A COMPREHENSIVE ANALYSIS OF PROSPECTS OF DEVELOPMENT OF NEW AIRPORTS IN INDIA

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INTRODUCTION

Airports serve as promoters of development as much as they serve as its indicators. Strategically locating airports helps improve regional connectivity and accessibility, enabling the efficient movement of people and goods, boosting tourism, enhancing trade, and facilitating economic development across various regions. Airports promote cross-pollination of ideas, catalyse need-resource matching, and enable uninhibited flow of human capital. Strategic airport allocation that is in synchronisation with overall national and regional development roadmaps serves to invigorate holistic regional growth, create multi-factor developmental synergies, and contributes to reduction of regional disparities.

Airport development has the potential to create employment opportunities, stimulate local businesses, attract investments, and spark compounding secondary, tertiary, and quaternary economic growth. Choosing a location with consideration for multi-layered socio-economic aspects ensures that the airport can contribute to the development of the surrounding area, precipitating positive social impacts by improving connectivity and

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Careful and considerate site selection ensures that the airport can handle increasing passenger traffic, promote economic growth, provide a seamless travel experience, and have ample margins around it to permit future expansion. accessibility, benefiting local communities, and enhancing overall quality of life. While performing this analysis, it is germane to envision how these local benefits would translate to, and tie in with, overall regional development and, in turn, fit into the bigger picture of state-level optimal planning, and ultimately be placed in the national context.

Airports are long-term investments with a lifespan of several decades. They are significant infrastructure projects that require substantial expenditure, endeavour, and planning. It is, thus, essential to evaluate future growth projections, estimated passenger traffic, and aviation trends while selecting the airport location. Adequate land availability and scalability for future expansions and upgrades are crucial to accommodate the increasing demands of air travel and avoid potential capacity constraints.

The chosen location must accommodate the airport's size, runway capacity, terminal facilities, and supporting infrastructure. Careful and considerate site selection ensures that the airport can handle increasing passenger traffic, promote economic growth, provide a seamless travel experience, and have ample margins around it to permit future expansion. The chosen location should consider integration with existing and planned transportation networks, such as road, rail, and public transit systems. Seamless connectivity between different modes of transportation facilitates efficient passenger and cargo movement, reduces congestion, and enhances overall transport efficiency.

India is a vast country with diverse geographic and demographic features. Meticulous consideration of factors like infrastructure, regional connectivity, environmental impact, socio-economic aspects, long-term planning, and transport integration is vital for deciding where the nation should prioritise new airport development so as to ensure optimal resource allocation,

timely harnessing of promising opportunities, and smooth facilitation of key developmental trajectories. Well-planned and strategically located airports can have a sizable positive impact on the country's economy, regional development, and overall connectivity.

India currently has 38[1, 2] international airports, including custom airports, i.e. airports with very limited and selective international connectivity, thus, averaging roughly 38 million people per international airport. As per the Airports Authority of India[3], India has 15 central government-owned international airports, 6 Public-Private Partnership (PPP) international airports, 7 Joint Venture (JV) airports, and 10 Customs airports. The Philippines, an archipelagic nation with comparable Gross Domestic Product (GDP) per capita and population density, has some 8.8 million people per international airport[4, 5] while India's maritime neighbour Sri Lanka has 5 international airports,[6] thus, averaging 4.4 million people per international airport.[7] According to the Central Intelligence Agency's (CIA's) World Factbook database,[8] India has fewer total airports and airstrips than all of the BRICS nations (Brazil, Russia, India, China, South Africa), even South Africa, a country whose population is 24 times smaller than that of

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1. Annexure-IIIA International Passengers—Airport Authority of India (March 2022), Airport Authority of India. Retrieved September 25, 2023, https://www.aai.aero/sites/default/files/traffic-news/Mar2k22Annex3.pdf

2. Population Projection for Indian States 2011-2036 (July 2020), Ministry of Health and Family Welfare, Government of India. Retrieved September 30, 2023, https://main.mohfw.gov.in/sites/default/files/Population%20Projection%20Report%202011-2036%20-%20upload_compressed_0.pdf

3. n. 1.

4. Civil Aviation Authority of Philippines (n.d.). Retrieved September 30, 2023, https://caap.gov.ph/

5. Population Data, The World Bank (2022), The World Bank. Retrieved September 20, 2023, https://data.worldbank.org/indicator/SP.POP.TOTL

6. Airport and Aviation Services (Sri Lanka) (Private) Limited, September 30, 2023, Airport and Aviation Services (Sri Lanka) (Private) Limited, https://www.airport.lk/

7. n. 5.

8   *The World Factbook* (n.d.), Central Intelligence Agency. Retrieved September 30, 2023, https://www.cia.gov/the-world-factbook/field/airports/country-comparison/

India and whose area is a third of India's area.[9, 10] The following are the key sites in various states of the country which present themselves as promising sites to build new airports, offering opportunities to plug pressing lacunae in regional air connectivity and afford maximal concentric benefits to the region, state, and nation.

STATE-WISE ANALYSIS OF PRIME SITES FOR STRATEGIC NEW AIRPORT DEVELOPMENT

Kerala and Tamil Nadu

With a population twice that of Kerala and a three-fold geographical expanse, Tamil Nadu only has five fully-functional airports, compared to the former's four.[11, 12, 13] Moreover, Kerala has been making regulatory headway[14] with its planned fifth international airport in the form of a greenfield project in Sabarimala,[15] while Tamil Nadu currently has four major stalled airport development projects[16] and a second airport[17] planned in Chennai currently

9. Surface Area Data (2022), The World Bank. Retrieved September 22, 2023, https://data.worldbank.org/indicator/AG.SRF.TOTL.K2
10. n. 5.
11. n. 1.
12. n. 2.
13. *Geographical Area of India in 2021, by State and Union Territory* (January 2022), Statista. Retrieved September 21, 2023, https://www.statista.com/statistics/616241/area-by-state-and-union-territory-india/
14. "Environment Ministry Panel Okays Sabarimala Airport TOR", June 20, 2023, *Indian Express*. Retrieved September 30, 2023, https://indianexpress.com/article/india/kerala/environment-ministry-panel-sabarimala-airport-8673959/
15. "Final SIA Report on Sabarimala Airport Released", July 3, 2023, *The Hindu*. Retrieved September 30, 2023, https://www.thehindu.com/news/national/kerala/final-sia-report-on-sabarimala-airport-released/article67037747.ece
16. "'Udan' Grounded in Tamil Nadu", https://www.deccanherald.com/india/udan-grounded-in-tamil-nadu-757871.html, *The Deccan Herald*, August 29, 2019. Retrieved September 30, 2023, https://www.deccanherald.com/india/udan-grounded-in-tamil-nadu-757871.html
17. "Chennai's Second Airport: Consultations are Still on With Stakeholders on Site Clearance, Says Centre", July 24, 2023. *The Hindu*, September 30, 2023, https://www.thehindu.com/news/cities/chennai/chennais-second-airport-consultations-are-still-on-with-stakeholders-on-site-clearance-says-centre/article67116045.ece

facing bureaucratic,[18] environmental,[19] and local headwinds. While the proposed Hosur airport still awaits approval to commence, Vellore, Salem, and Neyveli airports await expansion and development into full-fledged commercial public airports. One could be tempted to think that Kerala's high airport density is justified by its massive overseas migratory workforce. However, it is an impression that has well outlived its validity. Kerala has been overtaken in terms of total overseas labour migration by states such as Bihar, UP, West Bengal, and Rajasthan. In fact, Tamil Nadu has the third-highest labour emigration rate[20] in India, whereas its coastal neighbour does not feature in the top five, despite still leading in terms of total remittances by a wide margin. Moreover, despite making up only 5 per cent of India's population, Tamil Nadu accounts for 11.5 per cent of India's exports,[21] thus, being the fourth largest contributor to the country's exports. Tamil Nadu ranks 5th[22] in terms of the largest number of students studying overseas and 4th[23] in hosting the largest number of foreign (immigrant) students. Kerala does not feature in the top five of either list.

Kerala, however, does have a pressing need of new airports to relieve the load on Cochin international airport which happens to be India's 8th busiest

18. "A Master Plan, Detailed Techno Economic Report soon for Chennai's Second Airport", *The Hindu*, December 5, 2022. Retrieved on September 30, 2023, https://www.thehindu.com/news/cities/chennai/a-master-plan-detailed-techno-economic-report-soon-for-chennais-second-airport/article66226706.ece

19. S. S. N. Krishnaswamy, "Green Challenges Aplenty for Proposed Airport at Parandur", *The Hindu*, August 7, 2022, https://www.thehindu.com/news/cities/chennai/environmental-issues-cast-a-shadow-on-proposed-greenfield-airport-at-parandur/article65736901.ece#:~:text=An%20environmental%20expert%20said%20there,expert%20from%20IIT%20Madras%20said.

20. R. Shrinivasan, "India was the Top Recipient of Remittances Worldwide in 2018", *The Economic Times*, July 20, 2019, https://economictimes.indiatimes.com/nri/forex-and-remittance/india-was-the-top-recipient-of-remittances-worldwide-in-2018/articleshow/70310386.cms?from=mdr

21. S. Chakraborty, "Only 5 States Account for 70 per cent of Exports", *Economic Survey shows*, www.business-standard.com, January 29, 2018, https://www.business-standard.com/budget/article/only-5-states-account-for-70-of-exports-economic-survey-shows-118012900344_1.html

22. *Indian Students Abroad; How Many and Where?* (March 3, 2022). cnbctv18.com. https://www.cnbctv18.com/world/indian-students-abroad-how-many-and-where-12663012.htm

23. P. K. Nanda, "Foreign Students' Population Inches Closer to 50,000 in 2019-20: Govt", *Mint*, June 10, 2021, https://www.livemint.com/news/india/foreign-students-population-in-india-inches-close-to-50-000-govt-11623317850696.html

airport[24] despite being located in its 75th largest city[25] by population. In fact, Kerala has three airports among the top 20 busiest airports[26] in the country and each of them has experienced high traffic growth over the past two years, almost doubling each year. The upcoming Sabarimala airport could prove instrumental in relieving the load of Kochi and Thiruvananthapuram airports by sharing the air travel demand from three of the state's most populous districts—Alappuzha, Kottayam, and Kollam. It would also provide vicinal aviation access to Pathanamthitta and the southern part of Idukki, both districts being sparsely populated and thickly forested.

Among Tamil Nadu's proposed airport development projects, the most crucial one would be the airport at Salem. Salem airport has been struggling to establish commercial viability and turn into a full-fledged active airport in spite of its inclusion in the operationalisation list of the Regional Connectivity Scheme[27] of the UDAN (*Ude Desh ka Aam Nagarik*) programme. The airport's operation, upgradation, and expansion have been stalled by red tape, lack of investments, dissatisfaction of the locals, especially potential evictees, and, subsequently, the pandemic. Salem is situated at the intersection of major highways of the state, serving as a hub for travel, transport, and trade. The airport is essential to provide convenient connectivity to the residents of the north-central areas of Tamil Nadu, currently a gaping void in terms of aviation access. The airport would also prove instrumental in providing facilitation to the state's steel, powerloom, and transport industry clusters. Hence, it is crucial to revitalise the airport's expansion and upgradation. Next in priority should be Neyveli, providing connectivity to the densely-populated central-eastern part of the state for which the nearest airport

24. "India: Leading Airports by Number of Passengers Handled 2023" | *Statista*. (September 18, 2023). Statista, https://www.statista.com/statistics/589115/indian-airports-passenger-traffic/
25. Government of India (2011), A-4 Towns and Urban Agglomerations Classified by Population Size Class in 2011. In Census *2011*. Retrieved September 20, 2023, https://censusindia.gov.in/nada/index.php/catalog/42876/download/46544/CLASS_I.xlsx
26. Annexure-Iiia International Passengers, (2022), Airport Authority of India. Retrieved September 22, 2023, https://www.aai.aero/sites/default/files/traffic-news/Mar2k22Annex3.pdf
27. "73 Airports have been Operationalized Under UDAN Scheme till January 2023", Press Information Bureau, Government of India, September 28, 2023, https://pib.gov.in/PressReleasePage.aspx?PRID=1898741

currently lies in the Union Territory of Pondicherry. Once the Salem airport is built, the exigency of an airport at Hosur would be mitigated, as the currently aviation-isolated north-central region would already have an airport in proximity, given that Salem and Hosur are only 160 km apart and that Hosur's district, Krishnagiri, and its neighbouring districts are all sparsely populated. Later, the Vellore airport can be developed as a load reliever for the Chennai airport.

With its multitude of iconic heritage sites, a variety of breathtaking natural scenery, and culturally eclectic idyllic towns, Tamil Nadu is the most-visited state of India for domestic tourists and the second most-visited state for international tourists.

Rameswaram, one of the *Chār Dhāms* (a set of four cardinal Hindu pilgrimage destinations), does not have an airport. The holy site is representative of cultural integration by virtue of being a seat of syncretisation of two major ancient Indian religious sects—Shaivism and Vaishnavism. Travellers usually fly to Madurai international airport, which is approximately 170 km away, and then travel to Rameswaram by road. Rameswaram is a site of historic, cultural, religious, strategic, and economic significance for India. Overlooking the juncture of the Bay of Bengal and the Indian Ocean, it is a hotspot of Indian soft power, cultural pride, historic and modern international relations, maritime trade, and strategic diplomacy. Construction of an international airport at Rameswaram would be further motivated by the prospect of the proposed Sethusamudram Shipping Canal Project that would create a shipping route between India and Sri Lanka. An international airport has already been planned at another of the *Chār Dhāms* located on India's east coast, i.e., Puri in Odisha. Ramanathapuram, the district that Rameswaram is a part of, had one of the fastest-growing populations of all districts in Tamil Nadu, its population increasing at a rate of almost 14 per cent[28] as per the 2011 census. Care must be taken that the construction and operation of the airport does not cause major damage

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28. List of Districts of Tamil Nadu, (2011). Retrieved October 7, 2023, https://www.census2011.co.in/census/state/districtlist/tamil+nadu.html

Having international airports at Rameswaram and Kanyakumari would be a crucial step in India's strategy of securing key strategic positions and partners in the Indian Ocean. These airports would prove to be India's footholds and strategic base stations looking over Southeast Asia.

to the sensitive ecology of the region. The Gulf of Mannar Biosphere Reserve is a biodiversity hotspot. In case significant damage to the coastal, island, or marine ecosystems seems unavoidable, an alternative site could be chosen on the shores of the mainland.

As India and China vie for dominance in the Indian Ocean and look to consolidate economic and tactical alliances in the territory, it is vital for India to have active air connectivity at its meridional edge— Kanyakumari, at the trijuncture of the peninsula's three seas. Akin to Rameswaram, Kanyakumari is also a popular tourist destination, attracting domestic and foreign tourists to its scenic beaches, monuments, and temples. The city has historically been an attractive destination for traders and travellers. The cape city is an important symbol of India's soft power, being frequently referred to in statements charting India's territorial expanse, proclaiming the pervasiveness of some pan-India phenomenon, pattern or scheme, and underscoring the country's unity, integrity, and sovereignty. The phrase 'from Kashmir to Kanyakumari' is a frequently-used expression in this regard.

Having international airports at Rameswaram and Kanyakumari would be a crucial step in India's strategy of securing key strategic positions and partners in the Indian Ocean. These airports would prove to be India's footholds and strategic base stations looking over Southeast Asia, arguably the world's most promising hotspot of economic boom.

Even having limited international capacity at these airports, say providing connectivity only to select South Asian and Southeast Asian cities and top overseas tourist origins, would help India reassert its territorial integrity. These airports would signify its regional leadership, guardianship, and

benevolent patronage, standing vigil at the confluence of the three great seas.

Odisha

Odisha's two upcoming airports, Rangeilunda airport[29] at Berhampur and Dhamra airport[30] in Bhadrak, are appropriately located at the east coast, affording air access to areas distant from existing airports. The interior of the state is currently devoid of public aviation

Two other optimal locations for building airports in Odisha are Boudh and Balliguda. Each of these sites is a regional hub lying at the intersection of multiple state highways and local main roads.

access. Building an airport in Kendujhar would provide aviation access to the densely populated districts of Kendujhar and Mayurbhanj as well as to Baleswar, Jajpur, and Bhadrak in case Dhamra airport's evolution into a fully operational, openly-accessible, full-scale airport is laggard or encumbered. Two other optimal locations for building airports in Odisha are Boudh and Balliguda. Each of these sites is a regional hub lying at the intersection of multiple state highways and local main roads. Together, these three spatially equitably spaced and demographically judiciously-positioned airports would provide accessibility to air travel to the state's deep interior, facilitating exposure, encouraging investments, and stimulating development therein. The Kendujhar-Boudh-Balliguda string of airports would become the state's mid-rib, facilitating optimal aviation access across its span and also serve as epicentres of secondary infrastructural development, particularly road proliferation. In later phases of airport development, with a timeframe of three decades, Angul, Bhawanipatna, Balangir, and Rayagada can be considered as potential sites for refining the network of air access in the state's hinterland.

29. S. Sharma, "Odisha CM Naveen Patnaik Flags off Flight Operation on Bhubaneswar-Rangeilunda Route", *TimesNow*, March 5, 2023, https://www.timesnownews.com/india/odisha-cm-naveen-patnaik-flags-off-flight-services-on-bhubaneswar-rangeilunda-route-article-98431561
30. "Odisha Government Approves Commercial Airport Near Dhamra Port", NDTV.com, September 2018. Retrieved September 25, 2023, https://www.ndtv.com/india-news/odisha-government-approves-commercial-airport-near-dhamra-port-1915596

Madhya Pradesh

Madhya Pradesh has one airport per 16.8 million people (*Annexure-IIIA International Passengers—Airport Authority of India*, 2022; *Population Projection for Indian States 2011-2036*, 2020). In terms of area, the state has one airport per 62,000 sq. km (*Geographical Area of India in 2021, by State and Union Territory*, 2022). For comparison, Karnataka has one airport per 4.4 million people and 12,800 sq. km (*Geographical Area of India in 2021, by State and Union Territory*, 2022). of area per airport (*Annexure-IIIA International Passengers—Airport Authority of India*, 2022; *Population Projection for Indian States 2011-2036*, 2020). For the central parts of southern Madhya Pradesh, the closest airport is in Maharashtra—the Dr. Babasaheb Ambedkar international airport in Nagpur. Upgrading and upscaling the non-commercial Chhindwara airport would be judicious, providing ready access to air travel to residents of the meridional reaches of the state, quashing the need to cross the state border to reach an airport. Developing a commercial domestic airport in Chhindwara would provide air connectivity to the adjoining forested hilly areas which currently lie in the leeward side of developmental winds. The heritage city of Tikamgarh can be considered next in line to afford better connectivity to the central-north part of the state. It would also provide direct access to Orchha, one of the most popular[31] tourist destinations in the state, as well as to other nearby historical sites. Both cities have ample barren plain areas in the city flank to build an airport without encroaching on cultural or ecological hotspots.

Haryana

Haryana has the highest NSDP (Net State Domestic Product) per capita[32] among the large states of India. The state has stood out with its impressive infrastructural development, including the rapid expansion and upgradation of its roadways. The state is India's manufacturing powerhouse and is home

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31. A. Sirothia, "Madhya Pradesh Down in Popularity of Overseas Tourists", *The Times of India*, October 28, 2017, https://timesofindia.indiatimes.com/city/bhopal/state-down-in-popularity-of-overseas-tourists/articleshow/61280419.cms
32. *Table 20: Net State Domestic Product (Current Prices), Reserve Bank of India Publications* (2021, November). Reserve Bank of India. Retrieved September 27, 2023, https://www.rbi.org.in/Scripts/PublicationsView.aspx?id=20679

to the city of Gurugram, a booming all-round economic hotspot which is home to thousands of corporate offices. The eponymous district is packed with hundreds of manufacturing mills, industrial plants and sprawling warehouses. The state is also a sporting hotspot, a venue for a number of upcoming private universities and other educational institutions, and is attracting massive investments across primary, secondary, and tertiary sectors from India and abroad. It also has one of the highest per capita inter-state immigration rates[33] of all Indian states, attracting hundreds of thousands across all levels of the workforce from other states. It is, thus, dismaying to find that the holistically growing state has just one operational public airport, i.e. the Shaheed Bhagat Singh international airport in Chandigarh, the state's capital that it shares with neighbour Punjab.

Although New Delhi is just 30 km away from the city of Gurugram, the high population concentration of the region, the high volume of air traffic in Delhi airport (the busiest airport of the country), the identity of the city as an extraordinary corporate and industrial hub, and the distinction of Delhi as the national capital territory, warrant the expeditious construction of the long-awaited airport in Gurugram. Efforts must be made to expedite airport planning, construction, and operationalisation in Gurugram, Hisar, and Karnal to provide connectivity to the southern, western, and eastern parts of the state respectively. In the past decade, proposals to build airports at these sites have been repeatedly floated and deliberated over, but to little consequence.

Rajasthan

An airport in Kota would provide connectivity to southeast Rajasthan, a pocket of aviation seclusion where there is no airport in a diameter of roughly 330 km. For Jhalawar district, for example, the nearest airport would be across the border in Bhopal, some 250 km away. Kota is the third most populous[34] city of the state and is the country's hub for coaching

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33. "Inter-State Migration in India", (n.d.). Indian Economic Service, Government of India. Retrieved September 23, 2023, https://www.ies.gov.in/pdfs/Seminar-neerajkumar.pdf
34. "Rajasthan (India): Cities and Towns in Districts—Population Statistics, Charts and Map" (n.d.), https://www.citypopulation.de/en/india/rajasthan/

for competitive examinations. The urban agglomeration is a major trade, handicraft, and industrial centre and has six major power plants in its vicinity, covering five different forms of energy between them. With primary, secondary, and tertiary sector economic undertakings in full bloom, the appositeness of building an airport in the area is further underscored.

Jammu and Kashmir

Jammu and Kashmir (J&K) has just one international and one domestic airport owing to obvious geographical challenges, security concerns, and limited infrastructure development. It could seem that developing an airport in J&K would prove to be more of a liability than an asset for the country. However, multiple layers of security protocols and processes can enable much-needed intra-territory connectivity in the region, particularly during winters, curfews, and crises, when major roads are blocked. The government has undertaken the construction of an airstrip in Kishtwar. The industrial city of Kathua which serves as the transit hub for J&K's industrial activity can be considered for construction of a limited-use airstrip which could subsequently be upgraded into a small limited-capacity commercial airport operating flights exclusively to and from Srinagar, Jammu, and Leh. Developing a new airport in the territory could serve as a strong positive signal for progress, instilling confidence in the residents and encouraging them to steadfastly pursue economic activities.

West Bengal, Bihar, and Uttar Pradesh

West Bengal currently has four public airports, one per 25 million people (*Annexure-IIIA International Passengers—Airport Authority of India*, 2022; *Population Projection for Indian States 2011-2036*, 2020). For comparison, neighbour Assam has an airport per 5 million people, Punjab has an airport per 6 million people, and Chhattisgarh has one per 10 million (*Annexure-IIIA International Passengers—Airport Authority of India*, 2022; *Population Projection for Indian States 2011-2036*, 2020). Barahampur, Bardhaman, and Kharagpur are the most suitable sites for building new airports, taking into account

the location of existing airports, the transport layout and distribution of industries in the state, and the various demographic factors. West Bengal's neighbour Bihar, a state with a comparable area and population, has only three airports. It is high time for decisive action to be taken on the oft-broached proposals for building airports at Bhagalpur and Muzaffarpur. Uttar Pradesh, another Gangetic-plain state with a similar population density, has eight airports with two under construction (*Annexure-IIIA International Passengers - Airport Authority of India*, 2022; *Population Projection for Indian States 2011-2036*, 2020), thus, presently having one airport for roughly every 28 million people (*Annexure-IIIA International Passengers—Airport Authority of India*, 2022; *Population Projection for Indian States 2011-2036*, 2020). Aligarh, Azamgarh, Chitrakoot, Gorakhpur, Jhansi, Moradabad, Raebareli, and Shravasti are ripe for airport development, considering population, relative proximity to nearest airport, and economic prospects. While Aligarh, Azamgarh, Gorakhpur, Jhansi, Moradabad, and Raebareli are densely populated urban centres, and traditional manufacturing and trade hubs, Chitrakoot and Shravasti are significant pilgrimage sites. The historic city of Jhansi also has immense tourism potential while Aligarh and Gorakhpur have considerable historico-cultural heritages of their own.

Telangana

The young state of Telangana has just one fully operational public airport while its sibling state Andhra Pradesh has six, with two (Nellore and Bhogapuram) currently being under construction. Given that the state's only commercial airport, the Rajiv Gandhi international airport at Hyderabad, is the fourth busiest (*Annexure-IIIA International Passengers*, 2022) airport in the country, ahead of the metropolises of Chennai and Kolkata, it is high time that the newly carved out state builds new airports. Of the six proposed airports[35] in Telangana, the ones at Nizamabad and Warangal must assume

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35. O. Mojumder, "AAI Seeks Details of Six Proposed Airports in Telangana", *The New Indian Express*, August 20, 2020, https://www.newindianexpress.com/states/telangana/2020/aug/20/aai-seeks-details-of-six-proposed-airports-in-telangana-2185878.html

The UDAN scheme was launched by the Government of India in 2016 as a regional connectivity programme aimed at improving air travel accessibility and affordability, particularly in underserved and remote regions of the country.

priority in construction in order of the basis of maximum viable coverage, urgency, and prospective economic value creation.

THE UDAN SCHEME

The UDAN scheme was launched by the Government of India in 2016 as a regional connectivity programme aimed at improving air travel accessibility and affordability, particularly in underserved and remote regions of the country. The initiative aims to enhance regional air connectivity and make air travel accessible and affordable to a broader population. It focusses on connecting unserved and underserved airports, particularly in less developed and inaccessible areas, to major airports through a network of scheduled flights. To achieve this, the scheme offers various incentives to participating airlines, including viability gap funding, which helps keep airfares competitive and affordable.

UDAN also encourages the revival of unused airports and prioritises improving air connectivity in the northeastern states and hilly regions. Airlines operating under UDAN are required to provide essential services, such as offering a certain number of seats at subsidised fares, using fixed-wing aircraft, and adhering to regular flight schedules. The allocation of routes is done through a competitive bidding process.

The scheme has the secondary aim of stimulating economic development and promoting tourism, especially in previously isolated regions by connecting them to the broader aviation network.

While the UDAN programme has made an ambitiously expansive list of prospective airports, it has faltered[36] in effective implementation.

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36   J. Chandra, "Turbulence hits UDAN Scheme, 50 per cent Routes Grounded", *The Hindu*, July 30, 2023, https://www.thehindu.com/news/national/some-rcs-routes-collapse-airports-fall-into-disuse/article67136014.ece.

It would be vital to expeditiously devise a scheme for prioritisation of projects at the national and state levels, formulated with multi-stakeholder involvement based on holistic developmental goals of the country. Such a scheme must focus on providing equity among states and optimising inclusivity within states balancing efficient economic targeting and comprehensive coverage with its optimal allocation. Airport allocation and construction prioritisation should be done with the aim of maximising synergies, focussing on extracting

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compounding economic value from regional centres of economic activity and redistributing economic, demographic, and intellectual dividend to regions in its vicinity. While precise site selection and intricacies of infrastructure development should be done according to counsel from local stakeholders, focussing on minimising effective damage to natural and human habitats, the calculus of gains from the airport should be comprehensive and delocalised. Thus, the award of airport projects to select sites under the UDAN programme, their expedite scheduling, and prioritised execution, should be viewed more as responsibilities being levied on these sites based on their potential to contribute to overall development of the region and, subsequently, the country, rather than rewards being conferred upon the areas of highest development.

CONCLUSION

While India's airport allocation scheme is fairly rational in terms of consideration of key cities for airport construction, significant regional disparities exist. Clear and consistent schemes for prioritisation of

implementation need to be devised at central and state levels and planning must align national and state interests, strategically balancing the need for extracting overall benefits with the need for equitable access.

Decision-making regarding the construction, upgradation, and expansion of airports should become increasingly cognisant and accommodative of the broader needs of the region and ultimately link to national developmental goals. Regional airports must be developed as vanguards of progress, disseminators of intellectual capital, pollinators of economic activity, and agents of socio-economic upliftment and assimilation of the margins. Resisting the temptation of narrowly focussing on local-need fulfillment, airport development decisions should be made anticipating their primary, secondary, and tertiary consequences on the region, state, and nation—visualising how each such decision would likely pan out in the greater scheme of holistic national development. For example, a Tier-III town could be prioritised for airport development over a bigger Tier-II city if the former happens to be strategically located in a central position, flanked by multiple unserved districts (lacking proximity to an existing airport) and the latter happens to have a major airport in its adjacency.

Airport allocation should, therefore, be an investment with foresight, aimed at the continued harvest of compounding economic value from privileged urban centres and its disbursement to adjoining areas rather than a provision or reward to the former. Optimisation at the state level could occasionally involve compromise of immediate local benefits for certain areas just as optimisation at the national level could sometimes lead to certain states feeling discontent. However, just as millions of parts working in perfect coherence and coordination help an airliner reach its destination, when local, regional, and national developmental objectives are aligned and assembled into a coherent system, the desired trajectory of progress can be smoothly traversed. The region-wise analysis performed above can aid policy-makers in determining optimal, opportune, and synergistic resource allocation patterns for airport development across the country.