



# BUILDING AIR TRANSPORT CAPACITY IN AFRICA: OPTIONS FOR IMPROVING SECURITY AND GOVERNANCE

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## INTRODUCTION

Air transportation has played a key role in prolonging the wars that have devastated parts of Africa in recent years. Not only is air transportation instrumental in the transfer of small arms and light weapons (SALW) to war zones, it is also essential for the extraction and transport of minerals, precious metals and hydrocarbons from war-affected countries and in facilitating illicit flows of narcotics and tobacco. Yet unlike arms brokers, drug cartels and commodity smugglers, air transporters are required to operate overtly: their aircraft must be registered and their companies formally constituted. Air transportation thus represents a potential 'choke point' at which destabilizing or illicit commodities can be detected and intercepted.

Although the International Civil Aviation Organization (ICAO), the 1944 Convention on International Civil Aviation (Chicago Convention) and its annexes mandate the establishment of effective civil aviation regimes, in a number of African countries conflict, corruption or a lack of resources have prevented their establishment. Air transportation companies, together with the individuals and trading networks associated with them, have exploited this situation to evade detection or control. Successive reports of United Nations Groups of Experts investigating illicit flows of weapons and other goods by air in Africa have recommended the establishment of air traffic control, monitoring and surveillance systems to better identify, disrupt and diminish illicit flows by air. Recent research by SIPRI has shown also that the rigorous enforcement of air safety regulations can complement such measures, as companies involved in destabilizing transfers tend to have poor safety records.

This Policy Brief makes a case for the use of air transport development programmes to significantly improve security and governance in parts of Africa affected by conflict, destabilizing commodity flows and transnational organized crime. After looking at the general issue of controlling air transport in conflict zones, it uses the case of the Democratic Republic of the Congo (DRC) to show how the implementation of specific policy options could have an immediate effect on the levels of security and improved governance.

## SUMMARY

● Air transport development programmes in Africa have the potential to significantly improve security and governance in regions affected by conflict and transnational organized crime.

The case of eastern Democratic Republic of the Congo (DRC) and the surrounding region shows how the establishment of effective air traffic and safety management systems would lead to better controls on the transfer by air of weapons, valuable raw materials and other strategic commodities which may be smuggled or subject to illicit taxation.

Tailored air safety and traffic management programmes draw on synergies involving disarmament and peacekeeping. They can save lives, build infrastructure, foster regional integration and stimulate investment. Such cross-cutting initiatives can involve multi-stakeholder projects with a number of African Union (AU) and European Union (EU) partnerships and organizations.

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## CONTROLLING AIR TRAFFIC

While enforcing air safety and registration rules is central to monitoring and controlling aircraft on the ground, identifying those companies involved in destabilizing commodity flows while their aircraft are airborne requires the equipment and surveillance regimes typical of air traffic control systems. Sophisticated forms of air traffic control involve radar coverage that begins at the boundaries of a particular state or region. Aircraft are detected automatically and those that fly without a flight plan, do not follow procedures or demonstrate other suspect patterns can be tracked and inspected after landing.

However, radar coverage is poor in nearly all regions of Africa affected by conflict. In addition, the aircraft involved in smuggling are generally old and so lack modern systems such as automatic dependent surveillance–broadcast (ADS-B), which act as the aircraft’s beacon, advertising its presence to air traffic controllers. In some cases involving smuggling, aircraft transponders are switched off to make it more difficult for air traffic controllers to use secondary surveillance radar. In areas such as Guinea-Bissau, eastern DRC and the surrounding region, primary surveillance radar systems, which can identify and track an aircraft without a transponder, are either weak or non-existent. This means that state officials are unable to effectively track or monitor airborne aircraft which may depart and land at airstrips not subject to customs control.

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This correlation has been observed for aircraft registered in the DRC, Kazakhstan, Liberia, Moldova, Sao Tome and Principe, Russia, Sudan and Ukraine. Aircraft registered in these countries have been responsible for the transfer by air of weapons and other conflict-sensitive commodities to wars in Angola, the DRC, Rwanda, Sierra Leone, Somalia, Sudan and the former Yugoslavia.

For certain conflicts where a high proportion of conflict-sensitive or strategic goods are moved by air, programmes to improve national or regional control of air traffic would provide a number of potential benefits that could reduce and transform the conflict as well as enhance governance and development.

The first benefit would be to directly reduce the ability of arms traffickers to transport SALW by air into or within the conflict zone in violation of national laws and UN Security Council resolutions. The only means of moving significant amounts of ammunition or weapons to many actual or potential conflict zones is by air. Thus, improved surveillance, monitoring and interdiction of air traffic could improve the security situation by reducing the amount of ammunition and arms available to armed groups and undisciplined army units.

The second benefit would be to enhance the ability of the state to collect taxes and import and export duties on commodities transported by air through the monitoring and surveillance of cargo flights. By focusing on cargo manifests, cargo weight and actual flight plan, the reporting of taxable cargo and its destination will become more accurate. By reducing the vol-



umes of non-taxed commodity flows, the clandestine cross-border commercial and paramilitary relationships which are underpinned by such untaxed flows would also be undermined.

The third benefit would be to provide passengers and air cargo users with safer aircraft and better infrastructure, in line with African Union (AU), European Union (EU), ICAO and World Bank goals. In addition to directly saving lives, improved air safety standards would have the economic benefit of allowing the EU to lift its bans on many of the hundreds of air carriers registered in conflict and post-conflict African states or where there is a high level of transnational organized crime.

## **THE DEMOCRATIC REPUBLIC OF THE CONGO**

The DRC provides a useful example of a conflict-affected country that could benefit from programmes to improve national control of air traffic. The country is the site of the world's deadliest conflict since World War II. Even since the nominal end of the civil war in 2003, fighting has continued between rebel groups and the Forces armées de la République démocratique du Congo (FARDC, Armed Forces of the DRC).

In eastern DRC the conflict is particularly complex and multifaceted. Corruption and parallel networks within state institutions ensure that FARDC units are unpaid and poorly disciplined, and so, like rebel groups, they 'tax' mining concessions and artisanal mining communities. This extortion by both government and rebel units is based on their possession of SALW and their ammunition, which remain widely available. Simultaneously, poor communications, a near absence of roads, parallel networks within state institutions and FARDC–rebel complicity in the transfer of precious raw materials are among the most serious structural problems facing policy-makers attempting to increase security and improve governance in eastern DRC.

### **The air transport nexus in the DRC**

In the DRC air transport represents a nexus in the flows of valuable raw materials and small arms and light weapons. Because of a lack of road infrastructure and the risks involved in transporting high-value goods, nearly all strategic commodities imported to or exported from outlying areas—including raw materials, mining equipment, ammunition, weapons, and paramilitary and military forces—are transported by air. Air transport is thus central to the various political economies that predominate in different parts of the country and airstrips are the import and export nodes for regional 'war economies'.

Air transport sustains and stimulates clandestine relationships between FARDC elements and rebel groups such as the Forces démocratiques de libération du Rwanda (FDLR, Democratic Forces for the Liberation of Rwanda). The interests of corrupt FARDC commanders and rebel groups coalesce at the airstrips. The economic relationship between the two sides can be observed in practice at airports, where FARDC units tend to tax minerals derived from outlying areas occupied by illegal armed groups. This illegal

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FARDC control of mineral transfers is predicated on its control of airstrips and the continuing inability of the state to effectively monitor and control national airspace. Equally, the state is weakened by the two separate rounds of illegal taxation by first rebel groups and then FARDC units as well as the two sides' complicity in the transfer of commodities for which the government receives no revenue.

Another way in which the clandestine relationships between parts of the FARDC and rebel groups are sustained by air transport is in the supply of arms. FARDC units receive weapons and ammunition by air and reports by UN Groups of Experts on the implementation of the arms embargo on the DRC have noted that FARDC weapons and military equipment are illicitly diverted to the principal rebel militias, including the FDLR and the Congrès national pour la défense du peuple (CNDP, National Congress for the Defence of the People). FARDC officers have prevented observers of the United Nations Organization Mission in the DRC (MONUC) from inspecting arms shipments and the UN Sanctions Committee has not been notified of weapon transfers prior to delivery.

Such potentially destabilizing SALW transfers as well as the movement of illicitly taxed natural resources and untaxed imports by air are made possible by the lack of air traffic control, surveillance and air safety enforcement in eastern DRC. Unmonitored airspace allows aircraft to land and take off from unauthorized airstrips and transport illicitly taxed commodities to or from eastern DRC and neighbouring countries without the checks and controls that radar and a regional air traffic control network would bring.

Currently, most airstrips and airports in the DRC are controlled by FARDC units or illegal armed groups with no oversight from a civil aviation authority. Indeed, after decades of mismanagement, corruption and conflict the

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DRC lacks an independent civil aviation authority and programmes for airworthiness, air safety and air surveillance. The DRC's civil aviation authority, the Régie des Voies Aériennes (RVA, Air Routes Authority), lacks transparency and independence. It is dependent on financial support from government budget allocations and remains chronically underfunded despite the high taxes imposed on aircraft using the DRC's airports and landing strips.

The RVA's lack of political and financial autonomy is compounded by the absence of radar, air traffic control or an air safety regime. The DRC lacks the radar and navigation systems which are standard in many ICAO member states. UN reports have noted dozens of unsafe aircraft lacking basic documents such as a certificate of airworthiness and UN Security Council resolutions on the DRC have repeatedly called for the suspension of companies operating in contravention to aviation regulations. However, many carriers operating in the country continue to do so in violation of national laws and international standards. Aircraft carrying commodities associated with war economies habitually violate international civil aviation standards.

There is no regulated authorization or accreditation process for obtaining a Congolese air operating certificate (AOC). When an AOC is withdrawn, officials may be intimidated into simply reissuing the certificate. The RVA—through its role in collecting figures on incoming minerals at Goma Airport—also plays a part in the under-reporting of raw material exports.



Finally, the lack of an adequately resourced, independent civil aviation authority and corresponding infrastructure means that in certain areas of the country aircraft may enter or exit Congolese airspace without the requisite authorization and may land in places that have no customs controls. In particular, the complete lack of radar coverage in eastern DRC facilitates the movement of aircraft engaged in smuggling activities centred around the transfer of commodities not subject to central or regional government taxation.

This absence of oversight and regulation manifests itself most obviously in the air accident rate. The DRC has the highest air crash incident rate per capita in the world. Domestic air travel schedules are unreliable and planes are frequently overloaded with passengers or cargo. All air passenger and cargo carriers registered in the DRC are banned from entering EU airspace due to safety concerns. UN arms trafficking experts have repeatedly expressed misgivings over the level of commitment and capacity on the part of the Congolese civil aviation authorities and have recommended international help to build capacity.

### **Options for developing air transport control in eastern DRC**

There is a need to reform, regulate, manage and build the air transport sector in eastern DRC. A number of reports by UN Groups of Experts on the implementation of arms embargoes in Africa have stated that improved civil aviation controls and infrastructure may reduce arms smuggling. The establishment of proper regulatory frameworks such as air traffic control and an air safety regime backed up by the requisite technical surveillance and enforcement capability would allow the Congolese civil authorities to better detect destabilizing airborne shipments of SALW delivered by civilian aircraft. To achieve this, the donor community and multilateral and regional organizations must first recognize the potential of these developments to end the cycle of instability and conflict in eastern DRC and then offer the DRC's civil aviation sector greater financial resources and exert political pressure on its behalf.

The necessary projects in the DRC and elsewhere in Africa need to be cross-cutting, must involve a number of stakeholders, and require political and economic support for their implementation. As such, these projects are suitable for support from a number of mechanisms, including the Africa–EU Joint Strategy. The Joint Strategy, which was adopted at an EU–Africa summit in 2007, brings together agencies of the AU and EU, their member states, regional organizations and civil society through eight partnerships. Air transport development programmes in the DRC and neighbouring countries could be covered by three of these eight: Peace and Security; Democratic Governance and Human Rights; and Trade, Regional Integration and Infrastructure. Multi-stakeholder projects such as these build on the strengths of the different partners. For example, having piloted the Safety Assessment of Foreign Aircraft (SAFA) programme, EU institutions have proven techniques and technologies to share with their African counterparts. Pilot projects involving air transport development programmes which target transnational organized crime networks and smuggling operations could also be funded under the EU's Instrument for Stability.



EU member states that have contributed to peacekeeping may also have assets in place that could provide valuable, albeit temporary, reinforcement to any nascent air traffic control surveillance regime. These could include hardware, such as smaller airborne warning and control system (AWACS) aircraft capable of operating from shorter runways, or intelligence on particular air cargo carriers of concern. Similarly, civil society groups and research institutes concerned with disarmament, human rights and good governance could play a role in independent monitoring and advocacy.

A number of models could be used or adapted in eastern DRC, including those piloted by the EU and its European Aviation Safety Agency (EASA) and the East Africa Community (EAC) and its Civil Aviation Safety and Security Oversight Agency (CASSOA). Expertise and technology sharing could also be sought from a range of African regional and subregional organizations such as the Dakar-based Agence pour la sécurité de la Navigation aérienne en Afrique et à Madagascar (ASECNA, Agency for the Security of Aerial Navigation in Africa and Madagascar).

The AU is already playing a continent-wide role in developing aviation standards together with the European Commission through a common strategic framework and action plan for African–European cooperation in air transport. Given the transnational dimension inherent in air transport development, Africa’s regional economic communities (e.g. the EAC) and the Regional Center on Small Arms and Light Weapons (RECSEA) may have a role to play together with UN institutions such as the ICAO, the UN Development Programme (UNDP) or MONUC’s Aviation Section, which is currently geared to servicing the needs of the temporary peacekeeping mission.

Models for use in the DRC and elsewhere in Africa could include the creation in particularly sensitive zones of a notification or ‘N’ area—similar to that established in northern Sweden during the cold war—where aircraft would be required to notify air traffic control of their presence and intended route or face an operating ban upon discovery. Depending on the system adopted, a flight plan filed in advance could include notification to air traffic control of the aircraft manufacturers’ serial number, registration number, operator, route, destination, purpose of flight, cargo and recipients.

This radar- and radio-based air traffic control system could be supported by an air safety enforcement programme which would profile aircraft for ramp inspection based on the data submitted in the flight plan or through airborne notification. In addition to promoting air safety and grounding or banning the worst offenders, standard air safety ramp inspections—similar to the EU’s SAFA programme—include a document check (of the cargo manifest, certificates of registration and airworthiness, filed flight plan and pilot licence) and inspection to check the integrity of the cargo hold. While these checks are not a substitute for a customs inspection, they could prevent the delivery of destabilizing SALW or non-taxed or illicitly taxed imports or exports.

Airstrips in eastern DRC could be subject to a certification process with parameters that addressed civilian monitoring and control of the airstrip as well as basic air safety concerns.

An air safety inspection programme would raise airworthiness and safety standards while directing particular attention to unsafe air cargo aircraft engaged in destabilizing SALW or illicitly taxed raw material flows in add-



ition to smuggled imports. An extended surveillance regime would make it possible to map the flights by particular aircraft and companies, which would allow experts to describe patterns of aircraft movement that are currently unknown. This would also provide the data for a risk analysis and the basis for profiling suspect companies or aircraft operating in areas of conflict or in conjunction with rebel groups or FARDC units. A blacklist of banned carriers which failed to participate in the notification scheme or engaged in illicit flows could be enforced—through the seizure of their assets—with the support of special police units present at the main airports.

Most of the aircraft operating in eastern DRC are relatively old and so lack the equipment to respond to ADS-B and other types of radar monitoring that depend on the aircraft to transmit identification signals. A system suitable for the eastern DRC would thus depend on primary surveillance radar, which requires no action on the part of the aircraft and is thus more effective against clandestine or illicit flights. This could be backed up by a temporary airborne surveillance system in the form of a smaller airborne early warning and control (AEW&C) aircraft using radar with a range of 300–400 kilometres leased from or by an EU member state. Changes to Congolese legislation could also gradually require all air operators flying into the DRC to equip their aircraft with transponders and Global Positioning System (GPS) devices which would transmit data on the aircraft's identity and position.

## CONCLUSIONS

While air transport development programmes require seemingly high levels of capital expenditure and technological investment, the resulting improvements in security, regional trade and infrastructure development could be significant. Moreover, the cross-cutting nature of these programmes means that funds targeting transnational organized crime, security, infrastructure and peacekeeping should be available. In addition, air transport development programmes should deliver a range of results over the short, medium and long term and prove relatively inexpensive when compared to short-term security sector reform (SSR), disarmament, demobilization and reintegration (DDR), or democratization projects, such as elections.

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In the case of the DRC, improvements in air safety and air traffic control would lead to improvements in security and in governance by ending illicit flows of arms by air and by boosting the tax revenues of the central government. The taxation of goods transported by air would form an important component of Congolese Government revenues. In addition to collecting taxes and other excise duties on imports and exports shipped by air, more effective control over the air transportation sector can influence the direction of commodity flows, trading relationships and paramilitary alliances between non-state actors and trading networks operating in the wider Great Lakes region. While internationally sponsored attempts at SSR and DDR have failed to halt endemic violence in the DRC, the hitherto neglected air transport sector can be developed to stem the flow of weapons and other strategic goods which sustain the various armed groups in eastern DRC and have unnecessarily prolonged the conflict in the country.

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