International Civil Aviation Organization

The Third Meeting of the South Asia, Indian Ocean and Southeast Asia ATM Coordination Group (SAIOSEACG/3)

Bangkok, Thailand, 16 – 19 April 2024

Agenda Item 5: ATS Route Development

IMPLEMENTATION OF HIMALAYA 2 ROUTE

(Presented by Nepal)

SUMMARY

This paper presents the necessity and significances of long-awaited Himalaya-2 route with major four alternate. It will be harmonized and economically viable air route in the reduction of air distance, flight time, fuel consumption and CO2 emissions. It opens the door of better options to decongest the traffic over Bay of Bengal and optimize the airspace use of involved States. So, Nepal appeals to the concerned States, ICAO and IATA for necessary commitment, co- operation and action to bring the proposed route into use and reap the benefits at the earliest.

1. INTRODUCTION

1.1 The Himalaya 2 route was developed as a part of EMARSSH (Asia to Middle East/Europe Route Structure south of Himalayas) Project in 2002. Since then, several initiatives have been taken at regional and sub-regional levels to materialize the concept.

1.2 From more than two decades, Nepal has been proposing this route in different international forums. Some of them are as below.

- ICAO APAC DGCA/56 (2019),
- APANPIRG/25 (2014),
- ICAO A38 (2013) and
- ICAO APAC DGCA/42 (2005).

1.3 Asia pacific Region has been experiencing tremendous air traffic growth. There is the increased congestion and delays of air traffic flows in the region and specifically in the Bay of Bengal. If the Himalaya 2 route implemented, it will contribute to optimize airspace of Nepal, India, Myanmar and China with decongesting the air traffic flows over Bay of Bengal and Lashio (LSO) in Myanmar FIR. By this proposed route, we can connect with L626 which will link East Asia, Middle East and Europe for further benefit of Global Aviation Economy.

1.4 It is the high time to implement Proposed Himalaya 2 route to cater future growth of air traffic in APAC region and Bay of Bengal.

1.5 Realizing the potential of this route, ICAO has kept this route in the ICAO ATS route catalogue since long.

2. DISCUSSION

Implementation of Himalaya 2 Route

2.1 The proposed Himalaya 2 route is direct route which saves about 218 NM in round trip travelling from Kathmandu – Hong Kong Sector (3o minutes flight time with saving of 2755 kgs of fuel and 8706 kg of CO_2 emission). This will not only increase the efficiency of the airline operators but also enhance the global environment protection initiatives.

2.2 As, Nepal has been proposing this route in different international forums, counter proposals from IATA and CHINA also received.

2.3 In this prestigious forum, Nepal proposed to discuss and evaluate all four alternate (details below) and make concrete consensus among concern member states.

2.4 Detail benefits of the Route in terms of Distance, Timing, Fuel consumption and CO2 emission have been Tabulated Below.

Table 1. Benefits of Himalaya 2 as Proposal by Nepal

Sector	Present distance	Future distance on Himalaya 2	Round trip saving per flight per day				Round trip saving per flight per year	
			Saving distance	Time saving	Fuel saving @ 12.64 Kg/NM	Carbon emission reduced @3.16 Kg/Kg fuel	Total fuel saving	Total Carbon emission reduced
Kathmandu - Kunming	1096 NM	1001 NM	96 +122 = 218NM	28 mins	2755kgs	8706 Kg	1005 tonnes	3178 tonnes
Kunming-Kathmandu	1123 NM	1001 NM						

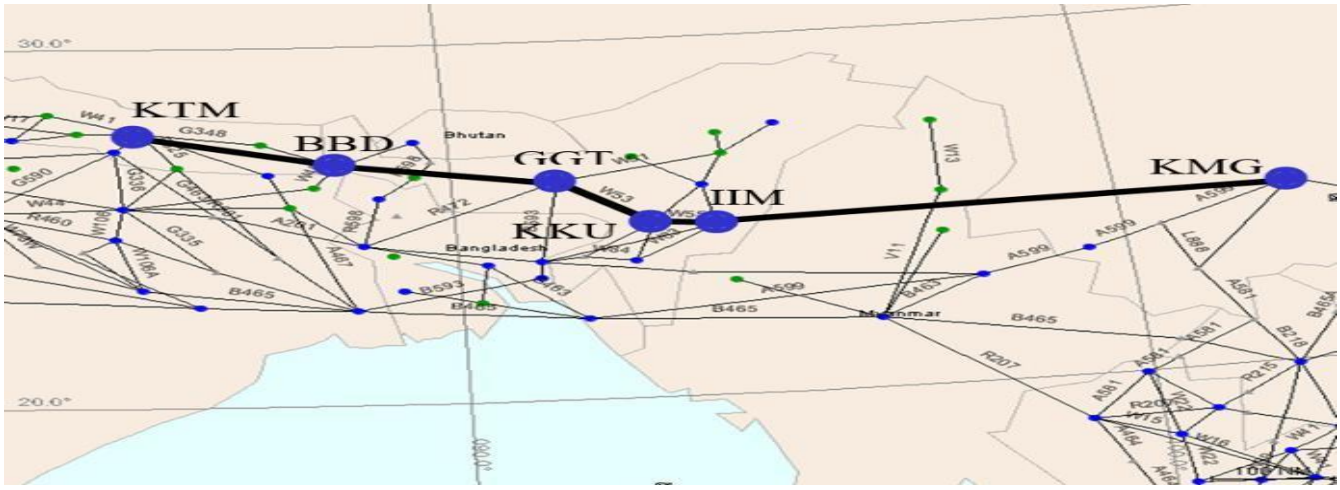


Table 2. Benefits of Himalaya 2 as Proposal by IATA

Sector	Present distance	Future distance on Himalaya 2	Round trip saving per flight per day				Round trip saving per flight per year	
			Saving distance	Time saving	Fuel saving @ 12.64 Kg/NM	Carbon emission reduced @3.16 Kg/Kg fuel	Total fuel saving	Total Carbon emission reduced
Kathmandu - Kunming	1096 NM	969 NM	127 +154 = 281NM	36 mins	3551kgs	11223 Kg	1269 tonnes	4096 tonnes
Kunming-Kathmandu	1123 NM	969 NM						

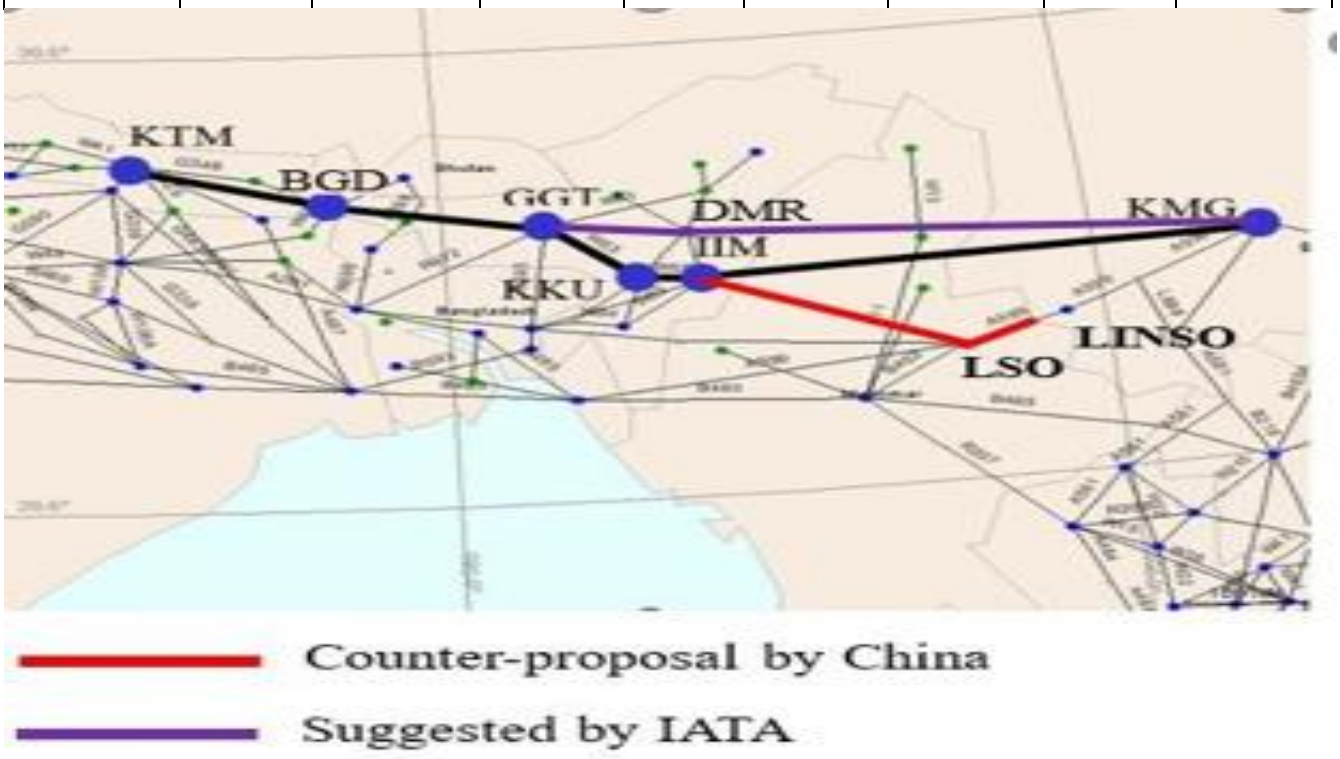


Table 3. Benefits of Himalaya 2 as Proposal by CHINA

Sector	Present distance	Future distance on Himalaya 2	Round trip saving per flight per day				Round trip saving per flight per year	
			Saving distance	Time saving	Fuel saving @ 12.64 Kg/NM	Carbon emission reduced @3.16 Kg/Kg fuel	Total fuel saving	Total Carbon emission reduced
Kathmandu - Kunming	1096 NM	1054 NM	42 +69 = 111 NM	14 mins	1405 kgs	4450 Kg	512 tonnes	1625 tonnes
Kunming-Kathmandu	1123 NM	1054 NM						

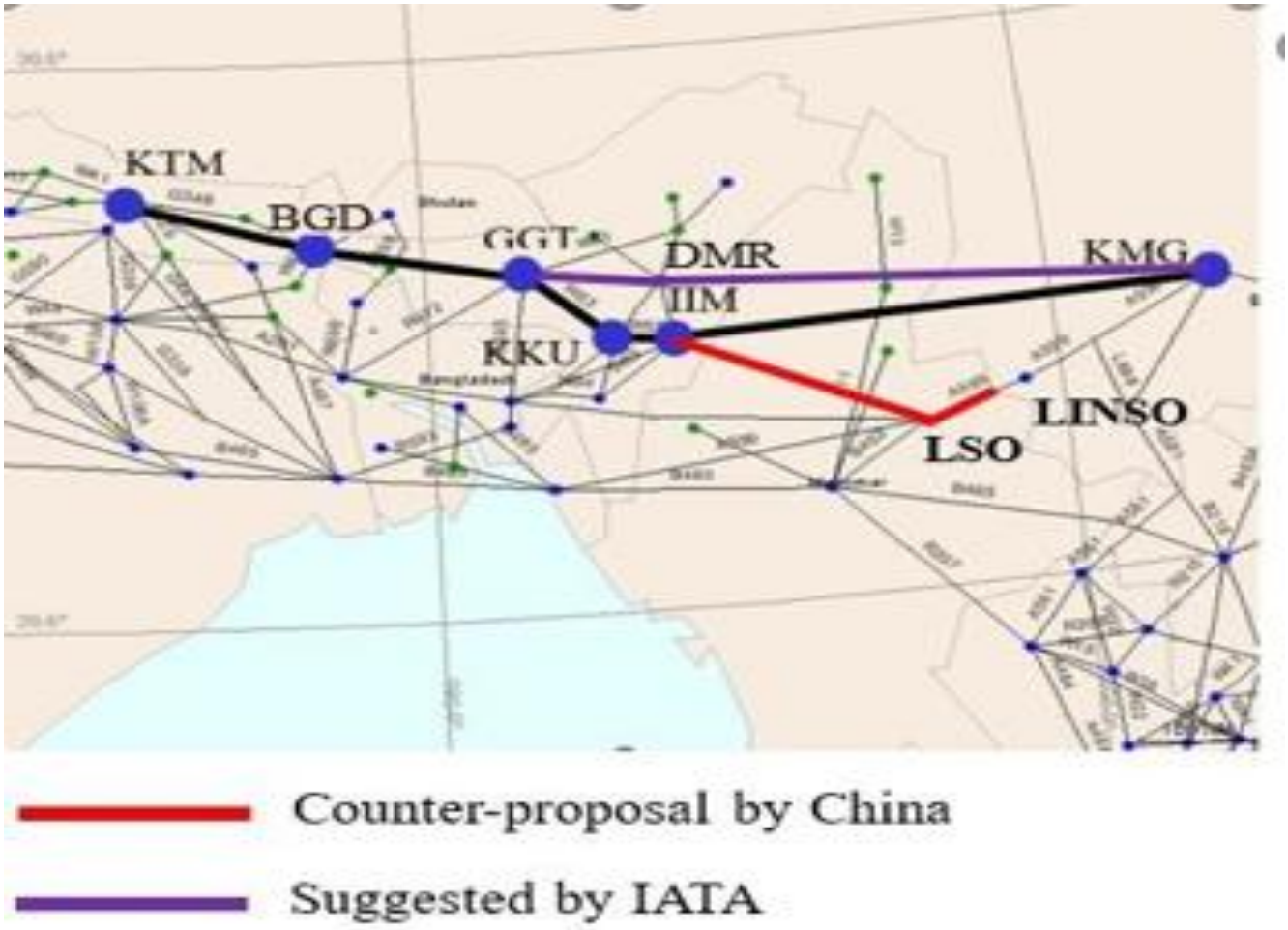


Table 4. Benefits of Himalaya 2 as New Proposal by Nepal

Sector	Present distance	Future distance on Himalaya 2	Round trip saving per flight per day				Round trip saving per flight per year	
			Saving distance	Time saving	Fuel saving @ 12.64 Kg/NM	Carbon emission reduced @3.16 Kg/Kg fuel	Total fuel saving	Total Carbon emission reduced
Kathmandu - Kunming	1096 NM	1039 NM	57+84= 141NM	18mins	1780kgs	5625 Kg	649 tonnes	2053 tonnes
Kunming-Kathmandu	1123 NM	1039 NM						

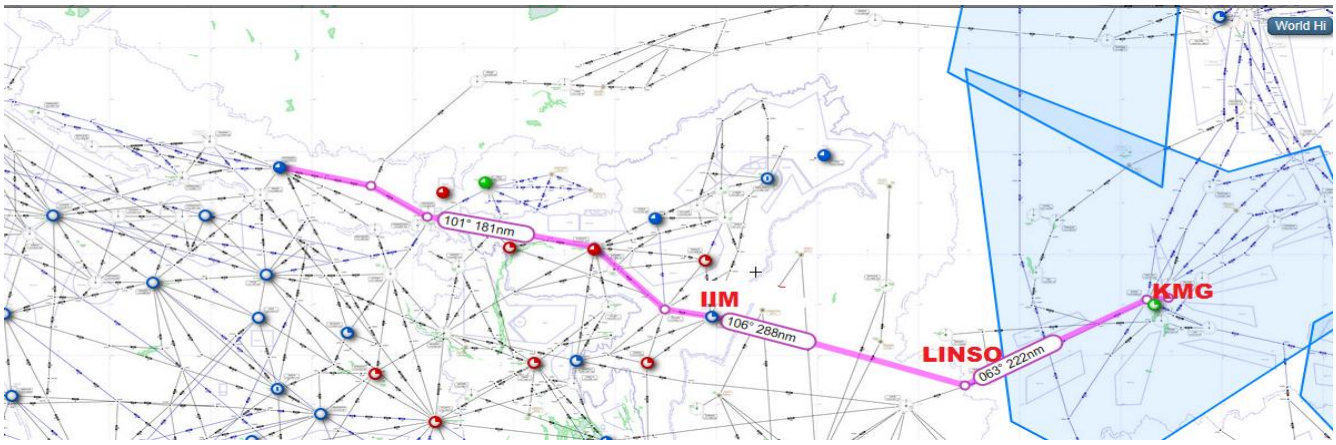


Table 5. Comparison of two airlines operating on Kathmandu- Hong Kong sector and v. v.

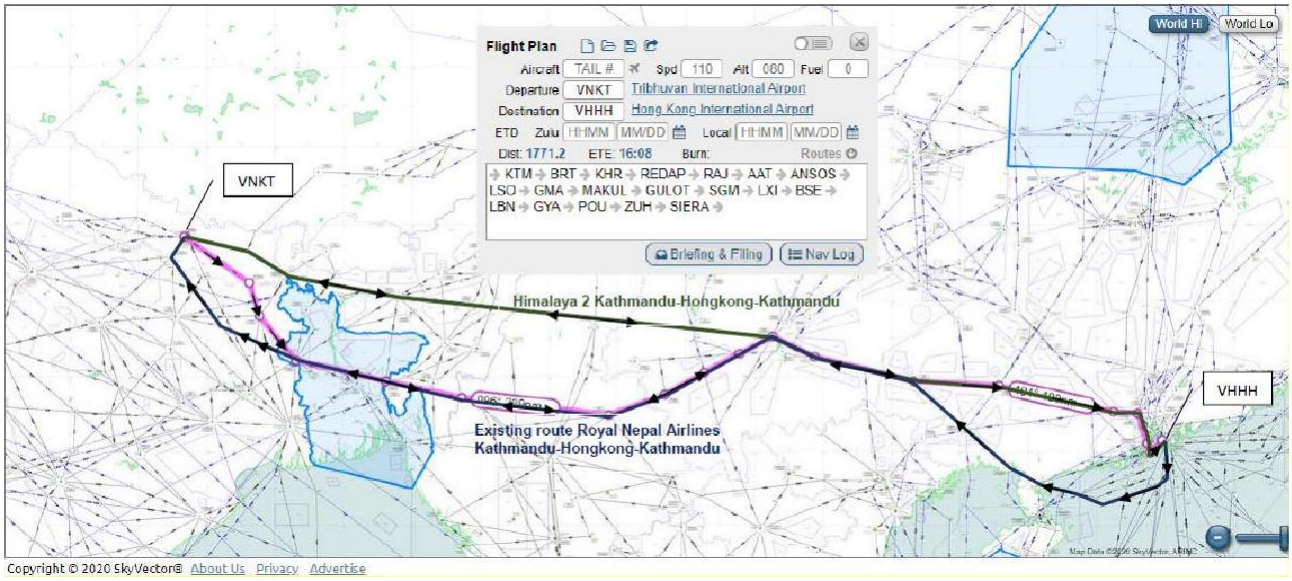
Airline Operators	Via Exiting Route:	Distance (NM)	Round Trips Distance (NM)
Nepal Airlines	**Kathmandu to Hongkong:** KTM-BRT-R344-RAJ-A201-AAT-A201B-ANSOS-A201 -LSO -A599-SGM-A599-ADBAG-A599-POU-R473-SIERA-DCT HKG	1770 NM	**3664 NM**
	Hongkong to Kathmandu: HKG-PECAN-V10-SIKOU-R339-BSE-A599-LINSO-A599-LSOA201 -ANSOS-A201B-AAT-A201 -RAJ-G463-ROMEO-DCT-KTM	1894 NM	
Dragon Air	**Kathmandu to Hongkong**: KTM-R344-RAJ-G463-CTG-B465-AKSAG-B465-LPB-A206-ASSAD-A202-DABUB-A202-SIKOU-V571 -CANTO-HKG	1868 NM	**3805 NM**
	Hongkong to Kathmandu: HKG-PECAN-V10-SIKOU-A202-SAMAS-A202-DABUB-A202-ASSAD-A206-LPB-B465-CTG-G463-ROMEO-DCT-KTM	1937 NM	

Via Proposed Himalyan-2 Route	Distance (NM)	Round Trips Distance (NM)
Kathmandu to Hongkong: KTM-G348-BGD-W137-GGT-W53-KKU-W55-IIM-SMGA599-ADBAG-A599-POU-R473-SIERA-DCT HKG	1676 NM	**3441 NM**
Hongkong to Kathmandu: HKG-PECAN1B-PECAN-V10-SIKOU-R339-BSE-A599-SGM-IIM-W55-KKU-W53-GGT-W137-BGD-G348-KTM	1765 NM	

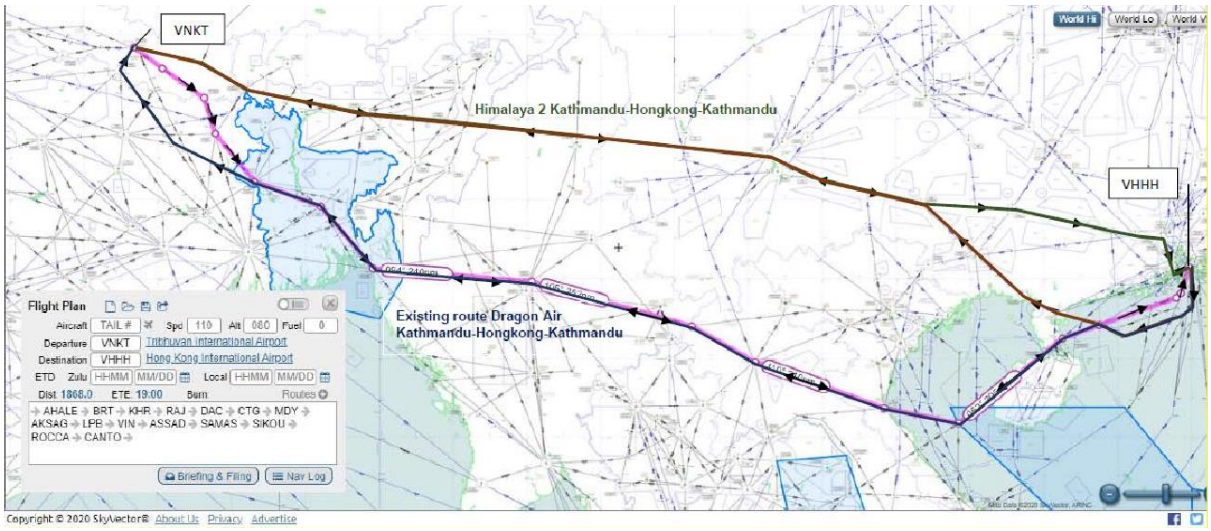
Benefit of Himalyan-2 route:

Himalaya 2 route	Distance Saved (NM)	Time Saved @ speed 470 Kts	Round trip saving per flight per day		Round trip saving per flight per year	
			Fuel saved @12.64 Kg/Nm	Carbon emission reduced @3.16Kg/Kg fuel)	Total fuel saving	CO2 saving
Per round trip flight of Nepal Airlines	**223 NM**	**20min**	**2819 Kg**	**8909 Kg**	**1028 tonnes**	**3251 tonnes**
Per round trip of Dragon Air	**364 NM**	**50min**	**4601 Kg**	**14539 Kg**	**1679 tonnes**	**5306 tonnes**

KATHMANDU- HONGKONG BY ROYAL NEPAL AIRLINES



KATHMANDU – HONGKONG BY DRAGON AIR



3. ACTION BY THE MEETING

3.1 The meeting is invited to:

(a) note the information contained in this paper;

(b) discuss for the long awaited initiative aimed at enhancing safety and efficiency of aircraft operation and protecting the environment; and

(c) discuss any relevant matters as appropriate.

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