III. Developments among the recipients of major arms, 2016–20

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SIPRI has identified 164 states as importers of major arms in the five-year period 2016–20.[1] The top five arms importers—Saudi Arabia, India, Egypt, Australia and China—received 36 per cent of total arms imports in 2016–20 (see table 9.4). Except for Egypt, which replaced the United Arab Emirates (UAE), the top five were the same as in 2011–15, although there were some changes in rank order. Most notably, Saudi Arabia moved above India to become the world's largest importer of major arms in 2016–20. At the regional level, Asia and Oceania accounted for 42 per cent of arms imports in 2016–20, followed by the Middle East (33 per cent), Europe (12 per cent), Africa (7.3 per cent) and the Americas (5.4 per cent; see table 9.5). This section reviews significant developments among the recipients of arms in each region.

Africa

Between 2011–15 and 2016–20, imports of major arms by African states decreased by 13 per cent. In 2016–20 the three largest arms importers in Africa were Algeria (4.3 per cent of global arms imports), Morocco (0.9 per cent) and Angola (0.5 per cent).

North Africa

The four countries in North Africa (Algeria, Libya, Morocco and Tunisia) accounted for 71 per cent of African arms imports. Their combined arms imports increased by 9.0 per cent between 2011–15 and 2016–20.

Taken together, the arms imports of regional rivals Algeria and Morocco accounted for 70 per cent of total African imports of major arms in 2016–20. Algeria's arms imports were 64 per cent higher in 2016–20 than in 2011–15, making it the sixth largest arms importer in the world. Russia remained the largest arms supplier to Algeria in 2016–20, accounting for 69 per cent of Algeria's arms imports, followed by Germany (12 per cent) and China (9.9 per cent). Russian arms deliveries to Algeria included a total of 16 MiG-29M and Su-30MK combat aircraft, 42 Mi-28N combat helicopters

[1] Except where indicated, the information on the arms deliveries and orders referred to in this section is taken from the SIPRI Arms Transfers Database. For a definition of 'major arms' and a description of how the volume of transfers is measured see box 9.1 in section I. The sources and methods used to produce the data discussed here are also presented on the SIPRI website. The figures here may differ from those in previous editions of the SIPRI Yearbook because the Arms Transfers Database is updated annually.

Table 9.4. The 50 largest recipients of major arms and their main suppliers, 2016–20

Rank			Share of total global imports (%)		Change in volume (%) from 2011–15	Main suppliers (share of importer's total imports, %), 2016–20		
2016–20	2011–15[a]	Importer[b]	2011–15	2016–20	to 2016–20	1st	2nd	3rd
1	2	Saudi Arabia	*7.1*	*11*	*61*	United States (*79*)	United Kingdom (*9.3*)	France (*4.0*)
2	1	India	*14*	*9.5*	*–33*	Russia (*49*)	France (*18*)	Israel (*13*)
3	13	Egypt	*2.4*	*5.8*	*136*	Russia (*41*)	France (*28*)	United States (*8.7*)
4	5	Australia	*3.6*	*5.1*	*41*	United States (*69*)	Spain (*21*)	Switzerland (*3.4*)
5	4	China	*4.4*	*4.7*	*5.5*	Russia (*77*)	France (*9.7*)	Ukraine (*6.3*)
6	11	Algeria	*2.6*	*4.3*	*64*	Russia (*69*)	Germany (*12*)	China (*9.9*)
7	10	South Korea	*2.7*	*4.3*	*57*	United States (*58*)	Germany (*31*)	Spain (*6.5*)
8	32	Qatar	*0.8*	*3.8*	*361*	United States (*47*)	France (*38*)	Germany (*7.5*)
9	3	UAE	*4.7*	*3.0*	*–37*	United States (*64*)	France (*10*)	Russia (*4.7*)
10	7	Pakistan	*3.4*	*2.7*	*–23*	China (*74*)	Russia (*6.6*)	Italy (*5.9*)
11	12	Iraq	*2.5*	*2.5*	*–0.6*	United States (*41*)	Russia (*34*)	South Korea (*12*)
12	28	Japan	*1.0*	*2.2*	*124*	United States (*97*)	United Kingdom (*2.1*)	Sweden (*1.0*)
13	9	United States	*2.9*	*2.1*	*–30*	United Kingdom (*22*)	Germany (*14*)	Netherlands (*14*)
14	20	United Kingdom	*1.5*	*2.1*	*41*	United States (*72*)	Spain (*18*)	Germany (*4.0*)
15	24	Israel	*1.2*	*1.9*	*65*	United States (*92*)	Germany (*5.9*)	Italy (*2.3*)
16	8	Viet Nam	*3.0*	*1.8*	*–41*	Russia (*66*)	Israel (*19*)	Belarus/South Korea (*4.8*)
17	18	Singapore	*1.8*	*1.7*	*–9.0*	United States (*36*)	Spain (*25*)	France (*17*)
18	15	Indonesia	*2.0*	*1.7*	*–18*	United States (*23*)	Netherlands (*19*)	South Korea (*17*)
19	34	Italy	*0.7*	*1.5*	*120*	United States (*62*)	Germany (*26*)	Italy (*5.9*)
20	6	Turkey	*3.6*	*1.5*	*–59*	United States (*29*)	Italy (*27*)	Spain (*21*)
21	35	Norway	*0.7*	*1.3*	*93*	United States (*79*)	South Korea (*12*)	Italy (*3.3*)
22	22	Bangladesh	*1.3*	*1.2*	*–3.6*	China (*71*)	Russia (*16*)	United Kingdom (*4.1*)
23	31	Thailand	*0.8*	*1.2*	*44*	South Korea (*26*)	China (*22*)	Ukraine (*12*)
24	26	Oman	*1.0*	*1.2*	*12*	United Kingdom (*47*)	United States (*14*)	Turkey (*12*)
25	21	Afghanistan	*1.3*	*1.0*	*–24*	United States (*89*)	Brazil (*8.2*)	Belarus (*1.0*)
26	40	Netherlands	*0.6*	*1.0*	*52*	United States (*90*)	Germany (*6.8*)	Italy (*2.0*)

27	42	Kazakhstan	*0.6*	*1.0*	*62*	Russia (*89*)	Spain (*3.6*)	China (*2.4*)
28	39	Jordan	*0.6*	*0.9*	*38*	United States (*36*)	Netherlands (*22*)	UAE (*11*)
29	14	Morocco	*2.1*	*0.9*	*−60*	United States (*90*)	France (*9.2*)	United Kingdom (*0.3*)
30	27	Canada	*1.0*	*0.8*	*−24*	United States (*48*)	Australia (*14*)	Israel (*12*)
31	59	Philippines	*0.2*	*0.8*	*229*	South Korea (*42*)	Indonesia (*17*)	United States (*17*)
32	19	Azerbaijan	*1.6*	*0.7*	*−56*	Israel (*69*)	Russia (*17*)	Belarus (*4.8*)
33	23	Myanmar	*1.2*	*0.7*	*−40*	China (*48*)	India (*16*)	Russia (*15*)
34	16	Taiwan	*2.0*	*0.6*	*−70*	United States (*100*)	. .	. .
35	36	Mexico	*0.7*	*0.6*	*−14*	United States (*49*)	Netherlands (*34*)	France (*10*)
36	38	Poland	*0.6*	*0.6*	*−12*	United States (*33*)	Italy (*13*)	South Korea (*11*)
37	29	Brazil	*0.9*	*0.6*	*−38*	France (*23*)	United States (*21*)	United Kingdom (*20*)
38	56	Belarus	*0.3*	*0.5*	*93*	Russia (*99*)	China (*0.5*)	. .
39	87	Angola	*0.1*	*0.5*	*843*	Russia (*64*)	China (*9.7*)	Lithuania (*8.1*)
40	60	Malaysia	*0.2*	*0.5*	*114*	Spain (*32*)	Turkey (*17*)	South Korea (*11*)
41	33	Greece	*0.8*	*0.4*	*−45*	Germany (*49*)	United States (*28*)	France (*11*)
42	61	France	*0.2*	*0.4*	*80*	United States (*43*)	Brazil (*17*)	Switzerland (*15*)
43	46	Turkmenistan	*0.5*	*0.4*	*−19*	China (*46*)	Turkey (*37*)	Russia (*6.8*)
44	125	NATO[c]	*<0.05*	*0.4*	*4 691*	Spain (*61*)	United States (*35*)	Czechia (*4.6*)
45	74	Romania	*0.1*	*0.4*	*249*	Portugal (*54*)	United States (*29*)	Israel (*9.5*)
46	30	Kuwait	*0.9*	*0.3*	*−61*	United States (*52*)	France (*22*)	Switzerland (*14*)
47	37	Finland	*0.7*	*0.3*	*−48*	United States (*41*)	Netherlands (*36*)	Italy (*10*)
48	44	Chile	*0.5*	*0.3*	*−37*	Australia (*53*)	United States (*14*)	Germany (*12*)
49	70	Iran	*0.1*	*0.3*	*134*	Russia (*100*)	. .	. .
50	43	Spain	*0.6*	*0.3*	*−48*	France (*74*)	United States (*17*)	Germany (*9.1*)

. . = data not available or not applicable; <0.05 = between 0 and 0.05; NATO = North Atlantic Treaty Organization; UAE = United Arab Emirates.

Note: Percentages below 10 are rounded to 1 decimal place; percentages over 10 are rounded to whole numbers.

[a] The rank order for recipients in 2011–15 differs from that published in *SIPRI Yearbook 2016* because of subsequent revision of figures for these years.
[b] The table lists states, international organizations and non-state armed (i.e. rebel) groups that imported major arms in the 5-year period 2016–20.
[c] The data is for imports by the organization itself, not the total imports by NATO member states.

Source: SIPRI Arms Transfers Database, Mar. 2021.

Table 9.5. Imports of major arms, by region and subregion, 2011–15 and 2016–20

Figures for volume of imports are SIPRI trend-indicator values (TIV).

	Volume of imports (TIV)		Change in volume from 2011–15 to	Share of total imports (%)	
Recipient region	2011–15	2016–20	2016–20 (%)	2011–15	2016–20
Africa	11 810	10 295	*−13*	*8.4*	*7.3*
North Africa	6 995	7 628	*9.0*	*5.0*	*5.4*
Sub-Saharan Africa	4 809	2 661	*−45*	*3.4*	*1.9*
Americas	13 215	7 548	*−43*	*9.4*	*5.4*
Central America and the Caribbean	1 243	1 065	*−14*	*0.9*	*0.8*
North America	5 571	4 003	*−28*	*4.0*	*2.9*
South America	6 397	2 422	*−62*	*4.5*	*1.7*
Asia and Oceania	63 545	58 254	*−8.3*	*45*	*42*
Central Asia	1 618	2 242	*39*	*1.1*	*1.6*
East Asia	14 457	16 524	*14*	*10*	*12*
Oceania	5 306	7 277	*37*	*3.8*	*5.2*
South Asia	28 357	20 390	*−28*	*20*	*15*
South East Asia	13 808	11 821	*−14*	*9.8*	*8.4*
Europe	15 018	16 779	*12*	*11*	*12*
Central Europe	1 539	2 629	*71*	*1.1*	*1.9*
Eastern Europe	5 656	4 003	*−29*	*4.0*	*2.9*
Western Europe	10 126	11 582	*14*	*7.2*	*8.3*
Middle East	37 201	46 598	*25*	*26*	*33*
Other[a]	134	687	*413*	*0.1*	*0.5*

Notes: The SIPRI TIV is an indicator of the volume of arms transfers and not their financial value. The method for calculating the TIV is described in box 9.1 in section I. Percentages below 10 are rounded to 1 decimal place; percentages over 10 are rounded to whole numbers.

[a] 'Other' refers to unidentified recipients or to international organizations that cannot be linked to a particular region.

Source: SIPRI Arms Transfers Database, Mar. 2021.

and 2 Project 636 submarines. Other notable deliveries to Algeria included 2 MEKO-A200 frigates from Germany and 2 C-28A frigates from China. In contrast to Algeria, which appears to have been pursuing a policy of diversifying its arms suppliers in recent years, the vast majority (90 per cent) of Morocco's arms imports in 2016–20 came from one main supplier—the United States. Arms imports by Morocco decreased by 60 per cent between 2011–15 and 2016–20, but at the end of 2020 several large planned arms deliveries to Morocco were still pending. These include deliveries of 24 F-16V combat aircraft and 24 AH-64E combat helicopters from the USA.[2]

[2] US Department of State, Bureau of Political–Military Affairs, 'US arms transfers increased by 2.8 percent in FY 2020 to $175.08 billion', Fact sheet, 20 Jan. 2021; and Mebtoul, T., 'US finalizes contract on Morocco's F-16 aircraft purchase', Morocco World News, 19 Aug. 2020.

Morocco's arms imports are likely to increase significantly in the coming five years if these deliveries are implemented as planned.

Libya has two competing governments that have been embroiled in armed conflict with each other since 2014. The internationally recognized Government of National Accord (GNA) controls the western part of the country, while the self-described Libyan National Army (LNA) controls the eastern part.[3] Despite the arms embargo imposed on Libya by the United Nations Security Council in 2011, in 2016–20 both the GNA and the LNA continued to receive major arms. In 2016–20 the LNA received a total of at least 103 armoured vehicles from Jordan and the UAE as well as 2 second-hand Pantsyr-S1 mobile air defence systems from the UAE. During the same period, the GNA received an estimated 13 armoured vehicles and 12 armed unmanned aerial vehicles (UAVs) from Turkey. Turkey and the UAE, which are both generally considered to be emerging arms exporters, were the largest suppliers of major arms to Libya in 2016–20.[4] Turkey and the UAE support opposing sides in Libya and appear to be using their arms exports to the country as a tool for achieving regional influence.[5] While the exports of Turkey and the UAE to Libya represented only a small proportion of the global volume of transfers of major arms in 2016–20, they were highly significant in the context of the civil war there.[6]

Tunisia accounted for 4.3 per cent of North African arms imports. In 2016–20 Tunisia's arms imports increased by 247 per cent compared with 2011–15. The increase occurred against the backdrop of Tunisia's ongoing efforts to combat growing terrorist threats that mainly originate in or are linked to its neighbour Libya.[7] In 2016–20 the USA and the Netherlands were the largest suppliers of major arms to Tunisia, accounting for 48 per cent and 40 per cent of Tunisia's arms imports respectively. In 2016–20 the USA donated major arms to Tunisia to strengthen its border security.[8] The deliveries included 24 second-hand light combat helicopters, 12 light aircraft and 37 light armoured vehicles.

[3] On the armed conflict and peace process in Libya see chapter 6, section IV, in this volume.

[4] Béraud-Sudreau, L. et al., 'Emerging suppliers in the global arms trade', SIPRI Insights on Peace and Security no. 2020/13, Dec. 2020.

[5] Wezeman, P. D. and Kuimova, A., 'Military spending and arms imports by Iran, Saudi Arabia, Qatar and the UAE', SIPRI Fact Sheet, May 2019; and Béraud-Sudreau et al. (note 4).

[6] See e.g. UN Security Council, Final report of the Panel of Experts on Libya established pursuant to Security Council Resolution 1973 (2011), S/2019/914, 9 Dec. 2019.

[7] Wehrey, F., *Tunisia's Wake-up Call: How Security Challenges from Libya Are Shaping Defense Reforms*, Working paper (Carnegie Endowment for International Peace: Washington, DC, 18 Mar. 2020).

[8] Amara, T., 'Tunisia gets US planes, jeeps to guard Libyan border', Reuters, 12 May 2016.

Sub-Saharan Africa

In 2016–20 sub-Saharan Africa accounted for 26 per cent of total African arms imports, compared with 41 per cent in 2011–15. The total volume of arms imported by states in the subregion in 2016–20 was 45 per cent lower than in 2011–15 and was at its lowest level since 1996–2000. The five largest arms importers in sub-Saharan Africa in 2016–20—Angola, Nigeria, Sudan, Senegal and Zambia—together accounted for 58 per cent of all arms imports to the subregion.

Angola's arms imports in 2016–20 were nine times higher than in 2011–15 and this was the largest increase among states in the subregion. This sharp rise can largely be attributed to several deliveries from Russia, which accounted for 64 per cent of Angola's arms imports in 2016–20. These deliveries included 12 Su-30 combat aircraft, 12 Mi-24 combat helicopters and 4 Mi-17 transport helicopters.

Despite ongoing external and domestic security challenges, including activities by armed Islamist groups such as Boko Haram, Nigeria's arms imports in 2016–20 were 46 per cent lower than in 2011–15.[9] Sudan's arms imports also decreased between the two periods. Although there were tensions during 2016–20 between Sudan and Ethiopia over the construction of the Grand Ethiopian Renaissance Dam, Sudan's arms imports were 61 per cent lower than in 2011–15.[10] It remains unclear whether these tensions had or will have an impact on arms procurement by the affected states.

Arms imports by Senegal (up by 270 per cent) and Zambia (up by 56 per cent) increased between 2011–15 and 2016–20. Zambia's imports in 2016–20 included 6 L-15Z trainer/combat aircraft from China. Over the same period, Senegal imported 27 Assaulter armoured vehicles from China and a total of 4 Shaldag and Shaldag Mk-5 patrol craft from Israel.

In absolute terms, the volume of arms imports by other sub-Saharan African states remained relatively small in 2016–20. However, armed conflict in the Sahel coincided with increased arms imports by Burkina Faso and Mali, both of which are members of the Joint Force of the Group of Five for the Sahel.[11] Taken together, the deliveries to Burkina Faso and Mali in 2016–20 included a total of 322 light armoured vehicles, 9 combat helicopters and 4 light combat aircraft. Some of these transfers were financed by the European Union or were delivered as military aid by France. In addition, Qatar and the UAE, both of which are seeking to play a bigger international

[9] On the armed conflicts in Nigeria see chapter 7, section II, in this volume.

[10] 'Ethiopia warns Sudan it is running out of patience over border dispute', Reuters, 12 Jan. 2021. On the armed conflict in Ethiopia see chapter 7, section IV, in this volume.

[11] On armed conflicts in the Sahel see chapter 7, section II, in this volume.

political role, supplied some of the above-mentioned light armoured vehicles as military aid.[12]

Generally speaking, arms transfers to sub-Saharan Africa reflect the economic, political or security interests of the supplier states. Several major powers are using arms supplies as a foreign policy tool to increase their influence in sub-Saharan Africa, while others have mainly financial motivations. These exports are at least partly driving growing arms supplier competition in the subregion.

Russia delivered arms to 12 sub-Saharan states in 2016–20 and was the largest supplier to the subregion. Its 30 per cent share of total sub-Saharan arms imports was 5 percentage points higher than in 2011–15. Twenty-one sub-Saharan states received major arms from China in 2016–20. China's share of total sub-Saharan arms imports was 20 per cent, as against 24 per cent in 2011–15. France delivered arms to 20 states in the subregion in 2016–20. Its share of total sub-Saharan arms imports was 9.5 per cent, compared with 2.9 per cent in 2011–15. The increase in France's share may be partly due to its continuing military presence in the subregion, especially in the Sahel.[13] Despite its large-scale military involvement in the subregion, the USA was only the fourth largest arms exporter to sub-Saharan Africa in 2016–20. It supplied arms to 17 states and accounted for 5.4 per cent of sub-Saharan arms imports.

The Americas

Arms imports by states in the Americas decreased by 43 per cent between 2011–15 and 2016–20. The region accounted for 5.4 per cent of global arms imports in 2016–20. The USA received 38 per cent of regional arms imports in the period. Its imports included 92 light helicopters from Germany and a total of 89 second-hand combat aircraft. The latter were acquired from several states by US companies to provide training services for the US military.[14] Canada was the second largest arms importer in the region and received 15 per cent of American arms imports in the period.

In 2016–20 Mexico accounted for 11 per cent of the regional total. It was the third largest importer in the Americas and the largest in Central America and the Caribbean. With the notable exception of one SIGMA-105 frigate from the Netherlands, Mexico's arms imports mainly comprised

[12] 'Qatar sends 24 armoured vehicles to Mali', Reuters, 26 Dec. 2018; and De Cherisey, E., 'Malian army receives new armour', Janes, 20 Jan. 2020.

[13] Sundberg, A., 'France: A continuing military presence in francophone Africa', ed. K. Gasinska, *Foreign Military Bases and Installations in Africa* (Swedish Defence Research Agency: Stockholm, Aug. 2019). On France's role in the Sahel see also chapter 7, sections I and II, in this volume.

[14] Trevithick, J., 'Air Force hires seven companies in long-awaited mega Adversary Air Support contract', The Drive, 21 Oct. 2019; and Gertler, J., 'Privatized adversary air combat training', In Focus no. IF11612, US Congress, Congressional Research Service, 5 Aug. 2020.

helicopters, fixed-wing aircraft and light armoured vehicles, which appear to be linked to the increasingly violent anti-crime and anti-drug operations performed by Mexico's armed forces.[15] As of the end of 2020, Mexico had no large pending deliveries of major arms.

Imports by states in South America decreased by 62 per cent between 2011–15 and 2016–20. The decrease is probably at least partly due to the low interstate threat perceptions among South American states. The economic situation in some states is another important factor. Venezuela, which dropped from being the 17th largest importer globally in 2011–15 to 65th place in 2016–20, is a notable example of this. Venezuela has been in the grip of a major economic crisis for several years and its arms imports decreased by 93 per cent between 2011–15 and 2016–20. As of the end of 2020, Venezuela's only known planned deliveries of major arms are for a small number of anti-ship missiles.

Unlike Venezuela, some states in South America have large orders with pending deliveries or plans for new orders. Brazil was the fourth largest importer in the Americas in 2016–20, just behind Mexico, and accounted for 11 per cent of the regional total. It is in the process of modernizing and expanding its military capabilities and has several pending deliveries for major arms. These include 35 Gripen-E combat aircraft from Sweden, 5 submarines (4 Scorpenes and 1 SNBR) from France, 4 MEKO-A100 frigates from Germany and over a thousand Guarani armoured personnel carriers (APCs) from Italy. All of these will be partly or fully produced under licence in Brazil.

Asia and Oceania

Arms imports by states in Asia and Oceania decreased by 8.3 per cent between 2011–15 and 2016–20. However, it remained the region with the highest volume of imports, accounting for 42 per cent of the global total. Of the 10 largest importers in 2016–20, 5 are in Asia and Oceania: India, Australia, China, the Republic of Korea (South Korea) and Pakistan. The USA accounted for 29 per cent of arms imports by states in the region, Russia for 27 per cent and China for 9.4 per cent.

India and Pakistan

Between 2011–15 and 2016–20, arms imports by India decreased by 33 per cent. Russia was the largest arms supplier to India in both 2011–15 and 2016–20. However, Russia's deliveries dropped by 53 per cent between the two periods and its share of total Indian arms imports fell from 70 per cent

[15] On the armed conflicts in Mexico between the government and drug cartels see chapter 3, section III, in this volume.

to 49 per cent. In 2011–15 the USA was the second largest arms supplier to India, but in 2016–20 India's arms imports from the USA were 46 per cent lower than in the previous five-year period, making the USA the fourth largest supplier to India in 2016–20. France and Israel were the second and third largest arms suppliers to India in 2016–20. India's arms imports from France increased by 709 per cent while those from Israel rose by 82 per cent. Combat aircraft and associated missiles made up more than 50 per cent of Indian arms imports in 2016–20.

The overall drop in India's arms imports between 2011–15 and 2016–20 seems to be mainly a consequence of its complex and lengthy procurement processes, combined with its recent attempts to reduce its reliance on Russian arms by diversifying its network of arms suppliers. This has led to significant delays in new orders for major arms from foreign suppliers over the entire decade 2011–20.[16] As India perceives increasing threats from Pakistan and China (see below) and as its ambitious plans to produce its own major arms have been significantly delayed, it is planning large-scale programmes for arms imports. Based on its planned deliveries of combat aircraft, air defence systems, ships and submarines, India's arms imports are expected to increase over the coming five years.

Tensions between China and India over their common and disputed border have dramatically increased in recent years, heightening India's perception that China is a major and growing threat.[17] India has ordered or plans to order major arms as a response to this perceived threat. Some of these orders are being made as fast-track emergency acquisitions, partly bypassing the slow and far more onerous standard Indian procurement process. In mid 2020 around $2.8 billion was added to the defence budget to fund such fast-track acquisitions.[18] As its tensions with China continued to rise during 2020, India asked Russia to expedite the delivery of an estimated 20 S-400 surface-to-air missile (SAM) systems ordered in 2018—a request to which Russia responded positively.[19]

Based on the new closer, strategic relationship that has developed between the two countries, the USA has offered major arms to India that are alternatives to the weapons on offer to India from Russia. This approach has proved successful in some cases. For example, during 2016–20, India

[16] Singh, A., *Indian Defence Procurement: Righting the Ship*, Observer Research Foundation (ORF) Issue Brief no. 443 (ORF: New Delhi, Feb. 2021); and Das, S. P., *Inordinate Delays in Defence Procurement: An Analysis and Way Forward*, Centre for Land Warfare Studies Issue Brief no. 162 (Centre for Land Warfare Studies: New Delhi, Jan. 2019).

[17] On the China–India and India–Pakistan border tensions see chapter 4, section II, in this volume.

[18] This was in addition to the normal capital outlay of $15.9 billion in the 2020 defence budget. Raghuvanshi, V., 'India releases details of new defense budget', *Defense News*, 2 Feb. 2021.

[19] Chaudhury, D. R., 'India on track to acquire Russian S-400 missile defence system', *Economic Times*, 16 Dec. 2020.

ordered AH-64E combat helicopters from the USA instead of the helicopters offered by Russia. In other cases, most notably with regard to combat aircraft, the competition remains open. The USA has offered F-15EX, F-16V (renamed as F-21) and F/A-18E combat aircraft to India, all for production under licence in India or with major input from the Indian arms industry, but Russian alternatives are still an option for India.[20]

In addition to offering major arms to India, the USA has threatened to invoke the 2017 Countering America's Adversaries Through Sanctions Act (CAATSA).[21] CAATSA allows the US Government to block arms exports to, or apply other sanctions on, states that buy arms from Russia.[22] This perhaps has particular significance for India's order of S-400s from Russia, the first deliveries of which are scheduled for 2021. However, neither the outgoing administration of President Donald J. Trump nor the incoming administration of President Joe Biden has been clear on whether the USA will invoke CAATSA or waive sanctions in this case. It is possible that the USA has chosen not to take a decision until deliveries actually start.[23]

Between 2011–15 and 2016–20, arms imports by Pakistan decreased by 23 per cent. China accounted for 61 per cent of Pakistan's arm imports in 2011–15 and for 74 per cent in 2016–20. Like India, its main regional rival, Pakistan has several large pending orders for major arms. They are scheduled for delivery by 2028 and include 50 JF-17 combat aircraft, 8 Type-041 submarines and 4 Type-054A frigates from China as well as 4 MilGem frigates from Turkey. The ships on order represent the most significant expansion of Pakistan's naval capabilities in the country's history.

East Asia

Arms imports by East Asian states increased by 14 per cent between 2011–15 and 2016–20. China, which received 4.7 per cent of global arms imports in 2016–20, was the largest arms importer in the subregion in both periods. The bulk of its imports came from Russia and these deliveries included S-400 SAM systems and Su-35 combat aircraft, as well as engines for Chinese-designed combat aircraft. However, imports from Russia are likely to decrease in volume once China's own industry manages to consistently produce the types of major arms that it has generally imported from Russia over the years. China currently has no planned orders for SAM systems or

[20] Lockheed Martin, 'F-21', [n.d.]; Grevatt, J., 'Boeing unveils Indian F-15EX and industry plans', Janes, 29 Jan. 2021; and 'India interested in buying MiG-235 jets', DefenseWorld.net, 18 Dec. 2020.

[21] Countering America's Adversaries Through Sanctions Act, US Public Law 115–44, signed into law 2 Aug. 2017. On CAATSA see also section II in this chapter.

[22] Wezeman, S. et al., 'International arms transfers and developments in arms production', *SIPRI Yearbook 2020*, p. 299.

[23] Seligman, L., 'Austin hints India's purchase of Russian missile system could trigger sanctions', *Politico*, 20 Mar. 2021.

combat aircraft and there are strong indications that China has started to produce its own engines for its combat aircraft.[24]

Taiwan's arms imports were 70 per cent lower in 2016–20 than in 2011–15. However, its arms imports will increase in the coming five years based on orders signed in 2019 for 66 F-16V combat aircraft and 108 M-1A2 tanks from the USA as well as planned orders for coastal defence systems with Harpoon anti-ship missiles, also from the USA.[25]

For over a decade up until 2019, the USA had been wary of agreeing to large-scale arms sales to Taiwan due to the damage previous sales had caused to US–Chinese relations. The US arms sales to Taiwan come in the context of increased political and military pressure on Taiwan from China. For example, over the past few years, China has performed naval and amphibious exercises in waters close to Taiwan, incursions by Chinese military aircraft into Taiwanese airspace have increased significantly, and China has issued statements that a military option for 'reunification' remains among the options it is considering.[26] As a result of this pressure, Taiwan's perception of a threat from China has strengthened, which has led to an increase in Taiwanese spending on arms procurement.[27] The USA shares this threat perception in relation to Taiwan, claiming in some recent statements that a Chinese invasion may come within a few years.[28] The US Government also sees China as a growing military threat to the USA itself and to US allies in the region.[29]

Arms imports by Japan, which also perceives China as a growing threat, increased by 124 per cent between 2011–15 and 2016–20.[30] Japan's arms imports will probably continue to rise based on new orders for arms from the USA—including an order placed in 2019 for 105 F-35 combat aircraft. Significantly, 42 of these are F-35B versions that are capable of operating

[24] Rupprecht, A. and Ju, J., 'Images suggest China has begun fitting indigenous WS10 engine into J-10C fighters', *Jane's Defence Weekly*, 5 Mar. 2020; and Chan, M., 'China's next-gen J-20 stealth fighter jettisons Russian engine in favour of home-grown technology', *South China Morning Post*, 8 Jan. 2021.

[25] Everington, K., 'Taiwan says new Harpoon missiles will help crush half of Chinese invasion fleet', Taiwan News, 2 Nov. 2020.

[26] Walker, R., 'Taiwan: The threat that the world ignores', Deutsche Welle, 18 Sep. 2020; Tian, Y. L., 'Attack on Taiwan an option to stop independence, top China general says', Reuters, 29 May 2020; and Tu, A. and Hetherington, W., 'Air force costs up amid incursions', *Taipei Times*, 25 Nov. 2020.

[27] Tu and Hetherington (note 26); and Reim, G., 'China to sanction Boeing Defense, Raytheon and Lockheed Martin over Taiwan weapons sale', FlightGlobal, 26 Oct. 2020.

[28] Roy, D., 'Rumors of war in the Taiwan Strait', The Diplomat, 20 Mar. 2021; and Brunnstrom, D., 'US warns China against Taiwan attack, stresses US "ambiguity"', Reuters, 8 Oct. 2020.

[29] US Department of Defense (DOD), Office of the Secretary of Defense, *Military and Security Developments Involving the People's Republic of China 2020,* Annual Report to Congress (DOD: Arlington, VA, Sep. 2020). On China–USA competition and tensions see also chapter 1 and chapter 4, section I, in this volume.

[30] Japanese Ministry of Defense (MOD), *Defense of Japan 2020* (MOD: Tokyo, July 2020); and Mishra, S. K., 'Japan's 2019 defence white paper and the contest for Southeast Asia', East Asia Compass, Institute of Peace and Conflict Studies, 16 Oct. 2019.

from the two amphibious assault ships Japan possesses. This will give Japan additional capabilities for military operations in East Asia or even beyond.[31] The orders from the USA are in addition to those that Japan has placed with its own arms industry.

South Korean arms imports increased by 57 per cent between 2011–15 and 2016–20. This rise was mainly driven by ongoing tensions with the Democratic People's Republic of Korea (DPRK, North Korea) and can largely be attributed to the delivery of 26 F-35 combat aircraft from the USA and 5 Type-214 submarines from Germany. Orders for additional F-35s are planned, including some 20 F-35Bs that South Korea aims to deploy on a locally designed light aircraft carrier by 2031.[32]

Many arms imports by South Korea have involved technology transfers and its arms imports are therefore likely to decrease over the long term. For example, South Korea no longer plans to import submarines, having started domestic production of a type developed by its own arms industry.[33]

Europe

In 2016–20, arms imports by European states were 12 per cent higher than in 2011–15 and represented 12 per cent of the global total. The USA accounted for 47 per cent of the region's arms imports in 2016–20, Germany for 9.7 per cent and Russia for 9.2 per cent.

Western and Central Europe

Arms imports by states in Western and Central Europe rose by 22 per cent between 2011–15 and 2016–20 after a drop of 52 per cent between 2006–10 and 2011–15. The increase was in the context of heightened threat perceptions among West and Central European states relating to Russia and to instability in the Middle East and North Africa.[34] It also coincided with the economic recovery in most of Europe after the 2009 global financial and economic crisis. About 56 per cent of arms imports by states in Western and Central Europe came from the USA in 2016–20. Deliveries of a total of 73 combat aircraft, including 71 F-35s, accounted for just over half of US arms exports to Western and Central Europe in the period.

There is a growing demand for arms in Western and Central Europe, and several states made decisions in 2020 that, if fully implemented, will have a significant effect on the volume of international arm transfers in future

[31] Chang, F. K., 'Taking flight: China, Japan and South Korea get aircraft carriers', Foreign Policy Research Institute, 14 Jan. 2021.

[32] Yu, J. and French, E., 'Why South Korea's aircraft carrier makes sense', The Diplomat, 27 Mar. 2021; and Chang (note 31).

[33] Gady, F., 'South Korea KSS-3 submarine program', The Diplomat, 23 Jan. 2018.

[34] On tensions within Europe see chapter 5, section I, in this volume.

years. Among these are the German Government's plan to buy 45 F/A-18E and F/A-18G combat aircraft from the USA, including 30 specifically to maintain Germany's nuclear weapon role within the North Atlantic Treaty Organization (NATO); Poland's order for 32 F-35 combat aircraft from the USA; Greece's order for 18 Rafale combat aircraft from France (see below); and Hungary's order for 218 Lynx infantry fighting vehicles from Germany.

Armenia and Azerbaijan

Prior to the six-week war over the disputed Nagorno-Karabakh region in 2020, both Armenia and Azerbaijan invested in modernizing their armed forces. This included procurement of different types of major arms. The respective arms imports of Azerbaijan and Armenia accounted for only 0.7 per cent and 0.3 per cent of global arms transfers in 2016–20. However, many of the major arms delivered played a key role in the 2020 war between the two states.[35]

In 2016–20 a total of 94 per cent of Armenian arms imports came from Russia. These included air defence systems, combat aircraft, ballistic missiles and artillery. Azerbaijan's arms imports in 2016–20 were more than 2.5 times higher than Armenia's. Israel accounted for 69 per cent and Russia for 17 per cent of Azerbaijan's arms imports in the period. While Russia supplied mainly armoured vehicles and artillery to Azerbaijan, Israeli supplies included UAVs for reconnaissance, ballistic missiles and loitering munitions.

Armenia and Azerbaijan used a variety of older-generation and more advanced weapons—including armoured vehicles, air defence systems and rocket artillery—during the 2020 war.[36] Notably, both countries also deployed either new indigenously produced or recently imported UAVs and loitering munitions, which played a significant role in the fighting.[37] For example, Turkish-produced Bayraktar TB2 armed UAVs were used by Azerbaijan to strike Armenian mobile SAM systems. At least 5 Bayraktar TB2 armed UAVs were transferred to Azerbaijani forces in 2020 along with an estimated 50 MAM-L guided bombs, which media reports suggest Azerbaijan ordered in a bid to increase its military superiority over Armenia.[38]

[35] On the armed conflict in Nagorno-Karabakh see chapter 5, section II, in this volume.

[36] Mitzer, S., 'The fight for Nagorno-Karabakh: Documenting losses on the sides of Armenia and Azerbaijan', Oryx, 27 Sep. 2020; and Shaikh, S. and Rumbaugh, W., 'The air and missile war in Nagorno-Karabakh: Lessons for the future of strike and defense', Center for Strategic and International Studies, 8 Dec. 2020.

[37] Kasapoglu, C., 'Turkey transfers drone warfare capacity to its ally Azerbaijan', *Eurasia Daily Monitor*, vol. 17, no. 144 (Oct. 2020); and Shaikh and Rumbaugh (note 36).

[38] Bekdil, B. E., 'Azerbaijan to buy armed drones from Turkey', *Defense News*, 25 June 2020.

The Middle East

Arms imports by states in the Middle East were 25 per cent higher in 2016–20 than in 2011–15. Four of the top 10 arms-importing states in 2016–20 are in the Middle East: Saudi Arabia, Egypt, Qatar and the UAE. The USA accounted for 52 per cent of arms imports by states in the region, while Russia supplied 13 per cent and France 12 per cent.

As well as the large-scale conflicts in Iraq, Syria and Yemen, there were tensions between states across the Middle East in 2016–20, and especially in the Gulf region. Tensions in the eastern Mediterranean, involving several Middle Eastern states as well as two European states (Cyprus and Greece) also increased over the period.[39] In contrast, the relations between two Middle Eastern states, Israel and the UAE, improved dramatically based on a peace accord brokered by the USA in 2020. These developments, discussed in detail below, had significant effects on arms transfer trends in the region in 2016–20.

The Gulf region

Saudi Arabia was the world's largest arms importer in 2016–20 and received 11 per cent of global arms imports. The USA accounted for 79 per cent of Saudi Arabian arms imports in 2016–20, followed by the United Kingdom with 9.3 per cent. In 2016–20 Saudi Arabia strengthened its long-range strike capabilities with 91 F-15SA combat aircraft from the USA and 15 Typhoon combat aircraft from the UK. It also imported 14 Patriot SAM systems from the USA. By the end of 2020, several large deliveries of major arms to Saudi Arabia were pending, including 61 F-15SA combat aircraft, 4 MMSC frigates and 7 THAAD ballistic missile defence systems from the USA as well as 5 Avante-2200 frigates from Spain. If these deliveries are implemented as planned, Saudi Arabia is expected to remain among the world's largest arms importers in the coming five years.

With the aim of increasing its influence in the Middle East, Qatar has vastly expanded its armed forces since around 2013. This process continued in 2016–20 and Qatari arms imports were 361 per cent higher than in the previous five-year period. The increase can mainly be attributed to the delivery of 24 Rafale combat aircraft from France and 10 Patriot PAC-3 SAM systems from the USA. Qatar was the 57th largest arms importer in 2006–10, the 32nd largest in 2011–15 and the 8th largest in 2016–20. Qatar's pending deliveries as at the end of 2020 indicate that its arms imports will increase even further over the coming years and particularly in the period 2021–23. During that period, Qatar is scheduled to receive, among other things, 3 Al Zubarah frigates from Italy and a total of 72 combat aircraft: 36 F-15QAs

[39] On the security situation in the Gulf region see chapter 1 and chapter 6, section I, in this volume.

from the USA, 24 Typhoons from the UK and 12 additional Rafales from France.

In 2016–20 Iran's arms imports represented 0.3 per cent of the global total. In 2020 the United Nations lifted its 2010 embargo on exports of most types of major arms to Iran.[40] This led to speculation that Iran would immediately begin to order large volumes of arms. For example, in 2020 US Secretary of State Michael R. Pompeo argued that, following the lifting of the restrictions, Iran would be able to acquire new combat aircraft from China or Russia.[41] In 2020 it was reported that China and Iran had drafted an economic and security partnership that included military cooperation such as joint development of weapon systems.[42] In addition, Russian government sources indicated that Russia will proceed with 'cooperation with Iran in the military–technical sphere', the term used by Russia for arms sales, in a 'calm fashion'.[43] As of the end of 2020, there was no publicly available information to suggest that such military cooperation had resulted in new Iranian contracts for imports of major arms.

The Abraham Accords and arms transfers to Israel and the UAE

In 2020 the USA brokered a formal normalization of the relations between Israel and the UAE—the so-called Abraham Accords.[44] Although the accords may help to reduce the tensions between some Arab states and Israel, they may also trigger a change in US arms export policy that could lead to increases in arms imports by Israel and the UAE.

The UAE has been among the world's top 10 arms importers for each consecutive five-year period since 2001–2005 and was the ninth largest importer in 2016–20. The UAE's arms imports in 2016–20 were 37 per cent lower than in 2011–15, when they peaked. At the end of 2020, the UAE's planned deliveries—including for 2 frigates from France as well as air defence systems and 38 combat helicopters from the USA—indicated that its arms imports will continue to be at a high level in 2021–25.

The USA accounted for 64 per cent of the UAE's arms imports in 2016–20. US deliveries included 2 THAAD ballistic missile defence systems; 552 Patriot PAC-3 and GEM-T air defence missiles; around 3000 APCs, mostly MaxxPros; and around 25 000 guided bombs, mainly GBU-39s, JDAMs and Paveways.

[40] On the lifting of the arms embargo on Iran see chapter 14, section II, in this volume.

[41] Katzman, K., 'UN ban on Iran arms transfers and sanctions snapback', In Focus no. IF11429, US Congress, Congressional Research Service, 16 Oct. 2020.

[42] Fassihi, F. and Myers, S. L., 'Defying US, China and Iran near trade and military partnership', *New York Times*, 27 Mar. 2021.

[43] 'Russia has full right to seek technical-military cooperation with Iran: Lavrov', *Tehran Times*, 29 Dec. 2020.

[44] On the series of normalization agreements with Israel in 2020 see chapter 6, section III, in this volume.

The major arms supplied by the USA to the UAE since the late 1990s have included some advanced weapon types. However, the USA has long restricted sales to the UAE of specific advanced weapons that it currently exports to only its closest allies, such as Japan, Israel and NATO member states. This policy is in line with the USA's objective of preserving Israel's military–technical superiority over Arab states. US foreign policy refers to this as Israel's 'Qualitative Military Edge' (QME).[45] As a result, in around 2014 the USA blocked the UAE's attempted acquisition of F-35 combat aircraft, the most advanced US combat aircraft available for export. At that time, the USA considered such a sale to be in contradiction to its QME policy.[46] In late 2019 the US Assistant Secretary of State for Political–Military Affairs, R. Clarke Cooper, again denied any plan to sell F-35 combat aircraft to the UAE.[47] However, the Trump administration in 2020 signalled that the formal normalization of relations between Israel and the UAE might change the USA's stance on the UAE's proposed acquisition.[48] In December 2020 Pompeo announced that the USA had cleared the potential sale of 50 F-35s to the UAE. He stated that the defence against 'heightened threats from Iran' was a key reason for agreeing to the deal and added, referring to the Abraham Accords, that the proposed sale was in recognition of the deepening relations between the USA and the UAE.[49] The actual agreement of sale between the USA and the UAE was signed on 21 January 2021, the day before the end of the Trump administration.[50]

Israel's arms imports were 65 per cent higher in 2016–20 than in 2011–15. In 2016–20 a total of 92 per cent of Israeli arms imports came from the USA and these were in the form of military aid (other suppliers to Israel are discussed below). The increase in Israeli arms imports can be largely attributed to the delivery of 27 (of a total order of 50) F-35 combat aircraft. Some US politicians consider the F-35 to be a central element of Israel's military advantage over neighbouring Arab states and expressed concerns that the possible sale of this type of aircraft to the UAE could jeopardize the Israeli QME.[51] In the past, the USA has attempted to assuage concerns that exports of advanced major arms to Arab states would reduce the Israeli

[45] Sharp, J. M. et al., *Israel's Qualitative Military Edge and Possible US Arms Sales to the United Arab Emirates*, Congressional Research Service (CRS), Report for Congress R46580 (US Congress, CRS: Washington, DC, 26 Oct. 2020).

[46] Hoffman, M., 'Israel buys 14 more F-35s as US denies JSF sales to Gulf states', Military.com, 23 Feb. 2015.

[47] Turak, N., 'US defense officials quash rumors of potential F-35 sales to the UAE', CNBC, 22 Nov. 2019.

[48] Sharp et al. (note 45), p. 15.

[49] Metha, A., 'US State Dept. approves UAE's purchase of F-35 jets, MQ-9 drones', *Defense News*, 10 Nov. 2020.

[50] Al Otaiba, Y., 'The UAE and the F-35: Frontline defense for the UAE, US and partners', Embassy of the United Arab Emirates, Washington, DC, 27 Jan. 2021.

[51] Sharp et al. (note 45), p. 14.

QME by increasing its supply of advanced weapons to Israel. In 2020 there were signs that the USA was planning to do the same in this case. In response to requests from Israel, in 2020 the US Government was reportedly putting together a military aid package that would include deliveries of additional F-35s as well as F-15EX combat aircraft, guided bombs and KC-46A tanker aircraft.[52]

The maritime dimension of arms transfers to the eastern Mediterranean

Several states involved in disputes over rights to maritime hydrocarbon resources in the eastern Mediterranean have strengthened their maritime capabilities through arms imports, raising the risk of escalating reactive arms procurement in the region.[53] This process of arms procurement continued in 2016–20 and all the countries discussed below were in negotiations in 2020 for further, and often large, arms deals.

Israel's arms imports and orders over the past few years are partly explained by its decision to include the protection of its developing gas exploration activities in the Mediterranean among the core tasks of its armed forces. Four MEKO PC-IN (Saar-6) frigates, ordered from Germany in 2015 and scheduled for delivery in 2021–22, will be among the main weapon systems used for this task.[54]

Egypt's imports of major arms increased by 136 per cent between 2011–15 and 2016–20, and it became the world's third largest arms importer. It is generally assumed that the recent increases in Egypt's arms procurement are linked to its assessments about a combination of possible threats, including threats to its gas fields in the Mediterranean.[55] Egypt's arms deliveries in 2016–20 appear to be at least partly related to strengthening the protection of these gas fields. Deliveries included 1 FREMM frigate, 2 Mistral amphibious assault ships and 21 Rafale combat aircraft from France; 3 Type-209 submarines from Germany; 1 FREMM frigate from Italy; 50 MiG-29M combat aircraft and 46 Ka-52 ship-borne combat helicopters from Russia; and 1 Po-Hang corvette from South Korea. By the end of 2020, pending deliveries to Egypt included 1 Type-209 submarine and 4 MEKO-200 frigates from Germany, 1 FREMM frigate from Italy, 3 Gowind frigates from France, and 24 Su-35 combat aircraft from Russia.

Turkey's arms imports decreased by 59 per cent between 2011–15 and 2016–20, and it dropped from being the 6th largest arms importer in the

[52] Sharp et al. (note 45), p. 17.

[53] On tensions in the eastern Mediterranean see chapter 5, section I, in this volume.

[54] Newdick, T., 'Israel has taken delivery of its most capable warship ever', The Drive, 12 Nov. 2020; and Frantzman, S. J., 'Israel shifts naval doctrine with new Sa'ar 6 warships', *Defense News*, 5 Nov. 2020.

[55] Springborg, R. and Williams, F. C., *The Egyptian Military: A Slumbering Giant Awakes* (Carnegie Middle East Centre: Beirut, 28 Feb. 2019). On armed conflict in Egypt see chapter 6, section IV, in this volume.

world to 20th position. This was partly because Turkey increasingly produces its own major arms, including surface ships.[56] Another major reason for the fall in arms imports was that in 2019 the USA halted a planned delivery of F-35 combat aircraft to Turkey (see section II). In addition, Turkey's military intervention in Syria and its claims on hydrocarbon resources in the Mediterranean led to growing political differences with West European arms suppliers during 2016–20 and discussions in some states about placing restrictions on arms exports to Turkey.[57] However, by the end of 2020, Turkey still had pending deliveries for various types of major arms that are of particular relevance for its military presence in the Mediterranean. Planned deliveries include six Type-214 submarines from Germany, five ATR-72MP anti-submarine warfare aircraft from Italy and one BPE amphibious assault ship from Spain.

Greece was the third largest arms importer in the world in 2001–2005. However, Greece's economy has been in crisis for several years, which has led to deep cuts in spending on major arms, and it ranked 41st in 2016–20. Its largest arms import in the period was for 1 Type-214 submarine from Germany. In 2020, as tensions with Turkey over contested waters in the Mediterranean increased, Greece agreed orders with France for the supply of 18 Rafale combat aircraft in 2021–23.

Even Cyprus, whose armed forces are of a much smaller size compared with other states involved in the growing tensions in the eastern Mediterranean, invested in new weapons in 2016–20. Its arms imports included MM-40-3 Exocet anti-ship missiles, delivered by France in 2020, for use with coastal defence systems.

[56] See e.g. Béraud-Sudreau et al. (note 4).

[57] On Turkey's role in the armed conflict in Syria see chapter 6, section II, in this volume. On embargo discussions targeting Turkey see chapter 14, section II, in this volume.