

HSBA Synthesis Report

Small Arms and Armed Violence in Sudan and South Sudan

An Assessment of Empirical Research Undertaken since 2005

By Emile LeBrun



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About the Small Arms Survey

The Small Arms Survey is a global centre of excellence whose mandate is to generate impartial, evidence-based, and policy-relevant knowledge on all aspects of small arms and armed violence. It is the principal international source of expertise, information, and analysis on small arms and armed violence issues, and acts as a resource for governments, policy-makers, researchers, and civil society. It is located in Geneva, Switzerland, at the Graduate Institute of International and Development Studies.

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The Human Security Baseline Assessment

The Human Security Baseline Assessment (HSBA) for Sudan and South Sudan is a multi-year research project administered by the Small Arms Survey. It was developed in cooperation with the Canadian government, the United Nations Mission in the Sudan, the United Nations Development Programme, and non-governmental partners.

Through the active generation and dissemination of timely empirical research, the project supports violence reduction initiatives, including disarmament, demobilization, and reintegration programmes, incentive schemes for civilian arms collections, and security sector reform and arms control interventions across Sudan and South Sudan. The HSBA also offers policy-relevant guidance on redressing insecurity.

HSBA Working Papers are designed to provide in-depth analysis of security-related issues in Sudan and South Sudan and along their borders. The HSBA also generates Issue Briefs, which provide snapshots of baseline information in a timely and reader-friendly format. Both series are published in English and Arabic. The project also produces web-published Facts & Figures. All HSBA reports are available online at www.smallarmssurveysudan.org.

The HSBA receives direct financial support from the US Department of State and the Norwegian Ministry of Foreign Affairs. The project has received support in the past from the Global Peace and Security Fund at Foreign Affairs and International Trade Canada, the Ministry of Foreign Affairs of Denmark, the Netherlands Ministry of Foreign Affairs, and the UK government's Global Conflict Prevention Pool, as well as the Danish Demining Group, the US-based National Endowment for Democracy, and the United States Institute of Peace. The Small Arms Survey receives additional support from





Switzerland, without which the HSBA could not be undertaken effectively.

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-  Many Small Arms Survey publications are available in languages other than English at www.smallarmssurvey.org/languages.
-  A range of online tools concerning small arms and armed violence—including weapons identification and tracing resources, data-rich maps, and interactive guides—can be accessed at www.smallarmssurvey.org/tools.
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Note to readers

Throughout this report, relevant Issue Briefs (IBs) and Working Papers (WPs) appear bracketed in light green, as in: ‘The project’s survey in Lakes state in 2006 was the first such victimization survey ever conducted in South Sudan **[IB1, WP2]**.’

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List of abbreviations

ARCSS

Agreement on the Resolution of the Conflict in the Republic of South Sudan

CPA

Comprehensive Peace Agreement

CRP

Central Reserve Police

DDR

Disarmament, demobilization, and reintegration

DPA

Darfur Peace Agreement

ESPA

Eastern Sudan Peace Agreement

F&F

Facts & Figures

GNU

Government of National Unity

GoSS

Government of Southern Sudan

GRSS

Government of the Republic of South Sudan

HSBA

Human Security Baseline Assessment
(for Sudan and South Sudan)

IB

Issue Brief

IGAD

Intergovernmental Authority on Development

JEM

Justice and Equality Movement

JIU

Joint Integrated Unit

LRA

Lord's Resistance Army

LSA

Local security arrangement

MIC

Military Industry Corporation

NGO

Non-governmental organization

NISS

National Intelligence and Security Service

NMRD

National Movement for Reform and Development

NPS

National Police Service

PDF

Pibor Defence Forces

SAF

Sudan Armed Forces

SDSR

Strategic defence and security review

SLA

Sudan Liberation Army

SLRF

Sudan's Liberation Revolutionary Forces

SPLA-IO	Sudan People's Liberation Army-in-Opposition
SPLM/A	Sudan People's Liberation Movement/Army
SPLM-N	Sudan People's Liberation Movement-North
SSDF	South Sudan Defence Forces
SSDM/A	South Sudan Democratic Movement/Army
SSLM/A	South Sudan Liberation Movement/Army
SSNPS	South Sudan National Police Service
SSR	Security sector reform
UN	United Nations
UNAMID	African Union/United Nations Hybrid operation in Darfur
UNDP	United Nations Development Programme
UNMIS	United Nations Mission in the Sudan
UPDF	Uganda People's Defence Force
WP	Working Paper

I

II

III

IV

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VI

About the author

Emile LeBrun writes and edits research on small arms and light weapons proliferation and control issues. He has consulted for the Small Arms Survey since 2002, serving as editor of the HSBA publications series since 2005; as co-editor of the annual *Small Arms Survey* (2008–15); and as a contributor on projects addressing armed violence and small arms in Lebanon, Melanesia, and Timor-Leste. He is project coordinator of the Survey's national small arms assessment in South Sudan. He holds a master in philosophy from the University of Edinburgh, Scotland.

Introduction

The occasion of the tenth anniversary of the founding of the Human Security Baseline Assessment (HSBA) project, which coincides with the tenth anniversary of the Comprehensive Peace Agreement (CPA), offers the Small Arms Survey an important moment to take stock of its work in Sudan and South Sudan. This Synthesis Report is one of three complementary efforts to do just that—the others being the project’s Symposium on the Future of Human Security in Sudan and South Sudan: Learning from a Decade of Empirical Research, held in Nairobi on 23–24 March 2016, and a retrospective project evaluation. Together, these efforts review what the HSBA has achieved, assess project impacts, identify knowledge gaps and new priorities, and lay down a path for future work to better understand and ultimately respond to small arms and light weapons proliferation and armed violence in the two countries.

The present report provides a general overview of the project’s research findings in four broad focus areas:

- arms proliferation (encompassing stockpiles and holdings as well as transfers);
- armed groups;
- armed violence; and
- security provision—in particular, disarmament, demobilization, and reintegration (DDR), civilian disarmament, and security sector reform (SSR).

In addition to appraising HSBA studies undertaken to date, this volume also looks ahead to pressing research questions in each of these spheres. Taking a cue from the HSBA Symposium, the report highlights opportunities

to better link empirical research with national policy and programming frameworks and initiatives in the two countries. Each section therefore ends by identifying promising new priorities for the HSBA project and the wider research community.

This report does not review the entire body of empirical research carried out since 2005, nor does it summarize each of the many dozens of substantial HSBA research outputs. Rather, it reflects the contributions of the HSBA project within its wider context. Besides appraising HSBA work on the substantive topics described above, the report takes the opportunity to consider the project itself, its successes, challenges, and the experiences of fielding a unique operation in a difficult setting. For this reason, it opens with a review of the beginnings and evolution of the HSBA, its aims, and its objectives; informed by the retrospective evaluation, it then provides an assessment of the project’s performance in meeting its targets.

I. The HSBA project

In early 2016 the Small Arms Survey's Human Security Baseline Assessment project for Sudan and South Sudan marked its tenth year of work. Since 2006 the project has generated a considerable body of empirical research, highly valued by national authorities in the two countries as well as by diplomats, donors, and international organizations working to help improve security conditions in the two countries. Over the HSBA's lifespan, eight governments and semi-governmental agencies have supported the project (see Box 1).

Since 2006, the project has published 41 peer-reviewed Working Papers and 24 Issue Briefs in English; 37 Working Papers and 23 Issue Briefs are available in Arabic. It has also posted more than 100 Facts & Figures reports online. By mid-2016, the number of unique publication downloads from the HSBA website exceeded 1.3 million.

Box 1 Donor support to the HSBA

Governments

- Foreign Affairs and International Trade Canada (2005-07)
- UK Global Conflict Prevention Pool (2007-09)
- Netherlands Ministry of Foreign Affairs (2008-11)
- Norwegian Ministry of Foreign Affairs (2010-16)
- US Special Envoy's Office for Sudan and South Sudan (since 2010)

Semi-governmental and private

- National Endowment for Democracy, United States
- Danish Demining Group
- United States Institute of Peace

The Small Arms Survey receives additional support from Switzerland, without which the HSBA could not be undertaken effectively.

The project's longevity, while a testament to its continuing success in filling a vital need, was not foreseen in its original mission—which was to provide baseline data and analysis on a range of indicators in support of efforts to monitor and implement the CPA of 2005, as well as the subsequent Darfur Peace Agreement (DPA) and Eastern Sudan Peace Agreement (ESPA). But ongoing conflict and persistent insecurity through the entire six-year CPA interim period, the resumption of multiple conflicts around the secession of South Sudan, and the eruption of the South Sudanese civil conflict in December 2013 have kept the need for such data pressing.

This section briefly describes the original conception, establishment, and evolution of the HSBA, whose project model may hold relevance for efforts to conduct empirical research on armed violence and small arms in other countries affected by or emerging from armed conflict.

Origins

In the wake of the CPA in 2005, the Small Arms Survey joined in consultations with the Government of Canada, the United Nations Mission in the Sudan (UNMIS), and the UN Development Programme (UNDP) to establish a project that would generate data and analysis on a range of security indicators to inform security programming during the CPA's interim period, as well as the DPA and ESPA of 2006. The project was initially conceptualized to last three years.

The core objective of the HSBA was:

to support violence reduction in Sudan in the post-CPA, DPA, and ESPA environment through the provision of timely, policy-relevant, and robust data. Specifically,

the HSBA has been designed to develop an evidence base of the causes and distribution of armed violence in Sudan, with a particular focus on the contribution of small arms and light weapons. The generation of a comprehensive, reliable, and independently verified baseline contributes to strategic policy-making and programming on civilian protection and the design, implementation, and evaluation of regional and domestic arms control interventions (HSBA, 2007, p. 5).

The HSBA was not designed to exert pressure on national institutions, to decry human rights and other violations, or to ‘name and shame’, but rather to provide empirically collected information and analysis for use in programming.

The project established the following core thematic areas of research, which have remained unchanged since 2006:

- review international, regional, and domestic flows of arms into, within, and outside of Sudan;
- assess stocks and inventories among different parties and civilians;
- map out armed groups operating within the area under review;
- appraise so-called local security arrangements (LSAs) and factors influencing demand for arms; and
- measure the scale and distribution of arms-related mortality, morbidity, and victimization in different communities.

It was envisioned that the HSBA would work closely with UN and Sudanese government authorities, especially those involved in DDR, SSR, and weapons collection and destruction programmes, as well as with arms embargo monitors and peacekeepers throughout the country.

It was determined that a decentralized model and distribution network, with a special focus on awareness raising and capacity building among Sudan’s national authorities, would help achieve these goals. Within this context, the HSBA was intended to provide:

employment, training, and material support for a range of Sudanese actors (e.g. researchers, survey enumerators, non-governmental organization (NGO) staff), as well as 23 research consultants and five ‘core’ team members (HSBA, 2007, p. 5).

Intended beneficiaries of the project were the Sudanese government, the DDR commissions for northern and southern Sudan, the humanitarian aid community, donors, arms embargo monitors, UNMIS, UNDP, and the African Union Mission in Sudan. From the very beginning of the project, a monitoring and evaluation programme was implemented.

Project evolution

Among the priorities identified in consultations leading to the establishment of the HSBA was the need for baseline data on injury mortality and morbidity as a result of armed violence carried out prior to and after the CPA, as well as qualitative data on changes in community perceptions of security and security providers. As a result, the HSBA developed and fielded a series of household surveys in Lakes state (April 2006), Jonglei state (January 2007), and Eastern Equatoria state (December 2009) **[IB1, WP2, WP11, WP13]**. In parallel, the project generated Issue Briefs and Working Papers on a range of topics, including armed group mapping and integration **[IB2, IB11, WP1, WP3, WP4, WP5, WP6, WP8, WP9, WP10]**, civilian disarmament **[IB3]**, and the Darfur peace process **[IB4]**.

Over the years that followed, the project’s approach to its core thematic areas evolved, deepening our understanding of the distribution of small arms among state and non-state actors **[IB6, IB15]**, and of regional conflict dynamics involving elements in Chad, the Democratic Republic of the Congo, Kenya, and Uganda **[IB9, WP4, WP12, WP14]**. In 2010, the project launched its Arms and Ammunition Tracing Desk, pioneering the application and adaptation of techniques used by UN panels of experts to identify arming patterns of non-state groups in Sudan and South Sudan **[IB19, WP32]**.

Box 2 Assessing the project

Since its inception, the HSBA's internal monthly monitoring and evaluation process has been capturing stakeholder feedback, publication downloads, media coverage, research community uptake, and other information that can be used to measure the project's impacts. In addition, in late 2015, the HSBA commissioned Blomeyer & Sanz to conduct an external evaluation on the eve of the project's tenth anniversary. Together, these two sources yield a number of findings:

- HSBA research fills an essential information gap in terms of its core thematic focus areas, the depth of insight and quality of analysis, its independence and originality, and ease of access.
- Individual feedback from Sudanese and South Sudanese government officials has been positive, but the 'uptake' of HSBA research into security programming in the two countries is difficult to assess.
- HSBA research has had a direct influence on the planning and implementation of policy and capacity development interventions in the region, as well as on the design of NGO strategies.
- The HSBA's core thematic focus areas remain highly relevant to its stakeholder groups.
- Additional and more systematic outreach efforts—in the form of briefings and small workshops—as well as shorter, more condensed publications, might encourage policy uptake based on HSBA findings.
- Further efforts to engage and partner with local research institutions would enrich the project's outputs, relationships, and message uptake.
- The sustainability of the project is vulnerable to shifting donor priorities and its year-to-year funding arrangements. Should the project cease operations due to funding shortfalls, research and analysis of the quality and relevance it produces would be difficult to source elsewhere.

Source: Blomeyer & Sanz (2016)

Stakeholder feedback, collected via regular internal monitoring and evaluation efforts as well as an external evaluation, has identified where the project provides specific added value and areas where stakeholders see areas for improvement (see Box 2).

Challenges

The project evaluation and internal monitoring and evaluation has also provided a chance to reflect on some recurring challenges the project has faced:

- **Researcher availability.** Because the project is decentralized, employing exclusively consultants on single-publication contracts, its ability to identify and field researchers in some areas (Darfur, in particular) has sometimes been constrained.
- **Access to conflict areas.** While accessing conflict areas has sometimes been difficult, it has not been as challenging as might be expected. In general, researchers have been creative and successful in reaching affected communities, even with limited on-the-ground support from the Small Arms Survey. UN missions and NGOs have provided crucial access and transportation assistance.
- **Access to Sudan.** The Government of Sudan/National Congress Party never granted the project official endorsement or approval to operate. As a result, HSBA team members have relied on single-entry visas from the national authorities for any entry into the country to conduct research. Such visas became increasingly difficult to obtain as the DPA unravelled, the government came under pressure to hand over nationals as part of the International Criminal Court process on Sudan, and the HSBA began generating research reports. A few consultants who had obtained access to Sudan thanks to pre-existing visa authorizations requested that their names be withheld from published reports so as to prevent future visa refusals. The risks of detention and arrest are real: in at least three cases since 2006, HSBA consultants were

held or arrested. (While in the project has enjoyed generally good relations with the Government of South Sudan, access is never assured.)

- **Limits on capacity building and promoting local ownership.** While the HSBA was able to engage and build capacities and promote local ownership as part of its household survey work early on, the project has almost exclusively contracted foreign (non-local) expert research consultants. As a result, the planned provision of ‘training [of Sudanese and South Sudanese partners and established NGOs], employment, local recruitment, and material support’ (HSBA, 2007, p. 11) has not been fully realized.
- **Risks to local consultants.** One of the most important reasons the project has not employed more Sudanese and South Sudanese nationals as researchers, writers, or collaborators as part of the HSBA’s inclusivity and capacity building mandates is the risk of retaliation against nationals and their families for publishing findings that the governments may find objectionable. This is an ongoing problem.
- **Unreceptiveness to programming support.** At its core, the HSBA was designed to support the development of effective, accountable, and evidence-based approaches to human security in Sudan and South Sudan. A detailed discussion outside the scope of this report would be needed to explain the mixed track record of national authorities and their partners to enact and implement such approaches. The fact that the project has, by design, remained independent of the programming arena, acting primarily as an external monitor of small arms and armed violence indicators, has meant that its active participation in the conceptualization, design, and implementation of violence reduction programming has been limited to date. Yet, as of this writing (mid-2016), there were signs that the environment may be more conducive than before to bridging the evidence–programming gap. Increasing the uptake of the project’s research findings into the policy and

programming realms is an important goal for the HSBA’s next phase.

The project’s successes and challenges in each of the HSBA’s core thematic focus areas inform Sections II–V. These summaries rely heavily on the publications the project has produced, and each concludes with some reflections on information gaps, specific areas for future research, and emerging means to push the agendas forward.

II. Arms proliferation

Since its inception, the HSBA has used a range of techniques and methods to get a better sense of international, regional, and domestic flows of arms into, within, and out of Sudan and South Sudan—and of stockpiles and inventories among different groups and civilians. This mandate has proven challenging to fulfil for a number of reasons, including inadequate in-country information sources; poor transparency in the import practices of national authorities; and the resistance of security agencies to discussing issues they consider sensitive and classified. Nevertheless, much has been learned over the past ten years.

The context

As the HSBA's first research output stated starkly, 'reliable and verifiable information on the acquisition, possession, and misuse of small arms [in Sudan] is virtually non-existent' (HSBA, 2006a, p. 1). While the situation was equally unclear on both sides of the north-south border, the context of South Sudan's devastation as a result of the second civil war (1983–2005), which involved the widespread dispersal of arms and ammunition to non-state actors, made getting a handle on the distribution of arms there particularly pressing.

Given the history of government-sponsored proxy arming, small arms proliferation was assumed from 2005 onwards to be a significant risk factor for violence and displacement in the post-war period. Yet the Government of Sudan, as well as Sudan People's Liberation Movement/Army (SPLM/A) officials in Juba, were not forthcoming about their arms acquisition and distribution practices. Neither the African Union/United Nations Hybrid operation in Darfur (UNAMID) nor UNMIS military observers

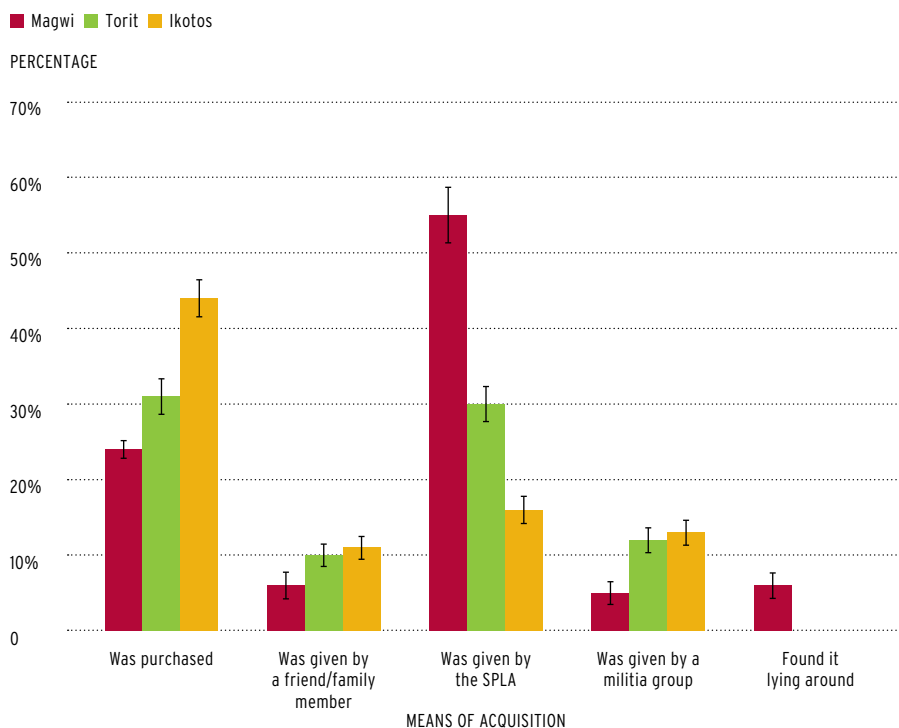
were granted access to Sudan Armed Forces (SAF) or SPLA stockpiles; instead, their verification duties were limited to the redeployment of forces, despite the wider role envisioned for them. Furthermore, the complete lack of government oversight over weapons that had been distributed to civilians made it clear that investigations would begin with a more or less blank slate.

In the six years that followed, unresolved conflicts in Darfur, the Three Areas (Abyei, South Kordofan, and Blue Nile), and South Sudan simmered and then exploded, while tribal and communal violence escalated. As arms continued to flow into and within Sudan and South Sudan, efforts to absorb weapons through disarmament were sporadic, repressive, and sometimes associated with a significant loss of life [IB3, IB8, WP16]. Ultimately, the massive investment in DDR had an unknown but possibly imperceptible effect on the number of weapons in ex-combatants' hands [IB17, IB21] (see Section V).

HSBA research findings

Stockpiles and holdings

In 2006–09, the HSBA undertook three state-wide household surveys, which provided evidence for the assumption that firearms were widespread among households in areas of Jonglei, Lakes, and Eastern Equatoria states [IB1, IB16, WP11, WP13, WP14]. On average, some 38 per cent of all surveyed households in Eastern Equatoria reported having firearms, but the rate varied significantly from county to county, as did the reported source of the firearms [IB16]. In one county (Magwi), however, more than half of all respondents reported receiving their weapons from the SPLA (see Figure 1). Previous self-reported ownership rates were similar in Lakes

Figure 1 Firearm acquisition by county, Eastern Equatoria, 2009

(35 per cent) **[IB11]**; in Jonglei, the reported rate was just over 13 per cent, although this was considered an underestimate **[WP11]**.

These surveys were the first such estimates generated in post-war Sudan. But while the data was more detailed than anecdotal evidence, and critical to establishing baselines in those areas, they were time-consuming and difficult to field, and the findings were not generalizable to all states.¹

Then, in April 2007, the HSBA published the first estimates of firearm inventories among state forces, non-state groups, and civilians in Sudan and South Sudan **[IB6]**. These figures were based on key informant inter-

views and arms-to-force multipliers generated by Small Arms Survey research in other African and non-African contexts. They were published in the expectation that national and local stakeholders would provide feedback to refine and update specific figures on an ongoing basis. The HSBA estimated that, in aggregate, there were some 2.6 million small arms among all holders in the north and south—with the majority (1.76 million) in civilian hands. These estimates were revised in 2009, reflecting significant work to disaggregate the holdings of armed groups, some of which had recently emerged or fragmented **[IB15]**. The estimate was revised upwards slightly, to 2.7 million, and the portion held by civilians rose to almost 2 million (see Table 1).

Table 1 Estimated firearms inventories in Sudan, December 2009

Category	Strength	Ratio of weapons to members	Estimated small arms	Notes
Government of National Unity (GNU) forces				
SAF (not including Joint Integrated Units (JIUs))	225,000	Various ¹	310,000	Infantry and reserves do not seem to lack arms (mostly Kalashnikovs). Popular Defence Forces not included (see below).
SAF JIUs	17,000	1.1/soldier	19,000	GNU pays salaries, SAF provides arms.
National Police Service (NPS)	100,000	Various ²	110,000	Central Reserve Police are well armed.
Popular Defence Forces	20,000	0.5/personnel	10,000	Strength may once have been 100,000 men.
National Intelligence and Security Service (NISS) (armed units)	7,500	2.5/official	19,000	NISS armed personnel comparatively well equipped and stocked. Separate NISS force to protect oil fields.
Government of Southern Sudan (GoSS) forces				
SPLA (not including JIUs)	125,000	1.4/combatant	175,000	SPLA arms Southern police.
SPLA JIUs	16,000	1.1/combatant	17,500	GNU pays salaries, SPLA provides arms.
Southern Sudan Police Service	28,000	0.3/policeman	8,400	Budget includes 5,000 more police, but no weapons.
GoSS Prison Service	17,000	0.08/staff member	1,300	Prison staff reported to possess 1,300 AKM rifles.
GoSS Wildlife Service	13,000	0.08/staff member	1,000	Assume no better armed than Prison Service.
Armed groups				
Eastern Front	2,000	0.5/combatant	1,000	Roughly half of estimated 4,000 ex-rebels have joined the SAF or reintegrated into civilian life.
SAF-aligned Arab militias ³	5,000	1.2/combatant	6,000	Believed to possess some 250 Toyota Land Cruisers.
Ex-SAF-aligned Arab militias ⁴	2,000	1.2/combatant	2,400	Believed to possess some 120 Toyota Land Cruisers.
Sudan Liberation Army (SLA)–Minni Minawi	1,500	1.2/combatant	1,800	Weakening, but benefits from sporadic SAF support. Believed to possess some 80 Toyota Land Cruisers.
SLA–Abdul Wahid	2,500	1.2/combatant	3,000	Believed to possess some 40 Toyota Land Cruisers.
'Addis Ababa Group' ⁵	1,000	1.2/combatant	1,200	Alliance believed to possess 20-25 Toyota Land Cruisers.
Sudan's Liberation Revolutionary Forces (SLRF) ⁶	500	1.0/combatant	500	SLRF believed to possess perhaps 5-10 Toyota Land Cruisers, most held by SLA field leadership's Ali Mukhtar.
Justice and Equality Movement (JEM) ⁷	5,000	1.5/combatant	7,500	JEM believed to possess some 325 Toyota Land Cruisers.
National Movement for Reform and Development (NMRD)	500	1.2/combatant	600	NMRD believed to possess around 30 Toyota Land Cruisers.
Chadian groups ⁸	4,000	1.5/combatant	6,000	Believed to possess some 150 Toyota Land Cruisers.
Lord's Resistance Army (LRA)	500	0.8/combatant	400	Recent clashes with Uganda People's Defence Force have resulted in LRA losing men/access to arms caches. Many LRA now in Central African Republic.

Category	Strength	Ratio of weapons to members	Estimated small arms	Notes
UN and foreign state forces				
UN Mission in the Sudan (UNMIS) (military units)	8,800	1.4/military personnel	12,500	UNMIS police, military observers, and civilian staff are unarmed. No formed (armed) police units.
AU/UN Hybrid Operation in Darfur (UNAMID) (military units and formed police units)	15,250	1.3/military and police personnel	20,000	UNAMID like UNMIS, except (1) higher percentage of troop contributors provided with fewer weapons than requested and (2) formed police units are armed.
Uganda People's Defence Force (UPDF)	2,000	1.5/soldier	3,000	UPDF Battle Group operates in Southern Sudan to counter and pursue the LRA (sometimes outside Sudan).
Additional weapons held by civilians⁹				
Among those residing in the north	31 million	4 per 100	1.24 million	State security forces and urban settings suggest low ratio.
Among those residing in the south	9 million	8 per 100	720,000	Prevalence of armed violence among pastoralist groups and lack of law and order suggest ratio could be higher.
Total	n/a	n/a	2.7 million	

Notes:

All figures have been rounded.

¹ Calculation assumes that SAF comprised 20,000 officers (ratio of 1 weapon per officer), 120,000 infantry (1.5/soldier), 70,000 'reserves' (1.2/reservist), 10,000 air defence units (1.2/serviceman), 10,000 border guards (1.0/guard), and 1,200 navy and 3,500 air force personnel (0.5/serviceman).

² Calculation assumes the NPS has for many years consisted of the Central Reserve Police (CRP), Emergency Police, Immigration Police, Petroleum Police, and Popular Police. Recently, the prison, customs, and wildlife services have been incorporated into the NPS. The strengths and comparative levels of equipment among these various components are extremely difficult to ascertain. It is understood that the CRP is the largest and best-armed force among these various units and that personnel possess light weapons and riot-control equipment in addition to their personal firearms. A ratio of 1.5:1 is used for the CRP, which is believed to represent perhaps 20 per cent of the 100,000-strong NPS. Members of the rest of the units are believed to receive one weapon each (which they may or may not have on their person, depending on the assignment).

³ The militias are frequently referred to as 'janjaweed', which is often defined as 'devil on horseback'. The label was originally used to describe bandits. The international media has seized on this term to refer more generally to pro-Khartoum militias responsible for attacks on people in Darfur. While this is not a monolithic group with a unified command structure, the term here is used to denote militias in Darfur, drawn mostly from nomadic Arab tribes, which were armed by Sudanese Military Intelligence and SAF in 2003-04. Many have since been given army IDs and salaries and remain by and large loyal to SAF. The militias mostly comprise nomadic camel herders (Abbala), including the Mahamid (for example, the Um Jalul tribe of Musa Hilal) and the Maharia of 'Hemeti'. This said, three points need to be underscored: (1) many Arabs have remained outside the conflict; (2) some Arabs have sided with the rebels; and (3) 'alignments'—even long-standing ones—can be fluid.

⁴ Many militias in Darfur, previously supported with arms from Khartoum, have since turned against the government. Some have joined pre-existing Darfur rebel movements or their offshoots. Many have formed armed groups of their own but have not generated significant popular support among Arab communities.

⁵ The Addis Ababa Group owes its genesis to the efforts of US envoy Scott Gration to unite the SLA. In the short term, Gration has united only one faction of SLA Unity with a handful of commanders briefly aligned with Abdul Wahid.

⁶ The SLRF was established in Tripoli, by Libyan diktat, in September 2009, as Libya challenged Qatar's new central role in peacemaking in Darfur. It is an artificial construct designed as a political asset for Col. Muammar Qaddafi. Its membership is unclear. What seems clear is that its creation increased the fragmentation of the rebel movements, splitting, for example, SLA Unity.

⁷ This refers to the movement headed by Khalil Ibrahim, militarily the strongest and politically the most coherent in Darfur. There have been several offshoots of the Justice and Equality Movement (JEM) since it was established in 2003 (for example, the NMRD and Democratic JEM)—but JEM has remained relatively stable compared to the SLA.

⁸ The term 'Chadian rebel groups' refers to numerous Darfur-based Chadian armed insurgent groups. By some accounts there were as many as ten distinct groups as of September 2009.

⁹ In the absence of reliable data, the population figures used here are rough estimates. According to disputed 2008 census results, the population of the north is 30.89 million, while the south is home to 8.26 million. The GoSS rejected the results on the basis that various populations, including in the south and the west, were deliberately undercounted. The Central Bureau of Statistics refused to share raw data with the Southern Sudan Commission for Census, Statistics, and Evaluation.

Source: HSBA (2009, pp. 8-9)

While the 2007 and 2009 estimates served an important purpose in providing some defensible empirical figures, the dialogue with Sudanese stakeholders that was needed to continue to refine them ultimately did not bear fruit. In the meantime, state-to-state transfers of small arms and light weapons to Khartoum continued despite international efforts to prevent weapons from reaching parties in Darfur. While Sudan has repeatedly touted the success of its stand-alone DDR programme, claims of weapons reduction have not been open to independent verification.

Estimating raw, macro-level numbers of weapons held by different categories of actors was the starting point, not the end goal, of the HSBA's arms proliferation investigations. To push the research envelope meaningfully, however, other methods and tools were needed. In 2010, the HSBA launched its Arms and Ammunition Tracing Desk initiative to do just that. Applying and adapting techniques used by UN panels of experts to monitor violations of arms embargoes, the HSBA began focused fieldwork to identify the types and numbers of weapons held by state and non-state actors, with a special emphasis on illuminating potential arming patterns of non-state groups by patrons, whether domestic or foreign. Between April 2011 and July 2013, 14 field missions were conducted across conflict-affected areas in Sudan and South Sudan.

The findings sometimes confirmed—but sometimes contradicted—widely held assumptions. For example, almost all non-state groups—whether pro-Khartoum, pro-SPLM/A, or unaligned—held the same types of weapons as the Sudan Armed Forces (see Map 1). The arms and ammunition identification and tracing initiative not only shed light on the firepower of active armed groups, but also demonstrated specific cases of proxy arming for the first time. In addition, it revealed to exporting states and manufacturers the final destination of some of the arms they exported—and specific cases that violated end-user agreements and, potentially, emerging global norms on the supplies of conventional weapons to conflict zones [WP32].

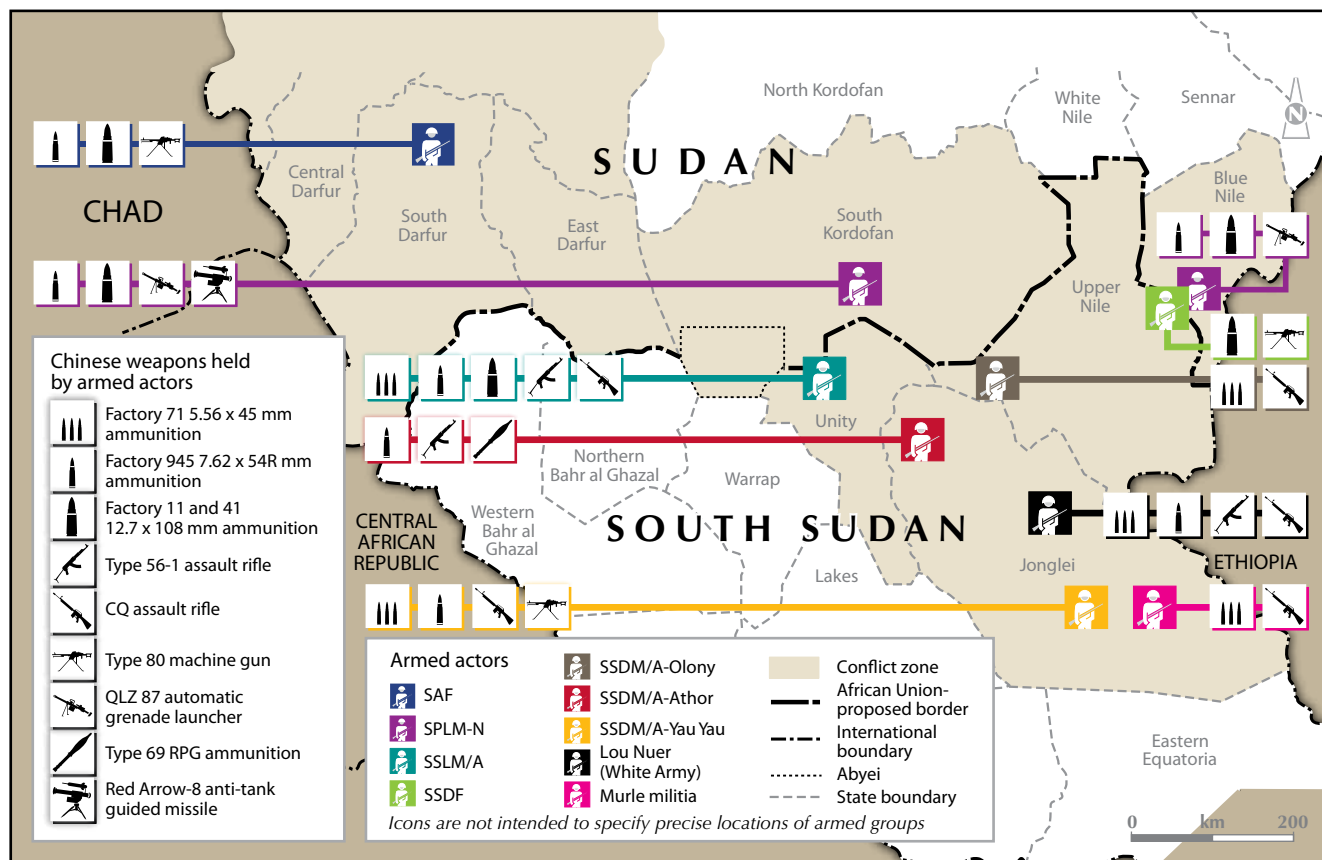
Arms imports

In an effort to reduce insecurity in Darfur and throughout Sudan, the international community established legal restrictions on arms transfers to Sudan, including the 2004 and 2005 United Nations arms embargoes on Darfur, and the 1994 European Union (EU) arms embargo on Sudan (updated in 2004, and later amended to cover South Sudan).

In addition, the CPA established restrictions on the resupply of military equipment to forces within the agreement's 'ceasefire zone'. Despite these measures, arms transfers to all parts of Sudan continued and, in some instances, increased during the CPA's interim period [WP18].

In 2009, the Small Arms Survey published an assessment of what was known about the structure, mechanics, and patterns of arms flows to and within Sudan since the signing of the CPA; it highlighted deliveries to state forces as well as the onward distribution and circulation of weapons to non-state armed groups [WP18]. The research showed that arms flows to and within Sudan involved patterns, actors, and methods similar to those established during the second civil war, and that they continued to be dominated by supplies mediated by well-established state sponsors in the region and internationally. By 2009, however, the private arms brokers, financiers, and transport agents who facilitated such transfers were based in a wider and more diverse set of countries.

Survey research since 2009 has consistently identified Sudanese government inventories as the primary source of small arms and light weapons obtained by non-state armed groups throughout Sudan and South Sudan, with transfers intermediated by a variety of supply mechanisms. This finding is a red thread that runs through much of the research and was confirmed by arms tracing work conducted in 2010–13 [WP32].

Map 1 Chinese weapons among armed actors, Sudan and South Sudan, 2011-13

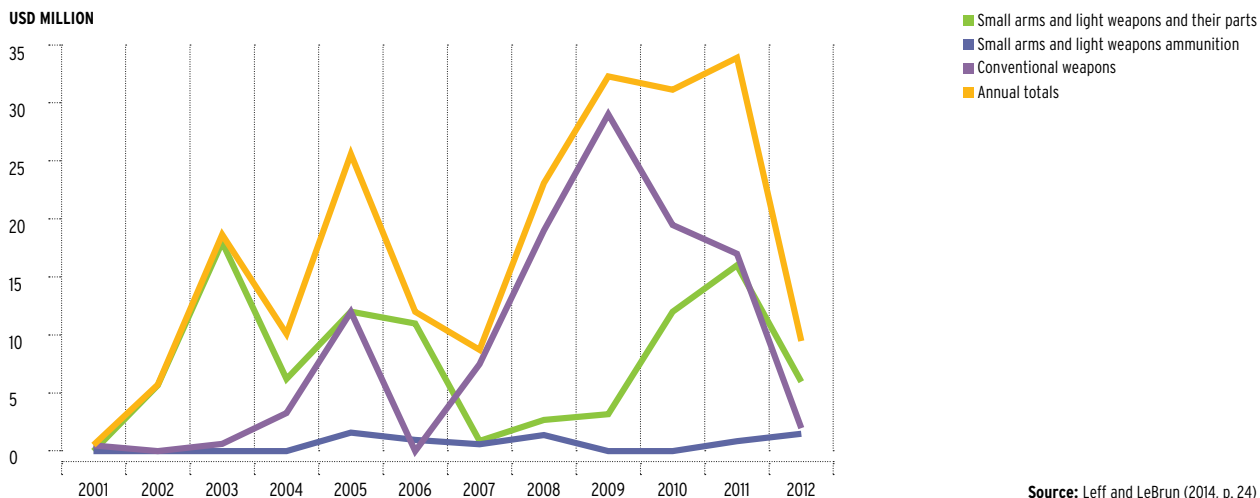
Source: Leff and LeBrun (2014, p. 39)

Arms flows into Darfur have continued despite the UN embargo, as documented in two separate investigations in 2009 and 2016 [IB20, IB24], which trace the evolution of supplies to and in the region. By 2011, supplies from Chad and Libya had begun to diminish due to political factors unrelated to the embargo, and since then Sudanese-supplied arms have only increased their relative presence on all sides. The most recent analysis was pessimistic about the possibilities of increasing enforcement of the embargo, noting that:

no government with significant influence over the supply of weapons to Darfur currently has the political will to prevent their provision [. . .] and the embargo's persistent failure has made it irrelevant to all key actors, removing any residual incentives to make it work properly (HSBA, 2016, p. 1).

With regard to legal, authorized imports of small arms and light weapons to Sudan and South Sudan, reported figures must be treated as a starting point only, to be

Figure 2 Annual imports of small arms and light weapons, their ammunition, and 'conventional weapons' reported by Khartoum to the UN Commodity Trade Statistics Database (Comtrade), 2001-12 (USD million)



Source: Leff and LeBrun (2014, p. 24)

supplemented by continual field research and other forms of investigations. In 2014, the HSBA estimated that Khartoum had imported small arms and light weapons worth about USD 165 million over the period 2001–12, with significant year-to-year fluctuations (see Figure 2) [WP32]. More than half (58 per cent) were imported from China.

Reports of major arms transfers to Juba emerged as early as 2008; these transfers were technically in violation of the CPA and continued up to and through the end of the interim period [WP18]. After independence in 2011, the Government of the Republic of South Sudan (GRSS) was able to conclude import agreements on the international market—although it chose not to do so transparently. To date, the GRSS has reported no official imports; nevertheless, major shipments have been confirmed, including a significant shipment of Chinese weapons and ammunition that arrived in mid-2014, half a year into the civil conflict that erupted in December 2013.

Sudanese arms production

The scale of Sudan's production of small arms ammunition and weapons systems remains opaque, even though the HSBA has tracked publicly available information and marketing material from Sudan's Military Industry Corporation (MIC), the state-owned complex of manufacturing plants (HSBA, 2014; 2015). However, arms and ammunition identification and tracing have provided new and unexpected perspectives on the distribution of Sudanese-made ammunition to non-state actors. Tracing work has increasingly documented very recently manufactured Sudanese ammunition among a range of actors, in some cases with fewer than 12 months between manufacture and use in South Sudan. The HSBA has also documented the increasing diffusion of Sudanese ammunition in conflict zones across Africa, and the MIC's apparent upsurge in efforts to showcase its products to buyers abroad (LeBrun and Leff, 2015) [WP32]. South Sudan has no arms and ammunition production capacity but may seek to establish one in the future.

Future focus areas

While much has been learned, the scale of arms proliferation in Sudan and South Sudan, along with the distribution of new imports, remains hazy. Arms identification and tracing techniques, which have been able to illuminate patterns of deliberate arming of non-state parties, have not revealed much about the specific actors involved along the supply chain. Discussions within the HSBA team and at the recent Symposium have identified a number of avenues for future work in this area.

First, the Survey should return to the efforts launched in 2007–09 to document civilian small arms access through household surveys and qualitative assessments in South Sudan. Those previous exercises demonstrated that, contrary to some claims, civilians are willing to discuss their acquisition and ownership of small arms. Furthermore, a baseline of weapons holdings data is critical for security programme planning; at the moment, government authorities have little information on which to base efforts such as disarmament and community education campaigns.

Second, stakeholders remain concerned about cross-border flows of arms and ammunition—from outside Sudan into Darfur and from all surrounding countries into South Sudan. The so-called ‘ant trade’ has received much less research attention than the documenting of large-scale state-to-state transfers and should be a future focus of research to refine current estimates and valuations.

Third, while aggregate figures of arms held by civilians and non-state forces can provide an important sense of scale, it is equally important to explore weapon types, how these have evolved over time, and their different supply chains and impacts.

Fourth, the Small Arms Survey has conducted long-term illicit arms and ammunition price monitoring at local markets in other contexts (Lebanon and Syria) and the relationship between price fluctuations and the outbreak of violence. Such an investigation at arms markets in and around South Sudan may also be informative.

Fifth, it is imperative to continue to interrogate the motivations and demand factors that drive arms acquisition among civilians and non-state groups. This is best accomplished by qualitative research among the full range of parties.

Notes

- 1 In 2016, with the support of the UN Development Programme, the Small Arms Survey launched a national small arms assessment in South Sudan, which is expected to generate the first national estimates of small arms ownership among civilians.

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III. Armed groups

Understanding the proliferation, motivations, and decision-making of non-state armed groups that engage in armed violence has been a central focus of the HSBA project since its very first Working Paper—a 2006 study of the South Sudan Defence Forces (SSDF)—and throughout investigations of conflict dynamics in Darfur, Abyei, and the Two Areas (South Kordofan and Blue Nile states) [IB2, IB5, IB11, IB21, IB22, WP1, WP3, WP5, WP10, WP22, WP26]. Coverage of this thematic area has extended to armed groups based outside the country that have engaged in violent activities in Sudan or South Sudan, such as the Lord’s Resistance Army (LRA) [WP8] and Chad-based groups active in Darfur [IB9, WP12, WP21].

When focusing on armed groups, it is important to distinguish rebel groups, whose motivations may be a combination of material grievances and opportunism, from other armed actors, such as tribal militias and community defence groups. Any of these groups may find themselves in opposition to state forces at one time or another, or pitted against each other, for a variety of reasons. There are strong reasons to apply the same perspective to elements of official state forces, or allied militias such as paramilitary forces, as these elements may act with less direction from central authority and be strongly influenced by local dynamics and the personal interests of particular commanders.

The context

The governments of Sudan and South Sudan have rarely enjoyed a monopoly over the means of violence. Contested state legitimacy, long-standing claims of marginalization, militarized responses to local grievances,

and competition over resources are intertwining factors that have led to the proliferation of non-state forces, including anti-government rebel groups, tribal militias, and community defence groups. State efforts to exploit non-state groups—including, in the case of Chad and Sudan, one another’s rebel forces—have continued since the civil war period [WP12]. Regardless of whether those objectives are achieved, the centres of power that have at times drawn on non-state forces have often come to suffer from them later. Given the ongoing proliferation of forces involved in the conflicts in South Sudan, Darfur, and the Two Areas, the HSBA will continue to focus on understanding their motivations and documenting their activities.

HSBA research

Sudan

The HSBA has produced a variety of outputs on active armed groups in Darfur, the Two Areas, and eastern Sudan. One of the narratives that the project has documented since the CPA era concerns the continual attempts, and failure, of armed groups to build a unified military front against the Sudanese government. Although some Darfurian rebel groups helped to support the SPLA–North in South Kordofan under the banner of the Sudan Revolutionary Front, they have not provided much more than rhetorical or political cooperation. Nor have the armed rebel groups achieved a robust association with the unarmed political opposition in Sudan, or with the southern SPLM/A, even though some of the Darfurian groups have actively fought against the SPLA-in-Opposition (SPLA–IO).

Table 2 Armed elements in the Nuba Mountains area, 2009

Name	Leaders	Alignment	Stated strength	Areas of operation	CPA	Remarks
Sudan Armed Forces (SAF)	-	SAF	5th and 10th Divisions and elements of the 14th	Headquarters in Kadugli, Babanussa, and Dilling, with smaller units across the region	To be downsized to peacetime levels after formation of the JIUs	The conflict around Abyei has brought new units into South Kordofan that refuse UN monitoring
Central Reserve Police (CRP)	-	SAF	2,000 (SPLA estimate)	Region-wide	Not addressed in CPA	Massively expanded in the last two years
Popular Defence Forces	-	SAF	UN estimates range from 5,000 to 20,000, with independent estimates at the higher end	Region-wide, with the exception of the SPLM-controlled 'goose eggs'	To be absorbed into the regular forces or dissolved	Some dissatisfied Missiriya members defected to the SPLM/A in the last six months
Joint Integrated Units (JIUs)	Brig. Jagod Makwar, Nuba	Troops remain divided along SAF / SPLA lines	6,000 divided equally between SAF and SPLA	Kadugli, Heiban, Talodi, Buram, Julud, Um Sirdiba, Dilling, and Arid near Lawaga	Envisaged as the core of a new national army should the 2011 referendum indicate a desire for unity	The JIUs are funded centrally, by the Government of National Unity, but still answer to separate military commands
Sudan People's Liberation Army (SPLA)	Brig. Izzat Kuku, Nuba	SPLA	SPLA claims 9,000 troops moved south of the 1956 border, to Lake Abiad and Bentiu (but this is disputed)	-	All SPLA forces not in the JIUs to move south of the 1956 border	Brig. Izzat has refused to allow UNMIS monitoring of Lake Abiad
Debab Forces	Brig. Hassan Hamid Saleh, Missiriya	SPLA	1,500 currently in the Pariang area, according to the SPLA, pending full integration into the SPLA; many others joined the SPLA police and other SPLM bodies	Debab, Kharasana, Bajayea, Dandur, Abu Sofifa	Unauthorized recruitment of new forces is in contravention of the CPA	The Missiriya leadership is widely thought to be keeping options open with other forces
South Sudan Defence Forces (SSDF)	Gen. Paulino Matiep	SPLA	One company in Kharasana, according to the SPLA	Kharasana	Required to align with SAF or SPLA and integrate	Largely integrated into the SPLA following the January 2006 Juba Declaration
The Central Sudan People's Liberation Army	Juma Wakil Hamad Angil	Self-styled independents	The group claims to have widespread support, but there is no evidence of this	The group's two main leaders are both Kujuriya Nuba, from the Dilling area	Required to align with SAF or SPLA and integrate	Suspected pro-government spoiler group
Nuba Mountains II	Al Bulola Hamed Abdul Bagi	Ostensibly pro-SPLA	Abdul Bagi claims to be able to raise 40,000 men	Most activities to date in the Um Burumbita area	Required to align with SAF or SPLA and integrate	Suspected pro-government spoiler group

Source: HSBA (2008, p. 8)



With respect to Darfur, the HSBA documented the fragmentation of the rebel groups following the DPA in 2006 [WP6]; the origins and role of the pro-government Popular Defence Forces [WP10]; the proxy conflict between Chad and Sudan, which played out in Darfur [WP12]; the subsequent rapprochement between Khartoum and N'Djaména and the end of proxy arming in the region [WP25]; the mobilization of the 'janjaweed' militias in 2003–04 and their subsequent changing roles [WP17]; inter-Arab conflict [WP22]; the rise of inter-ethnic conflict and the increasing role of pro-government forces in the conflict of 2010–12 [WP28]; and the formation and development of the Sudan Revolutionary Front, its initial successes, and subsequent stagnation [WP33]. Further from global attention than the South Sudan conflict, dry-season fighting in 2014, 2015, and early 2016 has returned violence and population displacement in Darfur to 2007–08 levels [IB24].

With respect to the Two Areas, the project has produced in-depth conflict analysis of all the key forces, state and non-state, at critical points in the conflicts: the first year of conflict in South Kordofan (June 2011–July 2012) [WP29]; the first two years of fighting in Blue Nile (September 2011–June 2013) [WP31]; and the conflict in both states in 2014–15 [WP38]. Conflict along the Sudan–South Sudan border in the years following the secession of South Sudan was also an important research area [WP30, WP34].

The early focus of the project on armed groups was mapping—including the identification of key commanders, their backgrounds, histories, and loyalties; the number and characteristics of the men under their command; and the sources and numbers of arms. In 2008, three years prior to the resumption of conflict in South Kordofan, for example, the HSBA was ascertaining which forces were active and posed risks, which had not integrated, and which had disbanded (see Table 2) [IB12].

Because of the challenges of access and authorization to conduct quantitative analysis in Sudan, the project has tended to apply qualitative tools there, including in-depth

Box 3 The Rum offensive: inside Kamal Loma's militia

The following account relies on an interview with a former member of Kamal Loma's militia. The ex-combatant had been recruited by abduction in Bud locality by armed fighters wearing uniforms similar to the ones used by the Popular Defence Forces. After being captured, he went through three days of basic military training—including physical exercise, marching, weapon handling, and shooting—in Goz Tebelab camp, after which he was sent to attack the SPLM-N position in Rum in April 2012. Several dozen individuals who had been recruited in a similar manner were transferred, on four Ural trucks, to the same military facility.

Before the attack, the recruits were told they were about to fight the SPLM-N and promised that they would receive a monetary reward if they could defeat the enemy and reach Bunj in South Sudan. As the convoy prepared to leave the camp, each fighter was provided with a uniform (similar to those previously used by Joint Integrated Units), an AK-type fully loaded magazine and ten additional rounds of ammunition, and an AK-type assault rifle with scratched-off serial numbers, much like those observed among Khartoum-backed rebels in South Sudan. The leaders of the militia reportedly explained to the troops that serial numbers had been deliberately removed from the weapons to prevent the enemy from determining their origin. About 15 fighters also received PKM-type machine guns, RPGs, and hand grenades.

Weapons provided to the troops gathered in Goz Tebelab camp were transferred from ed Damazin on six double-platform trucks, while ammunition, contained in wooden boxes that had been painted green and bore white inscriptions in the Latin alphabet, were offloaded from ten SAF-operated Land Cruiser technical vehicles. Weapons were personally distributed to each recruit by Kamal Loma, who informed the troops that the equipment had been provided by the government and transferred from Khartoum.

The offensive was launched with a contingent of 1,000 fighters who had previously trained in five different SAF camps—in Bud (two camps), Goz Tebelab, Gule, and Wadabok—under the command of Brig. Gen. Kamal Loma himself, Lt. Col. Awad Loma (Kamal's brother), and 1st Lt. al Hadi Ibrahim, all Mabaan tribesmen. The majority of the troops were Mabaan, while the remaining combatants comprised roughly equal numbers of Dinka, Fellata, and Nuer, and fewer members of Arab tribes, including some from Darfur.

Source: Gramizzi (2013, p. 38)

interviews with key informants and the combatants themselves. This approach has provided detailed insights into the roles and motivations of armed actors, and highlighted the sheer diversity of forces active in Sudan. An illustrative example is Box 3 from WP31, which describes the role of a foreign militia that was active against the SPLM–N in Blue Nile in mid-2012, and that was led by South Sudanese officers whose men were recruited in Blue Nile and Upper Nile.

The opposition groups of eastern Sudan, whose forces accepted a peace agreement in 2006, have not been the subject of as much attention given that the region has been calm in comparison to other areas of the country. But the neglect of eastern Sudan has helped to perpetuate a lack of understanding about whether the ESPA provided any peace dividends to the region. In 2007, the HSBA conducted an assessment of armed groups along the eastern frontier of the country and their relations with Addis Ababa and Asmara, as well as analysis of opposition groups in the period following the peace agreement [WP3, WP9]. In 2015 the project published a thorough review of the impacts of the ESPA on the region. It concluded that the government had not fully fulfilled the wealth-sharing and development commitments of the agreement, and that the agreement had not eliminated the political, economic, and social marginalization at the root of the conflict in the region; these findings pointed to a likelihood of continued unrest, especially among youths [WP36].

South Sudan

The HSBA's research on armed groups in South Sudan was designed in response to the dynamics of the latter phases of the second civil war, during which fighting largely took place between competing armed groups with shifting allegiances and orientations to Khartoum. The research agenda was also influenced by the fact that the CPA did not adequately resolve the contested legitimacy of the SPLA among the many southern groups that identified themselves as members of the SSDF.

In fact, the possibility of a return to war was very real until the 2006 Juba Declaration, in which Salva Kiir's government agreed to integrate the forces of anti-SPLA commanders into the SPLA [WP1]. But integration, which soon became the post-war model for dealing with rebel groups, does not imply reconciliation, and old resentments remained dormant for years. Following contested elections in 2010 and South Sudan's independence in 2011, many wartime commanders who felt side-lined returned to rebellion, supported by Khartoum; a number of new commanders with communal support bases (Nuer, Shilluk, Murle) followed suit [IB18, IB22]. In the aftermath of the massacre of Nuer in December 2013 at the hands of government forces, intra-Southern grievances dating back to 1991 were brought to the surface and the 'integrated' SPLA broke apart once more. On the eve of the new conflict, the HSBA assessed the status of the main rebel commanders and their force strengths (see Table 3) [IB22].

Beyond commanders who turn to insurgency, the HSBA has examined the role of tribal militias and community defence groups under conditions of heightened insecurity, in particular during the wave of inter-tribal violence in 2009 and with reference to the so-called white armies in anti-government hostilities [WP5, WP20, WP41]. The latter groups, a formidable collective of armed Nuer youths who were mobilized following the massacre of their tribesmen in December 2013, is neither under the control of Riek Machar, nor necessarily wedded to the SPLM-in-Opposition's political demands. Until the HSBA's qualitative assessment, published in mid-2016, the white armies' attitudes, concerns, and demands were largely overlooked in discussions of South Sudan's conflict, despite their centrality to the SPLA–IO's rebellion [WP41].

No survey of the impacts of armed groups in South Sudan would be complete without a consideration of the LRA, which was used by the Government of Sudan as a tool against the SPLA during the second civil war, in 1993–94; despite a concerted campaign assisted by international advisors, the LRA has yet to be decisively neutralized. The HSBA began its coverage of the LRA in South Sudan

Table 3 South Sudanese militia commanders as of October 2013

Commander	Force name/affiliation	Location	Status	Notes
David Yau Yau	South Sudan Democratic Movement/Army (SSDM/A)-Cobra	Pibor county, Jonglei	Active	Was field commander for Athor; accepted amnesty in September 2011; redefected in April 2012 and went to Khartoum. Reportedly located in Manyading in October 2013.
James Arezen Kong Kong	SSDM/A-Cobra	Pibor county, Jonglei	Active	1st in command under Yau Yau; former Pibor Defence Forces (PDF) and then SPLA. Reportedly located in Fertait in October 2013.
Adoch Agul	SSDM/A-Cobra	Pibor county, Jonglei	Active	2nd in command under Yau Yau; former PDF and then SAF; sent by SAF to join Yau Yau in August 2012; one of his deputies, Peter Bureti, participated in violent attacks in the Gumuruk area.
Gayin Ngarubin Torokon	SSDM/A-Cobra	Pibor county, Jonglei	Active	Former PDF; integrated into SAF; sent by SAF to join Yau Yau in August 2012.
Longaben Wayah	SSDM/A-Cobra	Pibor county, Jonglei	Active	Former PDF; integrated into SAF; sent by SAF to join Yau Yau in August 2012.
James Lopia	SSDM/A-Cobra	Pibor county, Jonglei	Active	Has about 250 armed soldiers; in July 2013 he was reported to be around Fertait.
Johnson Olony	SSDM/A-Upper Nile	Fashoda county, Upper Nile	Negotiating integration	Was one of Robert Gwang's deputies; blamed for a series of attacks on Kaka town; negotiating integration in Juba, most of his 3,000 men wait in Fashoda county.
Alyuak Ogot Akol	SSDM/A-Upper Nile	Some 360 men spread across Upper Nile and South Kordofan (Kuek Magenes, Ruwat, Umjalala, Umrawat, Hamra, Abu Jepeah)	Accepted amnesty	Former commissioner of Many County, dismissed in 2008 and defected; allegedly linked to SPLM-DC. In October 2013, 250 of his men turned themselves in to the SPLA in Many county, Upper Nile.
Gordon Kong	SSDF	His troops are in Bwat, Tadamun county, Blue Nile	Reportedly accepted amnesty, then reneged	His troops make frequent forays into Upper Nile; his troops may have dwindled; many came in with John Duit.
Muntu Mutallah Abdallah	SSDF affiliate	Co-located with Gordon Kong's troops in Bwat, Blue Nile	Active	Ethnic Brun; former commissioner of Maban; began his insurgency after 2010 elections.
Mohamed Chol Amir	SSDF affiliate	Co-located with troops of Gordon Kong and Muntu Abdallah in Bwat, Blue Nile	Active but may be considering integration	Ethnic Dinka; former commissioner of Renk.
Kamal Loma	SSDF affiliate	Co-located with Gordon Kong's troops in Bwat, Blue Nile	Active and recruiting	Ethnic Maban; SPLA commanders in Upper Nile were not aware of this group.
James Bogo	SSDF affiliate	Bwat, Blue Nile	Active and recruiting	Ethnic Shilluk; working with Kamal Loma.

Commander	Force name/ affiliation	Location	Status	Notes
Bapiny Monituel	South Sudan Liberation Movement/Army (SSLM/A)	Now in Juba negotiating with SPLM/A	Accepted amnesty	Bul Nuer from Mayom; took over leadership of SSLA in September 2012. His forces are awaiting integration in Mayom.
James Gai Yoach	SSLM/A	Now in Khartoum; some 300 of his men are in South Kordofan/Unity border areas	Arrested in Khartoum in September 2012 with some of his men	A Jagei Nuer, he was leader of SSLM/A after Gadet's surrender to SPLA, with Bapiny Monituel as his deputy. Was active in South Kordofan, Unity, and had forces in Upper Nile.
Karlos Kuol	SSLM/A	Was in Khartoum, now in Juba negotiating with the SPLM/A	Accepted amnesty	A Bul Nuer from Mayom, he was Gadet's 2nd in command; he stayed in Khartoum when Gadet joined the SPLA. Puljang commanded his forces in South Kordofan.
Matthew Puljang	SSLM/A	Was based in Kilo 23, now in Mayom	Accepted amnesty	A Bul Nuer from Mayom, now awaiting integration.
Bipen Machar	SSLM/A	Was based in Kilo 23, now in Mayom	Accepted amnesty	A Bul Nuer from Mayom, came into Mayom with 3,000 men awaiting integration.

Source: HSBA (2013, p. 2)

with a 2007 survey of the group's terrorization of the Equatorias region and the Juba-mediated peace process between the group and the Government of Uganda [WP8]. Subsequently, the project provided bi-monthly Facts & Figures updates on the group's activities in South Sudan and efforts to contain and ultimately crush it. As of mid-2016 the LRA remained greatly diminished and not the significant threat in South Sudan that it was even a few years ago, but the group has shown a talent for resurfacing after long periods of dormancy.

Future focus areas

The precariousness of South Sudan's peace process, the sidelining of Riek Machar, the lack of full coordination and common objectives among anti-government forces, and the ongoing conflicts in Darfur and the Two Areas indicate that armed groups must remain a focus of attention and research for the project. The HSBA's main

research activities—the mapping of armed groups and periodic in-depth studies of their roles in conflict dynamics—fill an important information niche.

While informative and valuable, mapping exercises have limits. The HSBA intends to expand its analysis of the challenges inherent in the integration of armed groups into the SPLA; assess the extent to which the prospect of integration has served as an incentive to abandon rebellions in South Sudan; and identify pathways that may foster reconciliation between formerly bitter enemies. Incisive analysis in these areas could help national stakeholders and the international community support efforts to bring conflict parties together in a genuine spirit of peace.

In its monitoring of the vectors of armed violence, the HSBA will continue to pay attention not only to non-state rebel groups and tribal militias, but also to elements of the official armed forces of both countries.

IV. Armed violence

Armed violence comprises the use of weapons in the context of armed conflicts—as in Darfur, the Two Areas, and the South Sudan civil war—as well as in tribal conflicts, cattle rustling, and interpersonal criminal violence. Researchers who are based outside Sudan and South Sudan have not enjoyed access to official statistics on these types of violence, nor have they been able to discern whether agencies have established violence monitoring mechanisms, such as are normally within the purview of security, law enforcement, and health authorities. In South Sudan, the national infrastructure for collecting violent injury and mortality statistics remains aspirational. Similarly, peacekeeping forces, United Nations bodies, and international organizations lack the capacity, funding, reach, mandate, or technical skills to provide scientifically valid estimates of the toll of armed violence. Yet providing more accurate estimates of armed violence impacts would be an important contribution to policy and programming discussions.

The context

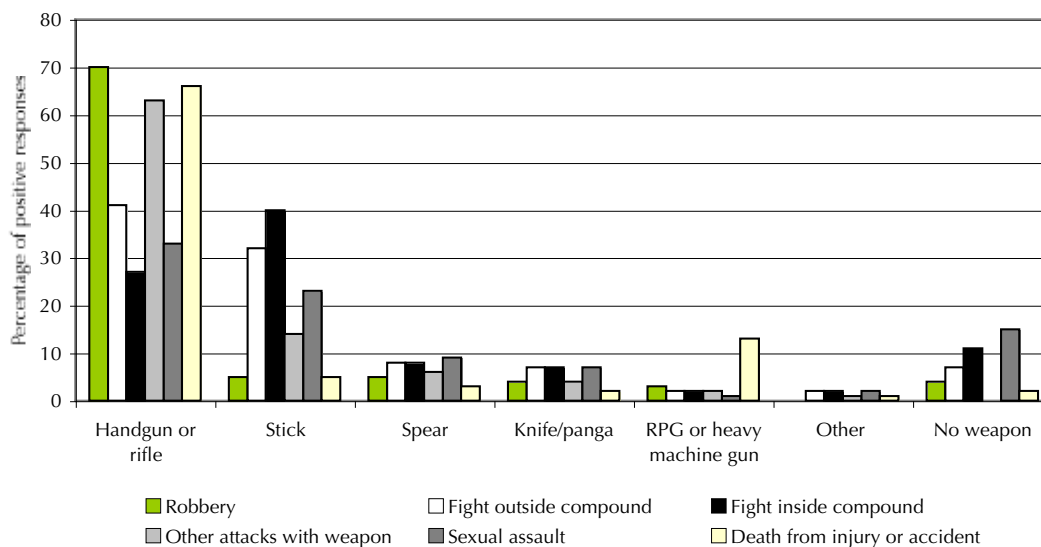
The scale of deaths directly or indirectly due to armed violence over the past 20 years in Sudan and South Sudan must be estimated in the hundreds of thousands. The estimates vary greatly, however. Conflict death tallies for the period 2003–05 in Darfur alone range from 134,000 to almost 400,000. Accurate displacement figures are also difficult to come by: each new battle in South Sudan is said to displace a suspiciously round number of civilians (such as 10,000). Although organizations have begun to aggregate information from a variety of secondary sources (such as the news media and NGOs), the resulting data sets are only slightly better than their sources,

which are often weak. In the absence of richer, more precise information, they nevertheless fill an important gap. The HSBA's ultimate aim, however, is to shift from secondary sources to primary ones—that is, to generate data through monitoring on the ground.

HSBA research

In 2007–09, the HSBA conducted state-level household surveys to estimate direct violent victimization and perceptions of security among communities in South Sudan, with data disaggregated by sex, age group, weapon type, and location. Although these studies were geographically limited, not generalizable, and based on relatively small sample sizes, they have generated important findings about the experiences and attitudes of civilians in areas affected by different forms of violence, their experience of victimization, use of guns, and willingness to consider disarmament campaigns.

The project's survey in Lakes state in 2006 was the first such victimization survey ever conducted in South Sudan **[IB1, WP2]**. It found that victimization with guns was frequent (see Figure 3); it also revealed that in cases of armed robbery, sexual assault, and deaths from violent incidents, the weapons used were predominately handguns and rifles, while assault rifles were the most common weapon owned among respondents who acknowledged having at least one gun in the household. More than half of Lakes respondents reported that their security had not improved in the year since the end of the civil war. Respondents also said they viewed disarmament and SSR—especially police training—as policy priorities to reduce insecurity and violence as priorities.

Figure 3 Weapons used in violent incidents, Lakes state, 2006

When the HSBA repeated these exercises in Jonglei and Eastern Equatoria (and neighbouring Turkana North, Kenya), they revealed a significant diversity in attitudes, pointing to the importance of local violence dynamics in shaping attitudes about security, security providers, guns and gun carrying, and expectations for the future. In Eastern Equatoria, security dynamics included cattle rustling, conflict over natural resources, weak governance, SPLA abuses, armed group activity, and land and border disputes.

Future focus areas

While methodological advances have been made in the study of small arms flows into Sudan and South Sudan, particularly with regard to arms and ammunition identification and tracing, research into the pervasiveness and impacts of specific kinds of armed violence has not significantly evolved beyond local surveys and secondary

source aggregation. Further, large aggregate numbers of conflict deaths may be of limited policy relevance. The collection of more detailed information through single surveys is time-consuming and costly, and generates only a single set of data points.

The time may soon be ripe for an evolutionary leap, from one-off surveys to longer-term violence monitoring. By mid-2016, a number of small (non-HSBA) initiatives had been fielded to gather violence information directly from community sources on a regular basis, yet such efforts remain nascent, coordination limited, and pay-offs for affected communities minimal. There is a great need to bring together multiple sources of data in a common pool that observes minimum standards and uses open access and dissemination methods. The HSBA is already conducting a scoping exercise in South Sudan to assess what information is being gathered, the capacities of participating organizations, and technical and logistical gaps. In line with the monitoring mandate of institutions created

by the Intergovernmental Authority on Development (IGAD)-mediated peace agreement, armed violence monitoring would support not only local security provision, but also the peace process and transitional government.

As the situation in Sudan remains less developed than in South Sudan, the expectations for the HSBA are more modest: to continue to build relationships with Sudanese stakeholders—state and non-state—to gain access to conflict-affected areas that would allow for informal qualitative assessments, and to secure access to official government armed violence data.

V. Security provision

As the project's perception surveys have shown, state security provision is an important factor in shaping civilians' attitudes about guns and community behaviours, such as weapon carrying and informal security arrangements. In South Sudan, law enforcement has until very recently been dominated by the SPLA, and police presence continues to be weak in most areas. Moreover, the scope of state security promotion exercises has been extremely narrow, with disarmament as the primary intervention. The elephants in the room in discussions of state security provision are the predatory behaviour of security actors against communities they regard as enemies, and the lack of a culture of policing focusing on civilian security promotion. Besides being a reflection of the contested legitimacy of state authorities (see Section III), this state of affairs is the legacy of decades of conflict in which communities were pitted against one another only to be somewhat artificially and superficially 'reunited' without reconciliation of any kind.

The context

Many communities in South Sudan provide their own security because the state security apparatus is absent (in the case of the police) or antagonistic (in the case of the army). Anti-government commanders may nominally respond to the latter concerns and take over the responsibility of providing security in areas they control, but whether these steps are effective in improving security has much to do with the perceived legitimacy of the rebel commanders and the loyalty of the communities they claim to control. Less formal community security arrangements may also be a mixture of security provision and collective vigilantism.

In South Sudan, the transformation of the army and the police, both highly militarized and drawn from the same pool of civil war-era fighters, will be a long-term process. The descent into renewed conflict beginning in December 2013—and the conflict of July 2016—halted most transformation activities. The IGAD peace process offers new opportunities for revitalizing it—but also risks repeating some old errors from the CPA interim period.

HSBA research

HSBA research in the area of security provision has focused on the interrelated issues of civilian disarmament, SPLA (and police) transformation, DDR, and local security arrangements [IB3, IB17, IB25, WP2, WP11, WP16, WP21, WP23, WP24, WP27].

Civilian disarmament

Civilian disarmament, for which the CPA provided limited guidance, is widely viewed inside the GRSS and SPLA as a key step in bringing security to the region [IB3, WP11, WP16]. The HSBA has made numerous assessments of the campaigns undertaken to date. These have been driven by ad hoc security concerns, with little strategic planning or overarching methods, and no connection to long-term security provision. As a result, they have generally failed to disarm communities effectively, and have often been associated with community resistance and loss of life. UN agencies have provided assistance in such efforts, but taken criticism when the campaigns turned repressive and violent.

After sporadic attempts to disarm areas where violence was pronounced, the government announced a six-month national disarmament campaign in mid-2008. Yet, because

there was little planning and almost no support from Juba, half of the states did not implement it at all. Given these conditions, and declining confidence in the CPA, there was no discernible impact on security levels in the months after the campaign [WP16].

A national disarmament campaign in the current tense atmosphere—in which the transitional government is barely operating—should not be expected (or pursued). Most likely, it will need to wait until after national and state elections bring democratically chosen officials to office, and the long-awaited Firearms Bill is implemented, instituting gun ownership regulations for the first time. This logic assumes that the elections will not be contested—and that is a major assumption; only then could planning for the disarmament of civilians normally take place. Planning should be systematic and involve a range of stakeholders, including consultations with community members and NGOs, and a widespread sensitization campaign would be necessary. These are some of the lessons that have been learned from analyses of previous campaigns [IB3]. Another crucial lesson is that civilians are unlikely to give up their weapons if there is no state security presence to protect them once they are disarmed. This is why disarmament should be carried out in parallel to, or even after, security sector transformation.

Security sector transformation

In the early phases of the HSBA, researchers were already raising the question of the extent to which the army could transform ‘from a highly militarized rebel movement into a politically independent army and democratic party’ or could develop ‘a culture of accountability and transparency’ that ‘eschew[s] rule by excessive military force’ (HSBA, 2006b, p. 7).

As the project progressed, it became increasingly apparent that the SPLA continued to fear renewed conflict with Sudan, driving the army leadership even further towards a war footing and putting off the necessary reform planning. Furthermore, the integration of tens of thousands of former enemy armed group members into the SPLA’s ranks presented a major threat to the cohesion

and effectiveness of the army; that threat had not been properly anticipated or managed, which made postponement of transformation even more attractive [WP23].

Police transformation in post-conflict environments is always a difficult task. It is even more challenging when there is no history or institutional memory of civilian policing and nearly impossible when conflict is still ongoing. Such is the case in South Sudan. Despite some early successes, including the 2011 referendum overseen by the interim South Sudan National Police Service (SSNPS), efforts to create a viable police force from the rank and file SPLA veterans and integrated rebel militias have been fraught. As of early 2016, the SSNPS remained essentially a paramilitary force and was perceived as more undisciplined and under-resourced than the army [IB25].

The Agreement on the Resolution of the Conflict in the Republic of South Sudan (ARCSS) sets up an architecture designed to move security sector transformation forward in South Sudan. It calls for a strategic defence and security review (SDSR), something that analysts have long advocated for guiding transformation. But almost a year after the agreement, this process is moving slowly, while key disagreements between the conflict parties and sporadic fighting persist.

The provisions of the ARCSS that call for Joint Integrated Police units to provide security in the main urban areas of South Sudan recalls the CPA’s Joint Integrated Units (JIUs) of the armed forces. In both cases, the integrated forces are supposed to cooperate as a means of sharing authority and building relationships of trust and cooperation during a post-agreement transitional period and as a basis for a future unified force. The lessons from the JIUs (2006–11) are not wholly positive, however, as those units were marked by deployment delays, ethnic rivalries, poor integration of rival forces, weak command and control, and a lack of training [IB10]. In the latter phases of the CPA’s interim period, some of the JIU components broke apart and fought one another and civilians, as occurred in 2011 in Malakal. It is important that these issues not recur, especially in the current, highly volatile environment.

DDR

Post-conflict DDR in Sudan and South Sudan was a massive operation, and the HSBA has provided numerous explorations of its nominal successes and significant limitations, which were evidenced by an outcome far below the expected 180,000 demobilized men (see Table 4) [IB17, WP21, WP24]. A central issue in South Sudan can be traced back to early disagreements between the SPLA and its institutional partners—UNDP, UNMIS,



An SPLA veteran visits the War Heroes office at the Yei army barracks, South Sudan, May 2010. © Trevor Snapp

and others—about what DDR was supposed to achieve. The SPLA saw it as a means of providing benefits to former soldiers, whereas the international community, which was funding and guiding the operation, saw it as a downsizing and security-building exercise. The SPLA never fully bought into the process. On the eve of southern secession, DDR had had no discernible effect on the force size; in fact, new recruitment probably outpaced the demobilization of fighters [WP23].

There is no doubt that the government recognizes both the need to treat its former fighters with honour and dignity, and the importance of downsizing from its current unsustainable size, which is a crushing financial burden. Whatever process is identified will need to be fully owned by the GRSS and the SPLA, endorsed by the donors, and actively supported by communities. That is a particularly narrow needle to thread. HSBA research suggests that the previous programme's focus on individual, rather than community-based, reintegration should be reconsidered; that the sequencing of planning and implementation should be clear; and that better linkages are needed between DDR and other security-related areas, such as policing, SSR, and small arms control [WP21].

The future of DDR, like security sector transformation, now depends on the implementation of the ARCSS, which as of August 2016 was extremely fragile. Furthermore, while the agreement makes explicit reference to the integration of both the police and the armed forces, DDR is mentioned almost as an afterthought. The guidance provided in the SDSR will be of central importance. But it is hard to envision a genuine DDR process when there is still significant disagreement between the conflict parties on critical issues such as the cantonment of forces. Like civilian disarmament, DDR is probably best postponed until confidence and trust can be built between the conflict parties.

Local security arrangements

As already noted, many communities in South Sudan must provide their own security. Some do so with the

Table 4 Sudan's state of demobilization as of 23 January 2011

Demobilization site	Total anticipated caseload	Total demobilized to date	Balance remaining	Status of disarmament and demobilization operation
Ed Damazin	5,790	5,442	348	Completed
Ed Damazin (phase 2)	3,500	0	3,500	Planned
Julud	3,047	3,023	24	Completed
Kauda	4,705	4,705	0	Completed
Kadugli	9,900	9,900	0	Completed
Kadugli (phase 2)	7,217	1,887	5,330	Ongoing
Kadugli (phase 3)	9,970	0	9,970	Planned
Khartoum	6,500	2,461	4,039	Ongoing
Abyei	2,000	0	2,000	Planned
SUB-TOTAL (North)	52,629	27,418*	25,211	
Juba (Mangala)	2,116	2,116	0	Completed
Juba (phase 2)	2,756	0	2,756	Planned
Rumbek	3,752	3,675	77	Completed
Aweil	2,844	2,844	0	Completed
Torit	2,613	1,077	1,536	Ongoing
Wau	3,600	1,310	2,290	Ongoing
Kwajok	5,450	0	5,450	Planned
Bentiu	2,926	0	2,926	Planned
Malakal	4,276	0	4,276	Planned
Bor	6,308	0	6,308	Planned
SUB-TOTAL (South)	36,641	11,022	25,619	
TOTAL	89,270	38,440 (43%)	50,830 (57%)	

Note: * The total figure of those demobilized at sites in northern Sudan also includes some ex-combatants from the SPLA (such as in Julud and Kauda).

Source: Nichols (2011, p. 28)

approval or even cooperation of state security providers, while others do so independently or unofficially. The HSBA has explored the extent to which so-called LSAs succeed, as well as their associated pitfalls. The need for communities and individuals to protect themselves is clearly one factor driving the demand for arms [IB23].

HSBA research on LSAs in Greater Upper Nile suggests that while they can provide protection to civilians, they have also contributed to cycles of violence and revenge; some have been cited in connection with human rights abuses, such as extrajudicial killings, and armed attacks on other communities. In general, more oversight of LSAs is needed by local government officials and traditional leaders to ensure that they operate effectively and within the law. In recent years, traditional authorities have clearly lost some legitimacy across the country, but they still enjoy a great deal of local support as non-violent negotiators between rival communities. LSAs are paradigmatic ‘bottom-up’ arrangements with the potential to fill the security vacuum, but they require careful management and consensus.

Future focus areas

Given the persistent challenges to reforming and extending the state security apparatus, the future of security in South Sudan will probably continue to draw on some combination of state- and community-organized arrangements, and formal and informal mechanisms. How the mix is achieved, and how the security benefits can be maximized and the security risks minimized, is an important area for future study.

Many of the same security issues that came to the fore following the CPA – DDR, security sector transformation, and civilian disarmament – are once again on the agenda in South Sudan following the ARCSS. The studies that the HSBA has generated on previous efforts in these areas contain important lessons for future endeavours. Institutional memories are poor, but lessons have been captured, and repeating the same mistakes would be a waste that South Sudan could ill afford.

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VI. Looking ahead: future goals and needs

In Sudan and South Sudan, the past is present and memories are long. It is important for institutional partners and donors to remember, too. Many of the security and development challenges facing the two countries in 2016—especially in South Sudan—were present in the immediate aftermath of the CPA. The experiences and lessons of DDR, SSR, civilian disarmament, and an arms embargo on Darfur must be assimilated in the months and years ahead, as new variations of these policies, programmes, and sanctions take shape. The HSBA has made significant contributions to assessing the benefits and shortfalls of previous efforts, and it will consolidate and build on those evaluations in the future, while continuing to enhance our understanding of dynamics on the ground.

This report is one step in that direction. But consultations with our stakeholders, through the 2016 Symposium and a retrospective project evaluation, suggest that the project should take a more proactive stance to ensure that its research findings reach audiences that are positioned to make use of them in designing and planning policies, programmes, and interventions to reduce armed violence and curb the illicit proliferation of small arms. That means supplementing our publications stream by taking on advisory roles to relevant national, regional, and international bodies.

One important area in which to forge ahead is in support of the institutions established to implement the peace process in South Sudan—in particular the Ceasefire and Transitional Security Arrangements Monitoring Mechanism and the Joint Monitoring and Evaluation Commission. In particular, as highlighted in Section IV, the HSBA is well positioned to start to assess and pull together

different sources of primary data on armed violence. The Small Arms Survey is already on the ground, building additional monitoring assets that could be deployed to significantly boost armed violence surveillance across the country.

The HSBA has always taken an integrated approach to its analysis, as its thematic areas are deeply intertwined and cannot be looked at in isolation. Ten years after the project's founding, in view of the evolving conflicts in the two countries, the need for empirical research into all aspects of armed violence and the role of small arms and light weapons remains urgent. In mid-2016, armed skirmishes in South Sudan and Darfur continued to claim lives and displace civilians from their homes. There is little sign that these conflicts will end anytime soon.

Indeed, the shifting conflict dynamics in the two countries have made locating a 'baseline'—in the sense of a point of reference against which future violence, arms flows, and dynamics can be measured—elusive. For that goal to be achieved, it may be necessary to move from single research publications to more systematic monitoring efforts. In South Sudan, much depends on the willingness of powerful elites to fulfil the conditions, obligations, and spirit of the peace agreement, before such monitoring systems can be developed.

In Sudan, the mechanisms of governance and security have generally remained impervious to empirical research by external experts, although periodic feedback has made clear that Small Arms Survey research is eagerly read by government and army officials. The Sudanese state apparatus has been adept at adapting to changing dynamics in many areas, but transparency in security programming remains weak. It will be important in the next phases of

the project to expand the opportunities to engage with Sudanese stakeholders, including not only officials but also research institutions that have significant value and perspective to add to the HSBA's fieldwork-based investigations, as well as their uptake and dissemination.

These reflections, which go beyond a discussion of research priorities and approaches, are warranted because the ultimate aim of this work is to inform the development, implementation, and monitoring of programming and policy-making to improve human security in the two countries. Much work remains to be done if that objective is to be met—and whether we reach that goal depends on a wide range of actors. In consultation with its stakeholders and donors, the HSBA will evolve and innovate in the years ahead to ensure that its outputs, analysis, and findings are properly positioned to assist in enhancing security and encouraging development in Sudan and South Sudan.

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