Table 1. Origin, Nature, and Current Size of Nuclear Weapons Program

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Country	First test; total number of tests	Explosive material	Origin of program	Thermo-nuclear capacity?	Gave up nuclear program?	NPT signatory?	Stockpile
USA	July 16, 1945; total: 1,030 tests	Both plutonium and uranium.	Military purposes: to counter potential German nuclear threat. Indigenous effort.	Yes – November 1, 1952	No	Yes – 1968, one of five recognized nuclear weapon states	2,700 nuclear warheads in its operational stockpile, including 2,200 strategic warheads and 500 nonstrategic warheads; an additional 2,500 warheads are estimated to be in reserve and an additional 4,200 warheads await dismantlement, for a total inventory of approximately 9,400 warheads. [i]
Russia (part of the USSR until 1991)	August 29, 1949; total: 715 tests	Both plutonium (succeeded first) and uranium.	Military purposes: to counter US nuclear threat. Indigenous effort.	Yes – August 12, 1953 (a "boosted" fission bomb); November 22, 1955 (a "true" hydrogen bomb)[ii]	No	Yes – 1968, one of five recognized nuclear weapon states. In 1991, after the dissolution of the USSR, Russia acceded to the NPT as an independent state.	4,830 nuclear warheads in its operational stockpile, including 2,790 strategic warheads and 2,050 nonstrategic warheads; an additional 8,150 warheads are estimated to be in reserve or awaiting dismantlement, for a total inventory of approximately 13,000 nuclear warheads.[iii]
UK	October 2, 1952; total: 45 tests	Plutonium	Military purposes: to develop an independent deterrent to the Soviet nuclear threat. Indigenous effort, helped by the British participation in the Manhattan project.	Yes – May 15, 1957	No	Yes – 1968, one of five recognized nuclear weapon states	180-200 nuclear warheads, including 48 available on patrol at any given time.[iv]
France	February 13, 1960; total: 210	Plutonium	Civilian purposes first. Indigenous effort.	Yes – August	No	Yes – 1992, one of five	Approximately 300 warheads[v]

	tests			24, 1968		recognized nuclear weapon states	
China	October 16, 1964; toal: 45 tests[vi]	Uranium	Military purposes: to deter the US nuclear threat. The program owed to Soviet assistance.	Yes – June 14, 1967[vii]	No	Yes – 1992, one of five recognized nuclear weapon states	176 deployed warheads, plus an unknown number of stored warheads, for a total stockpile of approximately 240 warheads.[viii]
Israel	Unknown; possible joint nuclear test with South Africa on September 22, 1979 (Vela incident)	Plutonium	Military purposes. Used Atoms for Peace and French assistance to develop a clandestine nuclear weapons program.[ix]	Unknown	No	No	75–200 weapons[x]
India	May 18, 1974; total: 6 tests.	Plutonium	Civilian purposes first.[xi] Used Atoms for Peace to develop a clandestine nuclear weapons program.	Yes – May 11, 1998[xii]	No	No	70 assembled nuclear warheads, with only about 50 fully operational.[xiii]
Pakistan	May 25, 1998; total: 5 tests	Uranium, but sought plutonium first[xiv]	Military purposes: to deter Indian nuclear threat. Used Atoms for Peace as well as materials smuggled from abroad to develop a clandestine nuclear weapons program.	No	No	No	Approximately 60 warheads[xv]
North Korea	October 9, 2006; total: 2 tests.	Uranium (initially tried plutonium)	Military purposes; clandestine effort. Helped by A. Q. Khan.	No	No	Signed in 1985, withdrew in 2003	5-15 nuclear weapons[xvi]
Ukraine (part of the USSR until 1991)	n/a	Uranium and plutonium	Inherited Soviet weapons.	n/a	Yes	Yes – 1994	Inherited ICBMs; 1,240 warheads; 44 strategic bombers and an unknown number of tactical nuclear weapons from the Soviet Union.[xvii] Transferred all the weapons to Russia by 1996.
Kazakhstan (part of the	n/a	Uranium and	Inherited Soviet weapons.	n/a	Yes	Yes – 1994	Inherited 1,410 nuclear weapons from the Soviet Union.[xviii]

USSR until 1991)		plutonium					Transferred all the weapons to Russia by 1996.
Belarus (part of the USSR until 1991)	n/a	Uranium and plutonium	Inherited Soviet weapons.	n/a	Yes	Yes – 1993	Inherited 81 road-mobile SS-25s and an unknown number of tactical nuclear weapons from the Soviet Union.[xix] Transferred all the weapons to Russia by 1996.
South Africa	Possible test on September 22, 1979 (Vela incident)	Uranium	Military purposes. Used Atoms for Peace to develop a clandestine nuclear weapons program.	No	Yes	Yes – 1991	Had 6 and dissembled them.

[i] Norris, Robert S.; Hans M. Kristensen. "U.S. nuclear forces, 2009". *Bulletin of the Atomic Scientists*, Mar/Apr2009, Vol. 65 No. 2, pp. 59-69.
[ii] The Soviet Nuclear Weapons Program, FAS, Dec. 12, 1997. http://nuclearweaponarchive.org/Russia/Sovwpnprog.html. Accessed July 28, 2009.
[iii] Norris, Robert S.; Hans M. Kristensen. "Russian nuclear forces, 2009". *Bulletin of the Atomic Scientists*, Vol. 65 No. 3 (May/June 2009), pp. 55-64..
[iv] United Kingdom Nuclear Forces, Center for Defense Information, July 9, 2008. http://www.cdi.org/program/issue/document.cfm?DocumentID=2970&IssueID=46&StartRow=1&ListRows=10&appendURL=&Orderby=DateLastUpdated&ProgramID=32&issueID=46. Accessed July 13, 2009.
[v] Norris, Robert S.; Hans M. Kristensen. "French nuclear forces, 2008". *Bulletin of the Atomic Scientist*, Vol. 64, No. 4, pp. 50–53.
[vi] China's Nuclear Testing, NTI, http://www.nti.org/db/China/testpos.htm. Accessed July 28, 2009.
[vii] Chinese Nuclear Weapons, FAS, http://www.fas.org/nuke/guide/china/nuke/index.html. Accessed July 28, 2009.
[viii] Norris, Robert S.; Hans M. Kristensen. "Chinese nuclear forces, 2008." *Bulletin of the Atomic Scientists*, Vol. 64, No. 3, pp. 42-44.
[ix] Joel Ullom. Enriched Uranium versus Plutonium: Choice of Fissile Material. The Nonproliferation Review/ Fall 1994. p. 5.
[x] Norris, Robert S.; Hans M. Kristensen. "Israeli nuclear forces, 2002." *Bulletin of the Atomic Scientists*, September/October 2002, pp. 73-75. Also Nuclear Weapons: Who Has What at a Glance**,"** Strategic Arms Control and Policy, Fact Sheet, October 2007, Arms Control Association. Assessed July 13, 2008. http://www.armscontrol.org/factsheets/Nuclearweaponswhohaswhat. Another estimate is 100-200. Israeli Nuclear Arsenal, Center for Defense Information. February 2003. http://www.cdi.org/issues/nukef&f/database/nukearsenals.cfm#Israel
[xi] In the mid-1950s India acquired dual-use technologies under the "Atoms for Peace" non-proliferation program, which aimed to encourage the civil use of nuclear technologies in exchange for assurances that they would not be used for military purposes.
[xii] India claimed its tests on May 11, 1998 to be a simultaneous detonation of three different devices - a fission device with a yield of about 12 kilotons (KT), a thermonuclear device with a yield of about 43 KT, and a sub-kiloton device. However, low yields raised skepticism about India's claims to have detonated a thermonuclear device. Analysts at Lawrence Livermore National Laboratory concluded the second stage of the two-stage thermonuclear device failed to ignite as planned. Indian Nuclear Weapons, FAS, http://www.fas.org/nuke/guide/india/nuke/. Accessed July 28, 2009.
[xiii] Norris, Robert S.; Hans M. Kristensen. "Indian nuclear forces, 2008". *Bulletin of the Atomic Scientists*, Vol. 64 No. 5, pp. 38-40.
[xiv] Ullam, 9.

[xv] Norris, Robert S.; Hans M. Kristensen. "Pakistani nuclear forces, 2007". *Bulletin of the Atomic Scientists*, Vol. 63 No. 3, pp. 71-73.
[xvi] North Korean Nuclear Arsenal (DPRK), Center for Defense Information, May 2002. http://www.cdi.org/program/issue/document.cfm?DocumentID=3950&IssueID=46&StartRow=1&ListRows=10&appendURL=&Orderby=DateLastUpdated&ProgramID=32&issueID=46. Accessed July 28, 2009.
[xvii] Ukraine Profile, NTI. Accessed July 13, 2008. http://www.nti.org/e_research/profiles/Ukraine/index.html
[xviii] Kazakhstan Profile, NTI. Accessed July 13, 2008. http://www.nti.org/e_research/profiles/Kazakhstan/index.html
[xix] Belarus Profile, NTI. Accessed July 13, 2008. http://www.nti.org/e_research/profiles/Belarus/index.html