

**Table 1: Pakistani nuclear forces, 2021**

| Type   | NATO designation | Number of launchers | Year deployed  | Range <sup>1</sup> (kilometers) | Warhead x yield (kilotons) <sup>3</sup> | Number of warheads <sup>2</sup> |
|--|------------------|---------------------|----------------|---------------------------------|---|---------------------------------|
| <b>Aircraft<sup>4</sup></b>                    |                  |                     |                |                                 |   |                                 |
| Mirage III/V                                   |                  | ~36                 | 1998           | 2,100                           | 1 x 5-12 kt bomb (or Ra-ad)             | ~36                             |
| <b>Subtotal:</b>                               |                  | <b>~36</b>          |                |                                 |   | <b>~36</b>                      |
| <b>Land-based ballistic missiles</b>           |                  |                     |                |                                 |   |                                 |
| Abdali (Hatf-2)                                |                  | 10                  | 2015           | 200                             | 1 x 5-12 kt                             | 10                              |
| Ghaznavi (Hatf-3)                              |                  | ~16                 | 2004           | 300                             | 1 x 5-12 kt                             | ~16                             |
| Shaheen-1 (Hatf-4)                             |                  | ~16                 | 2003           | 750                             | 1 x 5-12 kt                             | ~16                             |
| Shaheen-1A (Hatf-4)                            |                  | -                   | (2022)         | 900                             | 1 x 5-12 kt                             | -                               |
| Shaheen-2 (Hatf-6)                             |                  | ~16                 | 2014           | 1,500                           | 1 x 10-40 kt                            | ~16                             |
| Shaheen-3 (Hatf-6)                             |                  | -                   | (2022)         | 2,750                           | 1 x 10-40 kt                            | -                               |
| Ghauri (Hatf-5)                                |                  | ~24                 | 2003           | 1,250                           | 1 x 10-40 kt                            | ~24                             |
| NASR (Hatf-9)                                  |                  | ~24                 | 2013           | 60-70                           | 1 x 12 kt                               | ~24 <sup>5</sup>                |
| Ababeel (Hatf-?)                               |                  | -                   | -              | 2,200                           | MIRV/MRV?                               | -                               |
| <b>Subtotal:</b>                               |                  | <b>~106</b>         |                |                                 |   | <b>~106</b>                     |
| <b>Ground and air-launched cruise missiles</b> |                  |                     |                |                                 |   |                                 |
| Babur GLCM (Hatf-7)                            |                  | ~12                 | 2014           | 350 <sup>6</sup>                | 1 x 5-12 kt                             | ~12                             |
| Babur-2/1(B) GLCM (Hatf-?)                     |                  | -                   | - <sup>7</sup> | 700                             | 1 x 5-12 kt                             | -                               |
| Ra'ad ALCM (Hatf-8)                            |                  | -                   | -              | 350                             | 1 x 5-12 kt                             | -                               |
| Ra'ad-2 ALCM (Hatf-?)                          |                  | -                   | (2022)         | >350                            | 1 x 5-12kt                              | -                               |
| <b>Subtotal:</b>                               |                  | <b>~12</b>          |                |                                 |   | <b>~12</b>                      |
| <b>Sea-based cruise missiles</b>               |                  |                     |                |                                 |   |                                 |
| Babur-3 SLCM (Hatf-?)                          |                  | -                   | - <sup>8</sup> | 450                             | 1 x 5-12 kt                             | -                               |
| <b>Total</b>                                   |                  | <b>154</b>          |                |                                 |   | <b>~165<sup>9</sup></b>         |

<sup>1</sup> Range listed is unrefueled combat range with drop tanks.

<sup>2</sup> There may be more missiles than launchers but since each missile is dual-capable, this table assigns an average of one warhead per launcher unless noted otherwise.

<sup>3</sup> Yield estimate is based on the range of yields measured in the 1998 nuclear tests. It is possible that Pakistan since has developed warheads with lower and higher yields.

<sup>4</sup> There are unconfirmed reports that some of the 40 F-16 aircraft procured from the USA in the 1980s were modified by Pakistan for a nuclear weapon delivery role. However, it is assumed here that the nuclear weapons assigned to aircraft are for use by Mirage aircraft. When the Mirage IIIs and Vs are eventually phased out, it is possible that the JF-17 will take over their nuclear role in the Pakistan Air Force.

<sup>5</sup> Each NASR launcher has up to four missile tubes. But since NASR is a dual-capable system and the primary mission probably is conventional, this table counts only one warhead per launcher.

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<sup>6</sup> The Pakistani government claims the Babur range is 700 kilometers, twice the 350-km range reported by the US intelligence community.

<sup>7</sup> The Babur-2/1(B) seems to be an improved version of the original Babur GLCM. It was first tested on December 14, 2016. A failed test in 2020 indicates additional development is needed before it can be fielded.

<sup>8</sup> The Babur-3 SLCM was first test launched from an underwater platform in 2017.

<sup>9</sup> In addition to the approximately 154 warheads estimated to be assigned to operational forces, a small number of additional warheads (*c.* 11) are thought to have been produced to arm future Shaheen-III and cruise missiles, for a total estimated inventory of approximately 165 warheads. Pakistan's warhead inventory is expected to continue to increase.