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**Small Arms and Light Weapons:
A Call for Research**

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Weapons of Mass Destruction

Joel Wallman

Very few of today's armed conflicts take place between armed forces of different states. Rather, most such violence occurs within states. The strategy of armed groups in these conflicts involves deliberate targeting of civilians, and most of these casualties, as well as those of the combatants, are inflicted with small arms and light weapons— instruments wielded by one or two people, such as pistols, rifles, and mortars. The small-arms problem has not received anything like the academic attention devoted to the problem of nuclear proliferation, perhaps because, given the ubiquity and quotidian nature of these weapons, they do not engender the anxiety of atomic devices. Thus far, however, the human toll of small arms and light weapons far exceeds that from nuclear, chemical, or biological weapons. The Small Arms Survey, a research organization that issues annual reports based on meticulous research, estimates that 300,000 people are killed each year with these weapons, around one-third in group conflicts and the others from homicide or suicide by firearm. And, of course, a much larger number of victims of small arms survive their injuries but live on with grievous damage. In their aggregate effects, these are proven weapons of mass destruction.

Small arms and light weapons can potentiate a spiral of lawlessness. Weak states allow their proliferation, and acquisition of arms allows formerly powerless groups to challenge authority, further weakening it. The abundance of arms in the hands of nonstate actors means that new wars can readily be started. In the case of pre-existing conflicts, the influx of weapons exacerbates the violence, as firearms are intrinsically more deadly than other small weapons. It is true that much of the 1994

killing in Rwanda was conducted with machetes, but the scale of the carnage in such a short time could not have been achieved without the massive availability of rifles, grenades, and similar weapons used to round up and terrorize the victims.

The problem is by no means just one of insurgent groups besieging legitimate governments, however. Among the worst abusers of small arms are repressive governments and their paramilitary adjuncts, such as the janjaweed militia of Sudan, who, in concert with government forces, have been committing atrocities of genocidal proportion in Darfur.

There are other effects of the spread of these weapons, none of them good. In today's substate conflicts, anyone can become a combatant by acquiring a weapon, and participants in these wars tend to be less constrained in whom they target than traditional soldiers. As a result, humanitarian agencies, which strive to reduce the impact of war on civilians, have become increasingly reluctant to send their people into conflict areas. The acquisition of weapons by young men, especially boys, inverts traditional authority relations, placing power in the hands of people who, not having known it before, are perhaps more reluctant to disarm than would be their elders. And, more generally, the likelihood of adherence to a peace agreement is much lower when large numbers of militants remain armed.

Many organizations have taken up the cause of stemming the illicit flow of small arms, but, to repeat, only a modest effort has been devoted thus far to systematic research on the nature of this problem: the diversion of arms from the legitimate to illicit market, the role of small arms in the out-

break and persistence of group violence, the increased lethality of crime and personal conflict attributable to availability of guns, the relative efficacy of alternative approaches to reducing the harm these weapons do. In June of 2004, the Harry Frank Guggenheim Foundation convened a meeting of researchers in this area to consider ways to expand the number of scholars and range of disciplines involved in small-arms research. An organization was born of this meeting: RISA (Research Initiative on Small Arms). This issue of the *HFG Review* is the first product of this group.

As Edward Laurance, a pioneering small-arms researcher, says in his introduction, we intend this publication to serve as a primer on the issues and an exhortation to scholars to engage with them. His article provides an overview of those issues, and the following four flesh them out. The topics are the damage small arms and light weapons cause in violence by groups (“Effects of Small Arms Misuse”) and individuals (“Guns in Crime”), the nature of demand for these weapons (“Means and Motivations”), and the sources, legal and not, that supply that demand (“Following the Trail”).



A Kosovo Liberation Army fighter poses with his World War II machine gun. Small arms circulate between conflict zones, in many cases for decades.



Small Arms Research: Where We Are and Where We Need to Go

Edward J. Laurance

INTRODUCTION

In the early 1990s, there was great hope throughout the world for a decline in the wars, insurgencies, and threats from weapons of mass destruction that marked the Cold War. With the breakup of the Soviet Union, we saw a precipitous decline in military spending by the major powers, the ending of several wars fueled by Cold War rivalries (e.g., Mozambique, Nicaragua, El Salvador), and renewed interest in the principles of the UN Charter and legal instruments controlling weapons of mass destruction.

These hopes were soon dashed as intrastate conflicts, some new, others held in check by the super-

powers during the Cold War, began to flare up into armed violence. While the root causes of these conflicts were familiar and quickly identified, something new had emerged that caught the world unprepared for solving these conflicts. They were being fought almost exclusively with small arms and light weapons—assault rifles, rocket propelled grenades, and similar tools of violence not previously addressed or studied by those charged with controlling armed violence.¹

- In 1994 Mali, a civil war between the Toureg minority and the rest of the country resulted in the wide availability of arms in society. The ensu-

ing instability and violence brought all development projects to a halt.

- In El Salvador, a UN-brokered peace had brought a vicious civil war to a close in 1992. But by 1995 the country was ablaze with armed violence, this time by criminals armed with more than 200,000 military weapons left over from the civil war.
- In Rwanda, more than 800,000 Tutsis and many Hutus were massacred at the direction of the Hutu government, made possible by the distribution of weapons brought into the country for this purpose.
- In Sri Lanka, an intractable civil war raged, with the government facing a Tamil insurgency that had established a global network of illicit arms supplies.
- In the former Soviet Union, states with only arms industries left as viable commercial enterprises legally sold hundreds of thousands of small arms and light weapons to governments involved in conflicts, many of which were illegally diverted to armed groups bent on perpetuating conflicts.

Ten years after the small arms problem burst onto the world stage, there is a clear consensus that it is key to the understanding and control of contemporary violence. The proliferation and misuse of small arms and light weapons (SALW) occurs in a variety of contexts: receding conflict, post-conflict, and high-crime areas. Today there are over 600 million SALW in circulation worldwide. Of 49 major conflicts in the 1990s, 47 were waged almost exclusively with small arms. Small arms are responsible for hundreds of thousands of deaths per year, including 200,000 from homicides and suicides and perhaps 300,000 from political violence. A wide range of negative consequences from their use has been revealed: deaths and injuries to innocent civilians, human rights violations, denial of socio-economic development; sparking, fueling, and prolonging conflicts; obstruction of humani-

tarian relief programs; undermining of peace initiatives; diminishing the security of vulnerable groups such as women, children, refugees, and internally displaced persons; and increasing the public health burden from violence.

A RESEARCH FIELD EMERGES

As this reality emerged in the mid-1990s, so did the need for information and knowledge about these weapons. Why? As a class these weapons and their effects are very different from larger conventional weapons. They are smaller, more portable, cheaper, simpler to use, and easily available to non-state actors. What we knew about the trade and production of larger weapons such as tanks and fighter aircraft was hardly enough to provide guidance to policymakers. The research questions regarding small arms went far beyond traditional national and international security, which concerned only the state.

The goal of this publication is to provide an introduction to the research field of small arms that emerged as a result of this new reality. To date, this work has been primarily policy research, designed for and produced by nongovernmental organizations (NGOs), international governmental organizations (IGOs), and national governments involved in addressing this problem. This research has focused on practical policy variables and developing and testing programs, interventions, and services. As a result, program-evaluation methodologies tend to have an important place in the field. This policy research has also been characterized by strict time constraints, placed on researchers by donor governments and international organizations active in seeking policy solutions.²

The academic community was rarely engaged in debate about these policies or in systematic testing of practices enacted to stem the flow of small arms. The time has come to enlist the full range of academic disciplines to expand the knowledge base needed to reduce the damage wrought by small

arms and light weapons.

The initial research agenda was set by a resurgent United Nations, which had sent out an unprecedented number of peacekeeping missions after the end of the Cold War. Responding to UN Secretary-General Boutros Boutros-Ghali's 1995 warning of this new global threat, a UN panel of experts was formed to investigate the types of small arms and light weapons actually being used in conflicts, the nature and causes of their accumulation, transfer, production, and trade, and the ways and means to prevent and curb their negative effects.

This research led to the UN Conference on Small Arms in July 2001, the goal of which was to develop a "Programme of Action" to guide the policies of governments and regional and international organizations.³ It was understandable that the knowledge being developed was shaped by the goal of having maximal impact on the formulation of the Programme of Action.⁴

At this time there was a general recognition that academic research on small arms was lacking. In response, the Small Arms Survey (SAS) was formed in Geneva in late 1999 as an independent research center on the issue of small arms. After four years of work by SAS and other policy research centers,⁵ an initial set of propositions, hypotheses, and data has emerged that now needs to be investigated using the full range of scholarly research methods. Policy research has raised a number of questions and hypotheses that need to be tested by those less constrained by the dictates of a policy community whose first priority is solving the problem *now*. For example, very little statistical analysis of the growing volume of survey data has taken place. The small arms problem needs research that is more replicable, cumulative, and testable by peer review. The purpose of this publication is to stimulate such work.

The articles that follow summarize what we know about each major aspect of the small arms problem and the questions that remain to be investigated.

PRODUCTION, TRANSFERS, AND TRAFFICKING OF SALW

Knowing the scope of production is a core element in predicting the types and numbers of weapons in future circulation. If one is trying to stop the supply of weapons to conflict zones, it is important to know the source of this supply. In the 1990s, policymakers sought to use arms control techniques that applied to larger weapons systems, such as tanks and aircraft. They went after producers of these weapons, only to discover that new production of small arms was actually *declining*. The major source of supply was existing stockpiles or weapons circulating from previous wars. More generally, understanding how arms are acquired by private citizens, official security forces, criminals, and insurgent groups requires knowledge about the actors (governments, brokers, transport agents) and legal and illegal modes of transfer (export criteria, end-user certificates, illicit trafficking networks) involved in distribution.

IMPACTS OF SALW

Understanding the effects of small arms in and on societies goes to the heart of the motivation for small arms research: what harm is caused by the proliferation and misuse of these weapons, who is most affected by them, and what are the circumstances under which they cause harm? Research goes beyond deaths and injuries to individuals to include the full range of impacts on societies.

ROLE OF SALW AVAILABILITY IN OUTBREAK AND EXACERBATION OF ARMED CONFLICT

In Rwanda, El Salvador, Kosovo, Brazil, and many other places, small arms and light weapons widely available or supplied to an area of conflict and tension can spark the rise of armed violence. What are the dynamics of this process of escalation? Also important is the effect that the (mis)use of these weapons during armed conflict can have on civilians, often in violation of human rights and

international humanitarian law. Does the presence of SALW exacerbate or lengthen armed conflict?

DEMAND FOR SMALL ARMS

Analyzing demand for small arms involves examining who possesses and carries them, what types are acquired, and the motivations for acquiring them. Knowledge of demand is important in the design of programs intended to address the negative effects of these weapons, e.g., demobilization, disarmament, and reintegration (DDR) of ex-combatants, as well as programs for collection and destruction of weapons.

INTERNATIONAL EFFORTS AT CONTROL

The 2001 UN Programme of Action on Small Arms, and various regional treaties and frameworks, have been developed to address the global problems associated with small arms and light weapons. Evaluation research has been conducted to assist in monitoring and evaluating these collaborative efforts. Such treaties and protocols should be compiled into a database to avoid duplication and promote complementarities and synergies.

DESIGN AND EVALUATION OF PRACTICAL POLICIES AND PROGRAMS

A significant amount of research has been conducted on the programs designed to alleviate the negative effects of small arms. Much of it is classic program evaluation, with a focus on evaluating needs assessment, goals and objectives of the program, program design, implementation, and impact. Compilation of “lessons learned” and “best practices” is the typical outcome of this research. Most of this work has focused on the following types of programs:

- Disarmament, demobilization, and reintegration (DDR) of ex-combatants
- Amnesties and weapons collection
- Destruction of surplus weapons

- Increasing public awareness

SMALL ARMS AND CRIME

As mentioned, small arms take an estimated 200,000 lives each year outside of group conflict through homicide and suicide, as well as inflicting a much greater number of grievous injuries. They also facilitate the commission of millions of crimes of other types, including robbery, assault, and sexual offenses.

By contrast with the other domains of inquiry surveyed above, there is an abundant literature on the role of small arms in crime, most of it pertaining to the United States, Canada, Australia, and the United Kingdom. Research on the causes, effects, and costs of gun violence has an especially long history in the United States. This is also true for the demand question, as well as the evaluation of policy and program interventions designed to lessen these harms. There are academic journals devoted to this research, well-established research centers, and vigorous debates among scholars on these issues. Such is not the case with research on the global small arms problem. The challenge is to get this academic community, mainly although not exclusively in the United States, to test the applicability of this body of research to small arms problems outside the United States.

INTEGRATING SALW RESEARCH INTO LARGER ISSUES

The research effort on small arms, as indicated above, has had a clear link to policies and programs designed to prevent and reduce the damage wrought by these weapons. Given the lack of information on small arms at the start of the policy process in the mid-1990s, much of the initial research was necessarily technical and descriptive in nature: characteristics of weapons, who was using them and where, how legal transfers turned into illicit ones, etc. In concentrating on the instrumentalities or tools of violence, researchers

tended to become “small arms experts.”

Once the UN Programme of Action was agreed upon in 2001, the research began to shift toward integrating or “mainstreaming” small arms knowledge into larger issues. A very good example is the recent move toward linking small arms policy research with the general field of international development. Scholars in development studies seek to formulate models of development, determine effective modes of delivering assistance, and identify the various obstacles to development. As discussed in the following pages, one of the major obstacles plaguing the delivery of assistance, indigenous capacity-building, and post-conflict reconstruction is armed violence and insecurity resulting from the prevalence of small arms and light weapons. There is a natural synergy here between the development and small arms research communities that is only now beginning to be recognized. Within the small arms group, a consensus is emerging as to the various impacts of small arms on the development process.⁶ However, development researchers and small arms researchers rarely engage each other. The importance of recognizing the nexus of security and development has become particularly urgent given the difficulties with post-conflict reconstruction in Iraq, Afghanistan, and Kosovo, among other places.

There are other fields of research where the data and findings of small arms research could prove valuable. This has already begun to occur in gender studies. Another fruitful area is justice and security sector reform, a major issue in post-conflict nation-building contexts. As of yet, however, the justice reform element of this work has not linked with the small arms effort. Questions to be addressed: Have codes of conduct of legitimately armed persons (police/military) regarding the use of arms been implemented? Have gun laws been changed? Are the legal and penal systems capable of dealing with those accused of gun crimes, including law-enforcement personnel?⁷

CONCLUSION

SALW research covers a wide range of issues that link small arms proliferation and misuse to a host of negative effects. This work has been shaped by a policy agenda requiring basic data on small arms and a focus on what can be done to reduce and prevent the damage they cause. There are now sufficient empirical data and hypotheses ripe for engagement by the wider academic community.

We hope that these articles, by distilling down the literature and emphasizing what “needs knowing,” will contribute to an increase in the quantity and quality of small arms research. We also hope to encourage a wider set of academic disciplines to address the questions that will move us closer to solving the problems posed by small arms.

SOURCES FOR RESEARCH ON SMALL ARMS

CENTRE FOR HUMANITARIAN DIALOGUE

<http://www.hdcentre.org/?aid=37>

The Centre for Humanitarian Dialogue is an NGO with a Small Arms and Human Security Program. They conduct research related to the human cost of small arms availability and misuse.

INTERNATIONAL ACTION NETWORK ON SMALL ARMS

<http://www.iansa.org>

The International Action Network on Small Arms is the global network of civil society organizations working to stop the proliferation and misuse of small arms and light weapons. Founded in 1998, IANSA has grown rapidly to more than 500 participant groups in nearly 100 countries. Its portals include key issues, resources and publications, events and campaigns, and a women's portal.

INTERNATIONAL ALERT

<http://www.international-alert.org/publications.htm>

International Alert is an independent international NGO that works to help build lasting peace in countries and communities affected or threatened by violent conflict. They have regional pro-

grams in Africa, the Caucasus, and Central, South, and South East Asia. They conduct policy analysis and advocacy at government, EU, and UN levels on cross-cutting issues such as business, humanitarian aid and development, gender, security, and religion in relation to conflict. They are part of the Biting the Bullet collaborative and have conducted a significant amount of independent research on small arms issues.

NORWEGIAN INITIATIVE ON SMALL ARMS

<http://www.nisat.org>

NISAT is based at the Peace Research Institute, Oslo. It maintains a database of small arms transfers containing over 250,000 records. Its Black Market Archive contains over 7,000 searchable documents. It also maintains a West Africa news archive.

SAFERWORLD

<http://www.saferworld.org.uk/iacl/index.htm>

Saferworld is a large transnational NGO that works with governments and civil society internationally to research, promote, and implement new strategies to increase human security and prevent armed violence. They are a member of the research collaborative called Biting the Bullet, which has produced a series of papers on all aspects of the small arms problem and what to do about it.

SMALL ARMS NET

<http://www.smallarmsnet.org>

The Institute for Security Studies in Pretoria has established the Small Arms Net, an information portal for groups and individuals working to contain the proliferation of small arms and light weapons in Africa. An initiative of the Arms Management Programme (AMP), it is an information hub for small arms and arms related issues affecting the continent.

SMALL ARMS SURVEY

<http://www.smallarmssurvey.org>

Beginning in 2001, Small Arms Survey, through Oxford University Press, has published an annual survey of the field. Some of the chapter themes are recurrent (e.g., products, producers, stockpiles, transfers, controls), which serves to update readers on these topics. In addition, each year SAS introduces new aspects of the field. Topics have included arms brokers, the UN 2001 Small Arms Conference and Programme of Action, weapons-collection programs, effects of small arms on human development, regional and country-specific cases, and human rights. SAS also produces occasional papers and reports.

UN DEPARTMENT OF DISARMAMENT AFFAIRS: CONVENTIONAL ARMS BRANCH: SMALL ARMS AND LIGHT WEAPONS PORTAL

<http://disarmament2.un.org/cab/salw.html>

This web site is an authoritative source for all UN action and documents since the small arms issue entered onto the world stage in the mid-1990s.

UN DEVELOPMENT PROGRAMME: SMALL ARMS AND DEMOBILIZATION DIVISION

<http://www.undp.org/bcpr/smallarms/index.htm>

Assists countries recovering from conflict to curtail illicit weapons, address the needs of ex-combatants and other armed groups through alternative livelihood and development prospects, and build capacities at all levels to promote human security.

NOTES

1. The 1997 Report of the United Nations Panel of Government Experts on Small Arms provides the most widely accepted definition of small arms and light weapons. This distinguishes between small arms, which are weapons designed for personal use, and light weapons, which are designed for use by several persons serving as a crew. The category of small arms includes

revolvers and self-loading pistols, rifles and carbines, assault rifles, sub-machine guns, and light machine guns. Light weapons include heavy machine guns, hand-held under-barrel and mounted grenade launchers, portable anti-tank and anti-aircraft guns, recoilless rifles, portable launchers of anti-tank and anti-aircraft missiles, and mortars of calibers less than 100mm. See <http://www.smallarmsnet.org/definition.htm>.

2. Colin Robson. *Real World Research*. Oxford: Blackwell Publishers, 2002.

3. For a summary of this conference and the text of the Programme of Action, see the web site of the UN Department of Disarmament Affairs: <http://disarmament2.un.org/cab/salw.html>.

4. An example of this research can be found in the *Biting the Bullet* series of publications at http://www.saferworld.org.uk/publications/int_arms_

control.htm.

5. Major examples include United Nations Institute for Disarmament Research (UNIDIR), Bonn International Center for Conversion (BICC), Institute for Security Studies in Pretoria, Bradford University, International Alert, Center for Defense Information, Human Rights Watch, OXFAM, Peace Research Institute of Oslo (PRIO), UN Development Programme (UNDP), UNICEF, Monterey Institute of International Studies, Saferworld.

6. See http://www.smallarmssurvey.org/Yearbook%202003/ch4_Yearbk2003_en.pdf.

7. For research questions and the state of the research in this field, see "Critical Triggers: Implementing International Standards for Policing Firearms Use," pp. 213-247 in *Small Arms Survey 2004*. Oxford: Oxford University Press.

Kalashnikov production at Arsenal Co. in Bulgaria. Weapons from plants in former communist countries turn up frequently in illicit arms transfers.



Effects of Small Arms Misuse

William Godnick, Edward J. Laurance, Rachel Stohl, and Small Arms Survey

INTRODUCTION

In 1994 the impoverished nation of Mali was wracked with violence. Small arms and light weapons had become readily available, turning grievances by the economically marginalized Toureg into armed violence so pervasive that all development work in Mali had come to a halt. Donor countries pulled out, and the scuttling of their development projects resulted in half-built schools, contaminated water supplies, and unfinished roads. The president of Mali formally asked the United Nations to assist his country in tackling a problem heretofore unaddressed in international affairs, the proliferation and misuse of small arms and light weapons.

When the global community first engaged the issue of small arms and light weapons (SALW) in the 1990s, it was the terrible effects of these weapons in places such as Mali that were the prime mover for research and action. Documenting these effects was a crucial first step toward developing policies to address the problem, since most of the weapons involved initially had a legitimate role in the internal and external security of sovereign states, yet governments were understandably reluctant to formally recognize that there were unintended effects from these weapons. The result was a set of papers, produced mainly by the policy and advocate communities, intended to demonstrate the need to focus on the instruments of violence. Most of these initial reports were stories or anecdotes gathered by NGOs with firsthand experience of the effects of small arms.¹

Once the policy and advocacy materials defined the problem, it was natural that more in-depth research would soon follow. Understanding the

societal and individual effects of small arms is the motivation for this research: we want to know what harm small arms cause, who is most affected by them, and the circumstances under which these weapons cause harm.

DIRECT EFFECTS

DEATHS, INJURIES, AND DISABILITIES

Direct effects of small arms occur as deaths, injuries, and disabilities, as well as direct costs that result from the treatment of injuries and disabilities. In addition, there are the costs to society of lost working days resulting from treatment, premature death, or disability.

Studies in the United States in particular, and to a lesser extent in other Western societies, have provided an understanding of the significance of firearms in suicide and homicide rates by comparing firearms with other means of killing.

Suicides by firearm: It has been documented for many Western societies that the availability of civilian firearms influences the percentage of suicides committed with a firearm. This is partly explained by the higher suicide completion rates for suicides that are attempted with a gun as compared to attempted suicides that make use of other means. Completed suicide rates appear to be higher for groups that are more prone to impulsive actions, such as youths, when they have easy access to a firearm. However, it remains debatable whether overall suicide rates increase as a result of elevated arms availability. Nor is great firearms prevalence necessary for a high suicide rate. Japan suffers from very high suicide rates but has one of the lowest rates of civilian arms availability in the world.

Domestic firearm deaths: In the US there is evi-

dence that rates of domestic murder are positively correlated with rates of firearms ownership. However, research has also shown that firearm ownership rate is only one of several variables that influence fatal domestic violence. Unemployment and abuse of alcohol and drugs have also been shown to be significant.

Our understanding of patterns in firearms deaths around the world is still patchy. It is often stated that the majority of SALW victims are men, and in particular young men. However, in relation to political conflicts it is often stated that a majority of victims are civilians, largely women and children. While there is a significant volume of research on categories of victims in the United States, information on other societies is more limited. Therefore, studies that provide a detailed breakdown of firearm victims by gender, age, ethnicity, and locality in different societies are needed to develop a nuanced picture of who is most at risk and who should be the focus of intervention programs.

There is evidence that the rate of suicides committed with firearms can be used as a proxy for civilian gun ownership rates. However this observation is based on research in Western societies. Further work is needed to validate this assumption for non-Western societies.

Most work considering the direct effects of firearms use has concentrated on death and physical injury. These, however, don't exhaust the consequences.

TERROR, INTIMIDATION, AND OTHER PSYCHOLOGICAL EFFECTS

Human rights activists have pointed to the use of firearms in coercion and intimidation. Besides documenting individual stories of human rights abuses, there has been very little research to date that would help us to understand how guns are used to threaten rather than kill. Similar work has been conducted on the criminal use of guns, but to

date little concentrating on the effects of gun use in systematic state violations of human rights.

PARTICULAR VULNERABILITY OF CHILDREN AND WOMEN

Children

While it is obvious that small arms negatively affect the lives of children, it was really not until the lead-up to the UN 2001 Conference that the full effects of small arms on the welfare of children were documented. UNICEF drew attention to the issue in their pre-conference and conference statement, and a comprehensive NGO study on the impacts of small arms on children was released for the conference.²

Such studies have provided data about the victimization of children by small arms violence. In Colombia in 1999, children were victims of 1,333 homicides, 58 accidents, and 16 suicides in which small arms were used. Between 1987 and 2001, 467 children died in the Israel-Palestine armed conflict as a result of gun-related violence, while 3,937 children were killed by firearms in the state of Rio de Janeiro during the same four-year span.

From these early studies we know that children are victims of conflict and small arms misuse, that small arms proliferation and misuse interfere with the provision of basic needs and services, and that small arms make child soldiering more possible and more probable. We have good case studies but there is still much we don't know. There is no thorough data-collection process that transcends national borders and experiences to quantify the impact of small arms on children.

Women

Women are another of the groups most vulnerable to small arms violence, and a significant amount of work is now being conducted on the relationship between gender and small arms. It is well established that legal guns are just as dangerous to women as illegal ones. There is abundant

evidence that sexual violence at gunpoint is used as a weapon of war. To name but a few cases, in Afghanistan, Sudan, the Democratic Republic of Congo, and the former Yugoslavia, women and young girls have been abducted from their homes, schools, and places of work at the barrel of a gun. This practice persists in the aftermath of armed group conflict.

Women are not just the victims of gun violence, however. They may also participate as combatants and in support roles, providing information, food, clothing, and shelter, as well as bearing the long-term burden of caring for the sick and injured.

INCREASED POTENTIAL FOR VIOLATIONS OF HUMAN RIGHTS AND INTERNATIONAL HUMANITARIAN LAW

Human Rights

There is a prodigious body of scholarship on human rights and an increasing amount concerning the use of small arms to violate internationally recognized human rights. Much of this work has been done by organizations such as Human Rights Watch, Amnesty International, and other non-governmental organizations evaluating the human rights records of small arms recipient countries. Amnesty International has a recent publication for the Control Arms campaign examining effective mechanisms for police to use in controlling these weapons without themselves misusing them. Research to date has demonstrated that small arms in the wrong hands (both governmental and non-governmental) lead directly to human rights abuses, including extrajudicial executions, forced disappearances, and the general repression of individuals and groups.

Small arms were effective tools of terror, used to kill, maim, rape, and forcibly displace people in genocides and mass attacks on civilians in Bosnia, Rwanda, the Democratic Republic of Congo, and Sudan. Even where they are not the primary means of killing, weapons capable of massive lethality—automatic rifles, grenades, rocket

launchers—can serve to corral victims so that they can be killed with cheap and crude weapons such as machetes. In addition, small arms have been used to forcibly recruit and arm children to serve as soldiers in dozens of countries around the world.

Small arms proliferation facilitates rights violations outside of conflict situations. Government forces may misuse small arms in violation of the UN Basic Principles on the Use of Force and Firearms by Law Enforcement Officials, as has been the case, for example, in Ethiopia, when police have used excessive force against student protesters.

In April 2003, the United Nations appointed an expert on human rights and small arms to investigate the link between them. This research and other work in the area will focus on the need for additional principles and norms and elevate to the global intergovernmental level violations of human rights directly linked to small arms proliferation and misuse.

International Humanitarian Law

The use of conventional weapons, including small arms, in armed conflict falls under the jurisdiction of international humanitarian law (IHL), as embodied in a variety of international agreements, including the 1907 Hague Conventions, the 1949 Geneva Conventions, the 1977 Protocols Additional to the Geneva Conventions, and the 1980 UN Convention on Conventional Weapons. These agreements are designed to protect civilians and prevent unnecessary suffering during times of conflict by limiting both the physical means and the methods that belligerent parties can use to wage war. The deliberate targeting of civilians, indiscriminate force that is likely to harm civilians, and the use of weapons and tactics that are indiscriminate by their nature or excessively injurious to combatants are prohibited by these agreements.

Just as small arms can be used to violate human rights law, which applies mainly to nonwar con-

texts, small arms can also contribute to violations of IHL, which applies to situations of inter- and intrastate war. All types of armed groups, whether government or guerrilla forces, have used small arms for IHL violations. Small arms have been used for summary executions in Liberia and to commit massacres in Colombia. In Sri Lanka, children have been forcibly recruited at the barrel of a gun. Civilian property has been looted in Afghanistan and forced disappearances have occurred in Chechnya.

Violations of IHL have been more frequent in some conflicts because armed groups are purposefully targeting civilians and aid workers as part of their strategy. The culture of impunity that allows such atrocities needs further study. How does this impunity prolong armed conflicts and make them more intractable? How do the standard tactics and operating procedures of organized military forces lead to violations of IHL? Since currently there are only inadequate measures to address the irresponsible transfer of weapons to areas where their misuse is foreseeable, we must also consider whether governments authorizing such transfers are fulfilling their obligation to “respect and ensure respect” for the basic protections established by IHL.

THREATS TO HUMANITARIAN INTERVENTION

The widespread availability of small arms has increased the duration, incidence, and lethality of armed conflict, where, since the end of the Cold War, the “average” conflict has lasted eight years. Small arms have made it more difficult for humanitarian relief to be delivered as aid workers are specifically targeted for extortion, threat, theft, rape, and murder. For example, on March 28, 2003, a Red Cross worker in Afghanistan was singled out from his Afghan companions and killed at a roadblock. The risk of violence can limit access to populations in need of assistance and divert resources to security rather than relief provision, even though IHL requires that aid agencies have

access to populations that need humanitarian assistance. Approximately 50 percent of populations in conflict regions live in areas that are not accessible to relief campaigns due to security threats. In some countries it has become too expensive, both in human lives and cash, for outsiders to provide much-needed aid, forcing populations to endure the horrors of war alone. The danger to aid and relief workers from small arms has been documented in a ground-breaking study by the Small Arms Survey and the Centre for Humanitarian Dialogue, *In the Line of Fire*. Ten percent of respondents from relief organizations reported having been the victim of a “security incident,” such as assault, intimidation, or sexual violence, in the previous six months. Forty percent of these encounters involved a weapon.

Even when aid workers can supply relief, it is often difficult to reach the needy populations. At the end of 2002, there were approximately 12 million refugees, 5.3 million internally displaced persons (IDPs) still away from their homes, and 941,000 asylum seekers. Refugees and IDPs are often afraid to leave camps and return to their homes or to venture out of safe areas to acquire relief supplies. At the same time, refugee and IDP camps often become militarized, and their vulnerable populations are subject to intimidation, rape, injury, forced prostitution, and slavery as well as forced recruitment into armed service.

Some research on refugee camps being used as arms trafficking sites has begun. But we need to know much more about both the levels of such phenomena and their impact on underserved populations.

OUTBREAK OF INTERGROUP VIOLENCE

It is clear that small arms exacerbate and perpetuate intergroup violence, but does the buildup and acquisition of small arms and light weapons actually lead to the outbreak and escalation of armed conflict? This was a crucial question for those who

pushed the small arms problem onto the global stage in the mid-1990s. Laurance, surveying the evidence, concluded that “while it is true that peo-



The importation of weaponry to regions of conflict perpetuates violence, impedes peacekeeping and development efforts, and undercuts the ability of the parental generation to socialize youth.

ple bent on killing each other will do so regardless of the weapons they possess, it is also true that a critical mass of weapons can be the impetus for starting a major conflict.”³

Two case studies that received much attention shaped the early response to this question. Researchers from Human Rights Watch argued that all four phases of the Rwanda conflict of the 1990s—the invasion of Rwanda by Tutsi exiles, the diffusion of weapons to Hutus within Rwanda, the genocide itself, and the raids by Hutu militia after being expelled—were possible only because of the supply of small arms and light weapons.⁴ The second case pointing to the direct effect of arms buildups on the outbreak of armed violence is Kosovo. In 1997 the government of Albania col-

lapsed and, in the subsequent instability, its significant arsenal of small arms and light weapons was pillaged. More than half of these weapons left the country, and many were acquired by the Kosovo Liberation Army (KLA). A very tense situation in Kosovo, a province of Serbia in which 1.7 million ethnic Albanians, though a majority, lived under the domination of 200,000 Serbs, very soon exploded into armed violence. The massive acquisition of arms did not create the KLA's willingness to use violence, but it did give them the means to do so on a broad scale.⁵

The most comprehensive study of the impact of small arms and light weapons on the outbreak and escalation of conflict, *Arms and Ethnic Conflict*, concludes that “arms accumulation by ethnic groups or in conflict zones seems a relatively good predictor of impending violence.”⁶ The authors regard their findings as preliminary, however, and call for research to clarify the impact of weapons on governments' and ethnic communities' opportunity and willingness to employ violence in pursuit of their goals:

- Under what circumstances do arms produce or contribute to the *initiation* of conflict? What are the early warning indicators involving SALW that could be used to better predict the outbreak of violence?⁷
- In what ways might arms fuel *ongoing* violence?
- Do arms flows facilitate or hinder efforts to resolve ethnopolitical violence and conflict?
- What is the effect of arms infusions on the likeli-

hood and success of third-party efforts to resolve a conflict?⁸

INDIRECT EFFECTS

Development studies have identified the indirect effects of small arms by pointing to the link between SALW and instability and insecurity, which, in turn, are seen as responsible for a number of socioeconomic effects (reduced productive economic activities, limited possibilities for education, malfunctioning health structures) that hinder a nation's or community's development. In addition, public health experts have documented the indirect deaths that occur during conflicts because of famine, interrupted health care, and increased stress levels. In many African conflicts, for example, the death toll from indirect causes is considerably higher than the number of fatalities from fighting.

DEVELOPMENT

In the early work of the United Nations, the concept of “sustainable disarmament for sustainable development” became a catch phrase for combining the work of the arms control and development communities. The concept is simple: sustainable development cannot exist in an insecure environment, as in the case of Mali in 1994, cited above. Violent conflict destroys the physical infrastructure needed for an economy to grow and diverts human and economic resources away from agriculture, education, industry, and other constructive activities. Proliferation of weapons prevents sustainable development by damaging fragile economies, deterring foreign investment, and diverting domestic economic resources to public security.

Over the past decade we've learned a lot about the impact of small arms on development. In post-conflict societies, former combatants enter the job market and, finding limited opportunities, often turn to crime. In El Salvador, the number of gun-

related deaths was actually higher after the fighting ended due to the extensive use of weapons in criminal activities. In post-war Iraq, the disbanding of the Iraqi army left at least 400,000 soldiers without their jobs but with their guns.

Fear and damaged public infrastructures can deter public and private foreign investment. Development projects have been cancelled in Liberia, Niger, and Sierra Leone due to small arms violence. Promised international development aid to post-war Afghanistan and to Iraq remains largely unfulfilled due to insecurity. We also know that organized crime and black markets harm development. Profitable companies are now lucrative targets and businesses must invest in their own protection to avoid kidnapping or other extortion. In Colombia, the major guerrilla groups “earned” an average of \$140 million annually between 1986 and 2000 from ransom and other extortion activities.

Research on the reciprocal relationship between underdevelopment and gun violence is clearly called for. Toward this end, the Department for International Development of the government of the United Kingdom began a major assessment of development, “Tackling Poverty by Reducing Armed Violence,” in 2003.⁹ Nine SALW projects were selected for evaluation. The researchers estimated that only 5% of the indicators being used in these projects related to effects on development, poverty reduction, or humanitarian impacts.¹⁰ These projects simply did not have these outcomes as major concerns. Moreover, the study of these nine projects concluded that for effective policy and programs, it was essential to go beyond monitoring progress merely in terms of arms reduction (number of weapons collected, weapons sales and street prices). Measurements should also be made of the direct impact on armed violence itself and the realities and perceptions of insecurity, as well as of other development and poverty-related effects. Evaluation research focused on such measures should be a high priority.

SOCIAL STRUCTURES

How small arms affect the lives and livelihoods of individuals is fairly well understood, but we need also to address the effects of small arms on societal structures, as illustrated in the following vignettes.

El Salvador

The current situation in El Salvador is representative of much of post-conflict Central America, where, due to insufficient disarmament and demobilization programs for ex-combatants, small arms are still abundant and misused. At the end of the country's twelve-year civil war in 1992, the United Nations was successful in recovering and destroying approximately 10,000 small arms from the FMLN guerrillas, while a private-sector initiative recovered close to that many weapons from the civilian population between 1996 and 2000, including highly dangerous hand grenades and rocket launchers.¹¹

But during the Salvadoran peace process, when nearly 10,000 guerrillas were demobilized along with 31,000 government soldiers, the newly formed civilian police force was mandated to absorb only 5-6,000 of these individuals, while defunct police and paramilitary forces also disbanded. This left thousands of former guerrillas, soldiers, and police officers unemployed in a society where the problem of youth gangs was growing on a scale never seen before. Because of the scarcity of employment opportunities and the ability of these men to use weapons, many had life options limited to organized crime or employment as private security guards.

Horn of Africa

The pastoralists in the Horn of Africa have also seen deleterious consequences of the influx of small arms. The Kenyan scholar Kennedy Mkutu and others have documented this problem and worked with the international community on potential

solutions.¹² For generations, groups in the Karamoja region of Uganda and the West Pokot region on the other side of the border, in Kenya, have pursued a pastoral mode of living ordered in relation to the size and quality of livestock herds and the environment. Cattle raiding has always been a problem but was traditionally limited to only the best livestock, and violence, though present, was minimal. When someone was killed in the process, the victim's family was compensated with cattle by the offending group.

However, because of the many African wars for independence in the 1960s, AK-47 assault rifles began to appear among the different pastoralist groups and proliferated considerably in the 1970s. This led to increased frequency and lethality of violence among many of the border communities as well as a vicious circle of raid and counterraid. Bands of armed youths have now taken over large sections of the border area and warlords have capitalized by buying and selling raided livestock and selling weapons. Traditionally, councils of male elders governed the pastoralist communities and served as mediators in resolving conflicts, both before and during colonial rule. But the deterioration of customary governance structures in these societies has weakened the capacity of elders to exercise control over young males now armed with assault rifles. Not only has the availability of SALW and proclivity to use them affected the relationships between neighboring groups, it has also altered the hierarchy of power within communities.¹³

Yemen

The research of Derek Miller in Yemen provides an example of demand for small arms that is based on indigenous belief systems and is a key component of the maintenance of political and social order that has *not* resulted in high levels of crime and violence, unlike in other parts of the globe.¹⁴ Weapons in Yemen are considered part of the

national character and are more closely associated with custom and tradition than with violence, injury, and death. In contemporary Yemen, males at the age of fifteen are often provided with an assault rifle as a rite of passage.

Similar to the role that SALW played in the pastoral regions of the Horn of Africa before proliferation, weapons in Yemen have long been symbols of power, responsibility, masculinity, and wealth. This does not preclude their use for aggression or defense, as was the case during the country's civil war in the 1990s. However, as mentioned, there has not been an increase in violence or SALW-related fatalities despite widespread civilian acquisition of weapons as a result of the war. Strong tribal mechanisms for conflict resolution in place in Yemen prevent major outbreaks of violence. We do not see the youth rebelling against tribal elders as in Uganda and Kenya.

The introduction of firearms can transform relations between generations, men and women, and ethnic groups. Thus far, we have only a few such case studies and anecdotal evidence of how firearms availability and use alter the established social order. Currently very few social scientists work on how small arms affect social structures. Anthropologists and sociologists could provide useful contributions in this area.

TOURISM

Just as small arms hinder development, so they can inhibit tourism. Tourism has become a fast-growing industry and an important revenue source for many countries. It creates employment in several sectors of society, accounting for nearly 200 million jobs and over 40 per cent of GDP in small island economies and some developing countries. Moreover, tourism brings in foreign currency, providing a stable and reliable source of income. Small arms proliferation and the attendant threat of violence can undermine tourism because of tourists' fear of political upheaval or crime. Tourist

sites are sometimes damaged or rendered inaccessible by ongoing hostilities, and recently tourists have been specifically targeted in armed attacks. Armed groups may actually utilize tourist destinations, as with Kenyan rebel groups that use animal reserves as their base of operations. In the late 1990s civil wars in several African countries caused tourism to drop by a third to a half.

POST-CONFLICT RECONSTRUCTION

In the last several years, we have seen the dangers of small arms proliferation and misuse in countries emerging from war. In both Afghanistan and Iraq, the widespread availability of small arms puts security at grave risk, severely undermines the rule of law, and presents a major obstacle to the transition to peace. The availability of arms increases the possibility of outbreak of conflicts in areas of crisis, endangers the safety of both international peacekeepers and the local population, and above all, hinders conflict resolution.

As with humanitarian interventions, peacekeeping missions and the soldiers and civilian officials implementing them are also at risk from small arms. Unlike during the Cold War, in the 1990s UN forces found that small arms posed a threat to themselves that had to be addressed. UN peacekeepers are regularly targeted, most notably in Kosovo, East Timor, Sierra Leone, Bosnia, and Afghanistan. Indeed, in both Angola and Sierra Leone rebels have held hundreds of UN peacekeepers hostage. While some peacekeeping operations include mandates that address small arms, such as disarmament, demobilization, or collection and destruction of surplus weapons, others have no such mandate. More systematic attention to small arms must be included in post-conflict peacebuilding. The lack of such provisions in the US plan in Iraq makes clear that the wide availability of small arms and light weapons can provide the fuel to transform a disorganized but angry group of civilians into an insurgent force that not only pro-

longs a conflict but also brings to a halt the economic, social, and political development needed to bring the conflict to an end. We see this phenomenon in other places. These cases need to be researched and compared to produce findings that can be used by those charged with peace-building.

GOVERNANCE

Small arms have had notable destructive impacts on the ability of some states to govern well. As discussed above, proliferation has raised the cost of maintaining public order. This expense diverts resources from investment in the economy and diminishes a state's ability to help create jobs and raise the standard of living. In turn, all of this promotes the acquisition and use of arms for both legitimate protection and illicit purposes by private security firms and individual citizens. Many would argue that in some polities the state has forever surrendered its role as the primary provider of security.

Research has begun on the growth of private military contractors and its effect on societies.¹⁵ This work has demonstrated how private security companies fuel the legal and illegal markets for small arms. In El Salvador, as in much of Central and Latin America, the state has lost its monopoly over the use of force and the tools of violence. These companies purchased mostly high-caliber weapons for their employees, which probably represented a good share of the more than 50,000 firearms El Salvador imported between 1996 and 2000. At the same time, it has been documented that 25 per cent of the weapons confiscated by the Salvadoran authorities were taken off of private security agents outside hours of work.¹⁶ In recent years the numbers of private security agents (some 20,000 plus) have surpassed the 16,000 police officers serving in El Salvador.¹⁷

Such widespread availability of guns and a breakdown in the rule of law have led to the emergence of private armed groups in many countries.

Such groups are seldom held accountable for the role they play in human rights abuses. Indeed, small arms have become the weapons of choice not only for political insurgents but also for terrorists around the world. Nearly 75 percent of the significant terrorist incidents in 2002 were perpetrated by individuals and groups wielding small arms. Small arms create and fuel the conditions in which terrorist groups thrive. The poverty and desperation experienced by many post-conflict societies are often exploited by terrorists, who use the victims' suffering to justify and build support for their actions. Afghanistan in the 1990s provided such an environment. Al Qaeda found there a safe haven and could tap into the vast criminal networks that spring up in the absence of effective law enforcement.

The availability and use of firearms are determined by the nature of governance in a country. The reverse is also true: firearms influence the ways in which countries are governed. The relationship between firearms and governance is extremely significant for development, law enforcement, and human rights, but it is underresearched.

There is now a consensus typology of the effects of the availability and misuse of small arms and light weapons, a picture that has emerged from efforts of scholars working on one or another of the many aspects of the small arms problem. Table 1, from *Small Arms Survey 2003*, captures this consensus and serves as an excellent guide for further research.

NOTES

1. Some of these accounts were the basis for a set of fact sheets prepared by the U.S. Small Arms Working Group (SAWG) in advance of the 2001 UN Small Arms Conference and updated for the 2003 Biennial Meeting of States follow-up conference. Fact sheets on small arms and brokers; children; collection, destruction, and stockpile protection; development; human rights; international humanitarian law; natural resources; peacekeeping; public health; tourism; and women can be found at <http://www.iansa.org/documents/index.htm>.

Direct effects

- Fatal and non-fatal injuries
- Lost productivity
- Personal costs of treatment and rehabilitation
- Financial costs at household, community, municipal, and national levels
- Psychological and psychosocial costs

Indirect effects

- Armed crime
 - Rates of reported crime (homicide)
 - Community-derived indices of crime
 - Insurance premiums
 - Number and types of private security facilities
- Access to and quality of social services
 - Incidence of attacks on health/education workers
 - Incidence of attacks on and closure of health/education clinics
 - Vaccination and immunization coverage
 - Life expectancy and child mortality
 - School enrollment rates
- Economic activity
 - Transport and shipping costs
 - Destruction of physical infrastructure
 - Price of local goods and local terms of trade
 - Agricultural productivity and food security
- Investment, savings, and revenue collection
 - Trends in local and foreign direct investment
 - Internal sectoral investment patterns
 - Trends in domestic revenue collection
 - Levels of domestic consumption and savings
- Social capital
 - Numbers of child soldiers recruited, in action
 - Membership of armed gangs and organized crime
 - Repeat armed criminality among minors
 - Incidence of domestic violence involving firearms or the threat of weapons
 - Respect for customary and traditional forms of authority
- Development interventions
 - Incidence of security threats
 - Costs of logistics and transportation
 - Costs of security management
 - Opportunity costs associated with insecure environments and/or damaged investments

Table 1. Effects of small arms misuse on human development (from *Small Arms Survey 2003: Development Denied*. Oxford: Oxford University Press)

2. Rachel Stohl et al., "Putting Children First: Building a Framework for International Action to Address the Impact of Small Arms on Children." *Biting the Bullet*, Briefing 11, 2001. http://www.international-alert.org/pdf/pubsec/btb_brf11.pdf.

3. Edward J. Laurance, "The New Field of Microdisarmament." Brief 7: Bonn International Center for Conversion. September 1996, p. 16. <http://www.bicc.de/publications/briefs/brief07/brief7.pdf>.

4. Stephen D. Goose and Frank Smyth, "Arming Genocide in Rwanda." *Foreign Affairs* 73:86.

5. Case study on Kosovo in John Sislin and Frederick S. Pearson, *Arms and Ethnic Conflict*. Boulder: Rowman & Littlefield, 2001, pp. 100-105.

6. Sislin and Pearson, pp. 80-81.

7. For a treatment of early warning and SALW, see Edward J. Laurance, ed., "Arms Watching: Integrating Small Arms and Light Weapons into the Early Warning of Violent Conflict." London: International Alert. May 1990. http://www.international-alert.org/pdf/pubsec/lw_armswatching.pdf.

8. Questions are from Sislin and Pearson, pp. 17-19.

9. A description of this effort can be found in recommendations from a Wilton Park Workshop, <http://www.eldis.org/static/DOC13096.htm>.

10. "Assessing and Reviewing the Impact of Small Arms Projects on Arms Availability and Poverty." Bradford University Center for International Cooperation and Security. Draft synthesis report, July 2004, p. 3.

11. Edward J. Laurance and William Godnick, "Weapons Collection in Central America: El Salvador and Guatemala." In Sami Faltas and Joseph Di Chiaro III, eds., *Managing the Remnants of War: Micro-disarmament as an Element of Peace-building*. Baden-Baden: Nomos Verlagsgesellschaft, 2001.

12. Kennedy Mkutu, "Pastoral Conflict and Small Arms: The Kenya-Uganda Border Region." London: Saferworld, 2003.

13. Also see Sandra Gray et al., "Cattle Raiding, Cultural Survival, and Adaptability of East African Pastoralists." *Cultural Anthropology* 44 (Supplement December 2003): S3-S30.

14. Derek B. Miller, "Demand, Stockpiles, and Social Controls: Small Arms in Yemen." Small Arms Survey Occasional Paper #9, May 2003. <http://www.smallarmssurvey.org/OPs/OP09Yemen.pdf>.

15. Deborah Avant, "Think Again: Mercenaries." *Foreign Policy*, July/August 2004; P. W. Singer,

“Corporate Warriors: The Rise of the Privatized Military Industry and Its Ramifications for International Security.” *International Security* 26, no. 3, Winter 2001/02.

16. José Miguel Cruz, Alvaro Arguello, and Francisco González, “The Social and Economic Factors Associated

with Violent Crime in El Salvador.” Washington and San Salvador: World Bank and the Instituto Universitario de Opinión Pública, Universidad Centroamericana, 1999.

17. William Godnick, “Control de Armas Ligeras y Seguridad Privada: Consideraciones para Centroamérica. London: International Alert, 2004.



In a Palestinian refugee camp in Lebanon, a girl stands near a pistol left behind by a militant.

Guns in Crime

Nicolas Florquin



INTRODUCTION

The toll resulting from the use of small arms in societies “at peace” is drawing increasing international attention. At least 200,000 non-conflict-related firearm deaths occur each year worldwide, the vast majority of which (at least 140,000) are categorized as homicides, a criminal offense throughout the world. Nonlethal crimes involving the use of small arms include robberies, assaults and threats, and to a lesser extent, sexual offenses (*Small Arms Survey 2004*). The criminal use of arms in societies at peace can be treated as a distinct field of inquiry, despite the obvious overlaps with the more general questions of the effects of gun use.

The debate over the relationship between firearms and crime has, for the most part, remained

a US academic and public policy issue. The academic disciplines that have examined the role of guns in crime to date are mainly criminal justice, public health, economics, and anthropology/sociology. Put simply, they have focused on three broad themes:

- the accessibility thesis, i.e., the relationship between gun accessibility and levels of violence, defined as crime by criminologists and as deaths and injuries by public-health scholars.
- the tangible economic costs gun violence imposes on societies.
- the intangible impacts of gun violence on communities and individuals’ perceptions, behavior, and attitudes.

THE ACCESSIBILITY THESIS

North American criminologists and public-health experts have produced a large literature on the linkages between firearm accessibility and crime. There seems to be little relationship between gun availability and the rates of most crimes, such as assault, rape, or burglary, few of which involve guns. However, studies usually find a strong association between gun availability and lethal violence (homicide), but there is a need for more detailed research in the area (Hepburn and Hemenway 2004).

International cross-sectional studies of high-income countries find that gun ownership levels are correlated with overall rates of homicide (Hemenway and Miller 2000), although a recent international study found no relationship (Killias et al. 2001). However, if only high-income countries (as defined by the World Bank) are included in the analysis, a strong, significant relationship again emerges (Hepburn and Hemenway 2004). Across US regions and states, where there are more guns there are more homicides because there are more firearm homicides. The association holds after accounting for poverty, urbanization, alcohol consumption, unemployment, and violent crime other than homicide (Miller et al. 2002a). Results are similar for youth and adults, for men and women.

Studies at the household, cross-state, and cross-national levels find that the more guns there are, the more women become victims of homicide (Bailey et al. 1997, Hemenway et al. 2002; Miller et al. 2002b). Gun availability is also linked to levels of gun crime. Cook (1979; 1987), for instance, finds that higher levels of gun ownership are associated with higher rates of gun robberies, and gun robberies are more likely than other types of robberies to result in death.

Pro-gun academics argue that guns are often used in self-defense (Kleck 1997) and that permissive gun-carrying laws actually reduce crime (Lott

1998). There are, however, a series of methodological problems and data limitations surrounding these two claims (Hemenway 1997; Black and Nagin 1998; Hemenway et al. 2000; Maltz and Targonski 2002, 2003). Many recent studies on gun-carrying laws suggest that, if anything, these laws probably have had little effect on crime or may actually have increased homicides (Ludwig 1998; Duggan 2001; Ayres and Donohue 2003; Donohue 2003; Kovandzic and Marvell 2003; Hepburn et al. 2004).

The effect of restrictive gun laws on crime and lethal violence has been more difficult to determine. For example, a recent Centers for Disease Control report found insufficient evidence to assess the effectiveness of eight different types of gun control measures in reducing overall levels of violence (CDC 2003). The problem with the evidence stems from the difficulty of disentangling the effects of relatively modest gun laws from the effects of various other factors that are changing over time.

The accessibility thesis is being continually studied in the United States. New data-collection systems have been put in place recently and should generate richer and more comparable data, allowing for even better studies in the years to come (Hemenway 2004).

A limited number of studies have also emerged from Australia, the United Kingdom (see *Small Arms Survey 2004*), Brazil, and South Africa. Little has been done to explore the relationship between small arms availability and crime in other areas. Our knowledge would be enhanced with the improvement of data-collection systems in many countries, which would allow for the examination of the accessibility thesis in different contexts.

THE TANGIBLE COSTS OF GUN VIOLENCE

The economics literature has sought to quantify the costs gun violence imposes on societies. With respect to costs imposed on the medical care sys-

tem, Miller and Cohen (1996) showed that the overall treatment for a gunshot injury is twelve times more expensive than treatment for cuts or stab wounds. It is estimated that the direct medical costs of treating gunshot wounds is about \$2 billion per year in the United States. Other direct costs include those incurred by the criminal justice system (including bullet-proof jackets for police officers); the estimates here are that gun crime costs the US criminal justice system about \$3 billion annually (Cook and Ludwig, 2000).

Other costs that may be considered tangible include changes in residential location due to fear of gun violence and changes in where people are willing to work. It is estimated that eliminating gun assaults would increase GNP in the United States by \$3-7 billion just by increasing people's willingness to engage in evening work (Cook and Ludwig 2000).

Scholars examining the costs of crime have pointed out that the lack of a standardized methodology at the international level makes the comparison of national estimates problematic (Lee and Thorns 2003). Estimates of the costs of gun crime are even more troublesome, as it is difficult to distinguish between those costs attributable specifically to firearms and those related to crime in general. The debate would greatly benefit from future research that

- used a standardized methodology and therefore would permit international comparisons, and
- sought to compare the costs imposed by gun crime to those imposed by overall crime.

THE INTANGIBLE IMPACTS OF GUN VIOLENCE

Anthropologists and sociologists have documented the various ways in which individuals and communities experience and are affected by gun violence. These impacts can include declines in physical and mental health among witnesses of gun violence (Greenspan and Kellerman 2002; Brent et

al. 1993). Participatory studies in Jamaica have shown that people living in areas affected by armed violence are discriminated against in the job market and refuse to report crime to the authorities due to fear of retaliation (Moser and Holland, 1997).

While it is recognised that armed violence can affect people's lives in many ways, intangible impacts are, by definition, difficult to quantify. Such costs include pain, disability, loss of life, and anguish to friends and family. These are by far the largest costs of gun violence. A promising attempt to measure such costs was made in the United States, using contingent-valuation surveys. By asking respondents how much they would be willing to pay to reduce the number of gun injuries, this study estimated that the intangible and tangible costs of gun violence amounted to \$80 billion a year (Cook and Ludwig 2000).

There has been no attempt to quantify the intangible impacts of gun violence outside of the US. While much work has been done to identify such impacts, findings would be much more significant if it were possible to

- compare the intangible costs of gun violence at the international level, using a standardized methodology, and
- compare the intangible costs of gun violence to those incurred from overall violence, using a standardized methodology. As with tangible costs, the ultimate goal should be to determine what percentage of the intangible costs of general crime can be attributed to gun crime.

These goals could be pursued by, for example, adapting the contingent-valuation methodology developed in the United States study to other contexts. Instruments developed by psychologists to measure trauma could also be usefully adapted to these purposes.

REFERENCES

- Ayres I., Donohue J. J. III. 2003. The Latest Misfires in Support of the More Guns, Less Crime Hypothesis. *Stanford Law Review* 55: 1371-86.
- Black, D. A. and D. S. Nagin. 1998. Do Right-to-Carry Laws Deter Violent Crime? *Journal of Legal Studies* 27: 209-219.
- Brent, David et al. 2003. Firearms and Suicide. <http://www.angelfire.com/ga4/suicideawareness/16.html> (accessed July).
- Centers for Disease Control. 2003. First Reports Evaluating the Effectiveness of Strategies for Preventing Violence: Firearms Laws. *Morbidity and Mortality Weekly Report* 52: 11-20. <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5214a2.htm>
- Cook, Philip. 1979. The Effect of Gun Availability on Robbery and Robbery Murder. In R. Haveman and B. Zellner, *Policy Studies Review Annual*. Beverly Hills, CA: Sage.
- . 1987. Robbery Violence. *Journal of Criminal Law and Criminology* 70(2): 357-76.
- and Jens Ludwig. 2000. *Gun Violence: The Real Costs*. Oxford: Oxford University Press.
- Donohue, John J. III. 2003. The Impact of Concealed-Carry Laws. In Jens Ludwig and Philip J. Cook, eds., *Evaluating Gun Policy*. Washington, D.C.: Brookings Institution.
- Duggan, Mark. 2001. More Guns, More Crime. *Journal of Political Economy* 109: 1086-1114.
- Greenspan, A. and A. Kellermann. 2002. Physical and Psychological Outcomes After Serious Gunshot Injury. *Journal of Trauma* 53: 709-16.
- Hemenway, David. 1997. The Myth of Millions of Self-Defense Gun Uses: An Explanation of Extreme Overestimates. *Chance* 10: 6-10.
- . 2004. *Private Guns Public Health*. Ann Arbor, MI: University of Michigan Press.
- Hemenway, David and Matthew Miller. 2000. Firearm Availability and Homicide Rates across 26 High Income Countries. *Journal of Trauma* 49: 985-88.
- Hemenway, David, Matthew Miller, and Deborah Azrael. 2000. Gun Use in the United States: Results from Two National Surveys. *Injury Prevention* 6: 263-267.
- Hepburn, Lisa, Matthew Miller, Deborah Azrael, and David Hemenway. 2004. The Effect of Nondiscretionary Concealed Weapon Carrying Laws on Homicide. *Journal of Trauma* 56: 676-681.
- Hepburn, Lisa and David Hemenway. 2004. Firearm Availability and Homicide: A Review of the Literature. *Aggression and Violent Behavior: A Review Journal* 9: 417-440.
- Killias, Martin, John van Kesteren, and Zorin Rindlisbacher. 2001. Guns, Violent Crime, and Suicide in 21 Countries. *Canadian Journal of Criminology* 43: 429-48.
- Kleck, Gary. 1997. *Targeting Guns: Firearms and Their Control*. New York: Aldine de Gruyter.
- Kovandzic, Tomislav V. and Thomas B. Marvell. 2003. Right-to-Carry Concealed Handguns and Violent Crime: Crime Control Through Gun Decontrol? *Criminology and Public Policy* 2: 363-96.
- Lee, Andrea and Jamie Thorns. 2003. The Economic and Social Cost of Crime. Paper presented at the UNICRI/UNODC meeting on the 2004-2005 World Crime and Justice Report, Turin, 26-28 June.
- Lott, John R. Jr. 1998. *More Guns, Less Crime*. Chicago: University of Chicago Press.
- Ludwig, Jens. 1998. Concealed Gun Carrying Laws and Violent Crime: Evidence from State Panel Data. *International Review of Law and Economics* 18: 239-254.
- Maltz, M. D. and J. Targonski. 2002. A Note on the Use of County-Level UCR Data. *Journal of Quantitative Criminology* 18: 297-318.
- Maltz, M. D. and J. Targonski. 2003. Measurement and Other Errors in County-Level UCR Data: A Reply to Lott and Whitley. *Journal of*

Quantitative Criminology 19: 199-206.

Miller, Matthew, Deborah Azrael, and David Hemenway. 2002a. Household Firearm Ownership Levels and Homicide Rates across U.S. Regions and States, 1988-1997. *American Journal of Public Health* 92: 1988-93.

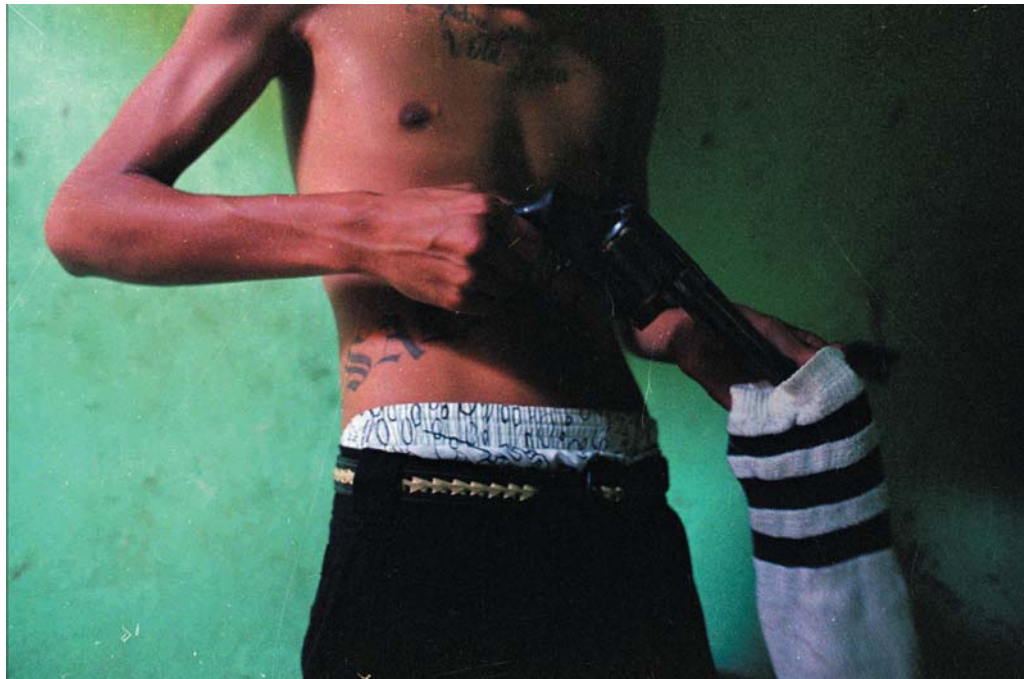
———. 2002b. Firearm Availability and Unintentional Firearm Deaths, Suicide, and Homicide among Women. *Journal of Urban Health* 79: 26-38.

Miller, Ted and Mark Cohen. 1996. Costs of Gunshot Injury and Cut/Stab Wounds in the United States, with Some Canadian Comparisons. *Accident Analysis and Prevention* 29: 329-41.

Moser, Caroline and Jeremy Holland. 1997. *Urban Poverty and Violence in Jamaica*. Washington, DC: The World Bank.

Small Arms Survey. 2004. *Small Arms Survey 2004: Rights at Risk*. Oxford: Oxford University Press.

A gang member retrieves his gun. In El Salvador, violent mortality rates increased *after* the end of the civil war in 1992, a growth in crime facilitated by the proliferation of weapons. Similar outcomes of weapons saturation can be found in other post-conflict areas.



Following the Trail: Production, Arsenal, and Transfers of Small Arms

Anna Khakee and Herbert Wulf

In 1994 reports about a transfer of surplus guns appeared in the newspapers of Ethiopia's capital, Addis Ababa. Truckloads of small arms and light weapons were exported across the Ethiopian border into conflict-prone Somalia, with the tacit approval of the government. The long war between the Ethiopian government and secessionist armies in Eritrea and Tigray had ended. Troops were demobilized and reintegrated into civilian life and military bases were closed. What to do with the surplus weapons? Most of them had been produced in the former Soviet Union, but there were also a few thousand US M-16 assault rifles originally left behind in Vietnam when US troops made their less-than-orderly exit; these were subsequently exported to Ethiopia and other countries. In the end, many of the guns that had been used to great devastation in Ethiopia were in turn exported to other countries. Where are the weapons that crossed the border from Ethiopia to Somalia in 1994? Still in the hands of Somali warlords? Used by military or militias in Sudan? Or put to use by rebels in the Democratic Republic of Congo? We simply don't know. But similar stories are reported in all war-torn societies.

Following the trail of these weapons—one quite typical for the many errant guns in Africa and elsewhere—tells us a great deal about today's small arms production, transfer, and stocks. It also says a lot about what we don't know. Most of these arms began as legal weapons—legal in the sense that governments licensed their production and procured them for their own armed forces and police or exported them to friendly nations. After that, the picture gets blurred. Some weapons are

resold to armed forces around the world; others are stolen by individuals or gangs; and some are lost from police or military arsenals or captured by rebels. In fact, in today's world any person or group can buy whatever quantity of small arms they desire on the international black market, provided they have the right amount of cash or its equivalent.

On the most general level, understanding production, arsenals, and transfers of guns—the supply side of the small arms puzzle—involves answering a series of questions. Where are the weapons responsible for much of the death and destruction resulting from crime, accidental and self-inflicted injury, internecine conflict, and organized warfare? Where do they come from? Who produced them? Today, we have only partial answers to these questions.

PRODUCTION

More than a thousand companies, usually small or medium-sized, in more than 90 countries produce small arms, from revolvers and pistols to machine guns and man-portable air defense systems (MANPADS). A large number of gun producers also manufacture ammunition and the components of ammunition, such as propellants, casings, shots, and explosives. The United States is the most important small arms producing country in the world, with several hundred companies involved in the business. It is followed by China and the Russian Federation. Yet almost all other industrialized countries in North America and Europe (East and West) are home to medium-size small-arms-producing industries. Beyond these

regions, there are significant producers in Brazil, India, Israel, Pakistan, and Singapore, which all add to the global stock of small arms and light weapons.

Odd as it may seem, we do not know much about the larger historical trends in gun production. Since weapons are a durable good, historical trends are relevant to today's patterns of use. Rifles used by militia in the Philippines today may have been produced as part of the Soviet Army's plans for a European theater of operations in the 1950s or 1960s.

The production of small arms and light weapons does not change significantly over short periods of time. Government contracts for new weapons, the staple of the defense industry, are infrequent and renewal of stocks is incremental. While armed forces are usually interested in procuring the most sophisticated weaponry, they simultaneously hold on to their proven stock of small arms. For example, while research and development produces some cutting-edge weapons—such as computerized fire-control systems for assault rifles, air-bursting munitions, and satellite-directed mortar ammunition—armed forces generally continue to demand simple weapons systems. Even the most modern armed forces employ assault rifles, the basic designs of which have changed little since the mid-20th century. Assessing changes in production would entail a long-term view, describing how weapons production has evolved with changing patterns of demand.

While we have a good general picture of today's global small arms industry—its size, profitability (or lack thereof), main players, trends towards privatization, mergers and acquisitions—some important trends at the level of the individual firm are still obscure. Why is it, for instance, that in an industry struggling for contracts and profitability, some companies are able to achieve sustained growth? The success of companies such as HS Product of Croatia and Taurus of Brazil is impor-

tant. These firms represent a challenge to established patterns of production, marked by Western dominance and a core of large producing countries and most sought-after products. Such companies can propel a country's lagging arms industry into a significant place in the world's arms market. Understanding these companies' production and sales policies will also tell us more about tomorrow's proliferation problems: What countries and customers are likely to purchase the products of these companies? How likely are criminals to seek out these guns?

An interesting example of how firms can enter new segments of the market is the Austrian firm Glock. In the early 1980s, the Austrian military decided to buy a new duty pistol. Although pistols were not in the company's product line at that time, the order was placed with Glock, the national small arms manufacturer. The founder of the company, engineer Gaston Glock, had specialized in combining plastic and steel components, a useful technology in small arms production. Twenty years later Glock reportedly sells 2,500,000 pistols per year in more than 100 countries and boasts about its dominant share in the market for pistols. How did this happen? What were the mechanisms behind Glock's success?

ARSENALS

There are at least 640 million firearms in the world. As of yet, weapons destruction is not making any significant dent in these arsenals, although at least eight million firearms have been destroyed through formal disarmament programs in the last decade. We can also say with some confidence that there are approximately 500,000 MANPADS missiles and some 100,000 launchers, approximately 22 million RPG launchers, and roughly 780,000 small-caliber mortar tubes worldwide.

The greatest numbers of death and injury are caused not by the small arms inventories of armed forces, police, or insurgencies, but by civilian own-

ers. Global civilian gun ownership is much greater than military or police arsenals: approximately 55 per cent of known global stockpiles are owned by civilians, with 41 per cent held by the military and 3 per cent by police. This lopsided ratio poses a formidable challenge to the state monopoly of force. Typical civilian ownership is 10-15 guns per 100 residents, and typical gun owners have roughly three guns each. The United States is home to the largest share of the civilian firearms pool.

Theft, pilferage, and loss release large numbers of small arms. Indeed, global theft accounts for at least one million missing guns each year. Catastrophic loss of control can release enormous numbers. Albanian state authorities lost approximately 640,000 small arms in 1997 when the economy and then the government collapsed. In Iraq, at least four million guns went missing in 2003 after the US-led invasion. Despite the overwhelming importance of stockpile management, many of the world's official institutions do not have reliable information on small arms possession in their countries.

Our understanding of how to regulate and manage existing arsenals to minimize the risks is still poor. A prominent example is disarmament—a highly visible and politically important instrument for dealing with small arms proliferation—and its effects. In the above-mentioned example of disarmament in Ethiopia, the reduction of arms in Ethiopian military hands contributed to gun trafficking in the region. How can small arms disarmament be best achieved without producing counterproductive effects?

A better understanding of small arms arsenals around the world would make it easier to determine the source of arms used to intimidate, wound, and kill. Should research and policy focus primarily on illegal small arms, as in the UN process to combat small arms trafficking, or should they encompass legal small arms as well? When should civilian firearms ownership be regulated or

denied? Many guns are essentially invisible and unlikely to be involved in causing any direct harm. Some simply collect dust for years on end. Others are extremely dangerous. What distinguishes the least dangerous guns from their most deadly counterparts? Can regulation distinguish between those small arms least likely and those most likely to be abused?

ARMS TRANSFERS

Today, there is a fairly good knowledge base on the value of government-authorized (“legal”) trade of small arms and light weapons between Western countries. The picture of authorized transfers from Western states to the rest of the world is also fairly clear, although, unsurprisingly, details of some of the more controversial and secretive deals still elude us. According to the latest available data and estimates, the largest small arms exporters by value are the United States, Italy, Belgium, Germany, the Russian Federation, Brazil, and China. The world's largest importers are the United States, Saudi Arabia, Cyprus, Japan, South Korea, Germany, and Canada. The authorized trade in small arms and light weapons is worth an estimated USD 4 billion per year.

There is still only a patchy understanding of the authorized trade of many of the big actors outside the Western world, especially the Russian Federation and China. Transactions of many smaller non-Western exporters are also poorly documented. Hence, there are countries that are known to be medium producers of small arms but about whose exports we know virtually nothing. These include such countries as Iran, Pakistan, and Singapore.

The production of weapons by a firm in one country under license by a company in another country, known as licensed production, is under-researched, as is the trade related to it. Licensed production is particularly important to understand because companies can evade their own national

laws or international embargoes on sales to certain countries by having the “dirty work” conducted by firms in countries that are not subject to the same constraints. An example of this involves the G3, a submachine gun developed and produced originally in Germany. The producer company, Heckler & Koch, was allowed to sell licences to about a dozen countries, including Pakistan, Iran, Malaysia, Thailand, Turkey, and Mexico. When the German government tightened export controls, it had no control whatsoever over the license-produced weapons. These weapons, as well as small arms produced under license from many other important producing countries, are used in all the major conflicts.

Often governments sell their surplus stocks. The destruction of weapons is costly, and the export of weapons can help to improve a tight defense budget. A case in point is Germany after reunification in the early 1990s, when the West German armed forces, the *Bundeswehr*, inherited all the materiel of the former East German forces. The list of weapons included major conventional weapons as well as about 1.2 million small arms. The *Bundeswehr* adopted very few weapons for use; much of the stock was destroyed. But about 40 percent was exported, including more than 310,000 machine guns, anti-tank guns, and submachine guns to Turkey, which were subsequently used in the conflict against the Kurds. In recent years, international pressure has led governments to increasingly consider the destruction of such weapons. However, information on deals in secondhand weapons is as a rule patchier than that on newly produced small arms.

As the introductory example

illustrates, the links between the authorized and the illicit markets (i.e., how arms that are produced/first sold on the authorized market are subsequently diverted into the gray or black markets) are quite well understood. There are numerous reports by researchers, NGOs, and intergovernmental bodies detailing the anatomy of individual illicit deals in small arms and light weapons. Of the various actors involved in an illicit deal (financiers, brokers, shipping agents, insurance companies, etc.), the role of brokers—the “fixers” of the deal—is the best understood. They act as mediators between buyer and seller and usually arrange for the necessary documentation, transportation, and often also financing of the deals. While many illegal transactions arranged by brokers to either avoid national controls or bust UN sanctions have become public, most of them have probably never been discovered. Brokers have, in supplying weapons to the belligerents in war-torn countries such as Angola, Sierra Leone, and Liberia, falsified or arranged for dubious end-user certificates¹ to hide the true and intended destination of weapons,



Anti-tank weapons seized in connection with an attempt to smuggle grenade launchers, shoulder-fired missiles, and other weapons into the United States from eastern Europe and the former Soviet Union.

hired air cargo companies willing to fly into combat zones, and paid kick-backs to corrupt officials to cover up the paper trail of their illegal deals. The control of arms brokers—currently only a minority of the world’s states have legislation to tackle the problem—would add substantially to the transparency of a market which is often clouded by secrecy. There is only limited documentation of the transport and logistics of the arms trade, apart from air transport. Furthermore, the knowledge of the financial infrastructure involved in illicit small arms deals is patchy. Links between the trade in different illicit commodities (weapons, drugs, human beings, precious gems and metals, etc.) are only partially elucidated.

Although particular illicit small arms deals are documented, there is still no comprehensive overview of the illicit market in small arms available. This is no doubt in part because it is more difficult to gain a full picture of the illicit small arms trade than, say, the illicit drug trade, as small arms demand can shift more quickly and radically than demand in other illicit commodities. Also, it is arguably more difficult to assess the trade of a durable good than a consumer good such as drugs.

THE SUPPLY SIDE

Small arms transfers do not influence the relative military might of the majority of the world’s states. Yet the amount of small arms and ammunition

available can tip the military balance between state (and/or nonstate) actors in conflicts where few major conventional weapons are available. This is the case in a number of internal conflicts in Africa, Asia, and Latin America. Often, small arms are the only type of weapons available to insurgent groups, thereby determining to what extent armed uprisings are possible.

Although not normally considered strategically important, small arms and light weapons are dominant in many current conflicts. In fact, while most major conventional weapons produced and transferred are never used in actual combat, small arms are among the military equipment that is most likely to be employed in conflict today. They are also regularly involved directly in human rights violations in states not involved in conflict. Furthermore, in many societies, violent crime committed with guns is so common as to threaten the economic and social basis of the community. In light of all this, we need more research following the trails of small arms production, arsenals, and transfers.

NOTES

1. End-user certificates are documents provided by the country of destination of the weapons assuring the authorities of exporting countries that the final use/user of the weapons is legitimate.

Means and Motivations: Rethinking Small Arms Demand

Robert Muggah, Jurgen Brauer, David Atwood, and Sarah Meek

INTRODUCTION

Supply and demand are routinely invoked to describe alternatively how small arms proliferate, ways of managing and regulating their availability, and specific interventions to mitigate their effects. Although both supply and demand are acknowledged as integral to arms control and disarmament, in practice attention is devoted predominantly to regulating supplies, not demand: managing stockpiles, controlling brokers, marking and tracing firearms, and strengthening export controls and end-user certification.

But recent experience on the ground suggests that lasting violence reduction, even prevention, depends on demand-side interventions. Ultimately, reducing the human costs of arms requires understanding and addressing factors that drive their individual and collective acquisition, not just their provision. Measures to regulate or limit the supply of firearms will have limited utility if demand for weapons creates or turns to alternative supply channels.

We begin this chapter with a review of supply and demand as they relate to the disarmament discourse and then summarize an unusual approach to conceptualising demand for small arms. Drawing on Muggah and Brauer (2004), the approach focuses on preferences, prices, and resources—that is means and motivations—as factors shaping small arms acquisition and use. Finally, we turn to four cases where this demand model has been tested: Papua New Guinea, the Solomon Islands, South Africa, and the US.

SUPPLY AND DEMAND CHAINS

Figure 1 shows one way of depicting a standard supply chain for small arms, from production to stockpiling, brokering, trading, and shipping, to end-use. Conventional approaches to understanding supply conceive of intervention (i.e., efforts at arms control or disarmament) as analysis and action taken at different points along this chain. At each stage of the supply chain, specific interventions are elaborated that might reduce or control the stocks and flows of weapons, from conversion in the manufacturing sector to the marking and tracing of individual firearms, with the ultimate aim of reducing their availability. The specific mechanisms articulated in the UN Programme of Action as well as various parallel small arms control initiatives (e.g., the consultations to agree on the regulation of brokers, marking and



tracing negotiations) also can largely be arranged along this supply chain.¹

An approach incorporating a demand perspective would recognize that each link in the chain constitutes a market of its own, i.e., producers supply and wholesalers demand; wholesalers supply and brokers demand; brokers supply and retailers demand; retailers supply and end-users demand. Rather than being relegated to the end-user portion of the spectrum, as is usually done, demand is a central feature across all links of the supply chain. This chain could as reasonably be called, therefore,

Fig. 1. The supply chain

the “demand chain.” This conceptualization draws attention to the mutuality of supply and demand and makes clear that demand-oriented interventions can be initiated at places other than the end-use stage.

THREE DIMENSIONS OF DEMAND

Demand for small arms and light weapons (SALW) arises from at least three sources: demand by state security sectors, demand by organized armed nonstate groups, and micro-level demand exercised by individuals.

DEMAND BY ARMED FORCES AND STATE INSTITUTIONS

While lack of reliable information on national holdings and procurement decisions limits clarity about what drives demand from this source, we do know that the demand for weapons for national armed forces and police is capricious, and depends on such factors as defense policy, procurement cycles, budgetary constraints, force structures and mobilization strategy, and historical precedents. Efforts at increasing transparency in national holdings will illuminate this dimension of demand.

DEMAND BY ARMED NONSTATE GROUPS

This includes arming before and during conflict, perhaps keeping and replenishing stocks during cease-fires, and the use of arsenals and the threat of arming as a bargaining chip. A certain amount is also understood about this dimension of demand. The armed group is a central feature of most contemporary armed conflicts. Demand is in part a function of their financial resources, of command and control structures, and, in particular, of access to conflict goods. Also important are formal or informal alliances between and among groups.

DEMAND BY INDIVIDUALS

Less attention has been given to understanding a third dimension of demand: those factors affecting

micro-level acquisition and ownership patterns among civilians and groups in countries affected by large-scale societal violence. The remainder of this article focuses principally on this category of demanders. Failure to understand this group risks the misapplication of effort and resources in intervention strategies.

Donor governments, affected countries, the UN Department for Peacekeeping (DPKO), the World Bank, the UN Development Programme (UNDP), and a host of nongovernmental organizations are initiating a range of interventions, such as amnesties, disarmament, demobilisation and reintegration (DDR) programs, awareness and public information campaigns, and weapons-for-development schemes that emphasize removal of weapons from communities and armed actors. But many of these initiatives fail to capture the range of motivations underpinning weapons acquisition. For example, Kenyan herders, according to Weiss (2004), “often referred to coercive weapons collection as ‘forced upgrades’ because the only net effect is the need to replace seized guns with the newer models now available on the market.” Clearly, appraising demand at this micro-level is vital to improving the effectiveness of such programs and the design of others.

UNPACKING MICRO-LEVEL DEMAND

In recent years, modest levels of attention have begun to be paid to understanding factors driving micro-level demand. A number of quantitative studies have highlighted the relationships between poverty and income inequality (independent variables) and firearm homicide to explain demand for weapons.² Criminologists and sociologists have analyzed the relationships among delinquency, repeat offenders, dysfunctional families, and weapons use. Qualitative research has drawn on the experiences of community-based organizations and development agencies seeking to reduce levels of armed violence in areas where they operate. A

range of international workshops³ have compiled a number of common approaches to violence reduction and lessening the demand for small arms.⁴

But demand-related research has thus far been general, and little is known about how demand factors relate to each other or to what extent interventions designed to reduce demand genuinely affect the incidence of armed violence. In some cases, demand for firearms is equated with demand for violence, an assumption that does not apply in all scenarios. Moreover, research has been slow to filter up to policy-makers and diplomats. The concept of demand remains an elusive subject area to those involved in designing and negotiating arms control initiatives. As a result, demand continues to be undervalued and ignored.

A recent paper by Muggah and Brauer (2004) introduces a new way to think about demand, new at any rate for much of the pertinent community of diplomats, researchers, and field workers.⁵ The approach focuses on means and motivation, that is, on individual and group *preferences* for weapons

and on the monetary and nonmonetary *resources* required and real and relative *prices* asked for firearms. It is important to jointly evaluate all three aspects. For example, a seemingly tranquil, weaponless community may in fact be seething with desire for armament (high preferences), only to be prevented from implementing its desires by lack of resources and/or weapons prices regarded as too high relative to other needs.

The majority of activist and policy-oriented reports on demand, such as they are, have focused primarily on the motivations (or “preferences”) for arming, to the exclusion of a consideration of the means (resources and the price constraint). Demand from this perspective is seen as a cluster of mutually reinforcing cultural, economic, and political preferences for owning a weapon. It can be, *inter alia*, a function of inherited and socially constructed ideas about masculinity, the unambiguous and seemingly rational pursuit of self-protection, or a means to fulfilling a legitimate livelihood option. Multiple preferences can operate simultaneously, and they are dynamic across time and space. For example, a homeowner’s belief that a weapon is necessary for family protection may change if she feels community-watch schemes are now providing sufficient security, even as her “deep

preference”—security for her family—remains an important motivating concern.

It is important to recognize that preferences are not necessarily confined to the individual, but can also be collectively realized. Ethnographic research in Nuer society in South Sudan, by Evans-Pritchard in the 1930s and Hutchinson in recent years, provides evidence of a shift from a group-based premium on weapons to an individual-

Arms reduction or forced-upgrade program? End users will seek to replace confiscated weapons if efforts to reduce the supply of small arms aren’t supplemented by strategies to reduce demand. Bonfire preparations, Kenya, 2003.



level preference:

In the mid-1980's, roughly 75 years after the first introduction of small arms to the Nuers of eastern Upper Nile, Hutchinson found a culture where display and use of weapons confirmed masculine identity and Nuer-historic identification as proud warriors. Through the collective ownership and presentation in the bride-wealth exchange, guns contributed to a social expansion of self. Weapons ranged high in value and status, and the symbolic meaning was in line with the general ethic of the society.

Through the next 15 years of civil war, small arms proliferated at an accelerating pace among the civil population. With increased access and a near-saturated market, the price of guns fell, making procurement of weapons a matter of individual capacity and, to some extent, initiative and creativity. Individualised ownership led to the development of a sub-culture of armed youth, undermining the positive valuation of weapons as a symbol of collective spirit. What used to be a strong symbol of willingness to defend families, wealth and cultural integrity became tools for antisocial behaviour and further withering of cultural values.⁶

In the Nuer case, growth in the supply of weapons attendant to civil war was clearly a factor in the proliferation of individual ownership. It is just as clear, however, that an increase in individual desire for weapons has occurred. But the Nuer case also shows that while individual and collective preferences are key factors in demand for weapons, they are not the whole story.

Demand is also a function of real and relative prices, which are a constraint on the realization of preferences. The extent to which one's preference for gun ownership or possession can be realized is in part a function of the price of the weapon, the price of necessary complements (e.g., bullets, maintenance expense, time spent training, even the psychological discomfort of carrying a gun), and the price of acceptable offensive or defensive substitutes (e.g, time devoted to community policing). The examples below illustrate that the price of gun ownership is not exclusively a monetary concept. The monetary price of an AK-47 in a particular setting may be low while its nonmonetary price may simultaneously be high if the cost of acquiring

the weapon includes a high probability of receiving penalties for illegal possession (Muggah and Brauer 2004).

The relationships determining demand are actually expressed in the (legal or illegal) marketplace and are further conditioned by resources. One may have a high preference for obtaining a weapon and the price may be low, but if personal or group resources are lacking, demand cannot be fulfilled. Resources may be monetary but may also be non-monetary tradable commodities (livestock, diamonds, timber, and even women), as well as organizational capacity, access to enabling networks (e.g., weapons brokers), and even weapons themselves (as tools for obtaining income or for stealing other weapons). For example, individual or group access to alternative forms of dealing with conflict (such as community conflict handling traditions) may be a "resource" which can be called upon before "demanding" a weapon, whatever the inherent preferences for weapons and however low the price.

The demand model reveals that specific policy choices and interventions, if uninformed by an understanding of all three factors, can generate counterproductive results. Economic incentive schemes aimed at providing alternatives to criminality and firearm use may increase the resources pool available for the purchase of weapons, possibly driving up demand if preferences—for example, the "macho" symbolism of automatic weapons in some cultural settings—are not simultaneously addressed. Many buyback schemes have contributed to this type of scenario (GAO 2000). Moreover, as pointed out above, in some communities the choice to acquire a weapon is not necessarily rendered individually but influenced by a series of collective decision-making processes.

The model also suggests that policy choices may be enriched by examining why some individuals and groups ultimately do *not* choose to acquire small arms.

DEMAND IN PRACTICE

The past ten years have witnessed an explosion of both armed violence and weapons-reduction initiatives around the world. The UNDP alone supports more than 45 micro-disarmament projects in over 40 countries. The World Bank has financed and overseen over 15 demobilization and reintegration projects (DRPs) since the mid-1990s.⁷ NGOs and community-based development agencies have initiated literally thousands of projects addressing gun availability in order to contribute to the improvement of community safety and wellbeing. To illustrate, we provide a cursory review of a small sample of such initiatives.

PAPUA NEW GUINEA

Popularly perceived as a heavily armed society, Papua New Guinea in fact has comparatively few commercially manufactured firearms.⁸ Nonetheless, a considerable diversity of weapons is available, and they are being used to devastating effect, particularly in the capital, Port Moresby, and the Southern Highlands. Tribal violence in the capital of the Southern Highlands, Mendi, peaked to unprecedented levels between 2001 and 2002. Concentrated primarily between two tribes, at least 120 people were shot and killed and hundreds more wounded. During previous inter-communal conflicts waged with bows and arrows or bladed weapons, as few as one or two people would be seriously or fatally injured. Without government support, a reconciliation process and an informal peace agreement were organized in 2002 by a number of faith-based organizations. This agreement, brokered by May 2002, offered closure to the three-year conflict. Among other items, commitments were signed to dismiss mercenary gunmen, entrust all firearms to local leaders, cease the public display of offensive weapons, and cooperate with police to restrict alcohol and marijuana abuse, widely perceived as influencing individual and collective *preferences* for weapons. Although prefer-

ences for weapons apparently remain high, the price of weapons has risen (due to the social stigmas to weapons ownership generated by the Peace Agreement), with no concomitant increase in resources. Because people are increasingly unwilling to sell, supply fell and prices rose—even as latent preferences persisted. As a consequence of the higher market price, the quantity demanded fell. More than two years after its signature at a public ceremony attended by more than 10,000 people, the Mendi Peace Agreement has survived with only minor breaches.

THE SOLOMON ISLANDS

In response to insecurity generated by competing rebel factions on the islands of Guadalcanal and Malaita, a number of Pacific countries launched a 2,500-strong Regional Assistance Mission in the Solomon Islands (RAMSI) in 2003. At the same time, the country's National Peace Council (NPC), in cooperation with the UNDP, initiated a Weapons Free Village (WFV) campaign to simultaneously reinforce efforts at reconciliation and reduce weapons availability in more than 1,200 communities.⁹ The WFV encourages communities to eliminate weapons through a combination of collective incentives and a formal certification process with the assistance of independent monitors. Since its inception in August 2002, more than 974 villages, over three quarters of the target, have been declared weapons free in public ceremonies. Although a mere 22 weapons were actually returned to the NPC prior to the arrival of RAMSI, some fifty percent of the 3,730 weapons collected during the August 2003 amnesty are said to have been transferred to RAMSI via NPC representatives (Nelson and Muggah 2004). While the *preference* for weapons for hunting and pest-control purposes remains and the *resources* available for acquisition have grown due to considerable investment of overseas development assistance (and resumption of commercial activity in the

aftermath of the tensions), it is believed that the *price* of weapons has increased dramatically since the inception of the two interventions because of the enforced penalties that have been initiated since September 2003 and the stigmas associated with firearm ownership. Thus, as in the case of the Solomon Islands, fewer people are prepared to sell weapons, despite preferences for acquisition (Muggah 2004). There has been only one firearm-related homicide reported in the Solomon Islands since the inception of the programs.

SOUTH AFRICA

Gun Free South Africa launched the Gun Free Zone (GFZ) project in 1996 in order to reduce what was then one of the world's highest firearm homicide rates. Firearm-related violence was at epidemic levels in urban South Africa and formal policing approaches were not working effectively, so the explicit objective was to transform attitudes toward guns by creating areas in which firearms and ammunition were stigmatized. In other words, the project sought to raise the nonmonetary *price* of weapons in the short-run and reduce long-run *preferences* for gun acquisition and ownership. Some of these GFZs involve strict enforcement (as in the case of businesses and government offices) with coercive deterrents (e.g., police) while others rely on "voluntary compulsion" (many neighborhoods and communities). Rather than strengthen private monetary resources, the project sought to strengthen social nonmonetary resources, such as by nurturing and consolidating community networks, to direct communities to alternatives to armed violence.¹⁰ In addition, drawing on Section 140 of the Firearm Control Act (2000), Gun Free South Africa undertook a project to initiate "Firearm Free Zones" (FFZ) in 27 schools in five provinces. It gathered together school governing bodies, teachers and administrators, students, and police in a dialogue to identify key problems and establish "Safety Teams" to implement appropriate

policies. Although none has as yet been officially declared an FFZ by the Ministry of Safety and Security, 17 schools have adopted FFZ policies (Kirsten et al. 2004).

United States: Begun in 1995, the Boston Gun Project is a problem-oriented policing initiative designed to confront spiralling youth homicide victimization in Boston and serves as a test case for other inner city areas of the US.¹¹ Set up by the National Institute of Justice and Harvard University, a working group was established that included a combination of government and nongovernment participants.¹² The Operation Ceasefire intervention began in mid-1996 and entailed an innovative partnership between researchers and practitioners to assess the city's youth homicide problem and design an intervention to reduce it. Operation Ceasefire was based on a deterrence strategy that focused criminal justice attention (increased policing, enforcement, and improved legal processing) on a small number of chronically offending gang-involved youth. The deterrent effect of focused policing rapidly increased the *price* of weapons acquisition while simultaneously reducing *preferences* through perceived improvements in community safety and security. An impact evaluation undertaken following Operation Ceasefire indicated that the project was associated with significant reductions in violence indicators, such as youth homicide victimization, "shots fired" calls for service, and the incidence of gun assaults in Boston.¹³

Many other examples that shed light on how demand for small arms can be mitigated could be cited, including interventions in Cambodia, Kosovo, and Kenya, where the Arid Lands Project has apparently reduced firearms violence over water resources during periods of drought through better prediction of dry periods and negotiations for access to water (Weiss 2004).¹⁴

CONCLUSIONS

The demand model summarized in this article serves at least two purposes. First, it demonstrates that the small arms issue cannot be conceived of solely from a supply-side perspective; indeed, the exclusive focus on the supply side may lead to inappropriate policies. Second, the means and motivations (or preferences, prices, and resources) approach handily categorizes a set of issues of an otherwise vast scale and complexity and reduces them to an analytically tractable framework from which action-oriented research and policy strategy flows.

The demand framework has conceptual and practical applications. It demonstrates fallacies of a one-size-fits-all approach to reducing the demand for small arms. The theory predicts, for instance, that the provision of development assistance (resources) in a context where preferences for small arms are high and prices low may have ambiguous, as opposed to positive, impacts on the availability and use of small arms. Generating a more sophisticated understanding of how preferences, resources, and prices influence the demand for firearms could usefully inform both disarmament and development interventions.

NOTES

1. The United Nations convened a Conference on the Illicit Trade of Small Arms and Light Weapons in All its Aspects in July 2001. The Conference resulted in a Programme of Action which (politically) committed states to, among other things, making illicit firearm manufacture and possession a criminal offense; identifying and destroying surplus weapons; tracking officially held weapons; notifying original supplier nations of “re-export”; undertaking disarmament, demobilization, and reintegration (DDR); supporting regional agreements and moratoria; marking and tracing of weapons; and improving information exchange and the enforcement of arms embargoes.

2. See, for example, *Small Arms Survey 2001 and 2003*, Oxford: Oxford University Press.

3. See Buchanan and Atwood 2003, Jackman 2003, and WHO 2002.

4. A number of studies reveal common patterns associated with the demand for weapons as well as interventions that appear to reduce preferences for weapons. These include (1) initiatives aimed at strengthening self worth, identity, and positive social roles for individuals, especially children and youth, and particularly boys; (2) programs focused on community economic and social development, with broad participation in creating jobs, housing, recreation opportunities, schooling, and clean water; (3) approaches to improve the capacity to resolve conflict nonviolently, including conflict-management training and direct intergroup peacemaking, sometimes using traditional indigenous processes; (4) policies to strengthen governance so that it is more accountable to the society it serves, establishing community policing, reforming and retraining the police, and working for an honest, independent judiciary; and (5) broad efforts to improve public access to government, increase public participation in government, and end the marginalization of some groups.

5. For a fully elaborated explication of this theory of demand, see Muggah and Brauer 2004 and Brauer and Muggah 2006 (forthcoming). See also Muggah 2004.

6. A. Skedsmo, K. Danhier, and H. Gor Luak, “The Changing Meaning of Small Arms in Nuer Society,” *African Security Review* 12: 65-66, 2003.

7. See, for example, the *Small Arms Survey 2005* (forthcoming), “Post-What: Disarmament, Demobilization, and Reintegration and Weapons Reduction in the Aftermath of War.” Oxford: Oxford University Press.

8. See Muggah 2004.

9. See, for example, the report by Nelson and Muggah (2004) at <http://www.smallarmssurvey.org>.

10. The Small Arms Survey has commissioned an evaluation of the Gun Free Zone initiative to test the assumption that it has successfully reduced demand. Results will be published and distributed in 2005.

11. Overall youth homicide had increased 230 per cent—from 22 victims in 1987 to 73 victims in 1990—while averaging some 44 per year between 1991 and 1995.

12. Including the Boston Police Department; the Massachusetts departments of probation and parole; the office of the Suffolk County District Attorney; the office of the United States Attorney; the Bureau of Alcohol, Tobacco, and Firearms; the Massachusetts Department of Youth Services (juvenile corrections); Boston School Police; and gang outreach and prevention “street workers” attached to the Boston Community Centers program. Regular partners later in the process included the Ten Point Coalition of activist black clergy, the Drug

Enforcement Administration, the Massachusetts State Police, and the office of the Massachusetts Attorney General.

13. Moreover, a comparative analysis of youth homicide trends in Boston relative to other major cities in both the region and the nation also supports a unique program effect of the Ceasefire intervention.

14. For more on these interventions, see the UNDP Bureau for Conflict Prevention and Recovery (BCPR) website: <http://www.undp.org/bcpr/smallarms/>.

REFERENCES

- Brauer, J. and R. Muggah. 2006 (forthcoming). Small Arms Demand: Theory and Initial Evidence. *The Journal of Contemporary Security Policy: Special Edition*.
- Brett, R. and I. Specht. 2004. *Young Soldiers: Why They Choose to Fight*. New York: Lynne Reiner Publishers.
- Buchanan, C. and D. Atwood. 2002. *Curbing the Demand for Small Arms: Focus on Southeast Asia*. Geneva: Centre for Humanitarian Dialogue and Quaker United Nations Office.
- Dowdney, L. 2003. Children of the Drug Trade: A Case Study of Children in Organised Armed Violence in Rio de Janeiro. *ISER / Viva Rio, Rio de Janeiro* 7 Letras.
- Eschete, T. and S. O'Reilly-Calthrop. 2000. Silent Revolution: The Role of Community in Reducing the Demand for Small Arms. World Vision. <http://www.worldvision.ca/home/media/SilentRevolution.pdf>
- GAO. 2000. Conventional Arms Transfers: US Efforts to Control the Availability of Small Arms and Light Weapons. Report to the Honorable Dianne Feinstein. Washington: US Government Accountability Office.
- Gebre-Wold, K. and I. Mason. (eds.) 2002. Small Arms in the Horn of Africa: Challenges, Issues and Perspectives. *Brief 23*. Bonn International Centre for Conversion.
- Jackman, D. 2003. Lessening the Demand for Small Arms and Light Weapons. Summary of International Workshops, 1999-2002. Geneva: Quaker United Nations Office.
- Kirsten, A., Lephophoto Mashike, R. Matshediso, and J. Cock. 2004. Islands of Safety in a Sea of Guns: Gun-Free Zones. In Fothane, Diepkloof, and Khayelitsh, *Special Report to the Small Arms Survey*. Geneva: SAS.
- McIntyre, A. and T. Weiss. 2003. Exploring Small Arms Demand—A Youth Perspective. ISS Paper No. 66. Pretoria: Institute for Security Studies.
- Muggah, R. 2004. Diagnosing Demand: Means and Motivations for Small Arms in Papua New Guinea and the Solomon Islands. ANU-SSGM Discussion Paper 7(1).
- and R. Brauer. 2004. Diagnosing Small-Arms Demand: A Multi-disciplinary Approach. School of Economics and Management Discussion Paper 50. University of Kwazulu-Natal.
- Nelson, C. and R. Muggah. 2004. Evaluating Weapons Free Villages in the Solomon Islands. Geneva/Australia: SAS/ANU.
- Regehr, E. 2004. Reducing the Demand for Small Arms and Light Weapons: Priorities for the International Community. Working Paper 04-2, Project Ploughshares.
- Small Arms Survey. 2000. *Small Arms Survey 2001: Profiling the Problem*. Oxford: Oxford University Press.
- . 2003. *Small Arms Survey 2003: Development Denied*. Oxford: Oxford University Press.
- . 2005 (forthcoming). *Small Arms Survey 2005: Weapons at War*. Oxford: Oxford University Press.
- Weiss T. 2004. Guns in the Borderlands: Reducing the Demand for Small Arms. Monograph 95. Pretoria: Institute for Security Studies.
- WHO. 2003. *Global Report on Violence*. Geneva: Oxford University Press.

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