



UNIDIR

FULL REPORT

Unregulated Production

Examining Craft-produced Weapons from a Global Perspective

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Acronyms & Abbreviations

ACAD	Computer-aided design
CNC	Computer numerical control
ECOWAS	Economic Community of West African States
GBV	Gender-based violence
ITI	International Tracing Instrument
NSAG	Non-State Armed Groups
POA	United Nations Programme of Action to Prevent, Combat and Eradicate the Illicit Trade in Small Arms and Light Weapons in All Its Aspects
SALW	Small arms and light weapons
SLECAA	Sierra Leone Commission on Arms and Ammunition
WEOG	Western European and Other States Group

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Summary

Craft production of small arms and light weapons (SALW) is a global and long-standing phenomenon. While manufacturing techniques – both traditional and emerging – evolve at a fast pace, knowledge on craft production remains localized and fragmented. This is compounded by a lack of a universally agreed definition of craft production.

In June 2023, UNIDIR initiated research examining craft production of small arms and light weapons (SALW).¹ The objective of this research is to increase knowledge and understanding of craft-produced SALW and raise awareness of the challenges for preventing and addressing their illicit proliferation, trafficking and misuse. This report aspires to be a first step towards a global and more comprehensive dialogue on the issue of craft-produced SALW. The findings presented in it draw primarily on UNIDIR’s “Global survey on addressing the global craft production of SALW”, which was distributed to all United Nations Member States throughout 2023 and in early 2024. A total of 80 countries from all regions of the world contributed to this study by completing the survey.

This report explores key types of craft-produced weapon and manufacturing techniques, and profiles the main actors involved in the production and use of these weapons. It also delves into the existing international, regional, and national frameworks that regulate illicit manufacturing and address, most often implicitly, the issue of craft production. Finally, it considers key challenges to efforts to address this global challenge and avenues to improve these efforts. This report intends to provide international and regional organizations and states, in particular their law enforcement agencies, with a representative, yet non-exhaustive, benchmark on the issue of craft production of SALW. The report encourages a new, global dialogue on this critical issue.

¹ In the context of this research, craft production of SALW is used as an umbrella term for all types of non-industrially produced SALW including artisanal, improvised, home-made, workshop-made, self-fabricated or privately made weapons. The key terms and definitions used in this research are based on the [Modular Small-Arms-Control Implementation Compendium, Glossary of terms, definitions and abbreviations](#), Version 1.6, 6 June 2022; and the [Technical Guide to the Implementation of the Protocol against the Illicit Manufacturing of and Trafficking in Firearms](#).

Key Findings

- Craft production of SALW and their components affects every region of the world. 58 of the 80 United Nations Member States that responded to the UNIDIR survey indicated that craft-produced SALW were being used or produced in their country.
- Craft production of SALW and their components is a transnational issue. Craft-produced SALW are trafficked across borders. In addition, web platforms enable the sharing of knowledge to produce weapons (e.g., production manuals, blueprints, guides) and facilitate the movement of key components for manufacturing across borders.
- The lack of a common understanding and knowledge of craft production, and of the different manufacturing types, poses an obstacle for comprehensive international and regional approaches to mitigating the harm caused by such weapons. International and regional regulatory instruments only address the issue implicitly via provisions on illicit manufacturing. Discussions on how to ensure that such instruments cover craft production of SALW are therefore pressing.
- Based on responses to the UNIDIR survey, there are three main national approaches to regulating craft production: (a) national laws and regulations that prohibit and criminalize all types of illicit manufacturing, including craft production; (b) national laws and regulations that prohibit and criminalize certain types of craft production, but which provide for government authorization to permit other types; and (c) national laws and regulations that enable government control, registration and monitoring of craft production.
- Craft production is characterized by a multitude of users and producers. Comprehensive knowledge on the actors involved in craft production at the national, regional and international levels, is critical for understanding drivers of demand and supply, as well as to strengthen regulatory approaches. This, combined with a wider understanding of available knowledge and tools for production, particularly across online platforms, can contribute to enhancing detection and control and identifying legal loopholes.
- In contexts in which craft production represents a deeply rooted cultural and economic activity, the sustainable provision of alternative livelihoods or accessible licensing mechanisms is critical. Increased national knowledge and data on local manufacturers, as well as on drivers of demand and supply, are key. Furthermore, the allocation of resources to build alternative livelihoods needs to be sustainable.
- Scarce data collection and limited information-sharing appear to be significant challenges across countries. These, in turn, negatively affect the implementation and strengthening of national and regional legislative frameworks and their response to developments in craft production. Existing databases can be improved and better harnessed to facilitate more accurate, accessible and centralized information-sharing.

1. Introduction

Not all lethal small arms and light weapons (SALW) are industrially manufactured. In recent years, the use of craft-produced SALW has been increasingly reported in episodes of armed violence, terrorism and criminality around the globe.² In Ghana, functioning automatic or semi-automatic weapons are produced by highly skilled gunsmiths;³ in Australia, the United States and across European countries, 3D-printed weapons are proliferating among enthusiasts and unauthorized users;⁴ in Brazil, criminals have been resorting to high-quality copies of industrial sub-machine guns and rifles;⁵ and in Myanmar, non-state armed groups have been manufacturing their own arsenals.⁶ From a global arms control standpoint, these may seem to be separate issues, each with their own context. However, they are very similar in nature: these weapons are all produced in a non-industrial manner, and they are being increasingly used to cause human suffering. While in some cases craft production can be licensed, and hence legal, available evidence shows that most of these weapons are illegally produced and trafficked.⁷

Craft production is a global phenomenon (see Figure 1). According to one expert, “It is not about if you will see it in your country, it is about when.”⁸ Yet, despite its global nature, craft production of SALW lacks a universally agreed definition. These weapons are also referred to as artisanal, improvised, home-made, workshop-made, self-fabricated or privately made weapons. While most of this terminology – the fragmentation of which is a challenge in itself – hints at relatively rudimentary manufacturing, the quality and sophistication of craft-produced SALW have significantly increased in the last decade. Not only have new technologies and manufacturing techniques broadened the frontiers of craft production, but skilled blacksmiths and producers around the globe have been refining traditional methods in order to produce high-quality copies of industrially produced SALW. Existing terminology does not accurately capture the range of production types and their sophistication. This extends to the lack of regional and international agreement on appropriate terms for different types of production. Acknowledging the limitations posed by the lack of shared terminology, this research uses the term *craft production* as an umbrella term for all types of non-industrial manufacturing. It includes all SALW produced or assembled, by an individual or a group, using a hand-powered toolset, pillar drills, belt grinders, lathes or other machines, including computer numerical control (CNC) machines and 3D printers, as well as the conversion or reactivation of non-lethal weapons.

² In this report, **small arms and light weapons** are understood as any man-portable lethal weapon designed for individual use, or for use by two or three people serving as a crew (although some may be carried and used by a single person), that expels or launches, is designed to expel or launch, or may be readily converted to expel or launch a shot, bullet or projectile by the action of an explosive. This also includes the terms “**firearms**” and “**weapons**”, which are used interchangeably in this report to refer to any portable barrelled weapon (excluding antique firearms or their replicas) that expels, is designed to expel or may be readily converted to expel a shot, bullet or projectile by the action of an explosive.

³ ENACT Africa, “Ghana’s Artisanal Arms Market Should Be Regulated”, 25 October 2023, <https://enactafrica.org/enact-observer/ghanas-artisanal-arms-market-should-be-regulated>.

⁴ Stefan Schaufelbühl et al., “The Emergence of 3D-Printed Firearms: An Analysis of Media and Law Enforcement Reports”, *Forensic Science International: Synergy*, vol. 8 (January 2024): 100464, <https://doi.org/10.1016/j.fsisyn.2024.100464>.

⁵ Henry Shuldiner, “Brazil Arms Traffickers Used Portable Technology to Manufacture Gun Parts”, InSight Crime, 18 March 2022, <http://insightcrime.org/news/brazil-arms-traffickers-used-portable-technology-to-manufacture-gun-parts/>.

⁶ Robert Bociaga, “Myanmar Fighters Continue Improvising in Struggle Against Junta”, *Defense Post*, 18 July 2022, <https://www.thedefensepost.com/2022/07/18/myanmar-fighters-improvised-weapons/>.

⁷ Information collected through UNIDIR’s survey and during interviews with experts.

⁸ Information collected during a UNIDIR interview with expert.

The lack of a common understanding of craft production of SALW at the international level has an impact on regulatory and law enforcement efforts around the world. While existing instruments, such as the United Nations Programme of Action to Prevent, Combat and Eradicate the Illicit Trade in Small Arms and Light Weapons in All Its Aspects (PoA) and the United Nations Protocol against the Illicit Manufacturing and Trafficking in Firearms, their Parts and Components and Ammunition (Firearms Protocol), call for the criminalization of illicit manufacturing, they make no explicit reference to craft production. Regulation, detection, and control of such production varies across and within regions. Additionally, low levels of knowledge and data, lack of information-sharing, as well as the cultural and economic value of craft production have made the implementation and improvement of national legislative frameworks difficult. Addressing and preventing craft production, therefore, goes beyond the binary approaches of regulation and criminalization: it requires a more comprehensive understanding of the issue that, while offering a global perspective, acknowledges, builds upon and feeds into local solutions.

While local discussions on contextual approaches have begun, no global mapping of responses and of measures to address craft production has been conducted to date. Knowledge and research on the issue remain mainly national and subregional. This report aspires to lay the foundations for a global dialogue on craft production, aiming to increase understanding of its characteristics and developments, and to enhance information-sharing on existing challenges, measures and good practices. In doing so, it intends to contribute to global and regional discussions on illicit manufacturing and trafficking of SALW, drawing attention on the increasing diffusion and complexity of craft production. As a first step, this report aims to provide states and stakeholders engaging in the Fourth Review Conference of the PoA with an initial global benchmark to initiate dialogue on effective measures to address craft production in accordance with different local, national and regional contexts.

The report continues by introducing the different types of craft-produced weapons and manufacturing techniques (in Section 2) and by providing an overview of the actors involved in their production and use (in Section 3). It then describes the obligations and commitments to counter the illicit manufacturing of weapons and ammunition in international (Section 4) and regional (Section 5) conventional arms control instruments, although most of these only address illicit craft production implicitly. An overview of the different approaches taken at the national level to address craft production follows (in Section 6), based on responses to the UNIDIR survey (see Box 1). It notes in particular that, while most respondent states criminalize such production, a smaller number seek to regulate craft production and enhance licensing mechanisms. The report concludes (in Section 7) with an overview of key findings.



Seizure of parts and components for SALW trafficked by an individual via international shipping services. Source: Brazilian Federal Police.

BOX 1.

Methodology

The methodology used to produce this report included: (a) a review of relevant literature and open sources, (b) distribution of UNIDIR's global survey on addressing the global craft production of SALW, and (c) a limited number of targeted interviews with a geographically diverse sample of national authorities and experts.

The review of available literature and open-source material on craft production of SALW for the period 2013–2024 explored its evolution across time, as well as its different manifestations across regions. These sources informed the development of the UNIDIR survey.

The survey itself was distributed to all United Nations Member States between July 2023 and March 2024. It sought to gather information from national authorities to enable a mapping of different types of craft production around the globe and to identify challenges and effective measures to address the illicit proliferation of craft-produced SALW. The survey also looked at the period 2013–2024 and focused only on SALW; it did not collect data on their components, accessories and ammunition. It was distributed to all national points of contact for the PoA as well as permanent missions and capitals. Other relevant stakeholders at the national and regional levels, including law enforcement, civil society organizations and United Nations entities contributed to the survey completion. The survey was translated and distributed in English, French, Spanish, Arabic and Russian. UNIDIR received 80 responses from all regions of the world: 31 Africa states (39 per cent of responses), 15 Latin American and Caribbean states (19 per cent), 13 Western European and Other states (16 per cent), 11 Asia-Pacific states (14 per cent), and 10 Eastern European states (12 per cent).⁹

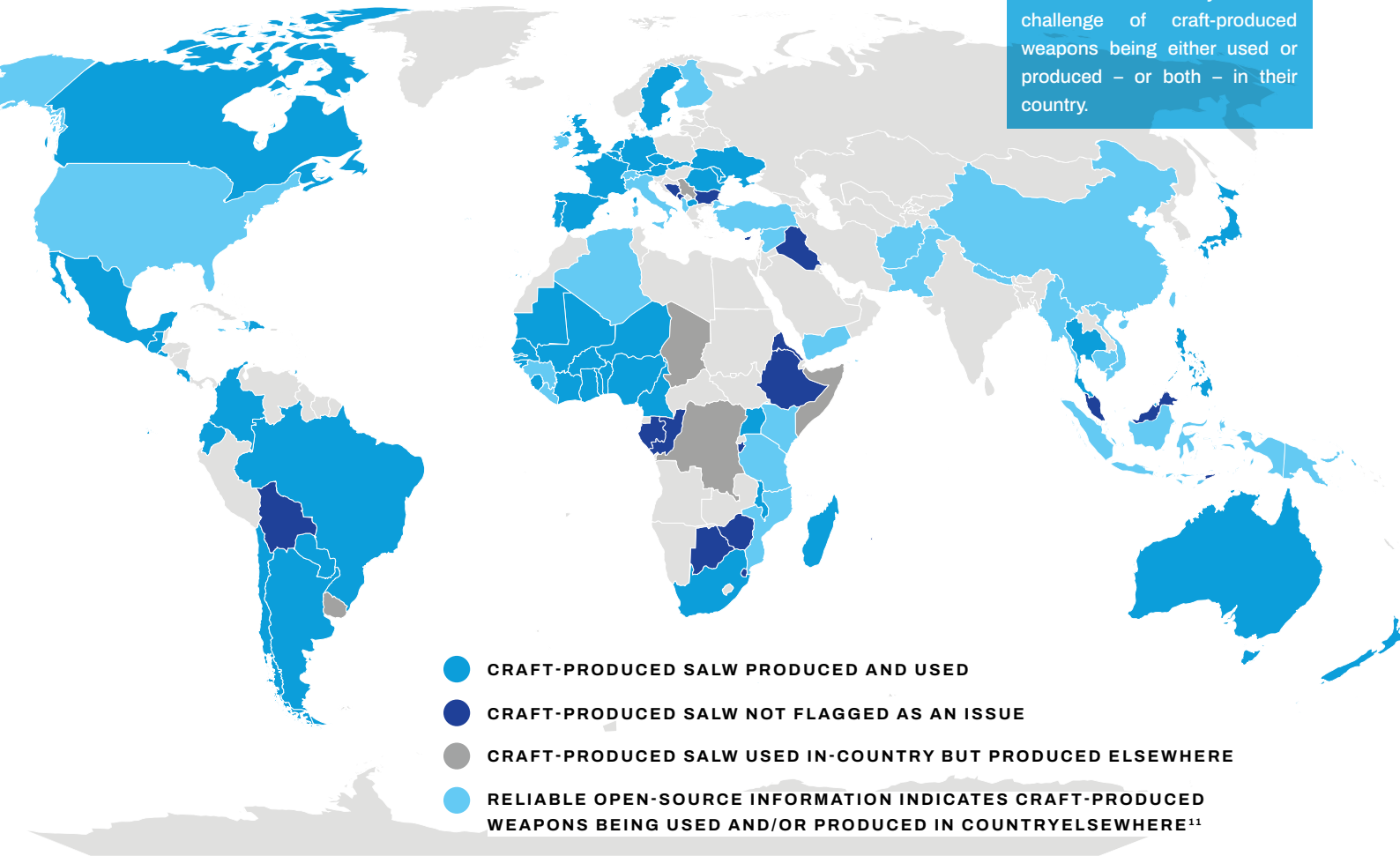
This report does not seek to provide a comprehensive overview of cases of craft production around the globe. Rather, it aims to offer a global overview of the phenomenon and its key characteristics, thereby providing a benchmark for states and stakeholders to enhance further dialogue and cooperation on challenges, effective approaches and good practices. The information presented in the report primarily draws on the data collected through the UNIDIR survey and interviews with experts and national authorities.

⁹ Region here refers to the [United Nations regional groups of Member States](#).

FIGURE 1.

Global Overview of SALW Craft Production¹⁰

Of the 80 countries that responded to UNIDIR's survey, 58 indicated that they face the challenge of craft-produced weapons being either used or produced – or both – in their country.



¹⁰ The information in this map draws on states' responses to the UNIDIR survey, complemented by additional open-source information and research. This map is for illustrative purposes only. The boundaries and designations shown do not imply official endorsement by UNIDIR or the United Nations. The countries represented in light grey did not submit a response to UNIDIR's survey and the author did not have access to reliable and up-to-date open-source information.

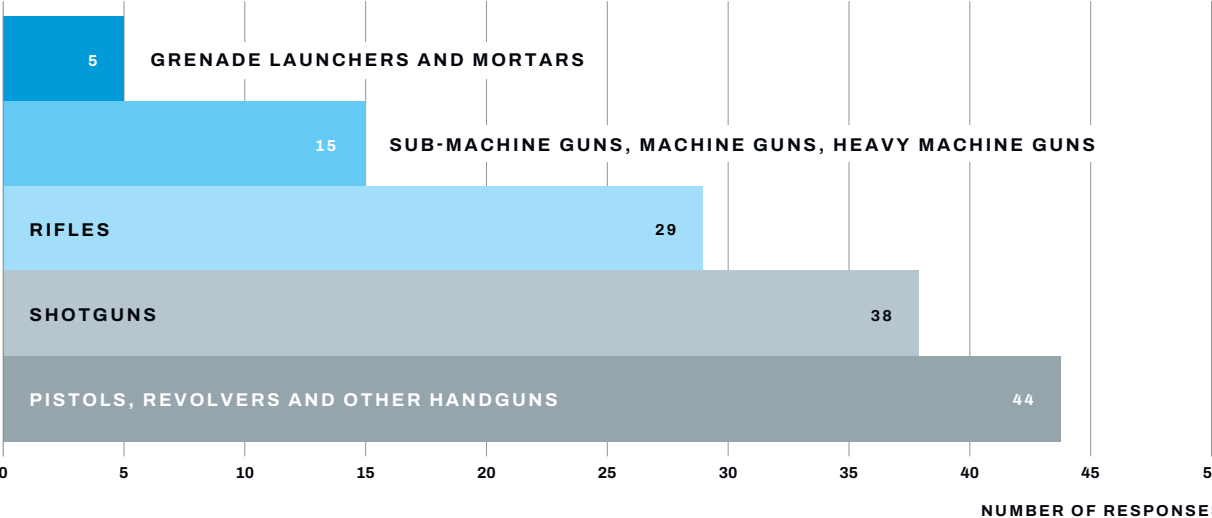
¹¹ For relevant open sources see: Philips Alpers, *Gun-running in Papua New Guinea: From arrows to assault weapons in the southern highlands*, (Geneva: Small Arms Survey, 2021); Conflict Armament Research, *Illicit Weapons in Afghanistan – Issue 02*, (London: CAR, 2022) <https://storymaps.arcgis.com/stories/e881ff05c7234f62bfd9f81892a0327> ; Jamaica Observer, "Antigua and Barbuda police seize 'ghost guns'", September 5, 2023, <https://www.jamaicaobserver.com/2023/09/05/antigua-and-barbuda-police-seize-ghost-guns/> ; Rueben Dass, "3D-printed weapons and the Far-Right: The Finnish Accelerationist Cell", *Global Network on Extremism & Technology*, October 6, 2023; UN News, "Haiti: Gangs have more firepower than the police", *Global perspective Human stories*, April 4, 2024 <https://news.un.org/en/story/2024/04/1148231> ; Omer Ali Saifuden, "Rise of the Underground SE Asian Homemade Gun Industry", *Asia Pacific Security Magazine*, October 12, 2023 <https://www.asiapacificsecuritymagazine.com/rise-of-the-underground-se-asian-homemade-gun-industry/> ; Conor Gallagher, "Alleged right-wing extremist sympathizer awaiting trial over plan to make guns using 3D printer", *The Irish Times*, July 13, 2022 ; UNODC, *Global Study on Firearms Trafficking*, (Vienna: 2020); Junaid Kamal, "Handmade Guns Popular City", *Medium*, April 11, 2023; A.A., "Turkish police seize dozens of illegal weapons in nationwide ops", *Daily Sabah*, December 17, 2023 <https://www.dailysabah.com/turkiye/investigations/turkish-police-seize-dozens-of-illegal-weapons-in-nationwide-ops> ; Yuri Lyamin, "Craft-produced anti-materiel rifles and light cannon in Yemen", *The Hoplite*, Armament Research Services, September 10, 2017; ATF, Bureau of Alcohol, Tobacco, Firearms and Explosives, "[Privately Made Firearms](#)", reviewed last on August 4, 2023; Ministero della Difesa, *Comunicati Stampa*, "23enne indagato per attività con finalità di terrorismo", March 23, 2024 <https://www.carabinieri.it/in-vostro-aiuto/informazioni/comunicati-stampa/23enne-indagato-per-attivita-con-finalita-di-terrorismo> ; Kristopher Carlson, *Firearms and Ammunition Trafficking in Eastern Africa*, Issue Paper 1/2022, (Vienna: UNODC, 2022).

2. Types of Craft-Produced SALW and Manufacturing Techniques

Craft production of SALW occurs in all regions of the world. While this is a global issue, it is not homogeneous across different regions. Building on responses to UNIDIR’s survey, this section provides a representative, yet non-exhaustive, overview of different types of craft-produced SALW and manufacturing techniques.

The survey sought information on craft production of **five main categories of SALW**: (a) pistols, revolvers and other handguns; (b) rifles; (c) shotguns; (d) sub-machine guns, machine guns and heavy machine guns; and (e) grenade launchers and mortars. Just over half of the countries that responded to the survey indicated that craft-produced handguns had been encountered there, and just under half reported the presence of craft-produced shotguns (see Figure 2). Based on an analysis of responses, the former appear most often in the Western Europe and Other States group (WEOG) and Eastern Europe, while the latter are more commonly identified in Africa and Latin America. Craft production of rifles is also reported in Latin America, as well as in WEOG. Globally, the number of countries indicating the craft production of sub-machine and machine guns is lower (15), with almost half being Western. Finally, craft-produced grenade launchers and mortars were only rarely reported in responses to the UNIDIR survey, with only a few instances being reported in Latin America and Africa.

FIGURE 2. Types of Craft-Produced Weapons Identified by Survey Respondents¹²



¹² The bar chart shows the number of state responses that identified each weapons type. Each country, when responding to UNIDIR’s survey, could flag one or more types of weapons.

The manufacturing techniques used to produce these weapons vary. In the absence of an agreed definition of what craft production comprises and, in an attempt to overcome some of the confusion derived from this, the UNIDIR survey sought information on **five main manufacturing techniques** (see Figure 3) and their geographical distribution (see Figure 4). These five techniques are:

- 1. Craft production of entire SALW:** Starting from zero, this technique fully uses non-industrially made components to produce lethal-purpose SALW.¹³ The craft production of entire SALW occurs mostly in Africa and Latin America and the Caribbean. Despite the lower response rate to the UNIDIR survey, this manufacturing technique is also encountered in the Asia-Pacific region.
- 2. Conversion:** The modification of a replica, non-lethal or less-lethal weapon (e.g. blank-firing firearms; less-lethal weapons including “traumatic” weapons and less-lethal launchers) to produce a lethal-purpose one,¹⁴ or the alteration of SALW to transform their function. Conversion is mostly found in WEOG and Eastern Europe. This manufacturing technique was also reported by a smaller number of countries in Latin America and the Caribbean.
- 3. Reactivation:** The full or partial reactivation of deactivated SALW to an operational state. Deactivated weapons are original-purpose (typically lethal) SALW that should have been rendered “permanently” inoperable.¹⁵ Similar to conversion, reactivation is a manufacturing technique that was most commonly reported in WEOG and in Eastern Europe. However, cases of reactivation were also reported by a few African countries.
- 4. Assembly of SALW and components:** This method uses commercially available, industrially produced components, at times mixed with non-industrially produced ones, to assemble lethal-purpose SALW. Multiple emerging manufacturing techniques fall within this category including, among others, polymer fabrication kits; metal mining; and modular firearms production with CNC components (see Box 2). The assembly of SALW is particularly present in Latin America and the Caribbean and in WEOG. It has also been encountered, at a lower rate, in Eastern Europe.
- 5. 3D printing:**¹⁶ This refers to the partial or entire production of lethal-purpose SALW with a 3D printer.¹⁷ This process utilizes computer-aided design (CAD) files, which contain, in addition to designs, all relevant information related to the process (e.g. materials, tolerance). The two most common 3D-printing methods are Fused Deposition Modelling and Stereolithography. 3D printing, of both hybrid and full designs, is generally increasing.¹⁸ It is increasingly reported in WEOG, as well as in Latin America and the Caribbean.¹⁹ Africa survey respondents have not yet encountered 3D printing.

¹³ Fully 3D-printed weapons are included in a stand-alone category (5) below.

¹⁴ Nic R. Jenzen-Jones and Matt Schroeder (eds.), *An Introductory Guide to the Identification of Small Arms, Light Weapons, and Associated Ammunition* (Geneva: Small Arms Survey, 2018), <https://www.smallarmssurvey.org/resource/introductory-guide-identification-small-arms-light-weapons-and-associated-ammunition>.

¹⁵ Ibid.

¹⁶ This report uses the term “3D printing” to refer to the computer-controlled process that allows the production of weapons and components, otherwise known as additive manufacturing (AM). For an overview of 3D-printed firearms and other manufacturing technologies see G. Hays, Ivan T. and N. R. Jenzen-Jones, *Desktop Firearms: Emergent Small Arms Craft Production Technologies* (Perth: Armament Research Services (ARES), 2020).

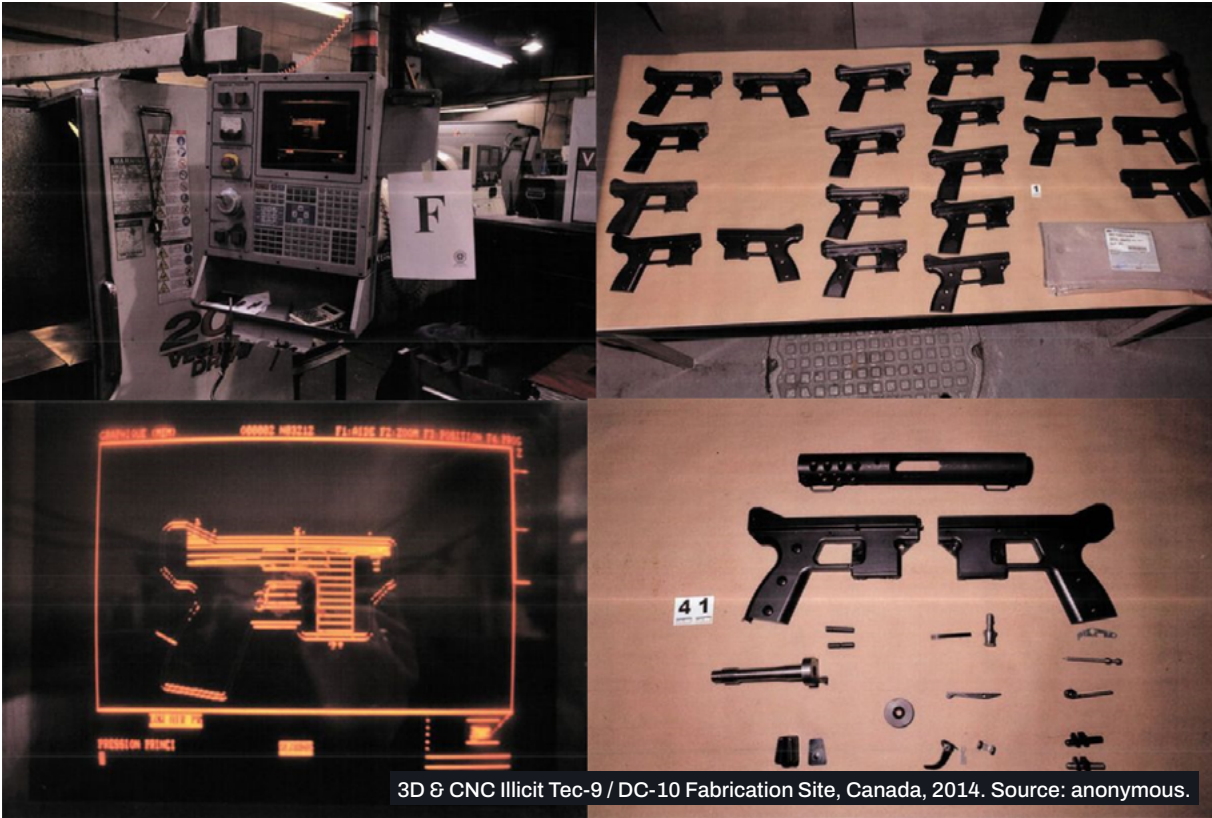
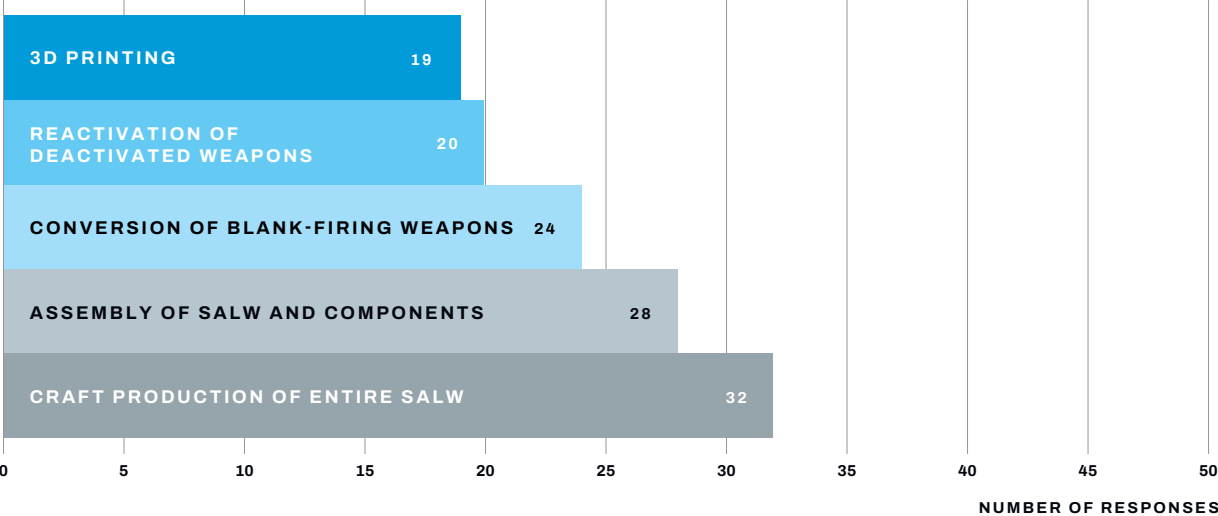
¹⁷ 3D printing is treated as a separate category here given its potential to fabricate fully functioning SALW. However, it should be noted that 3D-printed components are also often assembled with other types of parts, either industrially produced or not, to manufacture lethal-purpose SALW.

¹⁸ This information is based on findings from UNIDIR’s survey and interviews with experts.

¹⁹ This information is based on findings from UNIDIR’s survey and an interview with an expert.

FIGURE 3.

Types of Craft-Weapon Manufacturing Technique Identified by Survey Respondents²⁰



²⁰ For each type of manufacturing, the bar chart gives the number of state responses that indicated that technique. Each country, when responding to the UNIDIR’s survey, could flag one or more manufacturing technique.



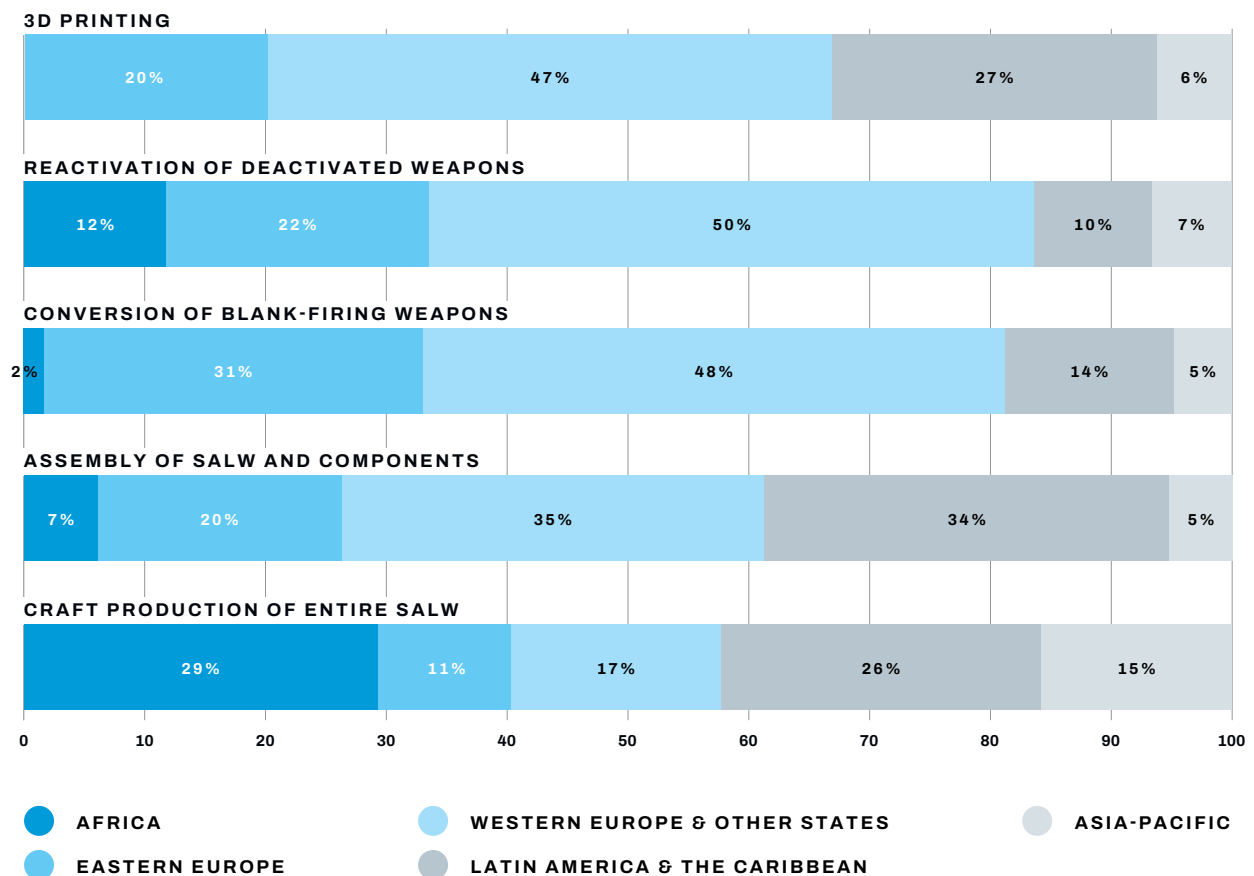
Blank firing pistol Zoraki 925, 9 mm, Chile. Source: Rubén Arancibia.



Converted sub-machine gun blank, 9mm, Chile. Source: Rubén Arancibia.

FIGURE 4.

Geographical Distribution of Types of Manufacturing Technique Identified by Survey Respondents²¹



²¹ The chart represents the regional distribution of responses within each category. To allow data comparison and exclude the bias generated by the different regional responses rates, the percentages were obtained through a normalization/standardization of proportions. This operation allows the comparison of data that differ in dimension. In this case, it permits the comparison of data across types of manufacturing.

BOX 2.

“It is not just 3D printing” – Recent Developments in Privately Made Firearms

Contribution from a firearms investigative and enforcement support specialist (Sgt Ret'd), Royal Canadian Mounted Police

Among modern and emerging manufacturing techniques used in production of privately made firearms,²² 3D printing receives particular attention.²³ While 3D-printed firearms and components are being produced, trafficked and increasingly used around the world, other manufacturing techniques have been used to privately manufacture SALW for years. CNC, for instance, uses computers and CAD programs to control machine tools (e.g., lathes, mills or routers) and drill or cut the material.



Computer Numerical Control Fabricated Semiautomatic pistol, Canada. Source: anonymous.

In this way, it can fabricate from an aluminium blank a complete lower receiver. With the advent of “Ghost Gunner 3”, one of the newest CNC machines, the firearms’ slide, components and suppressor parts can also easily be produced. CNC is also used to complete unfinished 80 per cent polymer lower receivers, which are contained in 80 per cent Polymer Fabrication Kits. The latter include all firearm parts necessary for self-manufacturing, including the unfinished receiver, whose drilling is also possible with common hand tools. Both CNC machines and 80 per cent Kits can be purchased online.

Within the private manufacture domain, and particularly in the United States and Canada, investigators have identified **three key emerging trends**:

- **Zero per cent firearms:** The Ghost Gunner 3 AR-00 kit allows producers to mill a complete and unregistered receiver from an unformed block of metal – from 0 per cent. This recent product consists of a grip module and a CNC fabricated “firearm control assembly” frame that uses Glock 19 G3 components. According to the producer’s website, “the [US Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF)] will attempt to ban the purchase of unserialized 80 per cent lowers. At that time, Ghost Gunner’s AR-00 receiver



Glock Polymer80 w/22LR Complete Upper, CNC Fabricated Auto-Switch & Suppressor, Canada. Source: anonymous.

²² [The United States Bureau of Alcohol, Tobacco, Firearms and Explosives \(ATF\) defines a privately made firearm](#) as “a firearm, including a frame or receiver, completed, assembled, or otherwise produced by a person other than a licensed manufacturer, and without a serial number placed by a licensed manufacturer at the time the firearm was produced”.

²³ Schaufelbühl et al., “The Emergence of 3D-printed Firearms”.

will become the only legal and affordable method of making an unregistered metal lower. The age of 80 per cent is ending. The age of zero has begun.”²⁴

- **Investment casting for components:** This process significantly reduces or removes the need for secondary machining in gun parts. Using a ceramic mould or a 3D-printed shell, it produces smoothly finished weapon components that are consistent from casting to casting. Investment casting appears to be increasingly used in unregulated production to avoid importing components.



Readily convertible Airsoft lower receiver. Source: anonymous.

- **Readily convertible “airsoft” firearms:** Globally, the proliferation of readily convertible firearms disguised as non-lethal devices also appears to be a trend to monitor. In 2022, the Canada Border Services Agency reported a case of rifles being imported as “airsoft” rifles, but which would readily accept a semi-automatic and automatic trigger set and all the components required to discharge actual conventional ammunition.

²⁴ Ghost Gunner, “Zero Percent “, accessed 16 April 2024, <https://ghostgunner.net/zero-percent/>.

Zooming into Latin America and the Caribbean: Representative Seizures



INTERPOL

Contribution from International Criminal Police Organization (INTERPOL)

Operation Trigger IX

Ecuador



In 2022, INTERPOL's *Operation Trigger IX* identified and dismantled an organized criminal group in Ecuador that was engaged in the sophisticated production of firearms, parts and components with the use of 3D printers and CNC machines. The investigation, which brought together INTERPOL, the Ecuadorian Police, and the United States Department of Homeland Security and the Bureau of Alcohol, Tobacco, Firearms and Explosives lasted for over eight months. The operation not only dismantled the group, but also pinpointed its impressive modus operandi: it would purchase parts and components from gun stores in Miami, Florida, concealing them within industrial materials and clothing. These would then be shipped to Ecuador via various means, including courier services and air and maritime transportation. Once in Ecuador, the weapons were assembled, stored and distributed to different countries in Latin America. The untraceable firearms produced by the criminal group, such as high-quality replicas of MP15 rifles, were sold at a fraction of the cost of their conventional counterparts. On average, it was possible to estimate that the criminal group was manufacturing five rifles per week. These weapons are suspected to have been used in various criminal activities, including murders, in Ecuador.



Craft-produced firearms parts seized, Ecuador, 2023. Source: INTERPOL.

Chile

Also within the context of *Operation Trigger IX*, Chile's Investigations Police (PDI), in cooperation with INTERPOL, uncovered a sophisticated operation wherein criminals used 3D printers to manufacture firearm components, including chargers, sound suppressors and auto-switches. This then enabled the conversion of semi-automatic firearms into fully automatic firing weapons – notably Glock pistols. Subsequent raids resulted in the seizure of two 3D printers and digital designs for firearms production. In a separate instance, in November 2023, the Chilean Customs Service intercepted a parcel containing metal and plastic parts resembling rifle magazines, prompting further investigation by the PDI. This led to the discovery of a 3D-printed plastic or polymer-based firearm, undetectable by x-ray machines.



Seizure during Operation Trigger IX, Chile, 2023. Source: INTERPOL.

Operation Trigger VII

Saint Kitts and Nevis

In the framework of *Operation Trigger VII – Caribbean*, coordinated by INTERPOL, in September 2022, Saint Kitts and Nevis conducted its first seizure of unmarked firearms assembled using semi-finished components, also known as “80 per cent frames”. Following the completion of the frames, they were assembled with other parts and components, most likely trafficked from abroad.



Unmarked firearm assembled using 80 per cent frames, Saint Kitts and Nevis, 2022. Source: INTERPOL.

3. Producers and Users

The variety of producers and users is an aspect of craft production that makes it unique. From individual enthusiasts via experienced gunsmiths to non-state armed groups, craft SALW producers and users present different characteristics, capabilities and motivations. Overall, the accessibility – even through online marketplaces – of commercially available materials used in SALW production, as well as the relatively easy access to know-how and guidance files, play a critical role in expanding the frontiers of manufacturing, and thereby democratizing production. Not only do these elements allow already-skilled producers to enhance and share their knowledge, but they remove barriers for other actors, such as enthusiasts and youth, to become craft-producers of SALW.

Producers, however, are not always users. While these groups overlap at times, the demand for craft-produced weapons is also prompted by actors who do not have the skills, or the will, to produce their own weapons. To put it simply: some actors are only producers, others are only users, and some are both (see Figure 5). To provide an initial overview of the profiles of key actors, **seven main categories of producers and users** can be identified.²⁵ For each category of producers and users, the regional distribution of survey responses is also presented (see Figures 6 and 7).

- 1. Collectors and enthusiasts:** Production by collectors and enthusiasts is prompted by individual curiosity and is, most often, not intended for use for violent or criminal purposes. Social media platforms have become hubs of knowledge-sharing on weapon production, significantly increasing the accessibility of know-how, with little to no control of the end-user of such knowledge (see Box 4).²⁶ In some cases, collectors may seek to share knowledge with other collectors. However, as these platforms are available to a wide and uncontrolled audience, such knowledge can be used with violent or criminal purposes. Research indicates that some gun enthusiasts in the United States, Canada and Europe, who share knowledge on manufacturing techniques via online platforms, follow extreme ideologies or have strong political convictions.²⁷ In these cases, craft-produced weapons could be used to commit violence.²⁸ The skill sets of both collectors and enthusiasts vary, from experienced producers to newcomers to the field of manufacturing. However, for the reasons mentioned above, such skill sets are generally destined to grow, both in quality and in their reach.

²⁵ When referring to users, this research also refers to individuals or organizations illegally acquiring these weapons, even when those are seized before potential use.

²⁶ Kyle Dent, Yannick Veilleux-Lepage and Maria Zuppello, *Risks and Challenges in Online Communities for 3D-Printed Firearms Among Extremists and Terrorists* (Washington, DC: Global Internet Forum to Counter Terrorism, 2023), Year 3 Working Groups.

²⁷ Rajan Basra, *Behind the Mask: Uncovering the Extremist Messages of a 3D-Printed Gun Designer* (London: ICSR, 2023); Dent et al., *Risks and Challenges in Online Communities*.

²⁸ Rueben Dass and Benjamin Mok, "Assessing the Impact of 3D-Printed Weapons on the Violent Extremist Milieu", Global Network on Extremism & Technology, 20 February 2023.

Moving Past the Dark Web

Individuals and groups involved in the illicit manufacturing and trafficking of SALW make use of the Dark Web to spread production guidance, as well as to sell and buy weapons and components.²⁹ Dark Web forums are, however, only one part of a much larger network. Products, materials, “how-to” files and instructions on production are accessible on the surface web, across social media platforms and messenger services.³⁰ Joining a Dark Web forum, while an attractive option to some, is no longer necessary for those interested in accessing the knowledge and tools to fabricate a small arm.

This has implications beyond the traditional arms control community. A wide range of actors monitor the online sharing of and access to information (e.g. Google, YouTube, Facebook, Reddit), and the lines between licit and illicit online content seem blurred. Despite existing policies that aim to limit the spread of dangerous content (e.g., the YouTube Firearms Policy³¹), it appears that videos and files on illicit small arms production evade the regulations intended to control them. In addition, online shops and websites dedicated to selling production tools (e.g., CNC mills) and related guidance exploit national legal loopholes and multiply options to access the unregulated production of weapons.³²

If the web constitutes fertile ground for dangerous content to spread, it also represents a promising space for cooperation between law enforcement agencies and online service providers. While joint work in this domain has already led to significant investigative successes, there is great potential for enhancing multi-stakeholder cooperation and research. As affirmed by a YouTube spokesperson, “Our work in this area is never done.”³³

2. **Civilians with a self-defence purpose:** In contexts where the perception of insecurity is high or where there is inter-communal conflict (e.g. farmers–herder tensions), civilians interested in an accessible self-defence option frequently resort to craft production. This is often the case in West Africa, where craft production responds to high levels of individual demand.³⁴ In Nigeria, for instance, individual and community insecurity remains a key driver of demand for craft production.³⁵ The types and sophistication of craft-produced weapons generally vary, ranging from rudimentary single-shot guns to more sophisticated semi-automatic pistols.³⁶

²⁹ Christian Ponti et al., *Digest of Firearms Trafficking and Related Crimes Cases* (Vienna: United Nations Office on Drugs and Crime, 2023), pp. 65–67.

³⁰ Ibid.

³¹ Ibid., pp. 23–33.

³² YouTube Firearms Policy, Accessed 10 May 2024, <https://support.google.com/youtube/answer/7667605?hl=en>.

³³ Jennifer Bislam, “Why is YouTube Suggesting Ghost Gun Videos to Young People Watching Video Games? Officials Want Change”, CBS News New York, 25 April 2024.

³⁴ Theodore Leggett et al., *Firearms Trafficking in the Sahel* (Vienna: United Nations Office on Drugs and Crime, 2022).

³⁵ Matthias Nowak and André Gsell, *Handmade and Deadly: Craft Production of Small Arms in Nigeria*, Briefing Paper (Geneva: Small Arms Survey, 2018).

³⁶ Johanna Kleffmann et al., *Factors Driving Weapons Holding in the North East of Nigeria* (Geneva: UNIDIR, 2023), <https://doi.org/10.37559/MEAC/23/11>, pp. 13–14.



A craft weapons workshop in Bamako, Mali, 2023. Source: Small Arms Survey, Aline Shaban.

- 3. Blacksmiths and gunsmiths:** For blacksmiths and artisanal manufacturers, craft production is a source of income and is intended for others' use. Commonly, these producers also manufacture other tools, such as cooking utensils, ornaments and agricultural tools.³⁷ However, the craft production of SALW and components can be more lucrative in some contexts, such as in West Africa.³⁸ Beyond its economic worth, such production has long-standing cultural roots in many societies, where it is considered to be a skilful and socially valuable practice passed on across generations. This traditional set of skills, while generally not relying on high-tech machinery or material, has also been the object of improvement. In the past decade, gunsmiths in West Africa and South and South-East Asia have been producing perfectly functioning weapons, and copies of industrially produced ones, on a relatively significant scale. In Ghana, for instance, it has been estimated that gunsmiths produce about 200 000 illegal weapons a year, constituting one of the most sophisticated craft-production networks in the subregion.³⁹ Similarly, in the Philippines, remote gun-making workshops outside the city of Danao have been, since the 1990s, the go-to destination for individuals and criminals interested in purchasing high-quality copies of industrially produced SALW.⁴⁰
- 4. Hunters and poachers:** In several regions, craft-produced weapons have historically been used for hunting purposes. These weapons are, most often, purchased from gunsmiths. This is, for instance, the case in Nigeria, where hunters constitute an important group of clients for gunsmiths.⁴¹ Poachers in Southern and Central Africa have also been reported to make use of craft-pro-

³⁷ Julien Joly and Aline Shaban, *Between Tradition and the Law: Artisanal Firearm Production in West Africa* (Geneva: Small Arms Survey, 2023)

³⁸ This information is based on findings from UNIDIR's survey and interviews with experts.

³⁹ ENACT Africa, "Ghana's Artisanal Arms Market Should Be Regulated".

⁴⁰ Jason Gutierrez, "A Family Craft with a Deadly Toll: Illegal Gun Making", *New York Times*, 7 April 2019, <https://www.nytimes.com/2019/04/07/world/asia/philippines-illegal-guns.html>.

⁴¹ Matthias Nowak and André Gsell, *Handmade and Deadly: Craft Production of Small Arms in Nigeria* (Geneva: Small Arms Survey, 2018).

duced weapons in their illegal practices.⁴² Finally, craft-produced firearms are also used during traditional and cultural celebrations and festivities. This is mostly the case in African countries, where weapons production and ownership carry a traditional status symbol (see also Box 5).⁴³

5. **Individuals involved in criminal activities:** If access to industrially produced weapons is limited, petty criminals (e.g., robbers, traffickers and dealers) can resort to craft-produced ones. This is often combined with considerations of the limited traceability of these weapons – that is, they have erroneous or absent markings that make tracing and identification hard.⁴⁴ The lower price of craft-produced weapons, compared to industrially produced ones, is often also part of the equation. Depending on the context, petty criminals may produce their own weapons or may purchase them from professional gunsmiths. In Thailand, where crimes involving “Thai-style home-made guns” regularly appear in the news, experienced gunsmiths have been sustaining the civilian demand for firearms for decades.⁴⁵ In the European context, while some small criminals have been reported to have converted blank-firing pistols and other non-lethal purpose firearms,⁴⁶ others have resorted to online purchases and trafficking of firearms that have already been converted.⁴⁷ The quality and sophistication of these weapons are highly dependent on the context and on the manufacturing technique used. However, the ease of access to materials, guidance and instructions on production facilitates the process and increases individual possibilities to acquire lethal weapons for criminal purposes.
6. **Criminal organizations:** Individual criminals and criminal organizations and groups can be attracted to craft production due to the limited traceability of these weapons, their higher accessibility, and their lower price compared to industrial counterparts. Any one of these elements can explain why criminal groups around the globe have been resorting to craft-produced weapons, even if only as part of a larger arsenal.⁴⁸ Weapons that are produced or assembled by the group or organization itself can be both for use by the group or for transnational trafficking. In March 2021, for instance, the Florida Heat operation, jointly conducted by the Brazilian Federal Police and the Federal Public Prosecutor’s Office, revealed that a Brazilian criminal organization was trafficking gun components and ammunition from the United States for assembly in Brazil (see Box 8 below). It appears that the weapons were not only for the group’s use, but also to supply other local criminals.⁴⁹ Globally, the quality, sophistication and scale of production by criminal organizations has been reported as increasingly high and lethal.

⁴² Kristopher Carlson et al., “In the Line of Fire: Elephant and Rhino Poaching in Africa”, in *Small Arms Survey Yearbook: Weapons and the World* (Geneva: Small Arms Survey, 2015).

⁴³ Nowak and Gsell, *Handmade and Deadly*.

⁴⁴ While in most cases these weapons lack standardized marking, research and law enforcement have documented cases of craft-weapons being marked by their producers, either as a way of distinguishing them or as part of their internal logistics.

⁴⁵ East Asia Forum, “Thailand’s Growing Gun Problem”, 13 December 2023, <https://eastasiaforum.org/2023/12/13/thai-lands-growing-gun-problem/>.

⁴⁶ “Converted Handguns Fired More than ‘Real’ Weapons in UK Crimes”, BBC, 16 January 2024, <https://www.bbc.com/news/uk-67895627>.

⁴⁷ Matt Schroeder et al., *Privately Made Firearms in the European Union* (Brussels: Flemish Peace Institute, Small Arms Survey: 2023).

⁴⁸ G. Hays and N. R. Jenzen-Jones, *Beyond State Control: Improvised and Craft-produced Small Arms and Light Weapons* (Geneva: Small Arms Survey, 2018).

⁴⁹ “Polícia Federal Launches Operation Florida Heat against International Arms Trafficking in Rio de Janeiro”, POST Online Media, 15 March 2022, <https://www.poandpo.com/news/policia-federal-launches-operation-florida-heat-against-international-arms-trafficking-in-rio-de-janeiro/>.

BOX 5.

Is Craft Production a Men's Business Only?

Contribution from the West African Action Network on Small Arms – Nigeria



Artisanal shotgun, Nigeria, 2017. Source: Small Arms Survey, Matthias Novak.

Concepts of masculinity and manhood in societies are deeply intertwined with SALW acquisition and use; craft production of SALW is no exception. In Nigeria, manufacturing and holding craft-produced weapons has deeply rooted cultural connotations that have historically fed into a societal perception of manhood. This is mainly due to the ownership of such weapons being a status symbol, which motivates part of the illegal production within communities and contributes to gender-based violence (GBV). In a country where “it is easier to find a gun than a decent job”, the accessible production and possession of SALW multiplies the possibility of women, girls and marginalized groups being killed, threatened, and intimidated. While the illegal production and possession of SALW to perpetrate GBV has been observed across other regions of the world, data on this remains limited. The West African Action Network on Small Arms – Nigeria (WAANSA Nigeria) engages in efforts to monitor the use of locally craft-produced shotguns and guns in episodes of GBV.

In parallel to this trend, women also participate in the supply chain of craft-produced SALW as carriers of weapons. In Nigeria, women's marginalized social role means that they are rarely subject to security controls and checks; combined with their traditional clothing, which are ideal for concealing objects, this has made them an ideal element in the trafficking chain. Women's engagement in trafficking may be a result of coercion, but is also often prompted by economic need, a desire for emancipation or voluntary engagement with a criminal group.⁵⁰ Like data on GBV, reliable data regarding women's role in the illegal production and trafficking of weapons is limited.

⁵⁰ Emilia Dungal and Anne-S  verine Fabre, *Missing or Unseen?: Exploring Women's Roles in Arms Trafficking* (Geneva: Small Arms Survey, 2022)

7. **Non-state armed groups, including listed terrorist groups:**⁵¹ In settings in which conventional weapons are difficult to acquire, non-state armed groups (NSAG) have often resorted to creative solutions. Craft-produced SALW as well as mortars, grenades and rocket launchers have been turning up in multiple conflict and non-conflict settings. Often, this production is of semi-professional quality or scale. NSAG in Myanmar fighting against the military, such as the People's Defence Forces or the Karenni Generation Z Army (KGZA), have largely relied on weaponized commercial uncrewed aerial vehicles and home-made weapons and munitions.⁵² Based on open-source evidence, their production appears to be organized in workshops and includes the manufacturing of road and naval mines, rudimentary munitions and bombs, mid- and long-range mortars, as well as 3D-printed semi-automatic weapons (e.g., FGC-9).⁵³ While arsenals vary from one group to another, the Myanmar context offers one of the most diverse scenarios of craft-production by NSAG. Large-scale craft production was also reported in field investigations in Fallujah, Iraq, in 2016, where the Islamic State group established a quasi-industrial manufacturing capacity across different workshops.⁵⁴ Findings from the investigations provided evidence of a relatively sophisticated and organized production chain, supplying the group with improvised rockets and explosives.⁵⁵ Similar production capabilities have been identified in Syria.⁵⁶ While these groups do not rely solely on craft-produced SALW, production has reached a scale that can ensure the manufacture of a high-quality arsenal. This is also the case for smaller groups, such as the Ambazonian group in the North-West and South-West regions of Cameroon,⁵⁷ which have significantly relied on the illegal craft production of SALW and explosives. In recent years, Cameroonian Police have identified and dismantled workshops in remote areas of the country used by the group for craft production. Seizures have indicated an increasing capacity within the separatist group, in both the quality and scale of production.⁵⁸

⁵¹ The term non-state armed groups is used here to refer to armed groups of actors, distinct from the armed and security forces of a state, that possess and use conventional arms without authorization from the state in which they are based or operate. This definition includes, but it is not limited to, groups that are listed as terrorist groups at the national or international level. See Manuel Martinez Miralles, Alfredo Malaret Baldo et al., *The Arms Trade Treaty: Diversion Analysis Framework*, (Geneva: UNIDIR, 2021)

⁵² Rajeev Bhattacharyya, "An Inside Look at Myanmar Resistance Groups' Weapons Manufacturing Factories", *The Diplomat*, 4 October 2023.

⁵³ Bociaga, "Myanmar Fighters Continue Improvising in Struggle Against Junta".

⁵⁴ Conflict Armament Research, *Weapons of the Islamic State: A Three-year Investigation in Iraq and Syria* (London: Conflict Armament Research, 2017).

⁵⁵ Ibid.

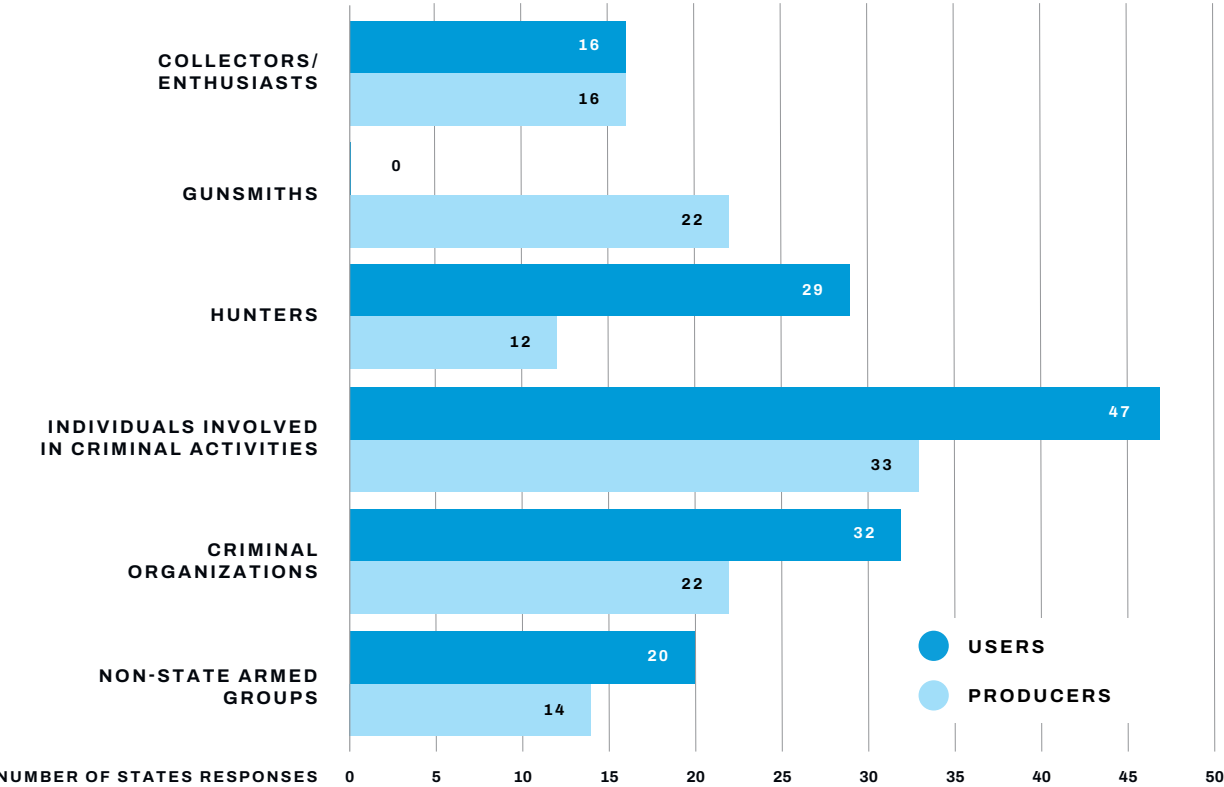
⁵⁶ Conflict Armament Research, *Red Flags and Choke Points: Procurement Networks Behind Islamic State Improvised Weapon Programmes* (London: Conflict Armament Research, 2020)

⁵⁷ Amnesty International, *With or Against Us: People of the North-West Region of Cameroon Caught between the Army, Armed Separatists and Militias* (London: Amnesty International, 2023).

⁵⁸ This information is based on an interview with a police commissioner from INTERPOL, Cameroon.

FIGURE 5.

Types of Users and Producers of Craft Weapons Identified by Survey Respondents⁵⁹



Building on responses to UNIDIR’s survey, it is worth highlighting some key regional tendencies regarding the actors involved in craft production (see Figures 6 and 7). The responses indicate a high level of SALW craft production among collectors and enthusiasts across WEOG. Collectors and enthusiasts acquiring or producing SALW are, however, also present across Eastern Europe and in the Asia-Pacific region. Hunters remain a highly frequent category of users and, to a lower extent, of producers in Africa, Latin America and the Caribbean, and the Asia-Pacific. Individual criminals and criminal organizations are reported to use and produce craft SALW across all regions. Craft production appears to be common among criminal organizations in Latin America and the Caribbean and in WEOG. Individual criminals in these regions are also using craft-produced SALW. This is also the case in Africa, Eastern Europe and the Asia-Pacific region. Non-state armed groups are mostly reported to be craft-producing their own SALW in WEOG, Africa, and Latin America and the Caribbean. In those same regions, and to a lower extent in the Asia-Pacific, non-state armed groups are also indicated as users of craft-produced SALW. Finally, and differently from other categories, blacksmiths and gunsmiths are identified only as producers of SALW, across all regions but particularly in Africa.

⁵⁹ For each category of producers and user, the bar chart shows the number of state responses that indicated that category. Each country, when responding to UNIDIR’s survey, could flag one or more categories of producers.

FIGURE 6.

Geographical Distribution of Responses per Category of Producers⁶⁰

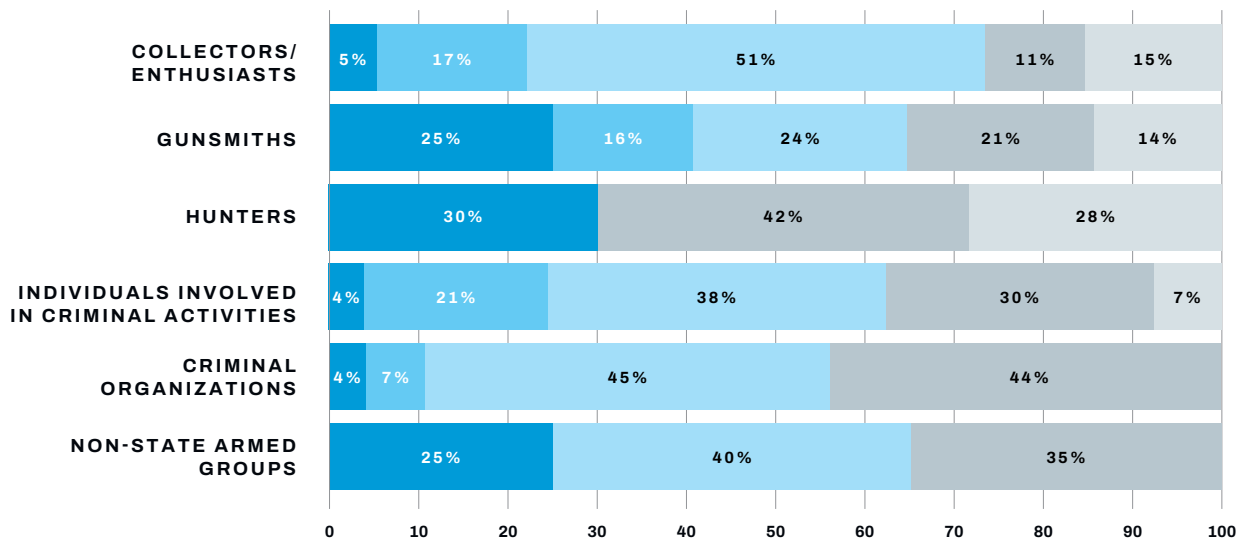
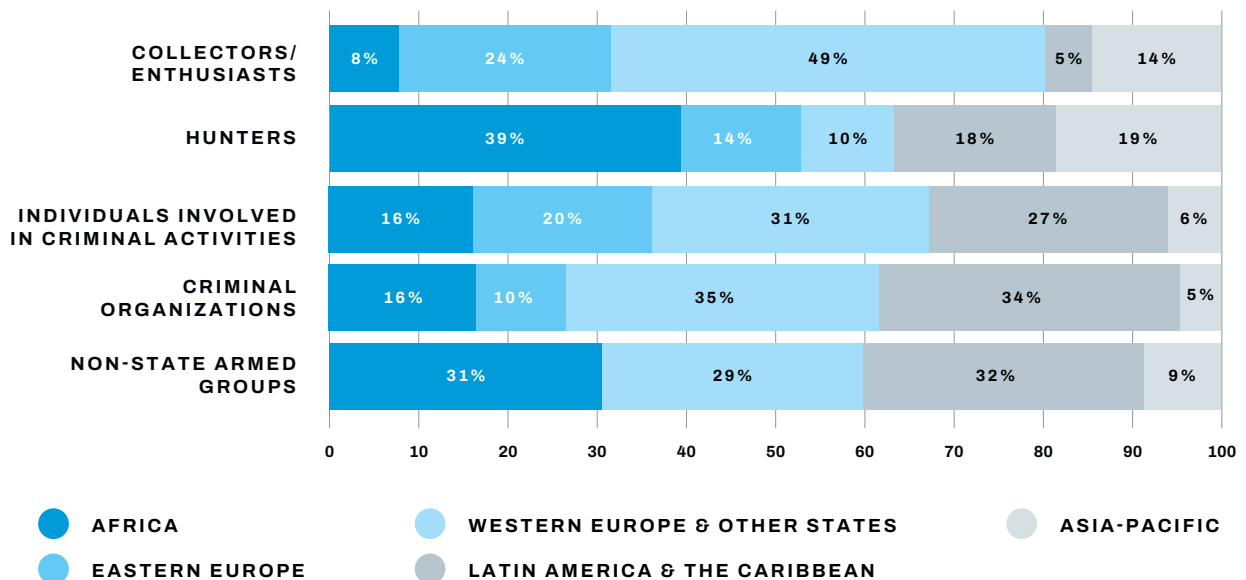


FIGURE 7.

Geographical Distribution of Responses per Category of Users⁶¹



⁶⁰ The chart represents the regional distribution of responses within each category. To allow data comparison and exclude the bias generated by the different regional responses rates, the percentages were obtained through a normalization/standardization of proportions. This operation allows the comparison of data that differ in dimension. In this case, it permits the comparison of data across categories of producers.

⁶¹ The chart represents the regional distribution of responses within each category. To allow data comparison and exclude the bias generated by the different regional responses rates, the percentages were obtained through a normalization/standardization of proportions. This operation allows the comparison of data that differ in dimension. In this case, it permits the comparison of data across categories of users.

4. International Instruments

Craft production of SALW is a transnational challenge. But since it lacks an internationally agreed definition and is constituted by a multitude of actors and manufacturing techniques, it is difficult to regulate. This section provides an overview of international instruments that address craft production. The following sections then look in turn at the regional (Section 5) and national (Section 6) levels, along with key challenges and good practices.

At the international level, different instruments address the illicit manufacturing of SALW. While illicit craft production has represented, across history and regions, a long-standing challenge, existing instruments do not explicitly integrate this issue into their measures. As part of broader references to illicit manufacturing, the Firearms Protocol, the PoA and the International Tracing Instrument (ITI) implicitly cover craft production of SALW. However, the issue is not explicitly included or defined. While this should not constitute an obstacle to regulation per se, as their requirements apply to all types of illicit manufacturing, it leaves space for ambiguity and differing interpretations. In fact, the lack of agreement on definitions at the international level leads to varying national and regional regulations on craft production of SALW (see below), which in turn contribute to loopholes and gaps in international efforts to collectively address this issue.

To date, the **Firearms Protocol** is the only legally-binding global instrument that obliges states to take measures to counter the illicit manufacturing of firearms and ammunition.⁶² The Protocol, adopted in May 2001, establishes the illicit manufacturing and trafficking of firearms as a criminal offence, along with a system for government authorization and licensing mechanisms to ensure legitimate manufacturing.

Within the context of the Firearms Protocol, efforts have been made to address, only in part, the challenges posed by certain types of craft production. At its most recent meeting, in April 2024, the open-ended intergovernmental Working Group on Firearms – which was established by the Conference of the Parties to the United Nations Convention against Transnational Organized Crime (under which the Firearms Protocol falls) – discussed “Operationalizing the Firearms Protocol in view of technological developments relating to the illicit manufacturing of and trafficking in firearms, their parts and components and ammunition”.⁶³ In the relevant background paper, the Working Group secretariat outlined some key recommendations to be further considered and discussed by state parties. The latter were encouraged, among other things, to:

1. **Revise their domestic legal frameworks** to address 3D-printed parts of firearms, readily convertible weapons, polymer firearms, modular weapons, the reactivation of deactivated firearms and other emerging aspects – including regulating blueprints;

⁶² Protocol against the Illicit Manufacturing of and Trafficking in Firearms, Their Parts and Components and Ammunition, Supplementing the United Nations Convention against Transnational Organized Crime (“Firearms Protocol”), adopted 31 May 2001, General Assembly, A/RES/55/255, 8 June 2001, <https://undocs.org/A/RES/55/255>.

⁶³ Working Group on Firearms, 11th Session, “Operationalizing the Firearms Protocol in View of Technological Developments Relating to the Illicit Manufacturing of and Trafficking in Firearms, their Parts and Components and Ammunition”, Background paper prepared by the Secretariat, [CTOC/COP/WG.6/2024/2](https://www.unodc.org/documents/ctoc/cop/wg.6/2024/2), 3–4 April 2024.

2. **Cooperate with the private sector**, in particular manufacturers of 3D printers and 3D-printing companies, to increase the traceability of 3D-printed firearms and firearm parts and components;
3. **Periodically exchange information** at the global, regional and subregional levels on emerging threats (see Box 6).⁶⁴

In addition, further cooperation and dialogue with postal and courier services, as well as efforts to prevent and combat cyber-enabled trafficking in firearms, were encouraged.

Under the politically binding **Programme of Action on Small Arms and Light Weapons**, states have also committed to control SALW production and to criminalize their illicit manufacture, possession, stockpiling and trade.⁶⁵ As part of their efforts to prevent the illicit SALW trade, states agreed to take action against groups and individuals engaged in illegal manufacturing of SALW.⁶⁶ Additionally, the **International Tracing Instrument**,⁶⁷ established in 2005 within the PoA framework, identifies tracing as a critical aspect of countering the illicit proliferation of SALW and promotes international cooperation and assistance in marking, tracing and record-keeping. Despite these regulatory efforts, national interpretations of what constitutes “illicit manufacturing of SALW”, and the extent to which this includes non-industrial production vary. This results in highly contextual and diverse implementation of the PoA measures. In addition, new technologies in recent years have changed the nature of craft production, marking and tracing of SALW, and of illicit manufacturing more broadly, which poses significant obstacles to PoA and ITI implementation.⁶⁸

The issue of craft production and related developments represents, in the PoA framework, a long-standing challenge. In 2008, the need to gain a better understanding of local illicit manufacturing and related challenges was noted for the first time by Cameroon and Ghana in their national reports on PoA implementation.⁶⁹ Since then, different states have been drawing attention to the issue of craft production. Starting from 2016, the outcome documents of PoA meetings have highlighted concerns regarding 3D printing and the regulation of SALW production. This attention recognizes the importance of these considerations in ensuring the continuous relevance of the PoA and the ITI.⁷⁰

⁶⁴ Ibid.

⁶⁵ Programme of Action to Prevent, Combat and Eradicate the Illicit Trade in Small Arms and Light Weapons in All Its Aspects (“UN Programme of Action”), A/CONF.192/15, 20 July 2021, [https://undocs.org/A/CONF.192/15\(SUPP\)](https://undocs.org/A/CONF.192/15(SUPP)).

⁶⁶ Ibid., p. 10.

⁶⁷ International Instrument to Enable States to Identify and Trace, in a Timely and Reliable Manner, Illicit Small Arms and Light Weapons (“International Tracing Instrument”), adopted 8 December 2005, General Assembly, A/60/88, 27 June 2025, <https://undocs.org/A/60/88>.

⁶⁸ Ruben Nicolin, *Inputs for Action on Small Arms: Conclusions and Recommendations from the Thematic Expert Seminars* (Geneva: UNIDIR, 2024), pp. 42–49.

⁶⁹ Silvia Cattaneo and Sarah Parker, *Implementing the United Nations Programme of Action on Small Arms and Light Weapons: Analysis of the National Reports Submitted by States from 2002 to 2008* (Geneva: UNIDIR, 2008).

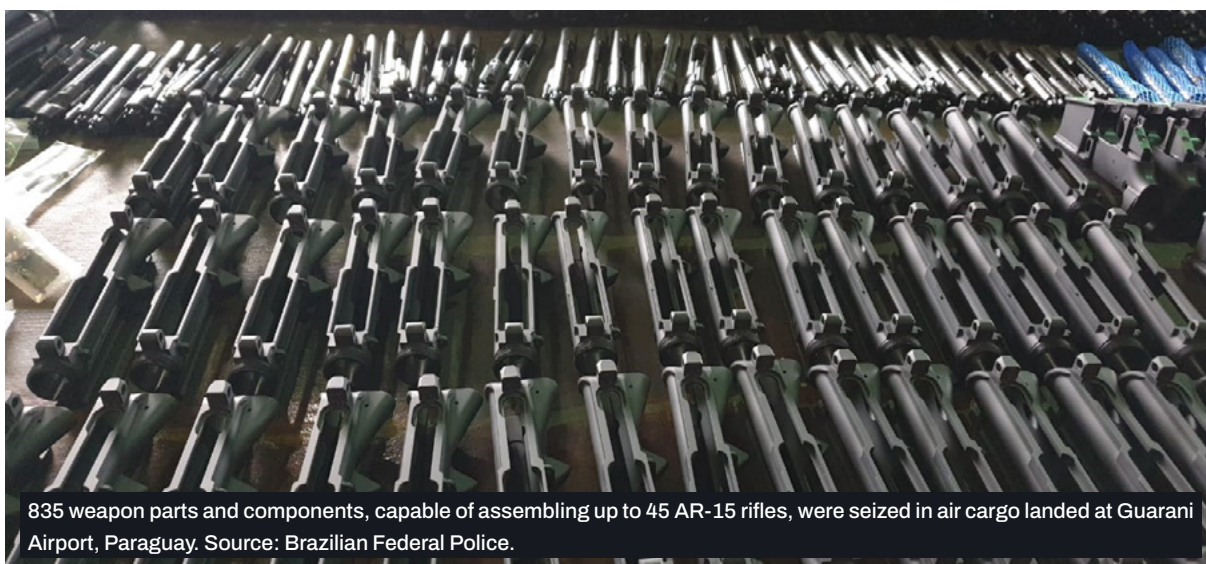
⁷⁰ Nicolin, *Inputs for Action on Small Arms*.

BOX 6.

International Data-Collection and Information-Sharing Tools

To enhance awareness and international cooperation on illicit SALW manufacturing and trafficking, law enforcement agencies have been working to improve information-sharing and to support states in their data-collection efforts. The INTERPOL Firearms Recovery Protocol, for instance, provides a step-by-step guide for supporting national investigators and intelligence units in collecting and analysing the intelligence that can be obtained from seized weapons, with a view to identifying illegal manufacturing, including non-industrial production. In addition, INTERPOL's databases and tools, such as the Illicit Arms Records and tracing Management System (iArms), the INTERPOL Ballistic Information Network (IBIN) and the INTERPOL Firearms Reference Table (IFRT), are accessible to national authorities seeking to improve knowledge, data collection and information-sharing on the production of illicit weapons. The use of these tools remains, however, largely dependent on national data-collection and investigative practices, as well as on the extent to which the databases' structure can reflect the characteristics of different types of craft production and national contexts.

Despite increasing international efforts, comprehensive discussions on craft production of SALW in these forums remain limited to specific manufacturing techniques (e.g. 3D printing), and they generally tend to proceed at a slower pace than the evolution of production capabilities and technologies. National regulatory approaches to the issue of craft production, therefore, continue to vary. As recognized during the 11th session of the Firearms Protocol Working Group on Firearms, there is a need to “support [Firearms Protocol] parties . . . in implementing its provisions in a harmonized manner, to prevent gaps and loopholes between different jurisdictions that could be exploited by criminals”.⁷¹ To date, international instruments are struggling to adapt to the variety and the evolution that are typical of non-industrial production. As a result, craft production and most related manufacturing techniques continue to occupy an ever-evolving legal grey zone.



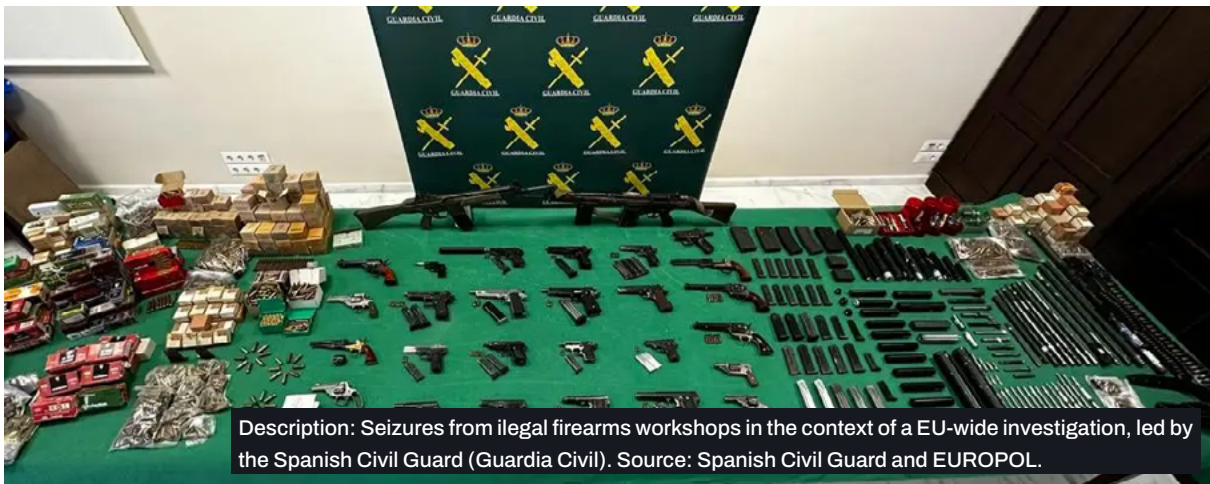
835 weapon parts and components, capable of assembling up to 45 AR-15 rifles, were seized in air cargo landed at Guarani Airport, Paraguay. Source: Brazilian Federal Police.

⁷¹ Working Group on Firearms, [CTOC/COP/WG.6/2024/2](#), paragraph 46.

5. Regional Instruments

Regional instruments vary in how comprehensively they regulate illicit manufacturing and, consequently, whether they explicitly refer to craft production. While provisions that explicitly differentiate between industrial and craft production are scarce, each regional instrument contains regulatory provisions to tackle the illicit manufacturing of SALW, reflecting a broad consensus on the need to regulate the manufacture and movement of arms. Such regulatory provisions technically apply to craft production, with their emphasis on prohibiting unlicensed SALW production, strict regulation of civilian possession, standardization of import/export controls, and provisions for marking, record-keeping and reporting. Although the regional regulatory infrastructure to oversee craft production exists, the lack of clear definitions and awareness on the specificities of the issue make regional implementation more challenging.

There are at least **13 regional instruments** that aim to regulate and control SALW production, covering every region in the world. They range from legal conventions to strategies, road maps and other types of agreements (see Table 1). Only a handful of these refer to and recognize craft production as a specific issue: the Economic Community of West African States (ECOWAS) Convention on SALW,⁷² the Kinshasa Convention⁷³ and the European Union’s “Securing Arms, Protecting Citizens” strategy.⁷⁴ These instruments differ in their definitions of craft production, their scopes and their approaches to regulation. For example, the Kinshasa Convention, while aiming to reduce craft production of SALW in Central Africa, also contains operational measures that not only require Parties to the Convention to keep records and inventories of local manufacturers but also envision training and educational opportunities for producers on existing regulatory frameworks, to incorporate them into the legal production sphere. The European Union strategy recognizes the changing nature of illicit manufacturing and draws attention to the use of 3D-printed parts including craft production, illicit reactivation of deactivated SALW, conversion of signal guns designed for blank ammunition, and the illicit use of reloading tools.



Description: Seizures from illegal firearms workshops in the context of a EU-wide investigation, led by the Spanish Civil Guard (Guardia Civil). Source: Spanish Civil Guard and EUROPOL.

⁷² Convention on Small Arms and Light Weapons, their Ammunition and other Related Materials.’ United Nations Programme of Action Implementation Support System: Regional Organisations, New York, NY: Economic Community of West African States Secretariat / United Nations Office for Disarmament Affairs, 14 June.

⁷³ Central African Convention for the Control of Small Arms and Light Weapons, their Ammunition and all Parts and Components that can be used for their Manufacture, Repair and Assembly, 30 April 2010.








⁷⁴ European Union Strategy Against Illicit Firearms, Small Arms and Light Weapons and their Ammunition, “Securing Arms, Protecting Citizens”, European Council, 19 November 2018.

TABLE 1.

Key Regional and Subregional Instruments Covering Illicit Weapon Manufacturing⁷⁵

REGION	TITLE	TYPE OF INSTRUMENT	EXPLICITLY ADDRESSES ONE OR MORE TYPES OF CRAFT PRODUCTION OF SALW
AFRICA	West Africa	ECOWAS Convention on Small Arms and Light Weapons, their Ammunition and other Related Materials (2006/9)	Legally binding instrument Contains regulations on craft production, marketing and rec-ord-keeping of local producers
	Southern Africa	Protocol on the Control of Firearms, Ammunition and other Related Materials in the Southern African Development Community (SADC) Region (2001/04)	Legally binding instrument ✗
	East Africa	Nairobi Protocol for the Prevention, Control and Reduction of Small Arms and Light Weapons in the Great Lakes Region and the Horn of Africa (2004/05)	Legally binding instrument ✗
	Central Africa	Kinshasa Convention: Central African Convention for the Control of Small Arms and Light Weapons, Their Ammunition and All Parts and Components That Can Be Used for Their Manufacture, Repair or Assembly (2010/17)	Legally binding instrument Contains licensing and record-keeping regulations on craft production
AMERICAS	Americas	CIFTA: The Inter-American Convention Against the Illicit Manufacturing of and Trafficking in Firearms Ammunition, Explosives, and other Related Materials (1997/8)	Legally binding instrument ✗
	South America	Andean Plan of Action to Prevent, Combat and Eradicate the Illicit Trade in Small Arms and Light Weapons in All its Aspects (2003)	Legally binding instrument Recommends incorporating craft production regulations into domestic legislation

⁷⁵ This table does not include road maps. The following road maps, among others, may be relevant in the context of this report: [Roadmap for a sustainable solution to the illegal possession, misuse and trafficking of small arms and light weapons and their ammunition in the Western Balkans by 2024](#) (2018), [Caribbean Firearms Roadmap](#) (2020), [Central American Roadmap to Prevent the Illicit Trafficking and Proliferation of Arms and Ammunition](#) (2022).

AMERICAS	Caribbean	Caribbean Community (CARICOM) Declaration on Small Arms and Light Weapons (2011)	Political declaration	
	ARAB STATES	Arab Model Law on Weapons, Ammunitions, Explosives and Hazardous Material (2002)	Model law	
	ASIA AND THE PACIFIC	Nadi Framework: Legal Framework for a Common Approach to Weapons Control Measures (2000)	Legal framework	
EUROPE	European Union	Directive (EU) 2021/555 on control of the acquisition and possession of weapons	Legal act	 Introduces regulations on acoustic, alarm and signal weapons, preventing conversion; also includes stricter conditions for online acquisition of firearms
		European Union Strategy to combat illicit accumulation and trafficking of SALW and their ammunition (2006)	Strategy	 Advises on regulation of 3D-firearm components, craft production and illicit conversion of firearms and ammunition
		Regulation 258/2012 implementing Article 10 of the United Nations' Firearms Protocol (2012)	Legal act	
		Regulation 2015/2403 on establishing common guidelines on deactivation standards and technique for ensuring that deactivated firearms are rendered irreversibly inoperable (2015)	Legal act	 Provides guidelines on deactivation standards and techniques, preventing reactivation

Regional legal frameworks and instruments are tailored to address specific regional concerns, with varying scopes and varying legal statuses. Their effectiveness, however, is closely tied to regional commitment and capacity for implementation, which varies across regions. In particular, it strongly relies on implementation and commitment at the national level (see Box 7).

Start National to Change the Regional – Countering Illicit Production in the European Union

Contribution from EUROPOL

All member states of the European Union prohibit individuals from craft producing firearms. However, hybrid firearms – produced with a combination of industrial and non-industrial components – as well as converted and reactivated weapons are available on the black market and via online retailers. Despite regional regulatory and law enforcement efforts, these firearms and related components continue to be seized across Europe. Many of these seized weapons often originate outside the country of use. In some European countries, upper and lower receivers as well as frames can be purchased by unlicensed individuals. However, the assembly of these components to manufacture illicit firearms often appears to be an issue in countries where such purchases are not authorized. Similarly, in several European countries, blank-firing pistols can be purchased without a firearms possession license and can easily be converted into lethal-purpose weapons. The latter, however, have mostly showed up in the Netherlands, Sweden, and the United Kingdom, where regulations are strict and target different illicit manufacturing techniques.

While causal linkages are difficult to draw conclusively, this hints at a critical aspect of craft production: it is not just about the regulation of the entire firearm, which strictly applies across the European Union; it also concerns the legislative approach to specific parts, components, conversion devices and materials, as well as files for 3D printing and CNC manufacturing materials. The low level of implementation of related European Union directives at the national level has a spill-over effect into other countries in the region and, in turn, can affect proliferation trends there, as well as regionally.⁷⁶

Additionally, regional data-collection efforts largely depend on national levels of awareness. EUROPOL and other European Union agencies and platforms (e.g., European Multiagency Platform Against Criminal Threats - EMPACT) have been making significant progress in enhancing countries' knowledge of emerging challenges and trends in this domain – in particular regarding 3D-printed and hybrid designs. However, it appears that countries with the highest reporting levels of seizures (e.g., the Netherlands, Spain, France, Sweden, the United Kingdom and Germany) may not necessarily be the most affected by the issue, but rather are the most attentive to it. In Europe, a relationship can be made between countries that prioritize counter-terrorism efforts and those with higher levels of reporting and seizures of non-industrially produced weapons.

⁷⁶ See also Matt Schroeder et al., *Privately Made Firearms in the European Union* (Brussels: Flemish Peace Institute, Small Arms Survey: 2023).

6. National Regulatory Approaches and Measures

Like regional instruments, national laws also vary and tend to not consider craft production of SALW as a stand-alone issue.⁷⁷ In most cases, it is implicitly covered by provisions on the prohibition of manufacturing without government authorization (licence, permit etc. to produce SALW). Of the 80 survey respondents, only 15 states (19 per cent) have developed regulatory frameworks specifically for craft production of SALW and their components (see Figure 8), with most of them only regulating specific manufacturing techniques. Fifty-four states (68 per cent) criminalize unauthorized production, implicitly including craft production, and consider it an offence in all its forms.

FIGURE 8.
National Regulatory Approaches to Craft Production of SALW



Excluding the few states (14 per cent) that do not address unlicensed craft production at all in their national laws, analysis of responses to UNIDIR’s survey indicates **three types of national regulatory approaches for craft production** (see Table 2).

⁷⁷ This section of the report solely focuses on national regulatory approaches to production and does not explore national regulations on transfers of craft-produced SALW.

TABLE 2.

Typology of National Regulatory Approaches to SALW Craft Production⁷⁸

NATIONAL APPROACH	MAIN CHARACTERISTICS
<p>National laws and regulations prohibit and criminalize all types of illicit manufacturing, including craft production</p>	<ul style="list-style-type: none"> • No licensing mechanisms or other regulatory provisions are in place for craft production. All its forms are considered, under national law, a criminal offence. • Legislative frameworks tend to distinguish between different craft production techniques. All unlicensed production is illegal. • Penalties for craft production of weapons vary. In most cases, imprisonment related to such an offence usually goes up to 10 years.
<p>National laws and regulations prohibit and criminalize certain types of craft production, but regulate other types (e.g. 3D printing, conversion, reactivation)</p>	<ul style="list-style-type: none"> • Illicit craft production of SALW is a criminal offence under national law. However, depending on the country, legislative frameworks criminalizing or authorizing specific types of manufacturing techniques or types of weapons are in place. • Individuals and businesses can obtain an authorization, from the government or the relevant licensing authority, for specific types of manufacture. • Penalties – often up to 10 years – remain applicable to all production outside the authorized category or for which official authorization is not sought.
<p>National laws and regulations enable government control, registration and monitoring of craft production</p>	<ul style="list-style-type: none"> • National legislative frameworks regulate, control and contain provisions for keeping records of craft production of SALW. • Provisions for marking and record-keeping requirements specific to craft production are available. • The extent to which a legal definition of “craft production” is provided varies. In most cases, such a definition is only partial or is tailored to the national context. • The degree to which relevant regulations reflect the evolution of manufacturing techniques and new technologies varies. • Licences and authorizations can be issued, by the government or the relevant licensing authorities, both to individuals and to businesses. • The extent to which transfers of craft-produced weapons and components are regulated varies. • This approach may find its roots in countries’ socio-historic legacy, in which individual possession and production of firearms is generally accepted.

⁷⁸ The typology presented aims at providing a simplified categorization of national regulatory approaches to craft production of SALW. It fully acknowledges – and does not attempt to be an exhaustive representation of – the nuances across approaches. It intentionally does not indicate names of specific states and laws.

Survey responses indicate that, across regions, the prevalent national approach remains the *criminalization of all forms of craft production*, with no particular distinction between manufacturing techniques. The *control, registration and monitoring of craft production* by governments is an approach adopted by a few African states, where national authorities provide for licensing mechanisms to authorize production. In practice, however, implementation remains ad hoc, and the issuance of licences appears to be rare.⁷⁹ The “in-between” approach of *criminalizing and regulating specific types of craft production* has, to date, only been adopted by few states, but appears to be a model towards which many are shifting.

Respondent countries from all regions indicated that they engage in **targeted efforts to adapt existing national laws to include provisions focused on particular manufacturing techniques**. For example, states in Europe, the Americas and Oceania have expressly prohibited the conversion, reactivation and 3D printing (full or hybrid) of SALW. This is, for instance, the case in the Australian state of New South Wales, which introduced particularly restrictive regulations qualifying the possession of SALW blueprints as a criminal offence.⁸⁰ Similar updates concerning 3D-printed SALW, components and blueprints have been introduced in the national regulations of Jamaica and North Macedonia.⁸¹ Several European countries have also been taking steps to strengthen control on readily convertible devices.⁸² In contrast, the focus in Africa and the Asia-Pacific appears to be on regulating or prohibiting the production of high-quality firearms using traditional manufacturing methods. National regulations in Mali, Benin and Burkina Faso, for instance, define and regulate, to different extents, the production of specific artisanal or home-made SALW.⁸³

Despite individual national efforts, the uneven regulation of craft production across countries remains a critical challenge. The presence and nature of craft production, nationally and regionally, is largely related to local dynamics: the users, producers, and the availability of materials and technologies, as well as to supply and demand for industrially-produced conventional weapons. However, **national approaches to craft production, or a lack thereof, contribute to determining the proliferation of these weapons within and beyond a country’s borders**. This is the case in the United States, for instance, where generally permissive laws on firearms possession and trade, as well as those regulating parts and components, have resulted not only in high numbers of fully 3D-printed and assembled weapons proliferating in-country, but also in an overall increase in the number of non-industrially made components and 80 per cent Kits being trafficked to and assembled in Latin America.⁸⁴ In the European Union, where regional directives on blank-firing firearms and on commercially available components remain unevenly integrated at the national level, illegal conversion into lethal-purpose firearms and the non-industrial assembly of weapons are spreading regionally (see Box 7 above).⁸⁵ In West Africa, where the integration of craft production in national laws is ad hoc and updates are rare, craft weapons

⁷⁹ Joly and Shaban, *Between Tradition and the Law*. This information is also based on responses to UNIDIR’s survey and interviews with experts and national authorities.

⁸⁰ David Bright and Monique Mann, “3D-Printed Guns Are on the Rise in Australia. How Can We Prevent Them Being Made?”, *The Conversation*, 8 November 2022, <http://theconversation.com/3d-printed-guns-are-on-the-rise-in-australia-how-can-we-prevent-them-being-made-193936>.

⁸¹ Ponti et al., *Digest of Firearms Trafficking*, pp. 28.

⁸² Schroeder et al., *Privately Made Firearms in the European Union*.

⁸³ This information is based on national responses to UNIDIR’s survey. For further information on national regulations in West Africa, see Joly and Shaban, *Between Tradition and the Law*.

⁸⁴ This information is based on an interview with the Firearms Trafficking Repression Service of the Brazilian Federal Police.

⁸⁵ Schaufelbühl et al., “The Emergence of 3D-printed Firearms”.

are circulating in elevated quantities across borders.⁸⁶ It is therefore critical to shine a light on the interconnected nature of craft production, the uneven regulations between states and related proliferation trends. National approaches and regulations addressing the issue are, in fact, to be understood as part of a highly dynamic, transnational phenomenon, with consequences far beyond any national context.

In facing this transnational issue, national data collection and related information-sharing also prove critical. With regard to this, UNIDIR's survey also included questions on available national data on seizures and on penalties related to illicit craft production. Survey responses demonstrated that, even in countries where certain regulations are in place, **informed and centralized data on craft production is scarce**. This represents a challenge not only in assessing the effectiveness and degree of implementation of national laws, but also in improving existing approaches (see Box 8). Starting from the seizure stage, it is hard to recognize, handle and correctly identify craft-produced weapons, especially considering their increasing quality as well as the variety and originality of devices.⁸⁷ Even when correctly identified by law enforcement, these weapons' specific characteristics – and often variety of components – can rarely be reflected in available databases. This, in turn, reduces the chances of identifying trends, similarities and linkages across seizures. Additionally, data tends to be stored across different national agencies, with limited channels for data sharing and communication.⁸⁸ As an overall result, states and law enforcement agencies lack the necessary data to develop a national and regional understanding of the nature of craft production and related proliferation trends. This knowledge gap translates into low detection and control capacities, which feed, in turn, into limits on the amount of evidence that could point to potential legal loopholes.

Acknowledging these challenges, certain states have significantly enhanced their data-collection and information-sharing efforts. For example, France's small arms information system TRAFFIC (for Targeted Response for Arms Fraudulently Fabricated, Imported & Commercialized) offers an accessible and relevant data-collection platform to law enforcement in European countries.⁸⁹ Similarly, the United Kingdom's Project INTERKNOW, a joint initiative between the National Crime Agency (NCA) and other law enforcement agencies, aims to enhance knowledge, information-sharing and cooperative responses across different national jurisdictions to the threat of 3D-printed firearms. It includes, among other tools, a database for the collection of blueprints.⁹⁰

⁸⁶ ENACT Africa, "Ghana's Artisanal Arms Market Should Be Regulated".

⁸⁷ This information is based on findings from UNIDIR's survey and interviews with experts and national authorities.

⁸⁸ Ibid.

⁸⁹ Ibid.

⁹⁰ This information is based on findings from UNIDIR's survey.

BOX 8.

Easier Said than Done – Challenges to Data Collection and Information-Sharing

Contribution from the Firearms Trafficking Repression Service of the Brazilian Federal Police

In recent years, Brazil has witnessed an unprecedented rise in seizures of non-industrially produced firearms. According to available data, this mostly concerns rifles assembled using non-industrial parts and semi-finished components – such as 80 per cent lower receivers – and which copy popular conventional models. Unlike their industrial counterparts, these rifles lack markings and serial numbers or, more frequently, have misspelled, irregular or forged engravings. The Federal Police’s approach to this new challenge has been twofold: it required a rethink of tracing efforts in the absence of a serial number; and the transnational nature of the traffic has required significant inter-agency cooperation.

In the absence of serial numbers, national tracing efforts have focused on recording information regarding materials and components and their provenance as well as special markings (including marking left on ammunition). These have proven useful in connecting different seizures and tracing potential patterns. Such patterns, however, extend far beyond the national context. In the Brazilian case, parts and components are trafficked both from within Latin America – mostly across the border with Paraguay – and from outside the region, mostly from the United States. Cooperation with law enforcement agencies in the United States has thus proven critical to the Federal Police’s investigations into the production of non-industrially produced weapons. In cooperation with the United States Department of Homeland Security and Bureau of Alcohol, Tobacco, Firearms and Explosives, the Brazilian Federal Police has been making significant efforts to trace the routes of components trafficked into Brazil. As in the case of operation Florida Heat, this has led to successfully dismantling criminal organizations engaging in the illicit craft production of SALW.



Operation Florida Heat, Dismantled and concealed arms parts found by The Federal Revenue Service at the Port of Itajaí/SC, Brazil, 2022. Source: Brazilian Federal Police.

Despite the steps forwards, key challenges remain:

- **National data-collection and record-keeping efforts depend on knowledge and capabilities to correctly identify these weapons.** The National Tracing Centre, within the Brazilian Federal Police, maintains an internal database with specialized information on seizures. However, this depends largely on the seizures reported by the police of each Brazilian state, on forensic verification and on the extent of information at hand to properly identify such weapons. It is therefore key that training capabilities are enhanced and that guidance documents on the latest craft production trends are disseminated across forensic units and local police forces.
- **Information-sharing at the international level remains limited to ad hoc investigations.** Mechanisms for the regular sharing of information between agencies and across borders are currently in place and have proven crucial when facing such a transnational and rapidly changing issue. However, the national capacity and international infrastructure to conduct a concrete joint data-collection effort is currently limited. In addition, the lack of internationally agreed definitions of what constitutes illicit craft production also represents a challenge to consistent data collection. More cooperative work can be fostered in these areas.

Finally, **the economic and cultural significance** that craft production has in several countries, particularly in Africa and in the Asia-Pacific region, **plays a role in the national implementation of related laws.** In certain communities, craft production is, first and foremost, a skill. As such, it is passed on across generations and makes for a relatively lucrative and respected business. Firearms are, in most cases, only one among a range of household and agricultural tools that are produced. In regions where the demand for weapons is significant, craft production has historically provided employment and has responded to specific societal needs.⁹¹ In such contexts, the existence of mechanisms to prevent illicit manufacturing, either through alternative livelihoods or licensing, is critical. In the absence of viable alternatives for producers, authorities face significant challenges in implementing and enforcing national laws against illicit craft production.⁹² Building on these considerations, several countries in West Africa highlighted, in their responses to UNIDIR's survey, ongoing or recent efforts to map producers and engage with their associations to further understand drivers of demand and supply and to improve access to regulatory mechanisms (see Box 9).



Artisanal hunting rifle, Mali, 2022. Source: David Lochead.

⁹¹ Joly and Shaban, *Between Tradition and the Law*.

⁹² This information is based on responses to UNIDIR's survey and interviews with national authorities.

Is there an Accessible Alternative to Craft Production?

Contribution from the Sierra Leone Commission on Arms and Ammunition⁹³

In 2021, the Sierra Leone Commission on Arms and Ammunition (SLeCAA), in cooperation with Network Research Consultancy Services (NRCS), conducted a national study aimed at capturing data on local gun manufacturers in Sierra Leone, as well as assessing the socio-economic factors influencing the production. As in many other countries, craft production is a long-standing economic practice in Sierra Leone and responds to a high demand for firearms. Despite this, at the time of the study, a promising finding was highlighted: 94 per cent of the respondents indicated their willingness to abandon firearms production for other viable alternative livelihoods. Such a willingness, while being a critical precondition for change, has unfortunately not yet translated into action. As indicated by experts from SLeCAA in 2024, limited capacity was dedicated to long-term thinking on the resources and initiatives needed to guarantee the sustainable provision of alternative livelihoods. At the time of the study, manufacturers flagged the need to: (a) have access to alternative practices, (b) receive the necessary training to shift their expertise towards different practices, and (c) access workshops to conduct manufacturing of legal items. Despite the efforts, guaranteeing a sustainable and long-term transition to producers remains a challenge. In the absence of alternatives, they fear that their relapse into illegal manufacturing is unavoidable.

In addition to this, SLeCAA has been cooperating at both the regional and subnational levels to improve control over craft production of SALW and to enhance knowledge and data collection on the issue. In cooperation with ECOWAS, Volunteer Task Force Committees were established, particularly in border areas, to support the identification of risk factors for illicit manufacturing and trafficking. The committees also engage in awareness-raising and community sensitization on the risks related to illicit manufacturing of SALW and related possession and trafficking. Despite their effectiveness, Sierra Leone is facing significant capacity challenges in maintaining the existence of these committees. At the subnational level, a critical role in raising awareness on the issue is played by Chiefdom authorities. SLeCAA has been closely cooperating with traditional leaders to prevent illicit production. In particular, the development of Chiefdom bylaws has been discussed, as they would serve as intermediary instruments to regulate the production of firearms at the local level.

To date, however, regulation remains a challenge and access to licensing mechanisms seems very limited. “To sum up”, one of the experts flagged, “there is a need to get things in order, starting with supporting those manufacturers that would like to change practice. Secondly, we should remove the obstacles within the process of acquiring a licence – these are, today, mostly economic or related to a fear of repercussions. A micro-funding programme and increasing awareness raising, in this sense, are options that could help in both directions.” In order to move towards a comprehensive strategy, “we need to shed further light on the issue, and we need updated national data to inform a new approach”, said one of the experts.

⁹³ Prior to 7 March 2024, SLeCAA was known as the Sierra Leone National Commission on Small Arms.

7. Conclusion

Craft production of SALW represents an increasingly significant source of illicit weapons proliferation. Alongside their conventionally produced counterparts, craft-produced weapons have been posing a threat to the security of individuals and communities around the globe. However, knowledge and understanding on this issue remains limited and siloed. Through an overview of the different types of weapons, manufacturing techniques, and the actors involved in their production and use, this report represents an initial attempt to shed light on the global nature of craft production. In doing so, it highlights some key areas for improvement and avenues to foster a global dialogue on this issue.

First, **it is important that a higher, shared level of understanding and agreement be reached on how to best define craft production.** While an oversimplification of the specificities of each manufacturing technique and levels of sophistication is not desirable, recognizing them as part of a larger, global phenomenon is fundamental to address this transnational challenge. To reach such agreement, it is key to make the most out of existing forums for dialogue and cooperation, such as those offered by international small arms control instruments and regional organizations. In this sense, the efforts conducted by law enforcement to inform such discussions, providing technical and up-to-date information to states and regional organizations, are highly valuable.

Second, while international, regional and national instruments criminalize or regulate, to different extents, illicit manufacturing, **the explicit inclusion of craft production in these frameworks remains limited.** Increasing focus and efforts should be made at the multilateral level to promote discussions around craft production and the ways to integrate its characteristics and developments into existing frameworks. Where regional instruments targeting specific manufacturing techniques are available, integration into national laws and subsequent implementation requires attention, and where necessary international cooperation and assistance. Further discussions on the challenges faced in this process by states is key. In addition, the compilation of lessons learned, good practices and approaches, at both the national and the regional levels, should be promoted on a regular basis and used to inform multilateral frameworks.

Third, **the improvement of existing legislative frameworks and national regulatory approaches requires disaggregated, up-to-date and centralized data.** Existing data-collection and reporting mechanisms need to be adapted to recent developments, to recognize the variety of illicitly produced SALW and to fully reflect the nature of seizures. This is also critical for law enforcement agencies to be able to draw potential commonalities and trends, improve traceability and address this issue in its transnational nature. It is also critical to increase states' awareness of existing reporting mechanisms.

Finally, addressing the issue of craft production requires a **complete understanding, at the national, regional and international levels, of the actors involved in the use and manufacturing** of these weapons. Further research on the drivers of demand and supply for craft-produced SALW, as well as increasing awareness on their impact across communities, are critical to strengthen existing approaches. While being beyond the scope of this study, further focus on the actors involved in the trafficking of craft-produced SALW, as well as on national approaches for regulating transfers, is also critical. Future work may also investigate developments of craft-produced parts, components and ammunition.

This report highlights an overarching point: craft production of SALW – from traditional to high-tech methods – has democratized the field of weapon production far beyond what existing instruments regulate, making production accessible to a potentially unlimited audience. Simultaneously, it also exponentially increases the number of stakeholders relevant to prevention, control and detection. When looking at this scenario, traditional actors, such as governments, law enforcement agencies, and international and regional organizations, continue to play a crucial role in improving knowledge, data collection, cooperation and regulation in this domain. However, border control and customs authorities, postal and shipping services, and actors within the surface web also appear to be fundamental. The time is therefore ripe to promote a global, comprehensive and multi-stakeholder dialogue on the issue of illicit craft production of weapons.

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