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# 'Shiv Shakti', 'Tiranga', 'Jawahar Sthal' after Chandrayaan missions: Who names sites on the Moon?

The point where the Chandrayaan-3 lander touched down on the lunar surface on Wednesday will be named Shiv Shakti, the PM announced. What is the process for such names to be adopted? We explain.

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Chandrayaan-3 Pragyan rover roams around the 'Shiv Shakti Point', Vikram' lander's touchdown spot, on the Moon at the south pole. (PTI Photo)

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Prime Minister Narendra Modi announced Saturday (August 26) that the point where the Chandrayaan-3 lander touched down on the lunar surface on Wednesday would be named **Shiv Shakti**. The Prime Minister was speaking at the Indian Space Research Organisation (ISRO) headquarters in Bengaluru, where he met the scientists who contributed to the mission's success.

“In general, there has been a tradition across the world with such kinds of successful missions, to give a name to that point,” Modi said. He added that there was a discussion over naming the spot where Chandrayaan-2 crashed in 2019 as well, but they believed that should happen only once the next mission succeeds in soft-landing. That point has now been named “Tiranga”.

**ISRO chief K Somnath also on Sunday** while addressing the media in Thiruvananthapuram, “The country has every right to name the landing site. The naming of the landing site is not the first incident. Several Indian names are already there on the Moon. We have a Sarabhai crater on the Moon. Other

countries have also named places related to their scientific accomplishment. All places related to even minor experiments would be named. That is a tradition.”

The Moon does not come under the jurisdiction of any one country – it’s what makes global exploration and landing missions possible. So who names points on its surface and how is this done? We explain.

### **Why no one can own the Moon**

In 1966, the United Nations Office for Outer Space Affairs came out with the Outer Space Treaty. Notably, this was during the Cold War era, when the two superpowers, the USSR and the United States, were locked in a rivalry. This manifested in an arms race (over military supremacy), economic competition and the Space race. Here, both were eager to accomplish firsts – the first man on the Moon, the first astronauts in Space, etc.

Setting some common principles for space exploration, the Treaty said in its Article II: “Outer space, including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.”

Simply, this meant countries had to cooperate in their Space exploration activities and could not stake a claim to it. Alexander Soucek, head of public international law at the European Space Agency, said in a *DW* report, “A nation can plant a flag on the moon, but it doesn’t have any legal meaning or consequence...” However, the Treaty does not talk about naming sites on the Moon.

### Who names landing sites on the Moon, then?

The International Astronomical Union (IAU) also determines some other rules for Space activities. India is among its 92 members. “The IAU has been the arbiter of planetary and satellite nomenclature since its inception in 1919,” its website states.

Writing in *Smithsonian Magazine* in 2012, the late scientist Paul D. Spudis, who worked at the Lunar and Planetary Institute in the US, said many mission sites first see names being given to them informally.

He explained that initially, limited information was available about aspects like the far side of the Moon. From Earth, we can only see one side because it takes roughly 14 days for it to complete one revolution around the Earth, and it also completes one rotation in the same time period. Therefore, only one side faces the Earth.

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But as American and Soviet spacecraft brought with them increasingly higher quality images, most major far-side craters received the names of various scientists and engineers. These names were submitted to the IAU for approval.

“An informal practice of naming landmarks was common during the Apollo missions. Names were given to the small craters and mountains near each landing site (e.g., Shorty, St. George, Stone Mountain) but official names were used as well (e.g., Hadley Rille),” he wrote. This was to develop an easy shorthand instead of always using official names. Most of the informal names assigned during Apollo were later given “official” status by the IAU.

### **How does IAU consider names for planetary objects?**

IAU’s website says that its Working Groups normally handle this process. While its decisions and recommendations are not enforceable by any national or international law, they establish conventions that are meant to help our understanding of astronomical objects and processes.

It describes the procedure as follows:

\*When the first images of the surface of a planet or satellite are obtained, themes for naming features are chosen and names of a few important features are proposed, usually by members of the appropriate IAU task group.

\*As higher resolution images and maps become available, names for additional features may be requested by investigators mapping or describing specific surfaces or geological formations.

\*At this point, anyone may suggest that a specific name be considered by a Task Group, but there is no guarantee that the name will be accepted.

\*Names successfully reviewed by a task group are submitted by the task group chair to the Working Group for Planetary System Nomenclature (WGPSN).

\*Upon successful review by vote of the members of the WGPSN, names are considered approved as official IAU nomenclature, and can be used on maps and in publications. Approved names are immediately entered into the Gazetteer of Planetary Nomenclature, and posted on its website. Any objections to them can be

raised by mailing the IAU General-Secretary within three months from the time the name was placed on the website.

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This process can take some time. For instance, the Chang'e 5, China's Moon mission, landed on the lunar surface on December 1, 2020. Its landing site was named Statio Tianchuan. 'Statio' means a post or station in Latin and is also used in the formal name for NASA's Apollo 11 landing site, Statio Tranquillitatis, according to Spcae.com. 'Tianchuan' came from a Chinese constellation name, which means ship sailing in the Milky Way. The name was approved in May by the IAU in May 2021.

### **Are there any norms for naming Space objects?**

Yes, the IAU gives several suggestions.

For planetary objects, it states the name should be "simple, clear, and unambiguous" and should not duplicate existing names.

It has a host of other rules, such as: "No names having political, military or religious significance may be used, except for names of political figures prior to the 19th century." Further, "Commemoration of persons on planetary bodies should not normally be a goal in itself, but may be employed in special circumstances... Persons being so honored must have been deceased for at least three years, before a proposal may be submitted."

As Spudis wrote, "...The location of specifically named craters has little rhyme or reason. Neither scientific prominence nor contribution guarantees any crater-endowed immortality. Copernicus and Archimedes are rightly honored with spectacular craters named for them. But Galileo and Newton (titans in the history of science) are fobbed off with insignificant or barely detectable features."

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The IAU also noted that earlier, for the satellites of Jupiter and Saturn, inspiration was drawn from the Greco-Roman mythology. “The Jovian satellites have previously been named for Zeus/Jupiter’s lovers and favorites but now Zeus’ descendants are also included as an allowable source of names... In order to internationalize the names, we now also allow names of giants and monsters in other mythologies.”

## Has India ever named any other site on the Moon?

Following the **2008 mission Chandrayaan-1**, a spot where the probe crashed (as it was meant to for the purposes of the mission), was named “Jawahar Sthal” after the first Prime Minister, Jawaharlal Nehru.

According to G Madhavan Nair, the chairman of **ISRO** from 2003 to 2009, then Indian President and former **ISRO** scientist Dr. APJ Abdul Kalam had raised the question of making a symbolic note of India reaching the Moon.

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Along with the Indian flag depicted on the Moon Impact Probe, carried by the spacecraft, he made a suggestion – to name the impact site after Nehru. It was on his birthday the landing was made, and he had long championed undertaking scientific developments and research in India. The IAU later accepted it, making it official.

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