New-model African armies

Following their independence, most Sub-Saharan and East African militaries tended to use second-hand military equipment donated by former colonial powers, as well as the United States, the Soviet Union, and China. Jeremy Binnie and Erwan de Cherisey report on how that trend is changing.

While many Sub-Saharan and East African militaries relied on donated military equipment, there were some exceptions, such as Nigeria, which used the growing demand for their raw materials, particularly oil, to buy modern defence equipment in the 1970s and 1980s. The other notable exception was South Africa, which during the Apartheid period developed a domestic defence industry to mitigate the UN arms embargo that was imposed on it in 1977 to provide its military with equipment specifically designed for the conflicts it was fighting.

This situation has now changed. Over the last decade African militaries have been acquiring new equipment from a wider range of suppliers as they develop new partnerships with arms exporters and look for products that offer better value for money and are more in line with their requirements. This partly reflects the end of the Cold War, in which the Soviet Union and its Western rivals used arms transfers to court and support friendly regimes. While the Soviet successor states still have large quantities of Cold War surplus, they now want to be paid up front for supplying it.

Western countries still donate surplus equipment to African militaries, but this now tends to focus on 'partner capacity building': providing what the recipients need to perform specific missions, typically domestic counter-insurgency operations or peacekeeping in other African countries. Such initiatives can also involve financing the acquisition of new equipment that has been produced in the donor country.

China, which is now a major player in the African defence market, also gives its defence industry a boost by providing generous loans to African countries to buy its products. While this has prompted concern that Beijing is using defence exports as a geostrategic tool to expand its influence in Africa, the militaries that are buying Chinese products typically also buy from a range of other suppliers.

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AK icon

Soviet-designed infantry weapons are now even more popular in Africa than they were during the Cold War, when the Kalashnikov (AK) assault rifle became an icon for anti-colonial movements. When the Soviet Union and Warsaw Pact collapsed in the early 1990s, the vast stockpiles of such weapons that had been built up by overproduction by state-controlled industries became available at artificially low prices. Around the same time large numbers of surplus Chinese AK-type weapons also became available as they were retired by the People's Liberation Army (PLA) in favour of the new Type 95 assault rifle.
While unscrupulous dealers fuelled civil wars by providing East European weapons to any faction that could pay, Western-designed rifles and machine guns in less troubled countries were also gradually replaced.

In more recent years there has been a trend towards procuring more sophisticated firearms, often to equip elite forces, thereby differentiating them from regular and irregular forces. Some of these weapons are improved AKs, such as the Polish-made Beryl M762 assault rifle that was acquired for Nigeria's 72 Mobile Strike Force, and the Serbian-made Zastava M21 weapon bought by Cameroon for its armed forces, including the elite Rapid Intervention Battalions (Bataillons d'Intervention Rapide: BIR).

A development of the original Galil assault rifle, itself an AK descendent, the Israeli Weapons Industries (IWI) Galil ACE has been one of the most popular of these weapons and has been purchased in both the 5.56x45 mm and 7.62x39 mm calibres, the latter meaning it uses the same cartridge as the AK. The ACE is in service with the BIR, Chad, Côte d'Ivoire, Nigeria, South Sudan, and Uganda, with the latter two countries using the 7.62x39 mm version. IWI's Tavor bullpup assault rifle has also proved popular in Sub-Saharan Africa. It is in service with various military and praetorian units in Angola, Cameroon, Chad, Côte d'Ivoire, Ethiopia, Kenya, Nigeria, Rwanda, Senegal, and Uganda.

Western weapons have not been completely pushed out of African inventories. A long-time M16 rifle user, the Senegalese Army is moving to the M16A2 as its standard-issue rifle, sidelining older weapons such as the Heckler & Koch G3 and French FAMAS bullpup. The Ghanaian Armed Forces (GAF) also uses the M16A2 as its standard issue weapon, alongside the Colt M4 carbine and various AK types.
Seen here at Mabass, on the border with Nigeria, this Cameroonian Army soldier is manning a Serbian-made Zastava M02 Coyote 12.7 mm heavy machine gun, which Cameroon has procured in significant quantities. (Erwan de Cherisey) 1704209

The Botswana Defence Force (BDF) has recently begun to replace its FN FAL rifles with the Singaporean SAR 21 bullpup assault rifle manufactured by ST Kinetics, as photographs of BDF troops taken during different multinational training exercises have revealed.

Malawi is another country that has renovated its small arms inventory in recent years, with 5,100 South Korean Daewoo K2C assault rifles being delivered in 2012-13, according to the United Nations Register of Conventional Arms (UNROCA). The weapons have been used in the Democratic Republic of Congo (DRC) as part of Malawi's contribution to the United Nations Force Intervention Brigade (FIB).

The Ugandan People's Defence Force (UPDF) and Kenyan Defence Forces (KDF) have both acquired M4 carbines for units operating in support of the African Union Mission in Somalia (AMISOM). KDF special forces have also adopted FN Herstal's expensive SCAR-H 7.62x51 mm rifle; an industry source has told Jane's that the KDF has procured close to 1,000 SCARs.

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**Light support**

The Soviet 7.62x54 mm PK general-purpose machine gun (GPMG) and its copies still dominate the African market. However, some other machine guns have made inroads. The IWI Negev light machine gun (LMG), for example, is in service alongside the ACE in Cameroon and is also used by Tanzania, the KDF, Côte d'Ivoire, and Senegal's special forces and commando units. Senegalese special forces also use the FN Herstal Minimi light support weapon.
The Chinese-made Type 87 35 mm automatic grenade launcher is a popular light support weapon in Africa and is used by several of the continent's militaries, including Uganda, which has deployed it in Somalia. (AMISOM)

More notably, the Soviet 12.7x108 mm DShK dominance of the heavy machine gun (HMG) market is increasingly under threat by Chinese Type 77/85, Type 85, and Type 87 weapons, which are now common sights. Other HMG types that have appeared in recent years in Africa include the Serbian-made Zastava M02 Coyote, which is widely used by the Cameroonian military, and Singapore's ST Kinetics 12.7x99 mm CIS 50MG, which is in service in Nigeria.

Revolver grenade launchers are an increasingly popular type of light support weapon in Africa. This Cameroonian BIR soldier is seen here in Amchidé in 2016, armed with a Serbian-made PPT Namenska M07 40 mm grenade launcher. (Erwan de Cherisey)
The main type of sniper/marksman rifle remains the Russian SVD Dragunov and derivatives manufactured in Eastern Europe, but other designs have also appeared. The IWI 7.62x51 mm Galil Sniper is undoubtedly the best seller in its category and has been adopted by Cameroon's BIR and Presidential Guard (GP), Senegal's special forces, and the KDF. The Senegalese special forces also use the Finnish-made Sako TRG 42 in the .338 Lapua Magnum calibre.

African armies have traditionally made extensive use of the RPG-7 rocket launcher with high-explosive anti-tank rounds, but rarely against the armoured vehicles they were designed to knock out. While the RPG-7 is still common, it is now more frequently seen fitted with anti-personnel or anti-structure rounds.

Projected grenade launchers have also become more popular. Cameroon uses the Serbian-made PPT Namenska 40x46 mm RBGR M07 six-shot revolver grenade launcher, which has been delivered to regular army units as well as BIR forces. The BIR also uses the single-shot Croatian-made HS Produkt VHS-BG 40x46 mm grenade launcher, while the Senegalese military has procured revolver grenade launchers for its special forces, most notably 40x46 mm MSGs made by Arsenal in Bulgaria.

The UPDF has bought both the magazine-fed 35x32 mm QLZ87 and 40x46 mm LG4 six-shot revolver grenade launchers from China, with the latter also seen in use with Nigerian soldiers. Shipping documents obtained by Bloomberg in 2014 revealed that 2,394 Chinese grenade launchers - probably LG2 under-barrel variants - were supplied to South Sudan in that year.

Conventional armour

The Soviet T-55 main battle tank (MBT) has traditionally been the workhorse tank for many African armies, which often use the MBTs to provide direct fire support for dismounted infantry rather than for armoured manoeuvre warfare. However, this is beginning to change, with armies that maintain heavy armoured units increasingly opting for T-72 MBTs. These include Angola, the DRC, Ethiopia, Nigeria, South Sudan, and Uganda. Whether Kenya is also a user of the T-72 remains uncertain; while the type has been observed during military parades, it is possible that Kenya displayed ones that were destined for South Sudan.

The DRC reportedly also ordered 50 Ukrainian-upgraded T-64BV-1 tanks, although this sale may have been cancelled owing to the demands of the conflict in eastern Ukraine. Tanzania opted for the Type 59G MBT, an upgraded Chinese version of the T-55, while Rwanda has acquired at least 10 Ti-67 Tiran tanks, which are T-55 MBTs that Israel captured from Arab armies and upgraded with 105 mm rifled guns and explosive reactive armour.
The WMA301 is a Chinese-made tank destroyer based on a WZ551 chassis and fitted with a 105 mm turret. The type has enjoyed commercial success in Africa and is currently in service in Angola, Cameroon, Chad, Djibouti, and Senegal. Cameroon has used its own examples in combat against Boko Haram since 2014. (Erwan de Cherisey)

Several other militaries have bought Chinese wheeled tank destroyers rather than tracked tanks to perform the direct fire support role. The Norinco WMA301 is essentially a WZ551 6x6 armoured personnel carrier (APC) fitted with a turreted 105 mm gun and is now known to have been acquired by Angola, Cameroon, Chad, Djibouti, and Senegal. The vehicle is presumably attractive because it is cheap and easier to maintain in the field than a tank, although the weight of the turret may strain the engine and suspension if they are the same as those installed on the original APC, causing longer-term serviceability problems. The WMA301 is also only lightly armoured and has a high profile, potentially making it vulnerable on the battlefield, although height is an asset in bush warfare because it allows for better field of view. Cameroon has used its WMA301s in combat with satisfactory results, according to Cameroonian military personnel interviewed by Jane’s.

The WZ551 APC is in service with more than a dozen Sub-Saharan African militaries, making it even more popular than the WMA301. Another Chinese APC, the WZ523, is in service with Gabon and Ghana, whose Armoured Reconnaissance Regiment also uses an improved version designated the Type 05P, which is also operated by Namibia and the Sudan Armed Forces.
The WZ551 is the most popular Chinese-made armoured vehicle in service on the African continent, with more than a dozen countries operating the type. Kenya is one of the major users of the WZ551 and has deployed it in numbers in Somalia as part of its contribution to AMISOM. (AMISOM)

A third family of Chinese armoured vehicles has also been purchased by African customers. Cameroon received 20 Norinco Type 07P infantry fighting vehicles (IFVs), including one recovery and one command post vehicle, to replace its fleet of Cadillac Gage V150 Commando APCs in 2012, thanks to a USD340 million loan from China's EXIM Bank. A number of these 8x8 vehicles are now permanently deployed in Cameroon's Far North region by the Armoured Reconnaissance Battalion (Bataillon Blindé de Reconnaissance: BBR) to support counter-insurgency operations against the Nigerian militant group Boko Haram.
The Chinese-made Type 07P infantry fighting vehicle has been intensively used by the Cameroonian military in combat operations against Boko Haram. In 2014 one of these vehicles destroyed a Steyr Saurer armoured personnel carrier that was captured by Boko Haram, which used it to attack Amchidé. (Erwan de Cherisey)

The Chinese have not completely pushed European manufacturers of dedicated APCs/IFVs out of the African market. Botswana took delivery of 45 8x8 General Dynamics European Land Systems (GDELS) Mowag Piranha III IFVs from Switzerland in 2003. A Botswanan newspaper reported in February 2016 that the BDF was planning to buy another 45, but this remains unconfirmed.

Meanwhile, the Israeli RAM MK3 APC has proved to be a best seller in Africa. Made by Israel Aerospace Industries’ Ramta division, the monocoque 4x4 vehicle is marketed as having excellent off-road mobility and is in service with Lesotho (six delivered in 2006), Cameroon (five in 2008 for the GP), Malawi (unknown number), Chad (at least 37 since 2006), and Senegal (reportedly 55). The Chadian and Senegalese RAM MK3s have been used extensively on operations.

The Cameroonian Army has procured 20 Chinese-made Type 07P infantry fighting vehicles, including this armoured recovery vehicle photographed at the refugee camp of Minawao, in the Far North region, in 2015. (Erwan de Cherisey)

The Turkish industry has also made headway in Africa with the Otokar Cobra light armoured vehicle, of which 194 examples have been sold to Nigeria and 30 to Rwanda. The Nigerian vehicles have been used against Boko Haram, while Rwanda has deployed its Cobras in the Central African Republic (CAR) under the UN banner.
The ACMAT Bastion is France's best-selling armoured vehicle in Africa, with 10 countries already operating the type or being slated to begin operating it in the near future. The versions in service in Africa include the special operations PATSAS vehicle as well as the armoured personnel carrier, of which Burkina Faso is the largest user with more than 100 examples in service. Two such vehicles are seen here near Timbuktu, where they are deployed as part of the Burkinabe Infantry Battalion operating there under the UN banner. (Erwan de Cherisey)

Mine protection

While the South African defence industry has not established as large a foothold in Africa as its capabilities could potentially allow, it dominates the mine-resistant ambush-protected (MRAP) vehicle market. Vehicles with V-shaped hulls to mitigate the blast from mines were first developed in Rhodesia, but the concept was refined by South Africa into the Casspir family (now a Denel product) more than 30 years ago. Demand for this type of vehicle in Africa has only risen in recent years owing to the increased use of improvised explosive devices (IEDs) by insurgents in various African conflict zones mirroring the prevalence of the IED threat to Western forces in Iraq and Afghanistan.

While Casspirs have been bought by Djibouti, Malawi, Senegal, and Uganda, other South African designs have performed better. OTT Technologies has sold 150 M26 Puma vehicles to Kenya, which has used the type intensively in Somalia. Other M26 operators include Senegal, which took delivery of 39 vehicles in 2014, including armoured recovery versions, and Malawi, which received 18 in 2013. The UN has also bought more than 100 of the larger M36 Puma vehicles for use in Mali by infantry units from different countries that are deployed as part of the UN Multidimensional Integrated Stabilisation Mission in Mali (MINUSMA). The United Nations Mine Action Service (UNMAS) also uses the type in Mali.
South Africa's Paramount Group is known to have sold six Marauder MRAP vehicles to Malawi in 2013 and 38 to the Republic of Congo in 2010. Another Paramount MRAP, the Matador, has been sold to Gabon, which received 24 examples in 2013. The Mamba APC, now a Denel product, is based on a Mercedes Unimog chassis and has been sold to Côte d'Ivoire and Uganda. The Reva company's Mk III and Mk V MRAPs were bought by Nigeria to equip the 72 Mobile Strike Force. Somalia also operates Revas as well as South African-made RG-31 vehicles that were donated by the United Arab Emirates (UAE).

China has also moved to secure a share of the growing MRAP market in Africa with the Poly Technologies CS/VP3 Bigfoot: a type that has been sold to Nigeria since 2014 and has apparently performed well in operations against Boko Haram. This vehicle also has South African roots. The South African engineer Dewald Hattingh told Jane's that his firm Mobile Land Systems agreed a deal with Poly in 2009 under which technology was transferred to the Chinese company so that it could build its Caprivi MRAP under the CS/VP3 name in China and market it internationally.

Some MRAPs that were not designed by South Africans have also found their way into African inventories. French company Nexter has sold Aravis vehicles to Gabon to equip the infantry battalion it contributed to the UN mission in the CAR; 12 were initially ordered, but only eight were delivered owing to funding issues. Unusual for African armoured vehicles, these are armed with stabilised remote weapon stations with 20 mm cannons.

US MRAPs are also found in Sub-Saharan Africa, often as surplus equipment. Nigeria paid for the refurbishment of an assortment of 24 surplus RG-33 (another South African design) and Navistar MaxxPro vehicles that were delivered by the United States in 2016. Burundi also operates RG-33s, while Djibouti has General Dynamics Land Systems (GDLS) Cougar MRAPs.
The GDLS PKSV is a popular MRAP in Africa, of which the United States has donated several dozen examples to Burundi, Cameroon, Djibouti, and Uganda. The Cameroonian examples have been deployed in the Far North region to support operations against Boko Haram. While the better part of the 27 vehicles delivered to Yaoundé have gone to the army, the BIR has also received several examples, including these two pictured in 2016. (Erwan de Cherisey)

Some new US-made MRAPs have also been delivered to African militaries in the form of the GDLS Peace Keeping Security Vehicle (PKSV): a simpler and cheaper derivative of the Cougar. These are operated by Ugandan, Djiboutian, and Burundian forces in Somalia. Cameroon received six PKSVs in 2015, four of which were handed to the army while two went to the BIR. A further 21 vehicles, including ambulance and command post versions, were delivered in late 2016. It is still unknown which forces took delivery of these vehicles, but the majority of them probably went to the army.

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The Ghanaian Army has received 50 Streit Typhoon MRAPs, which are operated by its Armoured Reconnaissance Regiment. A number of these vehicles are deployed in UN peacekeeping operations in South Sudan as well as Mali, where this example was photographed. (Erwan de Cherisey)

Artillery

The dominant artillery systems in Africa have traditionally been the Russian-made 122 mm D30 howitzer, the 122 mm BM-21 multiple rocket launcher (MRL), and the smaller Chinese 107 mm Type 63 MRL. MRLs remain popular in Africa, with recent sales including Ukrainian-made BM-21s mounted on KrAZ-6322PA trucks to Senegal, which should have received at least eight this year. Cameroon is also slated to receive Russian-made BM-21s, as one army officer there disclosed to
Jane’s in 2016. Mauritania has also received new BM-21s, which have featured in military parades since at least 2011.

The Cameroonian Army’s Surface-to-Surface Artillery Regiment (RASS) fields 12 Israeli-made Soltam CARDOM 120T 120 mm self-propelled mortars, of which a number are currently deployed in the Far North region in support of combat operations against Boko Haram. (Cameroonian MoD) 1704205

Since the beginning of the 2000s there has been a noticeable effort on the part of several African countries to modernise their artillery capabilities with more mobile systems. Cameroon is a leading example because it has received 18 Soltam (now part of Elbit Systems) CARDOM 120T self-propelled 120 mm mortars (12 for the army, six for the presidential guard), which have been intensively used in combat operations against Boko Haram. The mobility of the Israeli-made CARDOM 120T is prized by the Cameroonians because it provides them with great flexibility and a rapid response capability that towed artillery lacks. Uganda also has 18 CARDOM 120Ts, according to UNROCA reporting, but no evidence of their delivery has been obtained by Jane’s.

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