

# Pakistan

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Pakistan has been developing and rapidly expanding a diverse nuclear arsenal since its first and so far only series of nuclear weapon explosive tests in May 1998. It now has aircraft-delivered nuclear bombs, ballistic missiles of various ranges, and ground-launched, air-launched, and sea-based cruise missiles that can carry nuclear warheads. It has tested a short-range battlefield missile system that is claimed to be nuclear-capable. Pakistan's arsenal likely will continue to grow.

The arsenal initially was based on simple highly enriched uranium (HEU) fission weapons but has moved to greater reliance on lighter and more compact plutonium weapons. This has been made possible by Pakistan's construction of four military plutonium production reactors, the first of which came into operation in 1998. At the diplomatic level, Pakistan has been blocking the start of talks at the United Nations Conference on Disarmament (CD) on an international treaty that would ban the production for weapons of HEU and plutonium—the key ingredients in nuclear weapons. There have been concerns in communities near some Pakistani nuclear sites about the environmental and health impacts of nuclear activities, leading in one case to a petition to Pakistan's Supreme Court.

The lack of official information makes estimates of Pakistan's spending on its nuclear weapons programme highly uncertain, but this cost is likely not a large share of its overall military spending. Pakistan's military spending has until recently been subsidised by large amounts of military and economic aid from the United States (US). It is moving now to depending mostly on military and economic assistance from China. Nonetheless, Pakistan still has major problems in meeting the basic social and economic needs of its people.

Since the Kargil war of 1999 that followed the nuclear tests in 1998, the risk of war and even nuclear war has remained significant. In 2019, during a military crisis with India, Pakistan's Prime Minister Imran Khan threatened that a conventional conflict would spiral into nuclear war, saying that "If say Pakistan, God forbid, we are fighting a conventional war, we are losing, and if a country is stuck between the choice: either you surrender or you fight 'til death for your freedom, I know Pakistanis will fight to death for their freedom. So when a nuclear-armed country fights to the end, to the death, it has consequences."<sup>1</sup>

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## Current status

As of mid-2021 Pakistan was believed to have around 165 nuclear weapons.<sup>2</sup> About 154 warheads are estimated to be assigned to operational forces.<sup>3</sup> This is a

more than ten-fold increase from the 14 weapons it was estimated to hold in 2000.<sup>4</sup> The growth of the arsenal appears to have been steady for most of the past decade (see Table 1). The arsenal is projected to reach perhaps 200 weapons within five years.

**Table 1: Estimated number of weapons in Pakistan’s nuclear arsenal 2000 to 2025**

YEAR	2000	2005	2010	2015	2020	2025*
WEAPONS	14	44	90	120	150-160	200

Source: Adapted from Robert S. Norris and Hans Kristensen, “Global Nuclear Weapons Inventories, 1945–2013,” *Bulletin of the Atomic Scientists*, September/October 2013, Vol. 69 No. 5, pp. 75-81; Hans M. Kristensen and Matt Korda, “Pakistani nuclear weapons, 2021”, *Bulletin of the Atomic Scientists*, Vol. 77 No. 5, 2021, pp. 265-278, 2021.

There is little reliable information on the yields of Pakistan’s nuclear weapons. The number and yields of the nuclear weapon tests carried out on 28 and 30 May 1998 are disputed, with Pakistan initially claiming six tests with some having explosive yields of tens of kilotons (kts), while independent seismologists found evidence supporting a smaller number of tests and total yields of about 10 kt and 5 kt for the tests on 28 May and 30 May respectively.<sup>5</sup>

Little is known about Pakistan’s weapon designs. It is believed to have received in the early 1980s a first-generation Chinese weapon design that used HEU. If two weapon designs were tested in 1998, one may have used HEU and the other plutonium for the hollow shell of fissile material (the “pit”) that undergoes the explosive nuclear chain reaction, or possibly a “composite” pit combining both materials.<sup>6</sup> Pakistan may also have developed “boosted” weapons, in which tritium gas is injected into the pit just before it explodes to increase the fraction of the fissile material that undergoes fission, significantly increase

the explosive yield of the nuclear weapon, and decrease the required amount of fissile material in each weapon.<sup>7</sup>

Pakistan is not believed to have thermonuclear weapons, although Pakistani nuclear weapon scientists claim they could develop such weapons if tasked and funded to do so.<sup>8</sup> This would most likely require additional nuclear weapon tests. Since the tests in 1998, Pakistan has maintained a declared a moratorium on nuclear testing, following a similar declaration by India.

## Delivery systems

Pakistan has various road-mobile ballistic missile systems and ground-launched, air-launched, and sea-based cruise missiles to carry its nuclear weapons. These missiles are at various stages in their development, with several short-range and long-range ballistic and cruise missile tests in 2020 and 2021, and it is unclear which systems will eventually be deployed (Table 2).

**Table 2: Pakistan’s nuclear weapon delivery systems**

DELIVERY SYSTEM	RANGE (KM)	DEPLOYMENT
<b>Aircraft</b>		
Aircraft F-16A/B	1,600	1998
Mirage V	2,100	1998
<b>Ballistic missiles</b>		
Abdali (Hatf-2)	200	2015
Ghaznavi (Hatf-3)	300	2004
Shaheen-1 (Hatf-4)	750	2003
Shaheen-1A (Hatf-4)	900	2019

DELIVERY SYSTEM	RANGE (KM)	DEPLOYMENT
Ghauri (Hatf-5)	1250	2003
Shaheen-2 (Hatf-6)	2000	2014
Shaheen-3 (Hatf-6)	2750	2018
Nasr (Hatf-9)	70	2013
Ababeel (MRV/MIRV)	2200	R&D
<b>Cruise missiles</b>		
Babur (GLCM)	350-750	2014
Babur-2 (GLCM)	700	R&D
Babur-3 (SLCM)	450	R&D
Ra'ad (ALCM)	350-600	R&D

Source: Hans Kristensen and Matt Korda, "Pakistani Nuclear Forces," in *SIPRI Yearbook 2021: Armaments, Disarmament and International Security*, Oxford University Press, 2021.

The most recent system to begin development is the 60 km-range Nasr missile. First tested in 2011, Nasr is described as a battlefield system able to carry "nuclear warheads of appropriate yield."<sup>9</sup> Reports suggest that Nasr is presumably intended for use as a short-range battlefield nuclear weapon system against Indian conventional armoured forces during the early stages of a conflict. Analysis of such a scenario suggests Pakistan would need to deploy and use many tens of Nasr missiles to be able to destroy a significant fraction of the 1,000 or so Indian tanks that may be involved in such an action.<sup>10</sup> The New York Times reported in 2015 that so far "an unknown number of the tactical weapons were built, but not deployed" by Pakistan.<sup>11</sup>

There is little public information about the storage and deployment status of Pakistan's nuclear weapons. It was believed in the late 2000s that "missiles are not mated with warheads and the physics packages (the fissile cores) are not inserted into the warheads themselves."<sup>12</sup> Reports suggested that while warheads are kept in component form, possibly by "isolating the fissile 'core' or trigger from the weapon and storing it elsewhere ... all the components are stored at military bases."<sup>13</sup>

In the years since then, however, Pakistan has moved to developing cruise missiles and a potential battlefield nuclear weapon system. These systems may need nuclear warheads that are lighter and more compact than those that could be carried by the ballistic missiles. These new missiles also may not be as amenable as large, long-range ballistic missiles to having their warheads stored in component form ready to be integrated at short notice.

Some possible locations for Pakistan's nuclear weapons storage have been suggested (Table 3).<sup>14</sup> Some of these sites are associated with airbases that are home to nuclear weapon capable aircraft, which may carry either nuclear bombs or air-launched cruise missiles. Other sites are associated with warhead and missile development and assembly facilities, while some sites seem to be secure underground storage for weapons. No site has yet been identified for possible naval nuclear weapons.

**Table 3: Pakistan nuclear weapon storage sites**

FACILITY NAME/LOCATION	PROVINCE	FUNCTION
Sargodha Depot	Punjab	Potential storage site for bombs for F-16s at nearby Sargodha Air Base, and warheads for missiles
Gujranwala Garrison	Punjab	Possible weapons storage
Fatejhang National Defense Complex	Punjab	Missile development and potential warhead storage
Wah Ordnance Facility	Punjab	Possible warhead production, disassembly and dismantlement facility
Akro Garrison	Sindh	Possible underground weapons storage
Masroor Weapons Depot	Sindh	Potential storage of bombs for Mirage Vs at Masroor Air Base, and warheads for missiles
Pano Akil Garrison	Sindh	Possible weapon storage
Khuzdar Depot	Balochistan	Potential underground weapons storage
Tarbela Underground Complex	Khyber Pakhtunkhwa	Potential weapons storage

Source: Hans Kristensen and Robert Norris, "Worldwide Deployments of Nuclear Weapons, 2014," *Bulletin of the Atomic Scientists*, August 2014; Hans Kristensen, "Pakistan's Evolving Nuclear Weapons Infrastructure," *FAS*, November 2016;<sup>15</sup> Hans M. Kristensen and Matt Korda, "Pakistani nuclear weapons, 2021", *Bulletin of the Atomic Scientists*, Vol. 77 No. 5, 2021, pp. 265-278.

## Fissile materials

Pakistan has developed an extensive nuclear infrastructure that allows it to produce both HEU and plutonium for weapons. This includes capacity for uranium mining, uranium enrichment, nuclear reactor fuel fabrication, nuclear reactor construction, and spent fuel reprocessing for plutonium recovery. Some of these facilities, and the organisations responsible for managing them, also are part of Pakistan's nuclear energy programme. There is no official information on Pakistan's fissile material production sites—although Pakistan and India each year exchange lists of nuclear facilities as part

of their 1988 Agreement on the Prohibition of Attack against Nuclear Installations and Facilities.<sup>16</sup> These lists may include both military and civilian nuclear facilities but are not made public.

Table 4 presents a list of Pakistan's fissile material production-related sites compiled from open sources as of 2021. While the histories and operating capacities of these facilities are not clear, it is well known that Pakistan has been producing HEU for nuclear weapons since the early 1980s and producing plutonium for weapons since the late 1990s.

**Table 4: Pakistan's fissile material related facilities**

LOCATION	FACILITY TYPE	MATERIAL
Dera Ghazi Khan	Uranium mine, ore concentration plant, conversion plant	Uranium
Issa Khel	Uranium mine	Uranium
Qabul Khel	Uranium mine	Uranium
Kahuta	Uranium enrichment (Khan Research Laboratories)	HEU
Gadwal (Wah)	Uranium enrichment (secondary plant)	HEU
Chaklala	Uranium enrichment (pilot plant)	HEU
Sihala	Uranium enrichment (pilot plant)	HEU
Golra	Uranium enrichment (pilot plant)	HEU
Khushab-I	Heavy-water plutonium production reactor	Plutonium
Khushab-II	Heavy-water plutonium production reactor	Plutonium

LOCATION	FACILITY TYPE	MATERIAL
Khushab-III	Heavy-water plutonium production reactor	Plutonium
Khushab-IV	Heavy-water plutonium production reactor	Plutonium
Chashma (Khushab)	Reprocessing facility (being commissioned)	Plutonium
Rawalpindi	Reprocessing facility-I	Plutonium
Rawalpindi	Reprocessing facility-II	Plutonium
Khushab-I-IV	Tritium production	Tritium
Chashma (Kundian)	Reactor fuel-fabrication plant	
Multan	Heavy-water production facility	
Khushab	Heavy-water production facility	

Source: Adapted and updated from *Nuclear Black Markets: Pakistan, A.Q. Khan and the Rise of Proliferation Networks*, International Institute of Strategic Studies, London, 2007; Feroz Hassan Khan, *Eating Grass: The Making of the Pakistani Bomb*, Stanford University Press, 2012; Hans M. Kristensen and Matt Korda, "Pakistani nuclear weapons, 2021," *Bulletin of the Atomic Scientists*, Vol. 77 No. 5, p. 265-278, 2021; International Panel on Fissile Materials, <http://fissilematerials.org> and <http://fissilematerials.org/blog>.

Accurate estimates about Pakistan's production of HEU for its nuclear weapon programme are limited by uncertainty about Pakistan's enrichment capacity and the operating history of its centrifuge plants at Kahuta and Gadwal.<sup>17</sup> It is estimated that, as of the start of 2021, Pakistan could have a stockpile of about 4 tonnes of weapon-grade (90 per cent-enriched) HEU.<sup>18</sup>

As of 2021, Pakistan operates four weapons plutonium production reactors. A semi-official account states these reactors have a capacity of about 50 MW-thermal, with Khushab-IV possibly being larger, with a capacity of 50-100 MW-thermal.<sup>19</sup> The Khushab-I plutonium production reactor, a heavy-water-moderated, light-water-cooled, natural-uranium-fueled reactor has been operating since 1997-1998. The Khushab-II reactor started operation in late 2009 or early 2010. Khushab-III began operating early in 2013.<sup>20</sup> Khushab-IV has been operational since early 2015.<sup>21</sup>

Pakistan has been reprocessing spent fuel from the Khushab reactors at the Rawalpindi New Labs facility, which has two reprocessing plants, each with an estimated capacity of 10–20 tonnes per year of spent fuel.<sup>22</sup> Satellite imagery from January 2015 suggests construction of the large reprocessing plant at Chashma may have been completed, and the facility may be being commissioned or even be operational.<sup>23</sup> Imagery from 2020 suggests an extension or expansion of the plant, possibly for additional handling of spent nuclear fuel or radioactive waste.<sup>24</sup> The Chashma reprocessing plant was originally intended to handle 100 tonnes of spent fuel per year. This capacity would be sufficient in principle to treat all the spent fuel from the four Khushab reactors. Pakistan is estimated to have produced a total of about 400 kg of plutonium as of 2021.<sup>25</sup>

## Infrastructure

Pakistan's nuclear weapons research, development, and production infrastructure are managed by the military-run Strategic Plans Division (SPD) and overseen by a National Command Authority (NCA) set up in February 2000. The NCA has responsibility for policy concerning the development and use of Pakistan's nuclear weapons. The NCA is chaired by the Prime Minister, and includes the ministers of foreign affairs, defence, and interior, the chairman of the Joint Chiefs of Staff committee, the military service chiefs, and the director-general of SPD.

The SPD has responsibility for strategic weapons development and nuclear weapons planning and operations, as well as security of the nuclear complex. It also has an arms control group. The total number of staff of the SPD and the various programmes it is responsible for is uncertain. The former head of SPD has suggested that only about 2,000 people hold "critical knowledge" of Pakistan's nuclear weapons complex.<sup>26</sup> A 2011 report suggested a total of about 70,000 professional staff in the entire strategic weapons complex.<sup>27</sup> A former SPD official has indicated that as of 2013 the security division alone had 20,000 personnel and the force would grow to a total of 28,000 within a few years.<sup>28</sup>

The nuclear weapons development and production infrastructure managed by SPD has three broad divisions: the A.Q. Khan Research Laboratory (Kahuta) produces enriched uranium; the Pakistan Atomic Energy Commission (PAEC) is responsible for uranium mining, fuel fabrication, reactor construction and operation, and spent fuel reprocessing to produce plutonium; and the National Development Complex is responsible for

weapons and delivery system research and production.<sup>29</sup> These three bodies are managed by the National Engineering and Scientific Commission.

Pakistan's nuclear weapons currently are assigned to its Army Strategic Force Command, which has responsibility for ballistic and cruise missiles, and the Air Force Strategic Command, which deals with nuclear armed aircraft. Pakistan's Naval Strategic Force Command was established in 2012. Pakistan has been testing a sea-launched nuclear capable cruise missile probably to be deployed on submarines.<sup>30</sup> Pakistan also may be adapting the cruise missile for use on surface ship, as an anti-ship missile and for land attack. It is unclear if either sea-based system has been deployed as of 2021.<sup>31</sup> There is however evidence that Pakistan is pursuing plans, following India, to put nuclear weapons on submarines and may be seeking a nuclear-powered submarine capability, creating additional paths for conflict between India and Pakistan to escalate to nuclear war.<sup>32</sup>

## Economics

The cost of Pakistan's nuclear weapons programme cannot be estimated with any reliability. Secrecy prevents access to details about the history and scale of the nuclear weapon and missile programmes, the extent of external technical and material support, and the effect of indirect support through military and economic aid and the environmental consequences of nuclear weapon-related activities.

In 2001, retired Major-General Mahmud Ali Durrani (who later served as National Security Advisor to the President of Pakistan) estimated that Pakistan's annual expenditure on "nuclear weapons and allied programs" was about US \$300–400 US million and that Pakistan "will now need to spend enormous amounts of money for the following activities: a) a second strike capability; b) a reliable early warning system; c) refinement and development of delivery systems; d) command and control systems."<sup>33</sup> Citing an earlier estimate by Rammanohar Reddy for the cost of nuclear weapons development by India, Durrani suggested that Pakistan might need to spend about 0.5 per cent of gross domestic product (GDP) for a period of at least 10 years on such nuclear weapons activities.<sup>34</sup>

General Pervez Musharraf, who seized power in 1999 and ruled until 2008, and held the positions of Chief of Army Staff and President, affirmed in 2004 that there had been a significant increase in nuclear weapon spending after 2000 (when SPD had been established) as part of a 15-year plan. General Musharraf claimed in particular that during the previous three to four years the government had spent more on the nuclear weapons programme than

in the previous 30 years.<sup>35</sup> This increase in spending would be consistent with the large expansion in fissile material production capabilities and new missile system development that occurred after the year 2000.

An independent estimate in 2011 suggested Pakistan's nuclear spending could be about US \$800 million per year and possibly as much as US \$2 billion per year if health and environmental costs are included—and this spending was projected to rise significantly because of Pakistan's expanding nuclear programme.<sup>36</sup> Later estimates seem roughly consistent, given the lack of reliable data.<sup>37</sup> For Pakistan to spend on the order of perhaps a few billion dollars per year on its nuclear weapons is feasible. The annual official military budget for fiscal year 2021–22 was Rs. 1.37 trillion (US \$8.78 billion), representing about 16 per cent of Pakistan's total government expenditure; an additional Rs. 360 billion for military pensions is budgeted separately as are major military acquisitions and the nuclear weapons programme.<sup>38</sup> This would suggest Pakistan spends the equivalent of 10 per cent or more of its total military budget on its nuclear weapons programme.

Pakistan is not reliant only on its own resources to support its military spending, including on nuclear weapons, or to meet its development needs. Since 2001, Pakistan has received an estimated US \$34 billion in military and economic assistance from the United States, of which about US \$11 billion was economic aid of various kinds, but the annual level of military and economic aid has declined over ten-fold in recent years.<sup>39</sup> Pakistan has also received extensive economic aid and military assistance from China. China has planned since 2013 over US \$60 billion worth of infrastructure projects in Pakistan as part of the China-Pakistan Economic Corridor and there is growing military collaboration, particularly as US assistance has declined.<sup>40</sup>

China provided early and significant assistance to Pakistan's nuclear weapon programme.<sup>41</sup> According to A.Q. Khan, in the early years of Pakistan's uranium enrichment programme, China supplied 15 tonnes of uranium hexafluoride (the gas used in centrifuges), 50 kg of weapon-grade HEU (enough for two weapons), the design details for a nuclear weapon, and technical help with the nuclear weapons programme.<sup>42</sup> Khan claims he provided China with the details of the European uranium enrichment gas centrifuges that Khan had acquired and provided training for Chinese technicians.<sup>43</sup>

China's conventional military assistance to Pakistan now exceeds the scale of support previously provided by the United States. Pakistan in 2015 agreed to buy eight new submarines from China.<sup>44</sup> The submarines are expected to be completed between 2023 and 2028 at an estimated

cost of up to US \$5 billion.<sup>45</sup> Pakistan recently also has been co-producing Chinese JF-17 fighter aircraft, and has purchased Chinese-made battle tanks and a Chinese-origin High to Medium Air Defence System.<sup>46</sup>

## Environment

The nuclear weapons programme has had environmental impacts. These include concerns about health effects from uranium mining and radioactive waste disposal in a former uranium mining site.<sup>47</sup> A 2006 lawsuit filed by villagers from Bagalchur, Pakistan's first uranium mining site, which operated from 1978 to 2000, complained that uranium mining waste and other radioactive wastes was being dumped in the now empty mine tunnels.<sup>48</sup> More than 5,000 people live within a kilometre from the site and lack basic healthcare facilities, while the primary school is located next to the nuclear waste site.<sup>49</sup> The villagers cited increases in infant mortality, and disease and premature death in farm animals due to the waste dumping. The case was referred to Pakistan's Supreme Court. The court hearings were closed to the public. There also have been unconfirmed reports about health effects from the May 1998 nuclear tests.<sup>50</sup>

## International law and doctrine

Pakistan is not a signatory to the nuclear Non-Proliferation Treaty (NPT), nor has it signed the Comprehensive Test Ban Treaty (CTBT), and it appears to recognise no international legal obligation to restrain or end its nuclear weapons and missile programme. Pakistan is the subject, along with India, of a unanimous UN Security Council resolution calling for restraint of its nuclear weapon and ballistic missile programmes. Resolution 1172 (June 1998) calls upon India and Pakistan immediately to stop their nuclear weapon development programmes; to refrain from weaponisation or from the deployment of nuclear weapons; to cease development of ballistic missiles capable of delivering nuclear weapons and any further production of fissile material for nuclear weapons; to confirm their policies not to export equipment, materials, or technology that could contribute to weapons of mass destruction or missiles capable of delivering them; and to undertake appropriate commitments in that regard.<sup>51</sup>

Pakistan did not participate in the negotiations of the 2017 Treaty on the Prohibition of Nuclear Weapons (TPNW). Pakistan, however, has said that it "remains committed to the goal of complete nuclear disarmament in a universal, verifiable and non-discriminatory manner and supports the start of negotiations towards this goal."<sup>52</sup> It has previously called for "negotiation of a nuclear

weapons convention along with a phased programme for the complete elimination of nuclear weapons within a specified time frame."<sup>53</sup> Upon the entry into force of the TPNW in January 2021, echoing other nuclear-armed states, Pakistan said it "does not consider itself bound by any of the obligations enshrined in this treaty" and that in Pakistan's view "this treaty neither forms a part of nor contributes to the development of customary international law in any manner."<sup>54</sup>

Pakistan's long-running search for strategic parity with India informs almost all its nuclear diplomacy, including on a possible international treaty banning the production of fissile materials for nuclear weapons (known as a fissile material cut-off treaty or FMCT).<sup>55</sup> Pakistan has continued to block talks at the CD on such a treaty. In January 2019, Pakistan again objected to discussion on an FMCT, preventing the consensus required by the CD rules of procedure to agree the annual programme of work and so ensuring there were no formal FMCT talks.<sup>56</sup> Pakistan explained that "We believe that a treaty which only results in a cut-off in the production of fissile material, as envisaged under the Shannon Mandate and favoured by the other nuclear weapon States holding large stockpiles of such materials, would contribute little to nuclear disarmament. It would jeopardise Pakistan's security unless it addresses the vast asymmetries in existing stocks of fissile material."<sup>57</sup> Progress towards an FMCT may have to wait until Pakistan's SPD believes it has a big enough fissile material stockpile or the international community decides to make achieving an FMCT a much higher priority in its relationships with Pakistan.

## Public discourse

The central thrust of most public debate about Pakistan's nuclear weapons is the struggle with India that has shaped Pakistan's history and politics since the two countries were formed by the partition of British India into independent states. Pakistan's nuclear weapons are widely seen as a response to India's nuclear weapons and its larger conventional military forces, and the experience of wars in 1947, 1965, 1971, and 1999, and many crises that threatened to lead to war. The most recent crisis was in 2019 when a suicide attack killed over 40 Indian paramilitary troops in Indian-administered Kashmir, leading to an Indian airstrike across the border into Pakistan, the shooting down of an Indian fighter jet and capture of its pilot by Pakistan, and implied threats to use nuclear weapons.<sup>58</sup>

Pakistani fears of Indian hegemony have increased in recent years as India's economy has started to grow at a much faster rate than Pakistan's and as India has increased its already much larger military budget at a

much faster rate. Given this set of arguments, and that the nuclear weapon systems coming into the arsenals are all new, there has been no discussion about other reasons justify weapons development and no concerns about modernisation.

Nuclear weapons have played a major role in Pakistan's domestic political discourse for over 40 years. Prime Minister Zulfikar Ali Bhutto, who launched the nuclear weapons programme in 1972, had earlier famously declared that Pakistan would get the bomb even if its people had to eat grass. Since then, Pakistani governments have sought to create a positive image of the nuclear weapons programme, often by linking it to national pride and national identity.

After the nuclear tests of May 1998, Pakistan's military and political leaders saw the bomb as a panacea for solving many long-standing national political, social, and economic problems. One assessment observes that at the time Pakistan's leaders "told themselves and their people that the bomb would bring national security, allow Pakistan to liberate Kashmir from India, bind the nation together, make its people proud of their country and its leaders, free the country from reliance on aid and loans, and lay the base for the long-frustrated goal of economic development."<sup>59</sup> None of these hopes have come to pass in the two decades since then. The recurring crisis over Kashmir, driven by India repression of Kashmiri demands for greater autonomy and even independence and by Pakistan's support for Islamist and Kashmiri nationalist militant groups to fight against India have not lessened with the coming of nuclear weapons.<sup>60</sup> In 2019, Pakistan's Prime Minister Imran Kahn warned that "If the world does nothing to stop the Indian assault on Kashmir and its people, there will be consequences for the whole world as two nuclear-armed states get ever closer to a direct military confrontation."<sup>61</sup>

All of Pakistan's major political parties support the nuclear weapons programme. Pakistan's current Prime Minister Imran Khan, who came to power in 2018, supported the 1998 nuclear tests, declaring "My party was clear that we had to tell India that we had a deterrent." He claimed the bomb was proof of Pakistan's possibilities, arguing that if Pakistan "can have scientists that develop nuclear bombs then we can develop our own country."<sup>62</sup> The prior government, led by the Pakistan Muslim League (PML) and Prime Minister Nawaz Sharif claimed credit for the bomb since it was an earlier Nawaz Sharif led PML government that ordered the 1998 nuclear tests. Pakistan's other major national political party, the Pakistan People's Party (PPP) also claims credit for the nuclear programme because the PPP and the nuclear weapons programme were both founded by Zulfikar Ali Bhutto.

It has been commonplace for prime ministers to inaugurate nuclear facilities and they are often photographed at nuclear missile tests and send public messages of commendation and congratulations after such tests. Pakistan also brings out its nuclear missiles in the military parades in the capital city that mark some national holidays. Opposition to nuclear weapons is limited to small progressive civil society groups struggling against great odds on multiple political and policy issues.

The underlying dynamics of the Pakistan-India relationship may be shifting, however. A longer-term concern now driving Pakistan's nuclear programme is the United States' policy of cultivating a much stronger US' strategic relationship with India to counter the rise of China as a potential great power competitor.<sup>63</sup> This set of relationships tie the future of Pakistan's nuclear weapons, and those of India, to the contest between the US and China for long-term global hegemony, making nuclear restraint and disarmament increasing unlikely in South Asia.

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