mode](#).



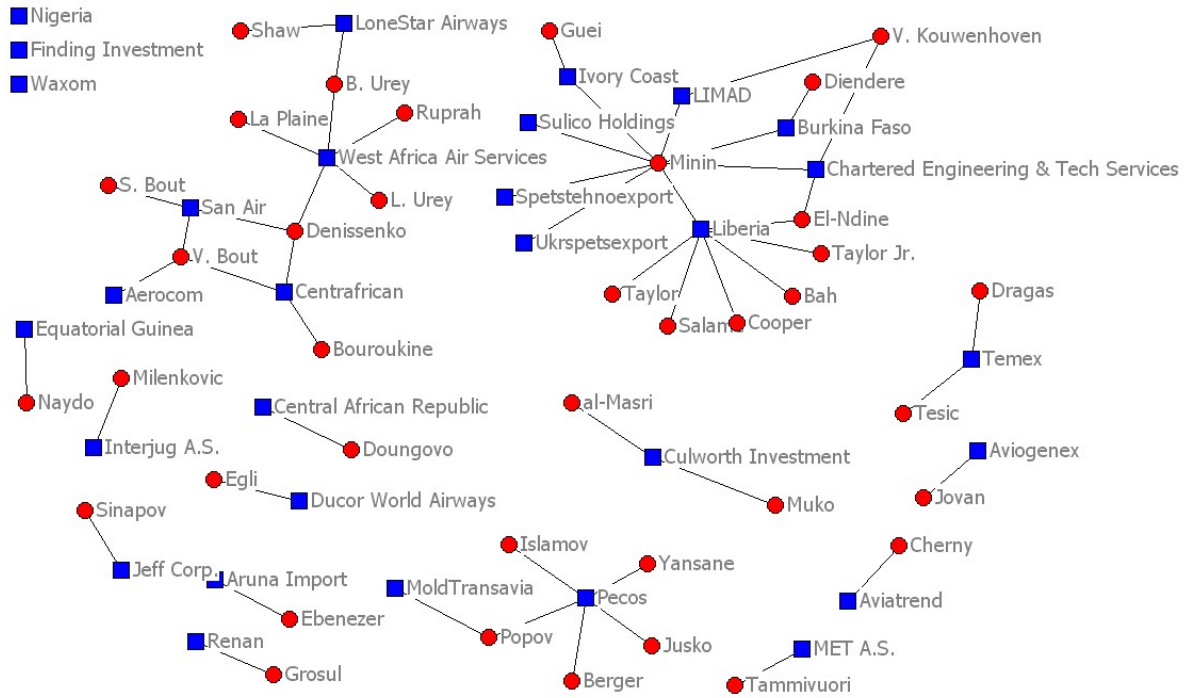


Figure 4. Two-Mode Organization Affiliation Sociogram for Events 1-4

The nodes with the highest number of ties on this sociogram represent the individual or organization with the most affiliations. Leonid Minin, for example, is a representative of the arms suppliers *Spetstehnoexport* and *Ukrspetsexport*, as well as the director of his brokering company Chartered Engineering and Technical Services and his holding company Sulico Holdings. The country of Liberia is also dense with the ties created by the members of Taylor’s inner-circle who serve as weapons buyers or financiers.

**b. Event Affiliation**

In addition to depicting affiliations between individuals and organizations, social relations can be depicted by each individual’s affiliation with a specific trafficking event. A simplified version of the matrix depicting these affiliations is shown below in Table 4:

	Event 1	Event 2	Event 3	Event 4
<b>Weapons Origin</b>	Ukraine	Ukraine	Slovakia / Uganda	Serbia
<b>Supplier</b>	<i>Ukrspetsexport</i>	<i>Spetstehnoexport</i>	Pecos	Temex
<b>Broker</b>	Minin	Minin / Tammivuori	Al-Masri	Tešić
<b>Financier</b>	El-Ndine	unknown	unknown	Ebenezer
<b>Logistics</b>	Van Kouwenhoven	Valery Cherny	Jusko	Shaw
<b>Transporter</b>	LIMAD	West African Air Services	Centrafrican	Aerocom / Ducor
<b>Buyer</b>	Taylor	Salame	Taylor	Taylor

Table 4. Abbreviated Event Affiliation Matrix

Combining all of the individuals on the basis of their affiliation to each of the four events to reveals the interconnectivity of these seemingly isolated trafficking networks. Within the sociogram depicted in Figure 5 there are four distinct subgroups created around each event. Between each subgroup, however, are actors like Benoni Urey, Viktor Bout, and Sanjivan Ruprah, who act as bridges between two or more events.

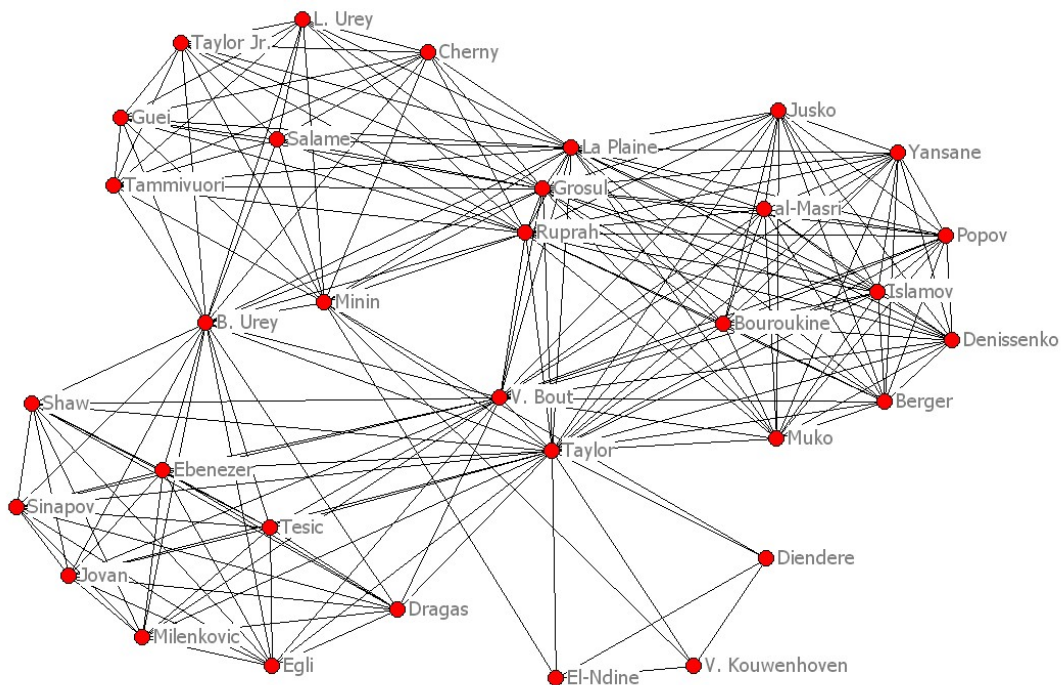


Figure 5. One-Mode Event Affiliation Sociogram for Events 1-4

Further analysis of these trafficking events can be accomplished by identifying and collecting additional relational data between actors.

**c. Communications and Taylor’s Inner-Circle**

In addition to the affiliations between individuals and either organizations or events, network data can be representative of relational ties between individuals. Throughout the literature used to present the case studies found in this research are many references to business partners, the current or former status as employees, or contractual relationships between individuals. Event 3, for example, involved a contract signed between Serguei Denissenko of San Air and Sanjivan Ruprah of West Africa Air Services that foresaw “the performance of several air transportations” between Uganda and Liberia.<sup>313</sup> The contract between Denissenko and Ruprah establishes a relationship that is included in a comprehensive communication network that encompasses all of the individual events depicted below in Figure 6:

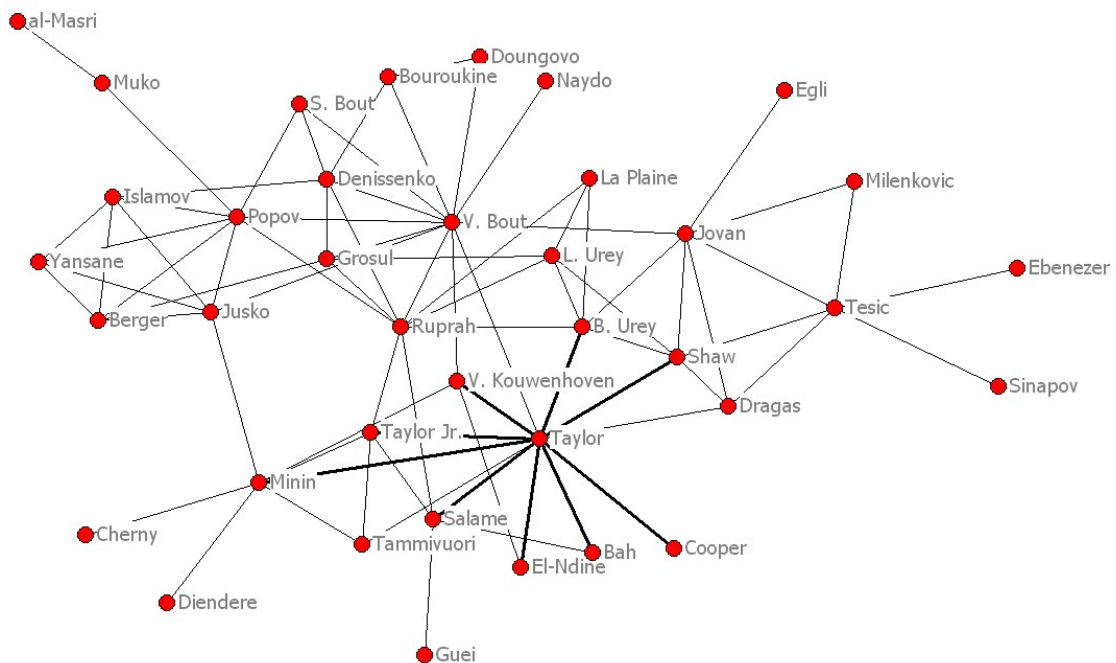


Figure 6. Combined One-Mode Communication Network

<sup>313</sup> UN Security Council, S/2001/1015, para. 187.

In addition to basic relational ties formed through business partnerships and contracts, this sociogram depicts the stronger communication ties that are present within the inner-circle of Charles Taylor. This function is performed by joining two separate one-mode matrices, one representing basic communication ties and one representing Taylor's inner-circle.<sup>314</sup> Each matrix contains the same number of vertices and thus increased tie strength can be visually represented where basic communication ties overlap with inner-circle ties.

The inner-circle of Charles Taylor is represented by his trusted government officials and Liberian-based businessmen who provide extra budgetary income to buy weapons. An example of the former is Emmanuel Shaw who was a financial advisor to President Taylor and also owned all of the hangars at Robertsfield International Airport in Monrovia.<sup>315</sup> Shaw was instrumental in handling the logistics of several arms deals and made the arrangements for transporting Temex brokered Serbian weapons in 2002 (Event 4 of this study).

The private and public ventures that provided financial support to Taylor include businesses in the timber industry and government offices such as the Liberian International Shipping and Corporate Registry (LISCR). Gus Van Kouwenhoven and Leonid Minin gained notoriety through their weapon deals but also owned some of the largest timber businesses in Liberia. The weapons deals arranged by these individuals were often performed in exchange for expanded concessions that benefited each of their respective companies.<sup>316</sup> Government officials such as Benoni Urey had both private and public ventures but generated the most revenue as Commissioner of the LISCR. This registry "handled the flags of convenience registrations of ships from around the

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<sup>314</sup> This function is completed in UCINET by selecting [Data>Join, Matrices](#).

<sup>315</sup> UN Security Council, S/2000/1195, para. 215.

<sup>316</sup> UN Security Council, S/2001/1195, para. 217.

world.”<sup>317</sup> Urey skimmed funds from the LISCR to buy weapons at the same time he was working with his brother LeRoy and Sanjivan Ruprah in business ventures like Abidjan Freight. This company was established to serve as the non-Liberian destination of multiple prohibited arms shipments.

**d. Attributes**

Each of the data structures established thus far either originate from or can be converted into a square, two-dimensional, actor-by-actor matrix that represents affiliations between each other or co-occurrence between actors that are affiliated with the same organizations or events. Another type of data structure is called the “attribute data set” and consists of rows representing actors and columns that represent the attributes of each actor.<sup>318</sup> The attributes collected on the 38 actors presented in this study are limited to nationality and role in the network. Each actor’s role in the network is coded using the scheme depicted by Table 5:

<b>Network Role</b>	<b>Coding Scheme</b>
No Info / Unclear	0
Supplier	1
Broker	2
Financier	3
Insurance Provider	4
Freight Forwarder	5
Transportation Agent	6
Airline Operator	7
Logistics	8
Government Official	9
Buyer	10

Table 5. Coding Scheme for Actor Network Roles

Assigning each of the 38 actors with one of these 10 possible attributes allows for additional analysis based on their predominant role. Definitions of each of these roles and the coding scheme for nationalities can be found in Appendix A.

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<sup>317</sup> Douglas Farah, *The Merchant of Death: Money, Guns, Planes, and the Man Who Makes War Possible* (Hoboken, NJ: John Wiley & Sons, 2007), 158.

<sup>318</sup> Robert A. Hanneman and Mark Riddle, *Introduction to Social Methods*, (Riverside, CA: University of California, 2005), under "Chapter 6: Working with Network Data."

## 2. The Comprehensive Trafficking Network

Sociograms can represent the best way to “see structure” in social networks.<sup>319</sup> Freeman explains that using graphic techniques for exploring social network data will “reveal subsets of actors that are organized into cohesive social groups, and...reveal subsets of actors that occupy equivalent social positions, or roles.”<sup>320</sup> Figure 7, shown below, represents the combination of each affiliation and attribute network described in the preceding sections.

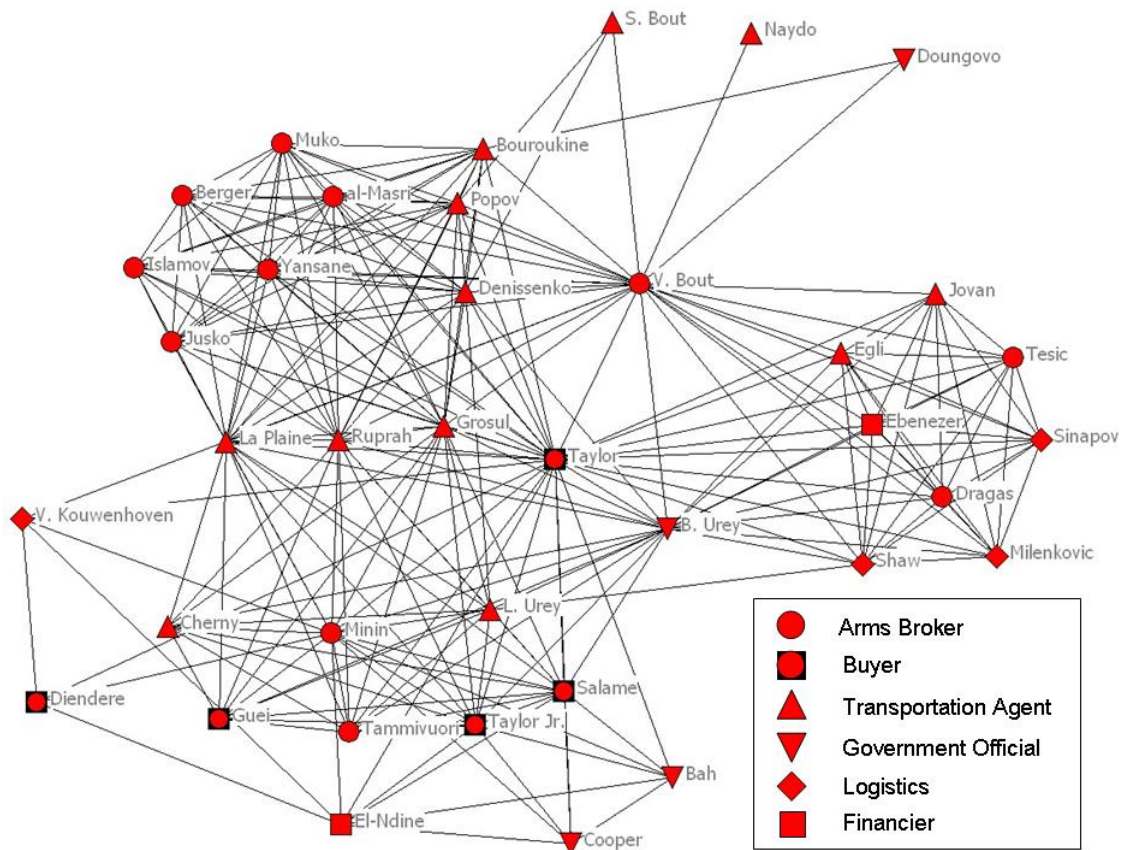


Figure 7. Combined Network with Attributes

Found within this sociogram are several visual clues that reveal information about specific actors and the relationship between actors. The final chapter will include specific findings related to this network by introducing the relationship between power and centrality for specific actors. It will also

<sup>319</sup> Robert A. Hanneman and Mark Riddle, *Introduction to Social Methods*, (Riverside, CA: University of California, 2005), under "Chapter 16: Multi-plex Relations."

<sup>320</sup> Linton C. Freeman, "Graphic Techniques for Exploring Social Network Data," 248.

demonstrate the significance of dense clusters of activity, or cohesive subgroups within the network that result in close social interaction between actors. These findings will only confirm what is already known about proliferation networks, however, they will demonstrate the application of the social network analysis methodology to systematically dissect networks in the case that the most central actors are not known.

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## V. FINDINGS AND CONCLUSION

### A. REVIEW OF THE RESEARCH OBJECTIVES

The purpose of this thesis was primarily focused on describing what came to be characterized as the “anatomy of an arms deal.” This was accomplished through the compilation of the principal actors and their associated functions of arms trafficking networks on a supply chain flowchart.<sup>321</sup> This flowchart and the detailed description of its interrelated components provided the context for further analysis of four case studies involving sanction busting arms flights into Liberia during the second civil war. Social network analysis was used as a method to add a greater depth of understanding by using graphic techniques and the application of network terms to the actors and relations between actors found in illicit arms trafficking networks.

The validation of the flowchart and subsequent discussion of the social relations found within proliferation networks was limited by the availability of data on each of the case studies. Additional limitations such as the size of the network to be described were self imposed by the author. For example, the combined network of actors involved in the four case studies is limited to those identified by the United Nations panels of experts investigating the cases from 1999 to 2002. Each of the organizations described in the case studies were also limited to those identified in these United Nations reports. A more detailed analysis of the 38 network actors will reveal a myriad of additional affiliated organizations and additional brokers, financiers, logisticians, and transportation agents that are either directly or indirectly involved with illicit small arms proliferation. What the limited sample size of data does provide, however, is a framework for the application of social network analysis to proliferation networks that can be filled with data from other case studies in proliferation. This can be done by combining the network actor definitions from Chapter III, the discussions of matrices and sociograms in Chapter IV, and the case study code book found

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<sup>321</sup> See Chapter III, Figure 1.

in Appendix A. Additional applications of the social network analysis methodology to describe illicit arms trafficking networks will be introduced in the final section on analytical findings.

## **B. ANALYTICAL FINDINGS**

The manager of research and policy on arms control at the International Secretariat of Amnesty International in London is Brian Wood. Wood recently wrote that arms brokers and transportation agents are integral to the global arms trade. He further claims that “[b]rokering and transport networks span the globe helping service the trade, while the established freight industry also provides logistical support for the military operations of states, a conduit for the proliferation of arms.”<sup>322</sup> Visualizing the combined network of event and organization affiliations, communications, and Taylor’s inner-circle revealed the centrality of both brokers and transportation agents. This centrality can also be represented by the mathematic and statistical measures of social network analysis software. Another major focus of social network analysis is the identification of dense clusters of actors which can reveal relations that are integral to the success of a network. These dense clusters of actors, or cohesive subgroups, and the centrality of individual actors will be further explained with reference to small arms proliferation.

### **1. Measures of Centrality**

Sociologists often describe power as a fundamental property of social structures. Social network analysts compare power to the closely related concept of centrality. Measures of centrality can reveal opportunities for individuals on the basis of their immediate connections to others or their access to information based on location between network actors.<sup>323</sup> Just as the concept of centrality can have different implications for different actors, social network analysts have found different ways from which to derive centrality measures.

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<sup>322</sup> Brian Wood, “A World of Arms Pushers and Fixers,” *The Amnesty International Dossier*, <http://mondediplo.com/2006/06/12deadly> (accessed November 26, 2007).

<sup>323</sup> Robert A. Hanneman and Mark Riddle, *Introduction to Social Methods*, (Riverside, CA: University of California, 2005), under “Chapter 10: Centrality and Power.”

The most common measure of centrality considers the number of direct ties from any one actor to others in the network. While this value, known as degree centrality, can shed light on which actor has the most connections, it does not account for the indirect ties to all others and could result in high values for an individual who is central within a potentially isolated subgroup.<sup>324</sup> Two measures that do consider relative relations throughout the network are closeness and betweenness centrality. Closeness centrality emphasizes “the distance of an actor to all others in the network by focusing on the distance from each actor to all others.”<sup>325</sup> The output for calculating closeness centrality will determine how far an actor is from all others. The “far-ness,” therefore, is the “sum of the distance (by various approaches) from each ego to all others in the network.”<sup>326</sup> Lastly, betweenness centrality evaluates each actor on the basis of their position between actors. Actors who score high in betweenness centrality are viewed to be in a favorable position “to the extent that the actor falls on the geodesic paths between other pairs of actors in the network.”<sup>327</sup> The 12 most central actors of the Liberian case study are listed in Table 6 by order of betweenness centrality.

v	Name	Role	Between-ness	Degree	Closeness (Far-ness)
1	V. Bout	Broker	509.554	12	68
37	Taylor	Buyer	362.225	11	73
27	Jovan	Transport Agent	245.485	7	86
15	Popov	Transport Agent	212.603	8	82
3	Ruprah	Transport Agent	178.449	9	78
8	Minin	Broker	177.84	7	89
28	Tešić	Broker	150.333	6	104
12	Jusko	Broker	106.685	6	87
5	Van Kouwenhoven	Logistics	86.65	4	86
19	Salame	Buyer	84.75	5	93
7	Shaw	Logistics	82.917	6	89
29	B. Urey	Government Official	57.291	6	85

Table 6. Centrality Measures Rank Ordered by Betweenness

<sup>324</sup> Robert A. Hanneman and Mark Riddle, *Introduction to Social Methods*, (Riverside, CA: University of California, 2005), under “Chapter 10: Centrality and Power.”

<sup>325</sup> Ibid.

<sup>326</sup> Ibid.

<sup>327</sup> Ibid.

Viktor Bout, Africa's "merchant of death,"<sup>328</sup> scores the highest on each measure of centrality. However, Aleksic Jovan who arranged transportation for a consignment of Serbian weapons delivered to Liberia in 2002, scores 3<sup>rd</sup> in betweenness, 5<sup>th</sup> in degree, and 6<sup>th</sup> for closeness centrality. This reveals that Jovan's position in the trafficking network can be described as between more actors that in direct connection to actors. Trafficking weapons, like any other network transaction, depends on the flow of both materiel and information between supplier, buyer, and multiple intermediaries. The measure of betweenness centrality, therefore, is perhaps the most appropriate indication of power in small arms proliferation networks. Another consideration that can reveal central clusters of actors is the identification of cohesive subgroups.

## **2. Cohesive Subgroups**

Social network analysts hypothesize that dense pockets of people who "stick together" are joined by more than interaction.<sup>329</sup> These dense pockets, or cohesive subgroups, interact on the basis of "solidarity, shared norms, identity, and collective behavior."<sup>330</sup> Identifying subgroups and especially the incidence of overlap between subgroups can reveal which actors in a network are able to mobilize or diffuse information across the entire network.<sup>331</sup> Individuals in this position are described as "bridges" between groups or "brokers" of information or knowledge among other actors or groups.<sup>332</sup> Just as there were variations on the concept of centrality, there are many ways to distinguish subgroups from the larger network or isolate the actors found within overlapping subgroups.

One method to isolate individuals who act as bridges between subgroups, and thus identify the associated subgroup is the Lambda set approach which

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<sup>328</sup> Term first coined by former British Foreign Office minister for Africa, Peter Hain, during a speech before Parliament in 2000, quoted in Douglas Farah, *The Merchant of Death: Money, Guns, Planes, and the Man Who Makes War Possible* (Hoboken, NJ: John Wiley & Sons, 2007).

<sup>329</sup> Wouter de Nooy, Andrej Mrvar, and Vladimir Batagelj, *Exploratory Social Network Analysis with Pajek* (Cambridge: Cambridge University Press, 2007), 61.

<sup>330</sup> Ibid.

<sup>331</sup> Robert A. Hanneman and Mark Riddle, *Introduction to Social Methods*, (Riverside, CA: University of California, 2005), under "Chapter 11: Cliques and Sub-Groups."

<sup>332</sup> Ibid.



such as UCINET, there are many directions to take. Some conclusions will reinforce what is intuitively accepted about the case study while others can reveal new information about what can initially appear to be an amorphous network.

### **C. FUTURE RESEARCH**

This research into small arms proliferation networks can be continued along several paths. From a methodological perspective, the application of social network analysis to specific cases of arms trafficking was limited to describing relationships among actors and recording affiliations between actors and organizations or events. Also present in the data, but not explored here, are geospatial and temporal factors that can further elucidate network characteristics. Furthermore, the temporal aspects of how networks change over time can be related to the concept of structural equivalence.

Structural equivalence between network vertices is achieved when the vertices “have identical ties with themselves, each other, and all other vertices.”<sup>335</sup> This concept is extended by social scientists to social positions that rely on specific patterns of ties and relationships. An argument can be made that individuals in equivalent positions will have similar patterns of ties and relationships and will, therefore, occupy equivalent positions in the network. An arms broker, as demonstrated in Chapter III and IV, has specific functions that necessitate relationships with specific arms suppliers, government officials, transportation agents, and buyers. Arms brokers operating in the same region would likely share these relationships with other brokers. Recalling Event 4 from the case studies, Slobodan Tešić emerged in Liberia following the arrest of Leonid Minin and Sanjivan Ruprah. Tešić’s trafficking network exhibited traits of structural equivalence when compared to the organization of Minin and Al-Masri. For example, each broker relied on the logistics expertise of the Viktor Bout network through utilization of his affiliated airlines for clandestine delivery of arms.

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<sup>335</sup> Wouter de Nooy, Andrej Mrvar, and Vladimir Batagelj, *Exploratory Social Network Analysis with Pajek*, 266.

Structural equivalence might also apply to the airlines known to conduct illicit arms flights. When the UN panel of experts initiated its investigation of violations on the Liberian arms embargo, a number of shady airlines ceased operations. Included among these operators were San Air, West Africa Air Service, and Centrafrique Airlines, each of which were involved with the four trafficking events described in Chapter IV. The United Nations also observed that others, such as Aerocom and Ducor World Airlines, were still operational.<sup>336</sup> An analysis of the structural equivalence exhibited between sanction busting airlines to include a detailed account of each of their associated aircraft would likely reveal that shutting down a few operators does not have an overwhelming impact on the operation of the network at large. Using the concept of structural equivalence and analyzing the temporal element of how a network adjusts over time can reveal trends of illicit activity that can better inform policy designed to disrupt small arms proliferation.

#### **D. CONCLUDING REMARKS**

It has been over six years since the United Nations conducted the *conference on the illicit trade in small arms and light weapons in all its aspects*. In that time there has been significant progress to increase the oversight of the small arms supply chain and tighten the enforcement of national level laws and both regional and international instruments designed to prevent illicit brokering and trafficking in small arms. However, there is still a long way to go before unscrupulous arms brokers and transportation agents can no longer operate with impunity to trade their deadly wares around the globe. Take for example the *BBC News* report in late August 2007, just three months prior to the completion of this thesis, that the Sudanese government is importing weapons to Darfur in “breathtaking defiance” of a UN arms embargo.<sup>337</sup> Weapons were flown into Sudan aboard a civilian Antonov AN-12 cargo aircraft operated by Azza Airlines, itself under investigation by a UN panel of experts for suspicion of sanction

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<sup>336</sup> UN Security Council, *Report of the Panel of Experts appointed pursuant to paragraph 25 of Security Council resolution 1478 (2003) concerning Liberia*, S/2003/937 (New York, NY: October 28, 2003), para 119.

<sup>337</sup> “Khartoum ‘defying Darfur embargo,’” *BBC News*, August 24, 2007, <http://news.bbc.co.uk/2/hi/africa/6961066.stm> (accessed December 7, 2007).

busting flights. Regarding this incident, Amnesty International stated that the “proliferation of small arms and militarized vehicles in Darfur has led to an increase in armed attacks on aid convoys and other devastating attacks against civilians.”<sup>338</sup>

The widely accepted notion that small arms availability can both exacerbate and prolong conflict is once again playing out in Africa, this time in the Darfur region of Sudan. The brokers and transportation agents that are involved with this activity have once again made civil aviation the modality of choice for conducting fast and relatively anonymous delivery of sanctioned weapons into an interior region. As suggested by the social scientists cited in this research, complex problems should be reformulated in network terms to better inform policy. This thesis outlined a detailed description of the global small arms supply chain and subsequently developed a framework to apply concepts of social network analysis to illicit weapons trafficking networks. On the basis that an analysis of the Liberian case studies revealed what was already known about the most central actors involved with violations of the sanctions against President Charles Taylor, an analysis of proliferation networks in Sudan may reveal actors who have not yet been identified by the international community.

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<sup>338</sup> Amnesty International, “Sudan: New Photographs Show Further Breach of UN Arms Embargo on Darfur,” (AI press release, August 24, 2007), <http://news.amnesty.org/index/ENGAFR540452007> (accessed December 7, 2007).



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## APPENDIX A: LIBERIAN CASE STUDY CODE BOOK

This code book is intended to provide defining parameters for each of the matrices constructed from the Liberian arms trafficking case studies presented in Chapter IV. The first part describes the attributes collected on the 38 individuals identified in the analysis of each case study. The second part identifies each of the affiliations that were used to represent social relationships between actors.

### 1. ATTRIBUTE DATA

A. Nationality: This two-mode attribute matrix depicts the country of nationality for each actor. This is generally described in the UN panel of expert reports on the basis of passport, citizenship, or a comment such as, “Kenyan-national, Sajivan Ruprah...”

#### *Coding Scheme:*

- 0) No Info / Unclear
- 1) Russia
- 2) Kenya
- 3) Portugal
- 4) Netherlands
- 5) Lebanon
- 6) Liberia
- 7) Israel
- 8) Guinea
- 9) Slovakia
- 10) Moldova
- 11) Egypt
- 12) Ukraine
- 13) Central African Republic
- 14) Senegal
- 15) Serbia
- 16) Nigeria
- 17) Bulgaria
- 18) Ivory Coast
- 19) Burkina Faso
- 20) Finland

B. Role: Describes the dominant role of an individual within the arms proliferation network. Each of the codes listed below were not used during the course of analyzing the four events presented in this thesis. Additionally, some of the roles can be further disaggregated. For example, government officials can include a range of authorities from

those who grant export licenses to airport customs inspectors. These roles will be specific to the case study analyzed and the amount of data available.

*Coding Scheme:*

- 0) No Info / Unclear
- 1) Supplier
- 2) Broker
- 3) Financier
- 4) Insurance Provider
- 5) Freight Forwarder
- 6) Transportation Agent
- 7) Airline Operator
- 8) Logistics
- 9) Government Official
- 10) Buyer

C. Centrality Measures: The measures for degree, betweenness, and closeness centrality are included in the attribute data. These measures can subsequently be displayed while visualizing the network without having to recompute the values.

D. Description: The description for each of the 38 actors is derived from the literature used for the case studies and the UN list of assets frozen by resolution 1532 (2004) and the travel ban imposed by resolution 1521 (2003).

## 2. AFFILIATION DATA

A. Event affiliation: This 38 x 4, two-mode matrix, represents each actor's affiliation to the four arms trafficking events presented in Chapter IV. Each individual is coded with a one or a zero on the basis that they were or were not affiliated with each event.

*List of Events:*

- 1) Event 1: Leonid Minin's 68-ton arms shipment
- 2) Event 2: Minin's second consignment of weapons
- 3) Event 3: Ugandan AK-47s diverted on return
- 4) Event 4: Slobodan Tešić brokers Serbian weapons

B. Organization affiliation: This 38 x 30, two-mode matrix, represents each actor's affiliation to 30 organizations identified in the four arms trafficking events presented in Chapter IV. In the absence of affiliation between an individual and a commercial entity, such as was the case for President Charles Taylor, the represented country was used.

*List of Organizations:*

- 1) Burkina Faso
- 2) Ukrspetsexport
- 3) Chartered Engineering & Technical Services
- 4) LIMAD
- 5) Liberia
- 6) Ivory Coast
- 7) Spetstehnoexport
- 8) Sulico Holdings
- 9) MET A.S.
- 10) Aviatrend
- 11) West Africa Air Services
- 12) Renan
- 13) Pecos
- 14) MoldTransavia
- 15) San Air
- 16) Centrafrican
- 17) Culworth Investment
- 18) Central African Republic
- 19) Equatorial Guinea
- 20) Nigeria
- 21) Temex
- 22) Aruna Import
- 23) Finding Investment
- 24) Waxom
- 25) Interjug A.S.
- 26) LoneStar Airways
- 27) Ducor World Airways
- 28) Aerocom
- 29) Jeff Corp.
- 30) Aviogenex

C. Communication Data: This 38 x 38, one-mode matrix, represents relational ties between actors on the basis of communication. Communication between actors was assessed by references in the literature to business partners, the current or former status as employees, or contractual relationships between individuals.

D. Taylor's Inner-Circle Data: This 38 x 38, one-mode matrix, represents relational ties between President Charles Taylor and each individual described to be part of his "inner-circle." The inner-circle is referenced in the literature and often describes trusted government officials and Liberian-based businessmen who provided extra budgetary income to the former president.

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## APPENDIX B: LIBERIAN ARMS TRAFFICKING NETWORKS

### A. ATTRIBUTE DATA

Vertex	Name	Role	Nationality	Between-ness	Degree	Closeness (Far-ness)	Description
v1	Viktor Bout	2	1	509.554	12	68	Arms broker and transporter of weapons who controls a vast network of freight forwarding, brokerage, and aviation companies. Assets frozen by paragraph 1 of UNSC resolution 1532 (2004).
v2	Serguei Bout	2	1	1.5	3	97	Brother of Viktor Bout, manager of San Air General Trading and associated companies.
v3	Sanjivan Ruprah	6	2	178.449	9	78	Arms dealer and the former Deputy Commissioner of the Bureau of Maritime Affairs. Set up Abidjan Freight to coordinate Viktor Bout's arms shipments into Liberia. Assets frozen by paragraph 1 of UNSC resolution 1532 (2004).
v4	Carlos Alberto La Plaine	6	3	0	3	102	Diamond dealer and associate of Sanjivan Ruprah.
v5	Gus van Kouwenhoven	8	4	86.65	4	86	Owner of Hotel Africa and President of the Oriental Timber Company which provides extra budgetary income to President Taylor. Provides logistical support to illicit arms imports. Assets frozen by paragraph 1 of UNSC resolution 1532 (2004).
v6	El-Ndine	3	5	0	1	122	Lebanese businessman. Paymaster of ex-President Taylor's inner circle. Subject to a UN travel ban imposed by paragraph 4 of UNSC resolution 1521 (2003).
v7	Emmanuel Shaw	8	6	82.917	6	89	Director of Lonestar airways and Lonestar Communications. Former economic advisor to President Taylor. Assets frozen by paragraph 1 of UNSC resolution 1532 (2004).
v8	Leonid Minin	2	7	177.84	7	89	Arms dealer and owner of Exotic Tropical Timber Enterprises which provided extra budgetary income to President Taylor. Assets frozen by paragraph 1 of UNSC resolution 1532 (2004).
v9	Valery Cherny	6	1	0	1	125	Owner of Aviatrend and associate of Minin.
v10	Alexander Islamov	2	1	7.233	5	108	Arms broker and partner of the Pecos Company.

v11	Mohamed Yansane	2	8	0	4	109	Helped Jusko to establish the Pecos Company.
v12	Peter Jusko	2	9	106.685	6	87	Arms broker and owner of Joy Slovakia and later established Pecos Company to conduct illicit arms sales.
v13	Jacob Berger	2	7	9.604	5	106	Arms broker associated with the Pecos Company.
v14	Serguei Denissenko	6	1	29.691	6	91	General manager of San Air General Trading and commercial manager of Centrafican Airlines.
v15	Pavel Popov	6	10	212.603	8	82	General manger of MoldTransavia and considered to be Viktor Bout's ground manager for Central European operations.
v16	Sharif al-Masri	2	11	0	1	152	Egyptian arms broker.
v17	Mr. Muko	2	0	0	2	116	Arms broker and associate of Sharif Al-Masri.
v18	Andrei Grosul	6	10	33.241	5	90	General Director of Renan Air Company.
v19	Mohamed Salame	10	5	84.75	5	93	Owner of Mohamed and Company Logging Company which provided extra budgetary income to President Taylor. Assets frozen by paragraph 1 of UNSC resolution 1532 (2004).
v20	Valeriy Naydo	6	12	0	1	104	A former pilot for Viktor Bout and a director a Bout front company. Assets frozen by paragraph 1 of UNSC resolution 1532 (2004).
v21	Armand DOUNGOVO	9	13	0	2	103	Director of Civil Aviation of the Central African Republic. Assisted Viktor Bout and others to obtain registration for aircraft considered to be non airworthy and involved with sanction busting arms flights.
v22	Mr. Bouroukine	6	13	0.75	3	101	Local manager of Centrafican Airlines.
v23	Randolph Cooper	9	6	0	1	109	Former Managing Director of Robertsfield International Airport. Associate of Charles Taylor. Assets frozen by paragraph 1 of UNSC resolution 1532 (2004).
v24	Ibrahim Bah	9	14	0	2	106	Arms dealer, buyer, involved in illicit diamond sales to provide extrabudgetart income to President Taylor. Subject to a UN travel ban imposed by paragraph 4 of UNSC resolution 1521 (2003).
v25	Orhan Dragas	2	15	47.667	4	95	Business partner of Slobodan Tescic. Introduced Tescic to arms buyers in Liberia. Subject to a UN travel ban imposed by paragraph 4 of UNSC resolution 1521 (2003).
v26	Duane Egli	6	6	0	1	122	Chief Executive Officer of Ducor World Airlines. Subject to a UN travel ban imposed by paragraph 4 of UNSC resolution 1521 (2003).



v27	Aleksic Jovan	6	15	245.485	7	86	Employee of the Serbian company Aviogenex and associate of Tesic and Dragas. Subject to a UN travel ban imposed by paragraph 4 of UNSC resolution 1521 (2003).
v28	Slobodan Tesic	2	15	150.333	6	104	Arms broker and Director of Temex, Belgrade, Serbia. Subject to a UN travel ban imposed by paragraph 4 of UNSC resolution 1521 (2003).
v29	Benoni Urey	9	6	57.291	6	85	Ex-Commissioner of Maritime Affairs of Liberia, business associate of Sanjivan Ruprah. Assets frozen by paragraph 1 of UNSC resolution 1532 (2004).
v30	LeRoy Urey	6	6	22.415	5	95	Former Liberian Deputy Minister for Administration and Public Safety. Brother of Benoni Urey, representative of West African Air Services.
v31	Mr. Ebenezer	3	16	0	1	140	Representative of Aruna Import and associate of Orhan Dragas.
v32	Petar Sinapov	8	17	0	1	140	Associate of Jeff Corporation, facilitated money transfers between Waxom and Tesic
v33	Robert Guei	10	18	0	1	129	Former Cote d'Ivoire head of state
v34	Ljubo Milenkovic	5	15	0	2	119	Forwarding agent and representative of Interjug AS.
v35	Glibert Diendere	10	19	0	1	125	Head of Burkina Faso Presidential Guard, signed EUC for Mar 13, 1999 delivery of 68 tons of weapons to Burkina Faso and later diverted to Liberia
v36	Erkki Tammivuori	2	20	0	3	100	Representative of Met A.S. Company and associate of Leonid Minin.
v37	Charles Taylor	10	6	362.225	11	73	Former President of Liberia. Assets frozen by paragraph 1 of UNSC resolution 1532 (2004).
v38	Charles "Chuckie" Taylor Jr.	10	6	31.117	5	90	Associate, advisor, and son of President Taylor. Assets frozen by paragraph 1 of UNSC resolution 1532 (2004).

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## B. EVENT AFFILIATION DATA

	Event 1	Event 2	Event 3	Event 4
V. Bout	0	0	1	1
S. Bout	0	0	0	0
Ruprah	0	1	1	0
La Plaine	0	1	1	0
V. Kouwenhoven	1	0	0	0
El-Ndine	1	0	0	0
Shaw	0	0	0	1
Minin	1	1	0	0
Cherny	0	1	0	0
Islamov	0	0	1	0
Yansane	0	0	1	0
Jusko	0	0	1	0
Berger	0	0	1	0
Denissenko	0	0	1	0
Popov	0	0	1	0
al-Masri	0	0	1	0
Muko	0	0	1	0
Grosul	0	1	1	0
Salame	0	1	0	0
Naydo	0	0	0	0
Doungovo	0	0	0	0
Bouroukine	0	0	1	0
Cooper	0	0	0	0
Bah	0	0	0	0
Dragas	0	0	0	1
Egli	0	0	0	1
Jovan	0	0	0	1
Tesic	0	0	0	1
B. Urey	0	1	0	1
L. Urey	0	1	0	0
Ebenezer	0	0	0	1
Sinapov	0	0	0	1
Guei	0	1	0	0
Milenkovic	0	0	0	1
Diendere	1	0	0	0
Tammivuori	0	1	0	0
Taylor	1	0	1	1

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### C. ORGANIZATION AFFILIATION DATA

	Burkina Faso	Ukrspetsexport	Chartered Engin. & Tech Services	LIMAD	Liberia	Ivory Coast	Spetstejnoexport	Sulico Holdings	MET A.S.	Aviatrend	West Africa Air Services	Renan	Pecos	MoldTransavia	San Air
V. Bout	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
S. Bout	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Ruprah	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
La Plaine	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
V. Kouwenhoven	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0
EI-Ndine	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
Shaw	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minin	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
Cherny	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Islamov	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Yansane	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Jusko	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Berger	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Denissenko	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Popov	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
al-Masri	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Muko	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grosul	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Salame	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Naydo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Doungovo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bouroukine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cooper	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Bah	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Dragas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Egli	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jovan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tesic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B. Urey	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
L. Urey	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Ebenezer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sinapov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Guei	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Milenkovic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diendere	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tammivuori	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Taylor	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Taylor Jr.	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0

	Centrafrican	Culworth Investment	Central African Republic	Equatorial Guinea	Nigeria	Temex	Aruna Import	Finding Investment	Waxom	Interjug A.S.	LoneStar Airways	Ducor World Airways	Aerocom	Jeff Corp.	Aviogenex
V. Bout	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
S. Bout	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ruprah	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
La Plaine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V. Kouwenhoven	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
El-Ndine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shaw	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Minin	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cherny	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Islamov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yansane	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jusko	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Berger	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Denissenko	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Popov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
al-Masri	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Muko	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Grosul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Salame	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Naydo	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Doungovo	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Bouroukine	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cooper	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bah	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dragas	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Egli	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Jovan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Tesic	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
B. Urey	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
L. Urey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ebenezer	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Sinapov	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Guei	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Milenkovic	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Diendere	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tammivuori	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Taylor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Taylor Jr.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

## D. COMMUNICATION DATA

	V. Bout	S. Bout	Ruprah	La Plaine	V. Kouwenhoven	El-Ndine	Shaw	Minin	Cherny	Islamov	Yansane	Jusko	Berger	Denissenko	Popov	al-Masri	Muko	Grosul
V. Bout	1	1	1	0	1	0	0	0	0	0	0	1	0	1	1	0	0	1
S. Bout	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0
Ruprah	1	0	1	1	0	0	0	0	0	0	0	0	0	1	1	0	0	1
La Plaine	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V. Kouwenhoven	1	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0
El-Ndine	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Shaw	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Minin	0	0	0	0	1	0	0	1	1	0	0	1	0	0	0	0	0	0
Cherny	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
Islamov	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0
Yansane	0	0	0	0	0	0	0	0	0	1	1	1	1	0	1	0	0	0
Jusko	1	0	0	0	0	0	0	1	0	1	1	1	1	0	1	0	0	0
Berger	0	0	0	0	0	0	0	0	0	1	1	1	1	0	1	0	0	1
Denissenko	1	1	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1
Popov	1	1	1	0	0	0	0	0	0	1	1	1	1	0	1	0	1	0
al-Masri	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Muko	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0
Grosul	1	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1
Salame	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Naydo	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Doungovo	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bouroukine	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cooper	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bah	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dragas	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Egli	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jovan	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Tesic	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
B. Urey	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
L. Urey	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Ebenezer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sinapov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Guei	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Milenkovic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diendere	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Tammivuori	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Taylor	1	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0
Taylor Jr.	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0

	Salame	Naydo	Doungovo	Bouroukine	Cooper	Bah	Dragas	Egli	Jovan	Tesic	B. Urey	L. Urey	Ebenezer	Sinapov	Guei	Milenkovic	Diendere	Tammivuori	Taylor	Taylor Jr.
V. Bout	0	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
S. Bout	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ruprah	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1
La Plaine	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
V. Kouwenhoven	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
El-Ndine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shaw	0	0	0	0	0	0	1	0	1	1	1	1	0	0	0	0	0	0	1	0
Minin	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
Cherny	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Islamov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yansane	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jusko	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Berger	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Denissenko	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Popov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
al-Masri	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Muko	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grosul	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Salame	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Naydo	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Doungovo	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bouroukine	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cooper	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Bah	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Dragas	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	1	0
Egli	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0
Jovan	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	1	0	0	0	0
Tesic	0	0	0	0	0	0	1	0	1	1	0	0	1	1	0	1	0	0	0	0
B. Urey	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	1	0
L. Urey	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
Ebenezer	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0
Sinapov	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0
Guei	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Milenkovic	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0
Diendere	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Tammivuori	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Taylor	1	0	0	0	1	1	1	0	0	0	1	0	0	0	0	0	0	1	1	1
Taylor Jr.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0



## E. TAYLOR'S INNER-CIRCLE DATA

	V. Bout	S. Bout	Ruprah	La Plaine	V. Kouwenhoven	El-Ndine	Shaw	Minin	Cherny	Islamov	Yansane	Jusko	Berger	Denissenko	Popov	al-Masri	Muko	Grosul
V. Bout	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S. Bout	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ruprah	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
La Plaine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V. Kouwenhoven	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
El-Ndine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shaw	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minin	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cherny	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Islamov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yansane	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jusko	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Berger	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Denissenko	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Popov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
al-Masri	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Muko	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grosul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Salame	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Naydo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Doungovo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bouroukine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cooper	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bah	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dragas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Egli	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jovan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tesic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B. Urey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L. Urey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ebenezer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sinapov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Guei	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Milenkovic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diendere	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tammivuori	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Taylor	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0
Taylor Jr.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Salame	Naydo	Doungovo	Bouroukine	Cooper	Bah	Dragas	Egli	Jovan	Tesic	B. Urey	L. Urey	Ebenezer	Sinapov	Guei	Milenkovic	Diendere	Tammivuori	Taylor	Taylor Jr.
V. Bout	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S. Bout	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ruprah	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
La Plaine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
V. Kouwenhoven	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
El-Ndine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Shaw	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Minin	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Cherny	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Islamov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yansane	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jusko	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Berger	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Denissenko	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Popov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
al-Masri	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Muko	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grosul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Salame	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Naydo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Doungovo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bouroukine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cooper	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Bah	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Dragas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Egli	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jovan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tesic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B. Urey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
L. Urey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ebenezer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sinapov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Guei	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Milenkovic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diendere	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tammivuori	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Taylor	1	0	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Taylor Jr.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0

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