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Space diplomacy? India's new regional policy under Modi and the "South Asia Satellite"

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ABSTRACT

India's space program has for long been seen as an under-exploited source of its foreign policy and diplomacy. However, there are grounds to support that this has changed under Prime Minister Narendra Modi, reflected in his proposal for the "South Asia Satellite" as India's "gift" to its neighboring countries in line with his "neighborhood first" policy. A number of scholars and the media have celebrated the launch of the satellite as an important step toward regional integration and cooperation in South Asia through space diplomacy. Setting the South Asia Satellite in the context of India's regional policy, this article explains why the utilization of space technology as an instrument of India's foreign policy may be accelerating now mainly as a response to China's growing economic and political impact on the region, which also involves the establishment of closer space ties between China and India's neighbors.

Introduction

One of the most remarkable aspects of India's regional policy in recent years has been the launch of the so-called "South Asia Satellite" (GSAT-9) in May 2017, a geosynchronous communications satellite dedicated to offering services to the region, such as telecommunications and broadcasting applications, including telemedicine, tele-education and disaster management support.¹ Proposed by Indian Prime Minister Narendra Modi in June 2014, the satellite was initially intended to be used by the member countries of the South Asian Association for Regional Cooperation (SAARC) as "a gift from India".²

Apart from Pakistan, which eventually decided not to participate in the project, the other SAARC members – Afghanistan, Bangladesh, Bhutan, Nepal, the Maldives, and Sri Lanka – welcomed India's initiative. After the launch of the satellite, the leaders of the participating countries joined a video conference to celebrate the project as an important step toward greater regional integration and cooperation. It was also seen as a successful example of India's "neighborhood first" policy under Modi that involves promoting

regional cooperation with SAARC members without Pakistan, usually referred to as “SAARC minus Pakistan.”³ Equally, the satellite was hailed by pundits and the media as an indication of India’s growing recognition that its advanced space program can be used as a foreign policy tool, which can serve to enhance its regional leverage, especially with regard to its relations with its smaller South Asian neighbors.⁴

A focus on the South Asia Satellite is important for at least three reasons. First, although international cooperation has been a key feature of India’s space program since its inception, it is noteworthy that New Delhi had not opted to draw on the use of space technology as a foreign policy tool before the South Asia Satellite. Thus, it is worth exploring why New Delhi has increased its attention to the region through space. Second, despite the fact that the South Asia Satellite follows close on the heels of other high-profile projects of India’s vigorous and ambitious space program, especially space exploration missions, until recently India’s space program has been driven almost entirely by the scientific community and a powerful bureaucratic agency, the Indian Space Research Organization (ISRO), in pursuit of technological innovation.⁵ Therefore, it is useful to consider the extent to which Modi’s direct involvement in the South Asia Satellite project reflects an effort to chart a new course for the use of space technology as an instrument of India’s foreign policy and diplomacy. Third, in terms of the existing literature, the above considerations are significant because most analyses that examine India and regional space dynamics are confined to space exploration missions associated with the so-called “Asian space race.” But even when regional mechanisms and the provision of public goods related to the governance of space activities are considered through the lens of regional influence and the contest for leadership, attention has been paid to China and Japan, not India.⁶

In pursuing these lines of inquiry, this article explains why India has increased its attention to the South Asia region now using space technology by setting the South Asia Satellite in the context of Modi’s “neighborhood first” policy of revamping India’s engagement with the region, highlighting the salience of regional space developments. Informed by distinct bodies of research that deal with India’s approaches to foreign policy, regionalism, and space policy in an interdisciplinary context, it argues that the South Asia Satellite initiative has been largely a response to the perceived growing presence of China in South Asia, characterized by Beijing’s effort to strengthen space cooperation with New Delhi’s neighboring countries in what India traditionally views as its own sphere of influence. As a result, the satellite project can be understood as part of the contest for leadership and influence through the use of space technology in South Asia, which is increasingly entangled with evolving competition in the wider Indo-Pacific. It also underlines other interrelated factors driving India’s effort to enhance and leverage its regional influence through the use of its advanced space program, such as an

increasing awareness that India should play a more active role in promoting regional connectivity and integration through the delivery of public goods associated with Modi's new regional policy; and the recognition under Modi's leadership that India's space program remains a rather untapped source of soft power, national prestige, economic opportunities, and great power status. In doing so, although the discussion that follows is mainly empirically oriented, it is in accordance with works that emphasize the benefits of eclectic research in the study of Asian international relations and space policy.⁷

The article opens up with a brief overview of India's South Asia policy and then moves on to explore the extent to which Modi has signaled a change in New Delhi's overall foreign policy outlook, with a particular focus on his "neighborhood first" policy as background. Next, it offers a discussion of the key space actors and their activities in the region, including a brief overview of China. The article then discusses the South Asia Satellite in some detail, considering its justification and the responses of other regional states. It also highlights the key factors that help to explain the South Asia Satellite by employing an eclectic approach, and assesses the effectiveness and impact of the project. In doing so, it argues that the evidence for the success of the South Asia Satellite is rather mixed.

Background: India's South Asia policy

Although the relative weight of the key drivers behind India's approach to the region has varied over time, depending on a range of external pressures and internal influences, there is agreement among scholars that India's South Asia policy has been largely informed by its place at the center of the regional order. It is not hard to see why: India's size, population, history, and geographical location have cemented India's self-image as South Asia's natural hegemon.⁸ But in part this self-image has been reinforced by the perception shared among Indian elites that India inherited the strategic outlook of the British Raj.⁹ Thus, from the outset, India's regional policy was underpinned by the goal of preserving its preeminence in South Asia and ensuring that the Indian sub-continent remained its exclusive sphere of influence by limiting extra-regional intervention.¹⁰ This resulted in an effort to shape the foreign policy preferences of smaller states in ways that would accommodate India's predominance and further its national interests and agendas throughout the Cold War, albeit with limited success.¹¹

The historical context

More specifically, Nehru, as the first Prime Minister of India, played a central role in establishing this pattern of India's engagement with the smaller South Asian states. Typifying this was the signing of security treaties with Bhutan,

Sikkim, and Nepal in the 1950s, which were partly intended to send a message to China that India considered the Himalayan kingdoms as part of its sphere of influence.¹² Significantly, Indira Gandhi adhered to the main tenets of Nehru's regional policy, but, under her leadership, India adopted a more assertive regional stance that did not preclude the use of force as a way to safeguard India's regional preeminence and keep extra-regional actors in check, which is usually referred to as the "Indira Doctrine," an Indian variant of the Monroe Doctrine for South Asia.¹³ This was evident in India's intervention in East Pakistan in 1971 that led to the victory over Pakistan and the creation of the independent state of Bangladesh. It was also evident in the annexation of Sikkim in 1975. During the 1980s, under Rajiv Gandhi, India's involvement in Sri Lanka and the trade embargo on Nepal dramatically highlighted the continuing influence of the Indira Doctrine on its South Asia policy.¹⁴

Nevertheless, since the end of the Cold War, India has sought to recalibrate its South Asia policy as part of a broader foreign policy reorientation. Emblematic of this change in India's regional policy was the introduction of the so-called "Gujral Doctrine" by I.K. Gujral, the then minister of external affairs, in 1996. The Gujral Doctrine involved an effort to improve bilateral ties with India's neighbors on the basis of "non-aggression" and "non-reciprocal benevolence."¹⁵ It also involved the goal of accelerating the development of its neighbors. As a result, there was an increase in higher level meetings, attempts to settle bilateral disputes through building trust, and the declared ambition to strengthen economic ties and foster development.¹⁶

Some important steps were also taken toward advancing South Asian regionalism through SAARC, exemplified by the South Asian Preferential Trade Agreement (SAPTA) and, later, the South Asian Free Trade Agreement (SAFTA). However, these steps have had only limited success to date, not least because of the continuing hostility between its two largest members, India and Pakistan, which has hindered SAARC from reaching its full potential.¹⁷ Another factor impeding regional economic cooperation is the competitive rather than complementary nature of South Asian economies.¹⁸ Besides, New Delhi has been reluctant to promote SAARC as a regional multilateral arrangement that encompasses security and political cooperation, concerned that this possibility could potentially undermine its hegemonic position. Instead, India has opted for a regional policy that favors strengthening bilateral relations with SAARC members.¹⁹

Considering the above, despite the enormous benefits that could be derived from the use of space-based technology for socio-economic development and disaster management in South Asia, it is not surprising, perhaps, that regional cooperation on space through SAARC has been remarkably very limited, confined largely to training programs organized by the SAARC Disaster Management Centre.²⁰ Even though a few ideas for projects have been

proposed over the past decades related to the utilization of space applications, such as the launch of a South Asian Regional Satellite (SARSAT) dedicated to the survey of natural resources, communication, and broadcasting as part of a SAARC Technology “Mission” or the launch of a satellite for educational purposes, these have not been put into effect.²¹

However, the general point to make is that by the early 2010s, India seemed more keen to accommodate its smaller neighbors, but its regional policy was still “both too often reactive and at times quite dismissive.”²² Along with this, India’s approach to the region continued to be carried out largely in an *ad hoc* manner and through bilateralism.²³ Meanwhile, its neighbors kept on resisting India’s bid for regional hegemony by involving extra-regional powers.²⁴ Recently, this has been further complicated by Beijing’s growing clout in the region, as South Asian states have been attempting to use the China card in their dealings with India. It is in this context that India under Modi has tried to reverse this trend by invigorating its interest in South Asia, which has involved, among other things, the use of space technology. The key aspects of Modi’s foreign policy and regional strategy are particularly germane, to which I now turn.

India’s evolving regional strategy under Modi

There has been a great deal of debate about the impact of Modi’s government on the core tenets of Indian foreign policy since his rise to the Indian premiership in May 2014. Modi’s party, the Bharatiya Janata Party (BJP), was the first to win a landslide victory after 25 years of a succession of coalition governments. Unlike his predecessors, who lacked a parliamentary majority, therefore, Modi seemed to enjoy a relative room for maneuver available to many of India’s policies, especially in security-related areas. This raised expectations about the future direction of Indian foreign policy, at a time when New Delhi was already feeling the pressure to respond to a number of structural and geopolitical pressures. Modi’s nationalism, in combination with his charismatic and authoritative style of leadership, further amplified expectations about the prospects of change in Indian thinking about its regional and international relations.²⁵

Therefore, some analysts have been quick to suggest that a “Modi Doctrine” has emerged, while others have contended that the direction of India’s foreign policy behavior under Modi has been altered. Yet, most analysts agree that there is more continuity than change, underpinned by Modi’s pragmatic approach to foreign policy and diplomacy.²⁶ For example, Sumit Ganguly notes that, while it is clear that Modi has “brought renewed energy to India’s foreign policy . . . the changes that he has instituted, though far from superficial, have not constituted a fundamental break from India’s past policies.”²⁷ In a similar fashion, as Eswaran Sridharan points out, underlying Modi’s leadership is “a more energized version of earlier foreign policy changes.”²⁸

In this regard, it has been argued that the major continuity has been India's strategy of "multialignment," characterized by engagement in new regional multilateral institutions, the establishment of strategic partnerships, and "normative hedging."²⁹ Others have pointed to the continuing significance of key strategic aims under Modi, including attaining great power recognition; achieving a multipolar world order; and implementing the "Act East" policy.³⁰ For Alyssa Ayres, achieving great power status remains a powerful influence, but economic growth and the development of national capabilities have become equally important factors in shaping India's international behavior in recent years.³¹

Whatever the merits of such arguments, for the purposes of our discussion, one of the most remarkable aspects of Indian foreign policy under Modi has been a renewed interest in revamping New Delhi's relations with its smaller neighbors.³² At least three interlinked factors help to explain why Modi has been keen to prioritize improving India's relations with its neighbors. First, underscoring Modi's regional diplomacy is the promotion of "a trade-and-investment-led agenda," with an emphasis on international trade, investment, and the provision of infrastructure loans to South Asian countries as a way to facilitate regional connectivity, integration, and economic development.³³ Second, characteristic of the "neighborhood first" policy is the acknowledgment that India's emergence as a great power rests on restoring its primacy in the region.³⁴ Third, boosting regional integration and safeguarding India's regional primacy can be seen as part of an effort to address the challenge of China's growing profile in South Asia and the Indian Ocean region.³⁵ As Constantino Xavier observes, the most important factor influencing New Delhi's focus on regional connectivity under Modi has been China's expanding economic and political links in India's neighborhood.³⁶

Arguably, dealing with the challenge of China has been a longstanding and ongoing component of India's regional strategy, as noted earlier. In the last decade, however, New Delhi has been closely watching how its small neighbors have strengthened their ties with Beijing, typified by Chinese investment in a number of infrastructure projects of potential strategic significance. Some of these projects are now supported through China's Belt and Road Initiative (BRI), an ambitious global program to invest vast amounts of money in infrastructure, transportation, and energy, linking Beijing with countries across the world.³⁷ Tellingly enough, apart from Bhutan, all of New Delhi's South Asian neighbors have signed up for the BRI. In this respect, China's growing footprint in South Asia was a growing source of concern for India even before the launch of the South Asia Satellite, especially given that Beijing was already carrying out or planning key projects as part of the BRI in several of New Delhi's smaller neighboring countries in addition to Pakistan. More specifically, in Sri Lanka China has invested in the Hambantota and Colombo port projects. Despite Chinese and Sri Lankan claims that these projects are

commercial in nature, New Delhi is concerned that they give China a strategic foothold near critical sea lanes in the Indian Ocean, as well as access to facilities that could potentially be used by the Chinese Navy as military bases.³⁸ Notably, in December 2017, Sri Lanka formally granted a 99-year lease of the Hambantota port to a Chinese state company as a consequence of its inability to repay the Chinese loans that it had borrowed heavily to build it.³⁹

Within South Asia, other examples abound of how Beijing's growing influence had begun to challenge New Delhi's regional sway around the time of Modi's announcement of the South Asia Satellite initiative. More concretely, since Dhaka joined the BRI in 2016, China has stepped up its investments in several Bangladeshi infrastructure projects, including the construction of the Padma Multipurpose Bridge project.⁴⁰ From 2013 to 2018, the Maldives also gravitated much closer to China under the presidency of Abdulla Yameen. Even though relations between the Maldives and India have been on a firmer footing since the election of President Ibrahim Mohamed Solih in 2018, the ongoing jostle for influence between Beijing and New Delhi has emerged as a key determinant in the domestic politics of the small South Asian island-nation.⁴¹ Recent years have also witnessed China's growing clout in Nepal, manifested in the signing of deals concerning investments in large infrastructure and transportation projects.⁴² In addition to India's smaller neighbors, it is not surprising that China has continued to strengthen its ties with Pakistan, its closest ally in the region, exemplified by the China-Pakistan Economic Corridor (CPEC), a conglomeration of infrastructure and energy projects worth of roughly \$60bn that is now a central part of the BRI. Significantly, a key element of the CPEC is the development of the strategic port of Gwadar on the Arabian Sea, which helps China extend the projection of its maritime presence in the Indo-Pacific.⁴³

Consequently, Beijing's forays in New Delhi's neighborhood reinforced the perception among Indian strategists that China is attempting to encircle India as part of a grand strategy that rests on building a network of bases in the Indian Ocean, embodied in the popular "string of pearls" thesis.⁴⁴ As Carla Freeman argues, while China's increasing engagement with the region through the provision of regional public goods is largely driven by a multidimensional understanding of security that sees economic development as closely linked to security, Indian policymakers and analysts tend to perceive Beijing's growing regional profile in terms of strategic rivalry as a result of their perennial mistrust and territorial disputes.⁴⁵

It was in this reconfigured overarching geopolitical context that Modi decided to tout his "neighborhood first" policy, which involved engaging with India's smaller neighbors. At the same time, persisting tensions with Pakistan had the effect of hindering cooperation through the SAARC framework. As a consequence, the focus of the "neighborhood first" policy under

Modi shifted toward promoting subregional connectivity by taking advantage of New Delhi's unique geography, strategic position, history, culture, and economic potential. Manifestations of this shift included an interest in subregional groupings, such as the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) and the Bangladesh-Bhutan-India-Nepal (BBIN) Initiative.⁴⁶ Whether it is possible to draw major conclusions from Modi's regional strategy is a moot point: the existing evidence about its effectiveness and success is rather mixed, not least because India's neighborhood remains a fundamentally volatile and dynamic regional environment.⁴⁷

Be that as it may, suffice to say at this stage that Modi's decision to utilize India's advanced space program as a foreign policy tool has also been influenced by such strategic considerations and dynamics related to India's regional role in the face of China's growing challenge in its neighborhood. To understand more clearly the significance of the South Asia Satellite, however, it is helpful to place India's space program in its historical context.

India, China, and space activities in South Asia

India has one of the oldest and most advanced space programs encompassing a wide range of space activities and capabilities that have already rendered it an emerging great space power in the current international space order as well as the leading South Asian space actor. As far as the origins of India's space program are concerned, it should be noted that Indian scientists played a key part in the International Geophysical Year of 1957–58 (IGY), one of the most important global scientific projects concentrating on geophysical activities.⁴⁸ Encapsulating scientific internationalism, the IGY contributed to ushering in the beginning of the Space Age with the launch of Sputnik in October 1957.⁴⁹ But the involvement of top Indian scientists, such as Vikram Sarabhai, in the organization of IGY projects also spearheaded space research in India that culminated in the establishment of the Indian National Committee for Space Research (INCOSPAR) in 1962, the institutional precursor of the Indian Space Research Organization (ISRO).⁵⁰

The importance of the principal role of the Indian scientific community in setting up the country's space effort lies largely in the fact that the civilian uses of space for socio-economic development became the main focus of the program. To be sure, as the program advanced, space assets also provided military benefits and spin-offs, not least because of the inherent dual-use nature of space technology.⁵¹ In contrast to other space powers, however, the rationale for the program remained predominantly oriented toward economic development, which was evident in the pursuit of practical applications in the fields of communications, natural resource management, and meteorology.⁵² To this end, the Indian scientific

community under the leadership of Sarabhai was successful in formulating and implementing a vision of India's space activities that placed emphasis on the ways in which a developing country like India should tap the socioeconomic benefits from key space applications to "leapfrog" into modernity.⁵³

This influential vision was enmeshed in a conceptualization of technology as an enabler of modernization, progress, and development that was not only shared by India's scientific elites, but it was also facilitated by Prime Minister Nehru's own view that science and technology should be central in the building of postcolonial India.⁵⁴ In this respect, as with the nuclear program, the space program also emerged as a powerful symbol of postcolonial India's modernity, statehood, and national prestige.⁵⁵

One of the distinctive features that came to characterize India's space program throughout this formative period was international cooperation.⁵⁶ Certainly, cooperating with other countries was a necessity rather than an option for a nascent space program, as it allowed Indian scientists to develop essential skills in space as part of a long-term approach to ultimately acquire indigenous capabilities. Even so, India scrupulously avoided the possibility of dependence by collaborating with several leading space powers at the same time.⁵⁷ In this way, one of the earlier illustrations of India's interest in international cooperation was the establishment of the Thumba Equatorial Rocket Launching Station (TERLS) in 1963, a launching facility that spurred initial collaboration between India and the United States using sounding rockets and soon involved cooperation with the Soviet Union and France. In 1965, the United Nations provided sponsorship for the operation of the TERLS facility.⁵⁸ A key result of this period was the gradual acquirement of India's indigenous Rohini sounding rockets that paved the way toward building a launch vehicle.⁵⁹

India's space program witnessed notable progress in the years after the establishment of ISRO in 1969, marked by a series of experimental projects that helped accumulate much useful experience and expertise in space technology. For example, the Satellite Instructional Television Experiment (SITE) was carried out in 1975–1976. Under a collaborative agreement with NASA, the project's goal was to broadcast educational television programs to rural areas. This was followed by the Satellite Telecommunication Experiments Project (STEP), which was conducted during 1977–1979 using the Franco-German *Symphonie* satellite.⁶⁰ Meanwhile, in addition to acquiring indigenous launch capabilities, India's space program went forward with the development of a series of space applications in the field of telecommunications and remote sensing. In 1983, the Indian National Satellite (INSAT) system became operational, followed by the Indian Remote Sensing (IRS) satellite program five years later. Reflecting the developmental rationale of the program, these assets were instrumental in several applications, such as disaster monitoring,

the management of natural and earth resources, and tele-education and tele-medicine, to name just a few.⁶¹

But while the use of space for socio-economic development remains a principal mandate of India's space program even today, there has been a growing focus on high-profile missions in recent years that have attracted much attention, especially in the context of a purported Asian space race.⁶² In particular, India's 2008 *Chandrayaan-1* lunar probe and the 2013 Mars Orbiter Mission (MOM), also called *Mangalyaan*, indicate that this much higher profile in space marks a departure from its longstanding emphasis on the use of space technology for development purposes. There is also an increasing interest in the use of space assets for national security considerations as a response to external challenges, especially China, at a time when space activities are becoming militarily important for a larger number of states.⁶³ This trend was recently manifested in India's decision to conduct its first successful anti-satellite (ASAT) test on March 27, 2019.⁶⁴ For some observers, the militarization of the Indian space program will spark an arms race with Pakistan that will have major implications for the regional security order.⁶⁵

Whatever potential there may be for competition between India and Pakistan in space, it is clear that New Delhi is increasingly becoming concerned about Beijing's growing profile in space that extends beyond military security. Although some aspects of China's rise as a great space power may be overstated, a couple of points are worth making here. First, one of the most notable and visible features of China's space program in recent years has been its remarkable progress in human spaceflight and space exploration, which has helped cement its status as a major space power. Since the launch of *Shenzhou 5* in 2003, which orbited Yang Liwei, its first astronaut, China has carried out several other human spaceflight missions, while it recently completed the construction of the *Tiangong* space station in low-Earth orbit. Meanwhile, it has launched a series of lunar missions, known as the *Chang'e* program, and landed its first robotic spacecraft on Mars in 2021.⁶⁶

Second, China has taken steps to assume the role of a "responsible great power" in space through the provision of public goods. More concretely, working with the United Nations Office for Outer Space Affairs (UNOOSA), the China Manned Space Agency (CMSA) has announced the "United Nations/China Cooperation on the Utilization of the China Space Station" program under the framework of the UNOOSA's Access to Space for All Initiative. The program is open to all nations, intended to provide opportunities to scientists for building capabilities in space science and technology on board China's space station. At the regional level, China has attempted to enhance its leadership credentials by actively promoting multilateral cooperation in space science and technology through the formation of the Asia-Pacific Space Cooperation Organization (APSCO). Headquartered in Beijing, this

regional organization was formally inaugurated in 2008 with the participation of eight members: China, Bangladesh, Iran, Mongolia, Pakistan, Peru, Thailand, and Turkey.⁶⁷ Equally, China has expanded the BRI to outer space through the “Space Information Corridor,” also known as the “Space Silk Road,” which involves providing a variety of satellite-based services to countries along the BRI, such as communications, remote sensing, broadcasting, and navigation and position. It has also established an emergency response mechanism aimed at sharing satellite-based data with BRI countries to help with weather monitoring and disaster management.⁶⁸

Notwithstanding the hype that has accompanied the idea of an Asian space race, it is not controversial, therefore, to suggest that the shift in Indian space policy goals toward space exploration projects is partly driven by considerations of prestige and relative international standing vis-à-vis China.⁶⁹ At the same time, the technological feats achieved by the Chinese space program present a challenge for India’s leadership role in South Asia. This is important to keep in mind, because in recent years South Asian countries have shown increased interest in the possible benefits to be derived from the use of space technology, highlighting a trend evident in developing countries more generally.⁷⁰ To be sure, South Asia displays variation in the level of space capabilities, cooperation, national ambitions, and the way space activities are organized. This is not surprising given how heterogeneous South Asia is.

Yet, despite this diversity, it is plain that South Asian states have begun to turn their attention to the use of space.⁷¹ To begin with, as early as 1961, Pakistan was taking steps toward benefiting from space utilization with the formation of the Space and Upper Atmosphere Commission (SUPARCO). Since then, progress has been rather slow, largely confined to the development of the *Rehbar* rocket series and the subsequent launch of few satellites in collaboration with other countries, such as the *Badr* satellite series. Of late, however, an important feature of Pakistan’s space program is the growing space ties with its “all-weather partner” China. For instance, in 2011 China built and launched the PAKSAT-1 R communications satellite for Pakistan and in 2018 Beijing launched two satellites for Islamabad, the PRSS-1 remote sensing satellite, developed by the China Academy of Space Technology (CAST), and the scientific experiment satellite PakTES-1A, built by SUPARCO. Moreover, Pakistan was the first foreign country to utilize China’s *Beidou* navigational system and its participation in China’s BRI that envisages the incorporation of a “Belt and Road Space Information Corridor” noted above is likely to provide further stimulus to their space relationship.⁷²

Beyond India and Pakistan, the smaller South Asian states have also made strides toward the use of space. In 2012, Sri Lanka launched its first communications satellite, *SupremeSAT-1*, from China as part of a partnership between the Sri Lankan SupremeSAT (Pvt), a private company, and the state-owned China Great Wall Industry Corporation (CGWIC). This made Sri Lanka the

third South Asian country, after India and Pakistan, to operate a satellite. In 2014, Afghanistan also launched its first satellite, *Afghansat 1*, a telecommunications satellite, while Bangladesh acquired its own geostationary satellite with the launch of *Bangabandhu-1* in 2018.⁷³ As far as Bhutan is concerned, in 2018 it launched its first satellite, *Bhutan-1*, an educational nanosatellite as part of the Joint Global Multi-Nation Birds Satellite (BIRDS) project supported by Japan.⁷⁴ More recently, in November 2022, ISRO launched the India-Bhutan SAT, a customized nanosatellite that was jointly developed by India and Bhutan and will support the latter's management of natural resources.⁷⁵ Similarly, in June 2019, Nepal became the latest South Asian country to join the list of developing countries that embrace space utilization when it launched its first satellite, *NepaliSat-1*, a cube satellite as part of the BIRDS project, and it is currently laying the groundwork for its first geostationary satellite.⁷⁶

What merits emphasis is that as early as 2012, the launch of the *SupremeSAT-1* carried out by SupremeSAT (Pvt) Ltd and the China Great Wall Industry Corp had already raised concerns in New Delhi that China was gaining a foothold in South Asia through space. This was despite reassurances from the Sri Lankan government that the launch was conducted on a commercial basis.⁷⁷ In addition to the space ties between Colombo and Beijing, around the same time New Delhi was reportedly alarmed by China's space cooperation with other countries in the region, including the sharing of satellite images with Bangladesh and an agreement with Myanmar on the sharing of remote sensing satellite data. As a result, in 2013, the Prime Minister's Office requested ISRO to devise a strategy to counter China.⁷⁸ Likewise, reports by the Research and Analysis Wing (RAW), the foreign intelligence agency of India, underlined that China's ability to strengthen space ties with South Asian states, such as Sri Lanka and the Maldives, was due to a lack of interest on the part of New Delhi in paying attention to its smaller neighbors, and that a more proactive approach was required from ISRO.⁷⁹ It was against this backdrop of regional dynamics that Modi announced the South Asia Satellite in 2014.

The South Asia Satellite

Announcement, justification, and responses

In June 2014, just four weeks after his rise to power as Indian prime minister, Narendra Modi chose the occasion of the launch of the PSLV-C23 rocket by ISRO, which successfully put five foreign satellites in orbit, to propose the development of a satellite to be used by the SAARC member countries with the aim of providing "a full range of applications and services to all our neighbours" as "a gift from India." In his speech, Modi highlighted that the satellite

would be reflective of India's "age-old ethos of Vasudhaiva Kutumbakam" (the world is one family), adding that "India's Space program, is thus driven by a vision of service to humanity. Not by a desire of power . . . We must therefore, share the fruits of our technological advancement, with those who do not enjoy the same. The developing world, and our neighbors in particular."⁸⁰

In his address at the 18th SAARC Summit held in Kathmandu in November 2014, Modi again referred to the satellite project. After emphasizing the merits of promoting regional integration and connectivity, Modi stressed that India's vision for South Asia is premised "on five pillars – trade, investment, assistance, cooperation in every area, contacts between our people – and, all through seamless connectivity." He also pointed out that infrastructure is South Asia's "greatest weakness and its most pressing need," but there is "a new recognition of inter-linked destinies; and, a new belief in shared opportunities." It was in this context that the Indian prime minister reiterated the importance of "India's gift of a satellite for the SAARC region" that will bring benefits for all "in areas like education, telemedicine, disaster response, resource management, weather forecasting and communication."⁸¹

The reception of the other SAARC members to the satellite project was rather mixed and evolving.⁸² At one level, given that some South Asian states, such as Afghanistan, Bangladesh, Pakistan, and Sri Lanka, had already acquired their own space assets, it was not surprising that they were less keen to join in the early stages of the project. On the contrary, because of their limited space capabilities, Bhutan and the Maldives were more enthusiastic about the initiative and the benefits that could accrue from their participation. At another level, the SAARC satellite soon became embroiled in the wider rivalry between India and Pakistan, with Islamabad opposing it on national security grounds. Still, in June 2015, Pakistan proposed to provide financial and technical support to the project and suggested that it should be brought under the aegis of SAARC. But India rejected both proposals, making clear that this was an "Indian satellite for SAARC" as "a gift," not "a SAARC satellite." New Delhi also objected to the suggestion of the SAARC Secretariat to refer the project to the SAARC Technical Committee on Science and Technology. In the end, Pakistan announced its decision to opt out of the SAARC satellite project, so the name officially changed to South Asia Satellite.⁸³

Whatever one thinks about the strategic rationale for Pakistan's decision to withdraw from the satellite project, as noted earlier, the other SAARC members eventually supported the initiative. After the successful launch of the South Asia Satellite by ISRO in May 2017, the leaders of Afghanistan, Bangladesh, Bhutan, Nepal, the Maldives, and Sri Lanka joined Prime Minister Modi in a videoconference to mark the launch. "Today is a - historic day for South Asia. A day without precedence. Two years ago, India made a promise . . . to extend the advanced space technology for the cause of

growth and prosperity of our brothers and sisters in South Asia” Modi observed during his address at the joint videoconference, arguing that the launch of the South Asia Satellite signifies the start of a collective “journey to build the most advanced frontier of our partnership” as a “first of its kind project” in the region, which will touch the lives of the people of South Asia through space applications in the areas of communication, banking, education in remote areas, weather forecasting and resource mapping, tele-medicine, and dealing with natural disasters.⁸⁴ The Prime Minister of Bhutan praised the launch of the satellite as an “impressive milestone in regional cooperation,” while the President of the Maldives thanked Modi and the Indian people “for the very special gift to the South Asian region.” Similarly, the leaders of the other South Asian states participating in the project welcomed the role of the satellite in promoting regional integration and development.⁸⁵

Significantly, the Indian government has highlighted that the satellite would be offered for use at no cost, with its footprint covering all of South Asia. It is equipped with 12 ku band transponders, with each participating country granted access to at least one transponder that can be utilized for communications. The satellite was built by ISRO after three years at an estimated total cost of ₹230 crore.⁸⁶ Remarkably, in January 2019, as an extension of the South Asia Satellite, it was reported that India was planning to set up 5 large ground stations and about 500 small terminals in Bangladesh, Bhutan, Nepal, Sri Lanka and the Maldives under Modi’s “neighborhood first” policy aimed at strengthening regional cooperation and countering China’s influence in the region.⁸⁷

In August 2019, during a two-day visit to Bhutan, Modi inaugurated the first of these ground stations in Thimphu as part of the South Asia Satellite project. According to the then ISRO chairman K. Sivan, ISRO bore the costs of setting up the station under an agreement between the Indian Ministry of External Affairs and Bhutan, while discussions were in progress with Afghanistan, Nepal, and the Maldives to install ground stations on their territory for accessing satellite data. Crucially, however, the ground station in Thimphu is also seen as a response to China’s decision to build an advanced satellite tracking center and astronomical observatory in the Tibet autonomous region, which is believed to be used to track India’s space activities. What should be added is that ISRO has also announced a capacity building training program within the UNISPACE framework, the UNISpace Nanosatellite Assembly and Training (UNNATI) program, especially aimed at developing countries.⁸⁸

What is worth noting briefly is that the importance of the China factor is also evident in the intensification of India’s space cooperation with key space actors in the broader Indo-Pacific region. In this vein, over the past years, India has established closer bilateral space relations with Australia, Japan, and the United States at a time when the Quadrilateral Security Dialogue (QSD),

also known as the Quad, an informal security mechanism between Canberra, New Delhi, Tokyo, and Washington, is paying more attention to space cooperation.⁸⁹ Likewise, New Delhi has been cultivating space ties with Southeast Asian countries. An example is India's construction of a tracking and data reception station and a data processing facility in Vietnam as part of India's space cooperation with the Association of Southeast Asian Nations (ASEAN). While the facility is ostensibly aimed at improving New Delhi's satellite tracking network and the sharing of remote sensing data, it is also expected that it will help India to keep an eye on China's activities in the South China Sea.⁹⁰

It is early to say how these plans will evolve and what impact they will have on the region. But it is clear that these more recent developments serve to illustrate how India's use of space technology as a foreign policy tool in South Asia has gained some momentum that goes beyond a mere focus on the South Asia Satellite as a one-off event.

Explaining the South Asia Satellite

A number of observations are worth making about the main explanations for India's space policy shift, building on a multicausal and eclectic approach that helps to capture the combination of material and ideational factors, while being attentive to both domestic-level and international-level explanations.⁹¹ First, it is plain that a lot of India's attention given to South Asia through the use of space technology as a foreign policy tool has been driven by perceptions of China's growing influence in the region, which entails space cooperation with India's smaller neighboring states. In this regard, India's use of space technology as a foreign policy tool in South Asia and the Indo-Pacific signifies a tentative step toward joining the competition for prestige and soft power as well as regional leadership through the provision of services and public goods.⁹² Relatedly, it can also be seen as a form of "soft balancing" behavior against China. As Vidya Sagar Reddy points out, the South Asia Satellite also reflects India's effort to balance China's growing military power through building basic infrastructure in its neighborhood.⁹³ As such, it is part of what Kai He has recently called "the balance-of-infrastructure game" in the Indo-Pacific, which involves efforts by the Quad countries, together and individually, to provide an alternative to China's infrastructure projects under the BRI, aimed at offsetting Beijing's influence.⁹⁴

Second, to understand the South Asia Satellite and India's space policy more generally, it is also important to move beyond such a realist thinking and recognize the influence of non-material factors. This is important because India's space behavior is mediated by its history and national identity. From this perspective, the decision to conduct and project the satellite as "an Indian gift" to the region rather than as a joint initiative serves to illustrate how India's regional policy

continues to be driven by a preference to deepen bilateral relations with SAARC members without conceding its hegemonic position in the sub-continent, premised on the assumption that the formation of a common identity is subsumed by India's civilizational identity.⁹⁵ Akin to the role of history and identity, the discourse surrounding the South Asia Satellite encompasses the production and projection of India's identity not only as an aspiring great power, but also as the region's natural hegemon.⁹⁶ It also signifies India's transition from its self-image as a developing country that used to be a recipient of space technology from developed countries to a global space power that is more willing to assume international responsibilities through the provision of public goods.⁹⁷ This is in line with the gradual metamorphosis of India into a major power.⁹⁸

Third, in the context of offering domestic-level explanations, there is no doubt that Modi has played a key role in providing the impetus for the South Asia Satellite as his pet project, which dovetailed nicely with the aims of his "neighborhood first" policy and sub-regionalism as part of an attempt to reinvigorate India's relations with its smaller neighbors by promoting integration and connectivity, while countervailing China's increasing sway in South Asia. As we have seen, there is agreement among scholars that Modi's foreign policy has been characterized by more continuity than change, and in many ways the same can be said about India's space policy under his leadership. Not unlike his predecessors, Modi has been a supporter of India's space effort by attending satellite launches and other space-related events. However, unlike previous prime ministers, Modi has been keen to instill a distinctive direction in India's space program, which is marked by his more direct involvement in key decisions pertaining to high-visible technoscientific projects that can serve as a source of great power status, techno-scientific prowess, soft power, and national pride. Despite the fact that space utilization has performed such roles in the past with the support of Indian politicians, the space program has been largely the purview of scientific elites and ISRO. Yet, evidence abounds of this change precipitated by Modi, epitomized by his 2018 announcement of India's first human spaceflight mission and the 2019 "Mission Shakti," India's first anti-satellite (ASAT) test, mentioned earlier. Beyond such rationales, given his more pro-business agenda, it appears that Modi is also aware that India's space program remains an underutilized source of economic opportunities in want of catching up with other space powers at a time when the commercialization and privatization of space activities are stepping up. To this end, the Indian government under Modi has been pushing for the introduction of institutional and policy reforms directed toward spurring space commercialization and attracting private investments in the space sector.⁹⁹ Therefore, the South Asia Satellite

suggests the need to give prominent weight to how Modi has tried to exploit more directly the use of space as a tool to achieve broader political, economic, and foreign policy goals.

Assessing the South Asia Satellite

However, when evaluating the effectiveness of the South Asian Satellite initiative, the picture that emerges is rather mixed for a number of reasons. First, in many ways, the response that the satellite launch elicited from India's smaller South Asian states and the media discussed earlier points to a successful publicity stunt in the sense that it helped to demonstrate New Delhi's commitment to regional connectivity and cooperation in line with Modi's enhanced sub-regionalism in India's neighborhood. It was also a smart move considering that the satellite was a relatively low-cost project based on advanced Indian space capabilities, used to project a positive image of India as a regional leader without openly antagonizing China. After all, New Delhi is not able to match Beijing's space effort and influence, at least for now. Even so, Pakistan's withdrawal cast a shadow over the project and India's aspiration for regional leadership through space from the onset.

Second, the practical developmental, economic, and environmental benefits that can accrue from the application of the satellite in the region should not be underestimated. However, the reality is that assessing the actual impact of such a project is a challenging task, not least because its success depends not only on India, but also on the degree to which the other participating states will follow up with the necessary ground infrastructure and software.¹⁰⁰ It also requires a long-term evaluation of how effectively the South Asia Satellite has been utilized by the participating countries and different end users. Complicating this is the fact that there is a variation in the level of space capabilities between South Asian states, corresponding to different national goals, organizational capacity, and different needs.

Third, although China and India are vying for influence and power in different domains including space, the agency of the weaker South Asian countries should also be recognized, as this has implications for assessing the impact of initiatives by China and India aimed at wooing smaller states. So far, it seems that the smaller South Asian states have been successful in achieving maximum economic gains from both China and India, without being compelled to choose sides, at least to some extent. This ability of small states to balance the two regional great powers has been facilitated by the fact that competition between China and India has remained rather limited under conditions of economic globalization.¹⁰¹ Whether this sort of agency will remain relevant amid much strategic uncertainty and political turmoil in the region is less clear, but much will also depend on how China and India decide to manage their relations in the region.

What is more clear is that the diversification of the Indian space program in recent years has offered potential opportunities for the utilization of space as an instrument of foreign policy and diplomacy that allows New Delhi to direct its advanced capabilities toward new cooperative partnerships and activities.¹⁰² Yet, this raises the issue of the importance of a comprehensive space policy that is now absent.¹⁰³ Indeed, several analysts have called for the need of formulating a long-term national space policy by the political leadership that, among other things, should set out clear goals for international cooperation and define the means to achieve them.¹⁰⁴ Such a policy should also emphasize the links between India's space policy and its regional policy. Therefore, in the context of evaluating the South Asian Satellite, it is important to note that India's effort to enhance its regional influence through space diplomacy will be a complex goal to accomplish, not least because of the lack of a comprehensive space policy without which translating space capabilities into actual regional influence is likely to be elusive.

Conclusion

The South Asia Satellite represents an illuminating case of how India's use of space technology is increasingly becoming intertwined with political and international imperatives, reflecting the broader dynamics in the region. Indeed, while there are elements of continuity in India's space endeavor, there has also been a significant shift over the last few years as a result of Modi's push for subregional connectivity in South Asia and the Indo-Pacific, in tandem with his interest in utilizing space as an instrument of India's foreign policy.

As this article has shown, one of the principal drivers of India's growing attention to the region through space is China's more active engagement with South Asian states, which also builds on the formation of closer space ties between Beijing and New Delhi's neighbors. But while this change in Indian space policy is explained in large part by the contest for leadership and influence with China, this article has argued that it is necessary to take into consideration both domestic-level and international-level explanations, which are attentive not only to structural imperatives, but also to domestic and non-material factors, such as the role history, identity, and the agency of Modi. Still, when evaluating the effectiveness of the South Asia Satellite, this article has suggested that the picture that emerges is rather mixed as a result of a number of challenges pertaining to such a project, compounded by the complexity of regional dynamics and the lack of a comprehensive national space policy aligned with India's foreign policy and diplomacy goals in the region.

In closing, as space assumes more importance across a range of political and economic areas at the regional and global levels, it is likely to witness India focusing more on attaining foreign policy goals through the use of

space technology. For those interested in the study of Asian regionalism and the international relations of the Asia-Pacific, space has already emerged as an important domain of interaction between states that requires more attention. Equally, it is necessary to recognize the complex amalgam of domestic and external factors that shape India's space program, while also acknowledging the importance of the regional context within which its space behavior is embedded. Therefore, this analysis helps to highlight the merits of examining the intersection of space policy and the international relations of the Asia-Pacific from an interdisciplinary and eclectic perspective that can hopefully serve as the basis for future research.

Notes

1. Narendra Modi, "The South Asian Satellite – Some Highlights," May 5, 2017, <https://www.narendramodi.in/the-south-asian-satellite-some-highlights-535325>.
2. Narendra Modi, "Text speech of PM Narendra Modi at PSLV-C23 launch at Sriharikota," June 30, 2014 <https://www.narendramodi.in/text-speech-of-pm-narendra-modi-at-pslv-c23-launch-at-sriharikota-6334>.
3. Suhasini Haidar, "South Asian leaders pat Modi for gifting satellite to the region," *The Hindu*, May 5, 2017 <https://www.thehindu.com/news/national/south-asian-leaders-pat-modi-for-gifting-satellite-to-the-region/article18393669.ece>.
4. "Indian media: 'Space diplomacy' in South Asia," BBC, July 1, 2014 <https://www.bbc.com/news/world-asia-india-28102799>; Shounak Set, (2017) "India's Regional Diplomacy Reaches Outer Space," Carnegie India, July 3, 2017 <https://carnegieindia.org/2017/07/03/india-s-regional-diplomacy-reaches-outer-space-pub-71402>.
5. Ajay Lele, *ISRO: Institutions that Shaped Modern India* (New Delhi: Rupa Publications India Pvt. Ltd, 2021); Gopal Raj, *Reach for the Stars: The Evolution of India's Rocket Programme* New Delhi: Viking, 2000).
6. James Clay Moltz, "Asian Space Rivalry and Cooperative Institutions: Mind the Gap," in Saadia M. Pekkanen (ed.), *Asian Designs: Governance in the Contemporary World Order* (Ithaca, NY: Cornell University Press, 2016); Saadia M. Pekkanen, "China, Japan, and the Governance of Space: Prospects for Competition and Cooperation," *International Relations of the Asia-Pacific* 21, no. 1 (2021): 37–64; Kazuto Suzuki, "The Contest for Leadership in East Asia: Japanese and Chinese Approaches to Outer Space," *Space Policy* 29, no. 2 (2013): 99–106.
7. Scott Pace, "U.S. Space Policy and Theories of International Relations: The Case for Analytical Eclecticism", *Space Policy* 65 (2023): 101538; Pekkanen, "China, Japan"; Dimitrios Stroiikos, "Still Lost in Space? Understanding China and India's Anti-Satellite Tests through an Eclectic Approach," *Astropolitics* (2023), DOI: 10.1080/14777622.2023.2277253; J. J. Suh, Peter J. Katzenstein and Allen Carlson, A. (eds.) *Rethinking Security in East Asia: Identity, Power, and Efficiency* (Stanford, CA: Stanford University Press, 2004). For a discussion of eclectic approaches to the study of space policy, also see Dimitrios Stroiikos, "International Relations and Outer Space," *Oxford Research Encyclopedia of International Studies*, 2022 <https://oxfordre.com/international-relations>

nationalstudies/view/10.1093/acrefore/9780190846626.001.0001/acrefore-9780190846626-e-699.

8. Chris Ogden, *Indian Foreign Policy* (Cambridge: Polity Press, 2014), 74.
9. Mohammed Ayoob, "India in South Asia: The Quest for Regional Predominance." *World Policy Journal* 7, no. 1 (1989), 109.
10. Sandra Destradi, *Indian Foreign and Security Policy in South Asia: Regional Power Strategies* (Abingdon: Routledge, 2012), p. 61; Arijit Mazumdar, "India's South Asia Policy in the Twenty-first Century: New Approach, Old Strategy," *Contemporary Politics* 18, no. 3 (2012): 288.
11. Ayoob, "India in South Asia"
12. Mazumdar, "India's South Asia policy," 288.
13. Devin T. Hagerty, "India's Regional Security Doctrine." *Asian Survey* 31, no. 4 (1991): 351–63; Aparna Pande, *Chanakya to Modi: Evolution of India's Foreign Policy* (New Delhi: HarperCollins Publishers India, 2017), 104–105.
14. Mazumdar, "India's South Asia policy," pp. 288–290, 292.
15. Ogden, *Indian Foreign Policy*, 86–87.
16. David M. Malone, *Does the Elephant Dance?: Contemporary Indian Foreign Policy* (New York: Oxford University Press, 2011), 104–105.
17. Bhumitra Chakma, *South Asian Regionalism: The Limits of Cooperation* (Bristol: Bristol University Press, 2021); Kishore C. Dash, *Regionalism in South Asia: Negotiating Cooperation, Institutional Structures* (Abingdon: Routledge, 2008), p. 109.
18. Rajendra K. Jain, "From Idealism to Pragmatism: India and Asian Regional Integration." *Japanese Journal of Political Science* 12, no. 2 (2011), 221–222.
19. Arndt Michael, *India's Foreign Policy and Regional Multilateralism* (Basingstoke: Palgrave Macmillan, 2013).
20. More information on these training programs can be found on the Centre's site: <https://saarc-sdmc.org>.
21. Biswanath Gupta and KD Raju, "Space Exploration by India and Socio-Economic Cooperation with SAARC Countries." *India Quarterly* 72, no. 3 (2016), pp. 281–282; P.J Lavakare, "Science and Technology in Saarc: Aspirations, Achievements and Hopes." *South Asian Survey* 3, no. 1–2 (1996): 123–33.
22. Malone, *Does the Elephant Dance?* 102.
23. Ashok K. Behuria, Smruti S. Pattanaik & Arvind Gupta, "Does India Have a Neighbourhood Policy?" *Strategic Analysis* 36, no. 2 (2012), 240.
24. Destradi, *Indian Foreign and Security Policy*.
25. Rajesh Basrur, «Modi's Foreign Policy Fundamentals: A Trajectory Unchanged," *International Affairs* 93, no. 1 (2017): 7–26.
26. Manjari Chatterjee Miller and Kate Sullivan de Estrada, "Pragmatism in Indian Foreign Policy: How Ideas Constrain Modi," *International Affairs* 93, no. 1 (2017): 27–49; Chris Ogden, "Tone Shift: India's Dominant Foreign Policy Aims Under Modi," *Indian Politics and Policy* 1, no. 1 (2018): 3–23.
27. Sumit Ganguly, "Has Modi Truly Changed India's Foreign Policy?" *The Washington Quarterly* 40, no. 2 (2017), 140.
28. Eswaran Sridharan, "Where Is India Headed? Possible Future Directions in Indian Foreign Policy," *International Affairs* 93, no. 1 (2017), p. 65.
29. Ian Hall, "Multialignment and Indian Foreign Policy under Narendra Modi," *The Round Table* 105, no. 3 (2016): 271–86.
30. Ogden, "Tone shift".

31. Alyssa Ayres, *Our Time Has Come: How India is Making its Place in the World* (New York: Oxford University Press, 2018), 25.
32. C. Raja Mohan, *Modi's World: Expanding India's Sphere of Influence* (New Delhi: HarperCollins, 2015), 42–45.
33. Alyssa Ayres, “Modi doubles down on the neighbourhood,” *YaleGlobal Online*, June 10, 2014 <https://archive-yaleglobal.yale.edu/content/modi-doubles-down-neighborhood>.
34. Mohan, *Modi's World*, 43
35. S. D. Muni, “India’s ‘Neighbourhood First’ Policy and the Chinese Challenge,” in Jo Inge Bekkevold and S. Kalyanaraman (eds.) *India's Great Power Politics: Managing China's Rise* (Abingdon: Routledge, 2021).
36. Constantino Xavier, “Sambandh as Strategy: India’s New Approach to Regional Connectivity,” Policy Brief, January 2020, Brookings Institution India Center <https://www.brookings.edu/research/sambandh-as-strategy-indias-new-approach-to-regional-connectivity/>, 10.
37. The literature on the BRI is now vast. For two recent useful works, see: Eyck Freymann, *One Belt One Road: Chinese Power Meets the World* (Cambridge, MA: Harvard University Press, 2021); Jeremy Garlick, *The Impact of China's Belt and Road Initiative: From Asia to Europe* (Abingdon: Routledge, 2020).
38. Maria Abi-Habib, “How China got Sri Lanka to cough up a Port,” *New York Times*, June 25, 2018 <https://www.nytimes.com/2018/06/25/world/asia/china-sri-lanka-port.htm>; Yigal Chazan, “India and China’s Tug of War over Sri Lanka,” *The Diplomat*, May 23, 2017 <https://thediplomat.com/2017/05/india-and-chinas-tug-of-war-over-sri-lanka/>.
39. Abi-Habib, “How China got Sri Lanka to cough up a Port”
40. Deep Pal, “China’s influence in South Asia: Vulnerabilities and resilience in four countries,” Carnegie Endowment for International Peace, October 2021 <https://carnegieendowment.org/2021/10/13/china-s-influence-in-south-asia-vulnerabilities-and-resilience-in-four-countries-pub-85552>, pp. 18–21.
41. Amit Ranjan, “Balancing China and India: An unenviable task for the Maldives,” ISAS Insights No. 707, Institute of South Asian Studies, February 10, 2022 <https://www.isas.nus.edu.sg/papers/balancing-china-and-india-an-unenviable-task-for-the-maldives/>.
42. Pal, “China’s influence in South Asia,” 15–18.
43. The Economist, “In South Asia, Chinese infrastructure brings debt and antagonism,” March 8, 2018 <https://www.economist.com/asia/2018/03/08/in-south-asia-chinese-infrastructure-brings-debt-and-antagonism>.
44. Gurpreet S. Khurana, “China’s ‘String of Pearls’ in the Indian Ocean and Its Security Implications.” *Strategic Analysis* 32, no. 1 (2008): 1–39; C. Raja Mohan, *Samudra Manthan: Sino-Indian Rivalry in the Indo-Pacific* (Washington, D.C.: Carnegie Endowment for International Peace, 2012), pp. 129–130.
45. Carla P. Freeman, “China’s ‘Regionalism Foreign Policy’ and China-India Relations in South Asia,” *Contemporary Politics* 24, no. 1 (2018): 81–97.
46. Harsh V. Pant and K. Yhome, “India’s Subregional Connectivity Initiatives: Re-Imagining the Neighbourhood,” *India Review* 19, no. 1 (2020): 33–51.
47. Vinay Kaura and Meena Rani, “India’s Neighbourhood Policy During 2014–2019: Political Context and Policy Outcomes,” *Indian Journal of Public Administration* 66, no. 1 (2020): 10–27.
48. S. Vijayasekhara Reddy, “India’s Forays into Space: Evolution of Its Space Programme,” *International Studies* 45, no. 3 (2008): 215–45.

49. Dimitrios Stroikos, "Engineering World Society? Scientists, Internationalism, and the Advent of the Space Age," *International Politics* 55, no. 1 (2018): 73–90.
50. Reddy, "India's Forays"
51. Dinshaw Mistry, "The Geostrategic Implications of India's Space Program," *Asian Survey* 41, no. 6 (2001): 1023–43.
52. Marco Aliberti, *India in Space: Between Utility and Geopolitics* (Cham: Springer, 2018); S.K. Das, *Touching Lives: The Little Known Triumphs of the Indian Space Programme* (New Delhi: Penguin Books India Pvt. Ltd, 2007); U. Sankar, *The Economics of India's Space Programme: An Explanatory Analysis* (New Delhi: Oxford University Press, 2007), pp. 1–2.
53. Vikram Sarabhai, *Science Policy and National Development*, edited by Kamla Chowdhry (New Delhi: Macmillan, 1974).
54. Asif Siddiqi, "Making Space for the Nation: Satellite Television, Indian Scientific Elites, and the Cold War," *Comparative Studies of South Asia, Africa and the Middle East* 35, no. 1 (2015): 35–49.
55. Dimitrios Stroikos, "China, India, and the Social Construction of Technology in International Society: The English School Meets Science and Technology Studies," *Review of International Studies* 46, no. 5 (2020): 713–731.
56. B. R. Guruprasad, "Understanding India's International Space Cooperation Endeavour: Evolution, Challenges and Accomplishments," *India Quarterly* 74, no. 4 (2018): 455–81.
57. Vidya Sagar Reddy, "Exploring Space as an Instrument in India's Foreign Policy and Diplomacy" in Rajeswari Pillai Rajagopalan and Narayan Prasad (eds.) *Space India 2.0: Commerce, Policy, Security and Governance Perspectives* (New Delhi: Observer Research Foundation, 2017); Michael Sheehan, *The International Politics of Space* (Abingdon: Routledge, 2007), p. 146.
58. Reddy, "India's Forays," 232.
59. Raj, *Reach for the Stars*, 30–44.
60. Reddy, "India's Forays," 238.
61. Ibid; Sankar, *The Economics of India's Space Programme*.
62. For an insightful discussion of Asia's space race, see James Clay Moltz, *Asia's Space Race: National Motivations, Regional Rivalries, and International Risks* (New York: Columbia University Press, 2012).
63. Rajeswari Pillai Rajagopalan, "India's Changing Policy on Space Militarization: The Impact of China's ASAT Test," *India Review* 10, no. 4 (2011): 354–78; Brian Weeden and Victoria Samson, "Global Counterspace Capabilities: An Open Source Assessment," Secure World Foundation, April 2022 https://swfound.org/media/207350/swf_global_counterspace_capabilities_2022_rev2.pdf.
64. For a recent analysis of India's ASAT test, see Stroikos, "Still Lost in Space?"
65. Raja Qaiser Ahmed And Misbah Arif, "Space Militarization in South Asia: India's Quest for Space Weapons and Implications for Pakistan," *Asian Survey* 57, no. 5 (2017): 813–32.
66. For recent detailed accounts of China's space program, inter alia, see S. Chandrashekar, *China's Space Programme: From the Era of Mao Zedong to Xi Jinping* (Singapore: National Institute of Advanced Studies (NIAS) and Springer, 2022); Brian Harvey, *China in Space: The Great Leap Forward* (2nd ed.) (Cham: Springer-Praxis, 2019); Xiaodan Wu, *China's Ambition in Space: Programs, Policy and Law* (The Hague: Eleven, 2022).
67. Dimitrios Stroikos, "Power Transition, Rising China, and the Regime for Outer Space in a US-Hegemonic Space Order" in Tonny Brems Knudsen and Cornelia Navari (eds.)

- Power Transition in the Anarchical Society: Rising Powers, Institutional Change and the New World Order* (Cham: Palgrave Macmillan, 2022), 345–346.
68. Andrew Jones, “Chinese satellites to provide emergency response for Belt and Road countries,” *FindChinaInfo*, May 3, 2018 <https://findchina.info/chinese-satellites-to-provide-emergency-response-for-belt-and-road-countries>.
 69. Sheehan, *The International Politics of Space*, 157.
 70. Robert C. Harding, *Space Policy in Developing Countries: The Search for Security and Development on the Final Frontier* (Abingdon: Routledge, 2013).
 71. C. Raja Mohan and Chan Jia Hao “South Asia’s Space Programmes: Development and Diplomacy,” ISAS Working Paper No. 300, July 26, 2018 <https://www.isas.nus.edu.sg/papers/300-south-asias-space-programmes-development-and-diplomacy/>.
 72. Miqdad Mehdi and Jinyuan Su, “Pakistan Space Programme and International Cooperation: History and Prospects,” *Space Policy* 47 (2019): 175–80.
 73. Mohan and Chan, “South Asia’s space programmes,” 4–5.
 74. More information about *Bhutan-1* can be found on the site of the government Technology (GovTech) Agency of Bhutan: <https://tech.gov.bt/press-release-launch-bhutan’s-first-satellite-bhutan-1>.
 75. Ministry of External Affairs, Government of India, “Launch of India-Bhutan Satellite” November 26, 2022 https://mea.gov.in/press-releases.htm?dtl/35924/Launch_of_IndiaBhutan_Satellite.
 76. “Finally, Nepal to get own satellite,” *Nepali Times*, January 31, 2021 <https://www.nepalitimes.com/latest/finally-nepal-to-get-own-satellite/>.
 77. “China launches Sri Lanka’s first satellite as India watches ties grow,” *Reuters*, November 27, 2012 <https://www.reuters.com/article/sri-lanka-satellite-china-idINDEE8AQ07320121127>.
 78. Charu Sudan Kasturi, “China satellites worry Delhi – Beijing plays space card in neighbourhood,” *The Telegraph, Calcutta*, October 17, 2013 <https://www.telegraphindia.com/india/china-satellites-worry-delhi-beijing-plays-space-card-in-neighbourhood/cid/250251>.
 79. Sandeep Dikshit and Sandeep Joshi, “Engage with neighbours, ISRO told,” *The Hindu*, April 18, 2013 <https://www.thehindu.com/sci-tech/engage-with-neighbours-isro-told/article4627847.ece>.
 80. Modi, “Text speech.” Modi has made frequent references to the Hindu concept of “Vasudhaiva Kutumbakam.” The debate about the impact of Hindu nationalism on India’s foreign policy under Modi is evolving. However, it should be noted that Modi has incorporated a variation of Hinduism into his approach to international relations, which highlights its inclusive components, and is utilizing this as a source of soft power in India’s foreign policy. This is in contrast to the more aggressive version of Hindutva that has been influential in domestic politics under his leadership. See Surupa Gupta, Rani D. Mullen, Rajesh Basrur, Ian Hall, Nicolas Blarel, Manjeet S Pardesi, and Sumit Ganguly, “Indian Foreign Policy under Modi: A New Brand or Just Repackaging?” *International Studies Perspectives* 20, no. 1 (2018): 1–45. Modi’s space policy and the South Asia satellite have been couched in this more inclusive language associated with such a soft power approach. For a useful discussion of the links between Hindu nationalism and soft power in Modi’s foreign policy, see Ian Hall, *Modi and the Reinvention of Indian Foreign Policy* (Bristol: Bristol University Press, 2019).
 81. Narendra Modi, “Text of Prime Minister’s speech at 2014 SAARC Summit in Nepal,” November 26, 2014 <https://www.narendramodi.in/text-of-prime-ministers-speech-at-2014-saarc-summit-in-nepal-6941>.

82. It is also likely that the smaller South Asian states were initially reluctant to join the project because they saw it as an expression of India's so-called "big-brother" attitude. The use of the term "gift" was telling in this regard. I would like to thank one anonymous reviewer for pointing this out.
83. Set, "India's regional diplomacy," 3.
84. Narendra Modi, "Space technology will touch lives of our people in the region: PM at launch of South Asia Satellite," May 5, 2017 <https://www.narendramodi.in/pm-modi-congratulates-south-asian-leaders-at-successful-launch-of-south-asia-satellite-535315>.
85. Haidar, "South Asian leaders"
86. Modi, "The South Asian Satellite"
87. Chethan Kumar, "Space diplomacy: India to set up ground stations for 5 Neighbours," *Times of India*, January 3, 2019 <https://timesofindia.indiatimes.com/india/space-diplomacy-india-to-set-up-ground-stations-for-5-neighbours/articleshow/67357464.cms>.
88. Surendra Singh, "PM Modi inaugurates Isro-funded sat ground station in Thimphu," *Times of India*, August 17, 2019 <https://timesofindia.indiatimes.com/india/pm-inaugurates-isro-funded-sat-ground-station-in-thimphu/articleshow/70718336.cms>.
89. On the Quad and space, inter alia, see Aaron Pereira, Brett Biddington, Rajeshwari Rajagopalan, and Kazuto Suzuki, "The Quad: Implications for Space," Paper presented at the 2021 IEEE Aerospace Conference (50100), 6–13 March 2021 2021; and Rajeswari Pillai Rajagopalan, "India's space cooperation with the US – and the Quad – intensifies," *The Diplomat*, March 29, 2021 <https://thediplomat.com/2021/03/indias-space-cooperation-with-the-us-and-the-quad-intensifies/>.
90. Anirban Bhaumik, "India moves closer to activate satellite tracking station in Vietnam, inks pact despite objection by China," *Deccan Herald*, January 25, 2018 <https://www.deccanherald.com/content/655774/india-moves-closer-activate-satellite.html>.
91. A focus on both domestic-level and international-level explanations employed here is also in line with what has recently been termed Space Policy Analysis, a distinct approach to space policy that calls for considering the process of space policy decision-making at different levels of analysis. As such, Space Policy Analysis has much in common with Foreign Policy Analysis in the sense that there is a shared commitment to go beyond state-centric approaches to account for the role of specific actors and their agency at different levels of analysis and how they shape policy outcomes. On Space Policy Analysis, see Stroikos, "International Relations and Outer Space". On Foreign Policy Analysis, for example, see Chris Alden and Ammon Aran, *Foreign Policy Analysis: New Approaches* (Abingdon: Routledge, 2012).
92. Suzuki, "The contest for leadership"
93. Reddy, "Exploring space," 173.
94. Kai He, "The Balance of Infrastructure in the Indo-Pacific: BRI, Institutional Balancing, and Quad's Policy Choices," *Global Policy* 12, no. 4 (2021): 545–52.
95. Michael, *India's Foreign Policy*.
96. Ogden, *Indian Foreign Policy*.
97. Reddy, "Exploring space," 170–172.
98. Takenori Horimoto, "Explaining India's Foreign Policy: From Dream to Realization of Major Power," *International Relations of the Asia-Pacific* 17, no. 3 (2017): 463–96.
99. Narendra Modi, "Government's approach to space reforms is based on 4 pillars: PM Modi," October 11, 2021 <https://www.narendramodi.in/text-of-prime-minister-narendra-modi-s-address-at-launch-of-indian-space-association-557818>. Typifying

this, in April 2023, the Cabinet Committee on Security approved the much-awaited “Indian Space Policy 2023,” which, among other things, sets a framework for the involvement of the private industry in the Indian space sector. The Indian Space Policy 2023 is available at: https://www.isro.gov.in/media_isro/pdf/IndianSpacePolicy2023.pdf.

100. Press Trust of India, “Space diplomacy triumphs: But will South Asia Satellite become white elephant in space?” *Indian Express*, May 7, 2017 <https://indianexpress.com/article/technology/science/space-diplomacy-triumphs-but-will-south-asia-satellite-become-white-elephant-in-space-4644420/>.
101. T.V. Paul, “When Balance of Power Meets Globalization: China, India and the Small States of South Asia,” *Politics* 39, no. 1 (2019): 50–63.
102. Narayan Prasad Nagendra, “Diversification of the Indian Space Programme in the Past Decade: Perspectives on Implications and Challenges,” *Space Policy* 36 (2016): 38–45.
103. The recently introduced Indian Space Policy 2023 does not constitute a comprehensive national space policy that would provide a direction for all space activities conducted by India and how these could be aligned with foreign policy objectives.
104. For the need and the merits of a comprehensive space policy, inter alia, see Aliberti, *India in Space*; and Rajeswari Pillai Rajagopalan, “The need for India’s space policy is real,” *Space Alert: ORF Quarterly on Space Affairs* 5, no. 1 (2017): 7–8.

Disclosure statement

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