

INITIAL SECTOR ASSESSMENT (SUMMARY): TRANSPORT (AIR TRANSPORT)

A. Sector Road Map

1. Sector Performance, Problems, and Opportunities

1. Nepal is landlocked and bordered to the north by the People's Republic of China (PRC), and to the south, east, and west by India. Geographically, Nepal has three distinct areas: the Himalayas in the north, an intermediate mid-hill region, and the lowland plains of the Terai in the south. Civil aviation is crucial to transport, trade, and tourism in landlocked Nepal, and is an indispensable link for the hilly and mountainous parts of the country that are inaccessible by road. Nepal has a large airport network, made up of one international airport, the Tribhuvan International Airport (TIA) in Kathmandu, and 48 domestic airports, including 4 domestic hub airports, 7 high traffic regular airports, 10 regular airports, 7 nonscheduled chartered airports and 20 that are non-operational. Two of the domestic hub airports, the Gautam Buddha International Airport (GBIA) and the Pokhara Airport, are currently being upgraded to international airports and are expected to be completed in 2020 and 2021, respectively.¹

2. **Air traffic capacity.** The TIA in Kathmandu is the only international gateway for passenger and goods traffic by air in Nepal. The TIA was in service since 1972 and is in the Kathmandu Valley about five kilometers from the city center. The airport has a single 3,050 by 46 meters asphalt runway orientated 02/20 with no instrument landing system on account of topographical constraints. The international terminal handles 30 international airlines, connecting 15 countries. It also serves as the largest domestic airport in Nepal, served by 10 domestic airlines.

3. The volume of air traffic in the TIA has increased significantly since 1998. Although a decline in air traffic has been observed for some years—particularly in 2000–2002 (11 September 2001 terrorist attacks and severe acute respiratory syndrome outbreak), 2006 (political instability in Nepal), and 2015 (earthquake in Nepal)—the TIA achieved an average growth of 15% per annum, reaching about 33,900 international aircraft movements in 2018.² The TIA also serves more than half of the domestic flight traffic. The TIA sees approximately 300 take-offs and landings a day, both domestic and international. The airport has a capacity of handling 1,350 passengers per hour but is forced to deal with 2,200 passengers during peak hours. With such a rising demand, capacity of airside facilities and terminals are already severely stretched. The Ministry of Culture, Tourism and Civil Aviation (MoCTCA) has tentatively extended in May 2018 the TIA's operation from 18 hours (6 a.m.–12 midnight) daily to 21 hours (6 a.m.–3 a.m. the next day) to manage the traffic congestion. Furthermore, against a backdrop of robust tourism demand, a steady annual increase of 3%–5% in air traffic is expected in the next 10 years.³ The TIA's close proximity to Kathmandu city center does not allow its expansion beyond the current airport boundary. The increasing demands should be handled through (i) the more efficient use of the available areas within the existing TIA premises; and (ii) distribution of the concentrated international air traffic to other airports. To address the issues, the Civil Aviation Authority of Nepal (CAAN) has prepared the TIA master plan for infrastructure improvement up to 2028 under ADB assistance.⁴ The master plan aims at enhancing the safety and efficiency of aircraft operations

¹ Four domestic hub airports: Biratnagar, Gautam Buddha, Nepalgunj and Pokhara.

² Government of Nepal, Civil Aviation Authority of Nepal. 2018. [Aviation Safety Report 2019](#). Kathmandu.

³ Civil Aviation Authority of Nepal. 2013. [National Airports Plan Air Traffic Demand](#). Kathmandu.

⁴ ADB. 2007. [Technical Assistance to Nepal for Preparing the Civil Aviation Airport Project](#). Manila.

while also contributing to increase in airside capacity. It also proposes a new international terminal building (ITB) to be constructed as a landside facility to accommodate increasing international passengers.

4. The GBIA is situated 20 kilometers east of Lumbini, the birthplace of Lord Buddha, which has been designated as a world heritage site. The current airport can accommodate only domestic flights because it lacks the facilities for processing international passengers—the 1,500-meter runway and four-spot apron are not suitable for medium-sized jet airplanes used for international flights. While domestic flights between the TIA and the GBIA are frequent and are used by both tourists and domestic passengers, the airport needs to provide air connectivity for international tourists who wish to travel directly to Lumbini from abroad. The government started upgrading the GBIA with ADB's assistance to encourage international airlines to begin direct services to the airport from India and several other Asian countries.

5. **Economic impact.** International cargo movement in the TIA has also reached 20 thousand tons since 2015 and is the second largest export gateway in Nepal. It handles 27.93% of Nepal's exports, contributing NRs23 billion to the country.⁵ The number of passenger movements in international flights has increased from 1.8 million in 2008 to 4.3 million in 2018.⁶ Amongst the inbound passengers to the TIA in 2017, 42% were tourists, which is equivalent to 32.8% of the total tourists visiting Nepal. In other words, more than 75% of international tourists enter Nepal through the TIA. Due to the rise in foreign tourist arrivals, and the poor condition of national highways, the domestic airline industry received a boost. The total earnings from tourism was estimated at \$1,919.8 million in FY2018, as 7.8% of gross domestic product.

6. **Institutional arrangement.** The Department of Civil Aviation was formally established under the Ministry of Work, Communications and Transport of the Government of Nepal in 1957, responsible for the regulation of civil aviation and operation of the nation's airports, air traffic control, and navigation system. Nepal then obtained membership with the International Civil Aviation Organization (ICAO) in 1960. The CAAN was established as an independent regulatory body in 1998 under the Civil Aviation Act 1996 and became the regulator of civil aviation as well as the service provider in the areas of air navigation and aerodrome operations. It comprises of four directorates and three departments, together with the TIA civil aviation office and civil aviation academy, to oversee air navigation services, safety regulation, aerodrome operations and aviation security of all Nepal airports. The total staff complement was 873 in 2016, which is below the approved staffing of 1,065 at a vacancy rate of 18%.⁷ To support airport development works, CAAN introduced an airport development fee (ADF) of NRs1,000 from all passengers departing from the TIA in 2014. The income from the ADF has risen from NRs1.65 billion in FY2016 to NRs1.78 billion in FY2018, and is expected to reach NRs1.98 billion in FY2019.⁸ The CAAN has budgeted NRs45.17 billion in FY2019, mainly focused on construction and improvement of various airport infrastructure, including the TIA runway rehabilitation works, construction of parallel taxiway, and a new helipad. About 46% of the total budget will come from loans, shares and grants, 33% from bank reserves, and 6% from the ADF.

7. **Aviation safety.** The Universal Safety Oversight Audit Programme under the ICAO is responsible for conducting aviation safety oversight audits to identify deficiencies of its member

⁵ Government of Nepal, Department of Customs, Ministry of Finance. 2018. *Nepal foreign trade statistics: 2017/18 (2074/75)*. Kathmandu. TIA is the fourth import gate in Nepal sharing 11.98%, or NRs 149 billion, of the total imports.

⁶ Government of Nepal, CAAN. 2018. [Civil Aviation Report 2018](#). Kathmandu; and Government of Nepal, MoCTCA. 2018. [Nepal Tourism Statistics 2017](#). Kathmandu.

⁷ Government of Nepal, CAAN. 2016. [Civil Aviation Report 2016](#). Kathmandu.

⁸ Government of Nepal, CAAN. 2018. [CAAN Budget FY2075/2076 Highlights](#). Kathmandu.

states. Its 2017 audit of CAAN identified a negative safety oversight margin in air navigation and support in organization, legislation, and accident and incident investigation. During the period of 2009 to 2018, 21 accidents involving Nepalese-registered aircrafts claimed 164 lives. These accidents and fatalities were mainly due to controlled flight into terrain (74% of fatalities), loss of control in flight (24% of fatalities), and runway excursion.⁹ There were 192 and 159 incidents in 2016 and 2017, respectively, in which air operation and maintenance was found to be the predominant reason.¹⁰ The European Union raised concerns about the CAAN's governance structure—functions of both regulator and service provider are observed by the authority—to appropriately supervise safety standards and requirements in the civil aviation operations.

2. Government's Sector Strategy

8. The aviation policy adopted by the government in 2006 mandates a liberal, open-skies approach. The strategy calls for the upgrading of the TIA and other airports, and the strengthening of the institutional capabilities and effectiveness of the CAAN. Priorities are given to (i) completion of airport facilities at the TIA in accordance with the TIA master plan, (ii) upgrading of the Pokhara airport and the GBIA as international airports, (iii) start of construction of a second international airport, (iv) blacktopping of domestic airports, (v) aviation safety, and (vi) capacity enhancement and separation of roles of the CAAN into regulatory and service entities.

9. The initial phase of the TIA development in accordance with the master plan has been carried out through ADB's assistance to the Air Transport Capacity Enhancement Project (ATCEP).¹¹ The project scope of the ATCEP includes (i) extension of the northern part of the parallel taxiway to reduce the usage of its single runway for taxiing; (ii) expansion of the international apron areas to accommodate more aircrafts in the TIA; (iii) extension of the runway by 300 meters to the south to make it 3,350 meters long; and (iv) provision of air navigation equipment, including approach lighting system, to comply with international safety standards. But due to poor performance of the selected civil works contractor and subsequent delay in tenders for repackaging and redesigning of the terminated contract, the loan was closed in December 2018 without fully completing the original scope of work. The remaining scope is being implemented by government funds. However, further development of airside facilities is required to complete the TIA master plan to meet international safety standards as well as the forecasted demand in 2028. The airside facilities include (i) relocation of the existing hangars to the east side of TIA, and (ii) construction of new domestic aprons. Upgrading of the Pokhara Airport and the GBIA are ongoing with progress of 37% and 73%, and will be completed by 2020 and 2021, respectively.

10. An ICAO validation mission in July 2017 concluded the attainment of a safety compliance rate higher than the Global Aviation Safety Plan benchmark, which removed significant safety concerns on the civil aviation sector in Nepal. The country has developed the Nepal Aviation Safety Plan (2018–2022) in line with the ICAO Global Aviation Safety Plan and commenced related activities. However, the European Union raised concerns about safety in the sector because currently, CAAN has been functioning both as a regulator and a service provider.

11. Following the recommendation by the ICAO Universal Safety Oversight Audit Programme in 2015, a legislation for the Nepal Civil Aviation Act 2073 (2017) (revised draft) proposed for the

⁹ Government of Nepal, CAAN. 2018. [Aviation Safety Report 2019](#). Kathmandu.

¹⁰ Government of Nepal, CAAN. 2017. [Aviation Safety Report 2018](#). Kathmandu.

¹¹ ADB. 2009. [Report and Recommendations of the President to the Board of Directors: Proposed Loan and Asian Development Fund Grant to Nepal for Air Transport Capacity Enhancement Project](#). Manila.

bifurcation of CAAN's functions as regulator and service provider. The autonomous regulatory body will be responsible for the oversight of aviation safety, security, and civil aviation organizations, including giving suggestions to the government on the construction of the aerodrome masterplan. The service provider organization will work as a public limited company to operate aerodrome and air navigation services.¹² The government has since further modified the draft legislation in July 2019 to have three separate bills for (i) establishment of a regulatory authority proposed to be called Nepal Civil Aviation Authority; (ii) establishment of an aviation service body proposed to be called Air Service Authority of Nepal; and (iii) aviation management and security.¹³ The bills intend to create two authorities—one as regulator and the other as service provider—and to regulate governance, management, and security framework of the civil aviation sector. The bills are planned to be tabled to the budget session of the parliament in 2019.

B. ADB Sector Experience and Assistance Program

12. From 1969 to 2017, ADB has financed 553 loans, grants, and technical assistance in Nepal for a total amount of \$5.72 billion, including 63 projects in the transport sector for \$986.1 million. ADB's strategic objectives in the transport sector include enhancing global and local connectivity to promote inclusive growth. ADB's strategy is aligned with the South Asia Subregional Economic Cooperation's objectives of facilitating trade and improving connectivity to national and trans national markets through multimodal transport systems, which includes air transport to contribute to the government's sector objectives of increased promotion of tourism through better air connectivity into and within Nepal.

13. ADB's first involvement in Nepal's aviation sector started with a \$70 million loan and a \$10 million grant to Nepal through the Air Transport Capacity Enhancement Project in 2010. The project aimed to enhance safety and capacity at the TIA and three remote domestic airports—Lukla, Rara, and Simikot. The works in the TIA included reconfiguration and upgrade of airfield infrastructure to international safety standards and refurbishing of the terminal infrastructures. Basic safety improvements were carried out at the three remote domestic airports including a visual approach guidance system, an abbreviated precision approach path indicator at Lukla airport, runway threshold identifiers and runway end lights, air traffic control equipment, and meteorological equipment at Simikot and Rara airports. Even though the government is still completing the original scope of work (paragraph 9), the project, nevertheless, improved overall sector management by implementing a 3-year capacity development program for the CAAN. The reform of the CAAN was a \$4.2 million component of this loan targeted at facilitating stringent enforcement of safety measures.

14. To accommodate the increasing number of tourists to Lumbini, ADB is funding the upgrade of the GBIA, one of the four domestic hub airports in Nepal, via the South Asia Tourism Infrastructure Development Project.¹⁴ The project includes installation of communication and navigation equipment, construction of a visitor information center and other amenities. The physical construction is still ongoing and will be completed in 2020.

¹² Government of Nepal, CAAN. 2017. [Nepal Civil Aviation Act 2073 \(2017\) Revised Draft](#). Kathmandu.

¹³ The bills are (i) Bill for Nepal Civil Aviation Authority, (ii) Bill for Establishment and Management of Air Service Authority of Nepal; and (iii) Bill for Nepal Civil Aviation.

¹⁴ ADB. 2014. [Report and Recommendation of the President to the Board of Directors: Proposed Loan for Additional Financing and Administration of Grant for Additional Financing to Nepal for South Asia Tourism Infrastructure Development Project](#). Manila.

15. The master plan of the TIA was successfully completed in 2017 under the Transport Project Preparatory Facility.¹⁵ The master plan has structured the future development of the TIA, including reconfiguration of airside and landside structures. ADB will continue to support the enhancement of airside capacity and sector reform to improve the efficiency, competitiveness, and connectivity of the Nepal aviation industry.

16. **Proposed new international terminal building.** The current ITB at the TIA handled 4.3 million passengers in 2018, already beyond its annual capacity of 3.2 million. Heavy congestion and lower quality of services are observed at peak hours. The number of international passengers is projected to further increase to 6.1 million by 2028. Despite airside facilities being improved under the TIA master plan, the international passenger terminal would remain bottlenecked. Construction of a new ITB is an imminent need to meet the increasing demand. The government has explored optimal implementation options for the development of the new ITB under either sovereign financing or public-private partnership. However, it was found that a typical public-private partnership scheme for terminal building construction and operation may not attract high-quality private investors under the current country context of Nepal. The government requested ADB to finance construction of the ITB in April 2019. This is being prepared as a separate project, for consideration in 2021 or later.

¹⁵ ADB. 2010. [*Report and Recommendation of the President to the Board of Directors: Proposed Grant to Nepal for Transport Project Preparatory Facility*](#). Manila.