

निजगढ अन्तरराष्ट्रिय विमानस्थलको बर्तमान आवश्यकता  
र औचित्य

Need for Nijgadh International Airport  
for  
Accelerated Development of Nepal

Birendra Bahadur Deoja

8 February 2019

# Structure of Presentation

1. Tourism and Air Traffic Trends
2. Traffic and Constraints of TIA
3. Why SIA ? SIA Fact Sheets
4. History of Policies, Plans and Feasibility Studies
5. Current Status and Concerns
6. Complimentary FT/ Highways
7. Context of Airport City
8. Conclusion and Recommendation

# 1. Trends of Tourism and Air Traffic

# GDP Comparisons with Other Countries in 2016

Contribution of tourism to GDP and per capita GDP of Nepal is too low compared to other countries.

Indicator	Nepal	Maldives	Fiji	Bhutan	Sri Lanka	Singapore	India	China
GDP in Billion US \$	21.13	4.22	4.7	2.21	81.37	296.97	2,269	11,199
Contribution of Tourism, % GDP	2.35	67	17	3.54	4.07	6.6	1.02	0.396
GDP/capita PPP, US\$	2,478	15,348	9,110	8,901	12,313	87,833	6,571	15,4529

# Trends of Tourist Arrivals in 2016 , million

Tourist Arrivals in Nepal is too low

Nepal	Maldives	Sri Lanka	Fiji	Singapore	India	China	Thailand
0.753	1.286	2.051	0.792	12.914	14.569	59.27	32.53

# Trends of Passenger Movement (Arrivals & Departure) at International Airports in 2017, million.

Passenger movement at Nepal's Intl. Airport is too low

Nepal TIA	Singapore Changi	India IGI	China, Beijing	Thailand Swarnabhumi
6.34	62	60	96	61

# Trends of Freight Movement at International Airports in 2015 in, 000 Ton

Freight movement at Nepal's Intl. Airport is too low

Nepal TIA	Singapore Changi	India IGI	China, Beijing	Thailand Swarnabhumi
29	1,853	787	1,843	1,230

## 2. Traffic and Constraints of TIA

# Growth of Pax, Cargo and A/C Movement at TIA 1993-2017

Pax and A/C movement growth at TIA in the last 25 yrs is encouraging.

Year	Intl Pax	Domestic Pax	Cargo Intl	Cargo Dom	A/c Intl	A/C Dom
1993	721,795	415,878	15,832	680	7,133	25,325
2017	3,887,845	2,451,390	20,665	4,114	33,362	93,107
Annual Growth, %	<b>7.2%</b>	<b>7.67%</b>	<b>1%</b>	<b>7.8%</b>	<b>6.7%</b>	<b>5.5%</b>

# Air Traffic 2015, 2017 and 2028

Item	Domes tic Pax, Mil	Domestic A/C, 000	Intl. Pax, mil	Intl A/C, 000	Total Pax, mil	Total A/c, 000
2015 Forecast, Acres Lea	0.89		2.17			
Actual in 2015	1.36	66	3.2	26.5	4.565	93
Actual in 2017	2.45	93.11	3.89	33.36	6.34	127
<b>Actual in 2018</b>	<b>2.85</b>	<b>95.58</b>	<b>4.34</b>	<b>33.932</b>	<b>7.18</b>	130
<b>Capacity, Current</b>	<b>0.75</b>		<b>3.2</b>		<b>3.95</b>	151
<b>Capacity, Ultimate</b>	<b>3.6</b>		<b>7 to 9</b>		<b>11 to 13</b>	<b>184</b>
F'cast for yr. <b>2028</b> as per TIA MP 2016	2.5	127	6.5	51	9.0	178

# Air Traffic 2015, 2017 and 2028

Item	Domes tic Pax, Mil	Domestic A/C, 000	Intl. Pax, mil	Intl A/C, 000	Total Pax, mil	Total A/c, 000
2015 Forecast, Acres Lea	0.89		2.17			
Actual in 2015	1.36	66	3.2	26.5	4.565	93
Actual in 2017	2.45	93.11	3.89	33.36	6.34	127
<b>Actual in 2018</b>	<b>2.85</b>	<b>95.58</b>	<b>4.34</b>	<b>33.932</b>	<b>7.18</b>	<b>130</b>
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# Peak Hour Capacity & Demand of TIA

S.N.	Item	2018 (Actual)		2023		2028	
		Intl	Dom	Intl	Dom	Intl	Dom
Area	Area, m <sup>2</sup>	32,000	6,000	36,000	6,000	36,000	6,000
Pax	Capacity	<b>1350</b>	<b>430</b>	<b>1520</b>	<b>430</b>	<b>1520</b>	<b>430</b>
Pax	Demand	<b>2227</b>	<b>1000</b>	<b>3018</b>	<b>1239</b>	<b>3574</b>	<b>1535</b>

# Annual Passenger movement and Capacity

- Present Area of International Passenger Terminal is 30,000 m<sup>2</sup> which is being expanded to 36,000 m<sup>2</sup>. Proposed New Intl. Terminal Building is 106,000 m<sup>2</sup>.
- Present Intl Passenger Terminal is operating at 4.34 mil pax /yr which is beyond its capacity of about 3.2 mil /yr . The ultimate capacity after a new ITB will be about 7 to 9 million pax /yr.
- Present Domestic Passenger Terminal has an area of 6,000 m<sup>2</sup> which is operating at 2.85 mil /yr which is beyond its capacity of about 0.75 mil /yr . The ultimate capacity after a new ITB will be about 3.6 million pax /yr.

# Peak hour Passenger and Aircraft movement and Capacity

- In the International Terminal Building:  
the PHP currently is 2247 against the capacity of 1350.  
the PHP capacity in 2023 and 2028 shall be 1520  
whereas the demand shall be 3018 and 3574 respectively.
- Domestic Terminal Building:  
The PHP currently is 430 against the capacity of 1,000.  
The PHP capacity in 2023 and 2028 shall be 430 whereas the  
demand shall be 1239 and 1535 respectively.
- Current Runway Capacity is 33 a/c /hr. Ultimate Peak Hour  
runway capacity is 40 to 45 a/c per hr whereas the current peak  
hour a/c movement is more than 50. Demand forecasted for  
the yr. 2028 is 85 a/c per hr.

### **3. Why SIA (Nijgadh Intl Airport) ?**

# Why SIA ?

## ○ **TIA is already saturated:**

- Annual Pax . movt is 35 % more, PHP is 66 % more than the capacity of ITB
- Peak Hour A/C movement is more than 51 percent of capacity based on ROT
- Hourly a/c movement is 78 % of ultimate capacity based on Runway Occupancy Time (ROT)
- Ultimate capacity of TIA shall be exhausted by the yr. 2028 in terms of capacity of passenger Terminal Buildings and by the year 2026 in terms of Capacity based on Runway Occupancy Time (ROT)

## ○ **Safety Concern:**

- Air space Congestion
- No precision landing at TIA
- Single runway
- Adequate separation space from Indian FIR boundary

# Why SIA ?

## ○ **Tourism Growth Concern**

- TIA Saturated at <1 million tourist per yr
- Tourism Revenue about 3.6 % of GDP only
- Optimum utilization of tourism potentials of the country
- Ultimate to address Nepal's air traffic growth solution
- Ease of construction due to minimum land acquisition and resettlement

## ○ **Need for Proximity to Kathmandu**

- Cultural Heritage
- Federal Capital
- Mount Everest destination

## ○ **Need for a Visionary Infrastructure**

- Direct long-haul connectivity to North America, Europe, Australia facilitates more trade and tourism
- to handle > 50million pax movement per yr.
- Air freight based export
- Optimum utilization of Nepalese airspace for climb & descend entirely within Nepal and for international air route overflying Nepal air space

# Tourists and Air Traffic Forecast based on GDP

## Estimation of Air Passenger Movements Based in GDP and Tourism Contribution

Particulars	Yr	Yr	Yr1	Yr5, 2023		Yr 10, 2028		Yr 20, 2038	
	2016	2017	2018	Likely at 5%	Desirable at 7%	Likely at 5%	Desirable at 7%	Likely at 7%	Desirable at 8%
GDP	21,140.00	24,480	25,949	33,118	36,395	42,268	46,450	83,148	71,500
Tourism Revenue, mil \$ at 2.4 to 15 % of GDP	518.56	588	649	994	1,092	1,691	2,322	8,315	10,725
No.s of Tourists	753,000								
Rev per Tourist, \$, at 2% growth/yr	695	709	723	798	798	881	881	1,074	1,074
Tourism Revenue, mil \$	523								
Nos of Tourist-revenue bas	746,136	828,781	897,169	<b>1,244,518</b>	1,367,646	1,918,163	2,634,923	7,738,586	9,981,737
Air Tourists 80%	596,908	663,025	717,735	995,614	1,094,116	1,534,530	2,107,938	6,190,868	7,985,390
Intl. Air Trfc - Tourist Pax Movt	1,193,817	1,326,050	1,435,470	1,991,229	2,188,233	3,069,061	4,215,877	12,381,737	15,970,780
Intl. AirPax-nontrst, @194% to 60%	2,316,925	2,572,536	2,583,847	2,986,843	3,063,526	3,682,873	5,059,052	8,667,216	9,582,468
<b>Total Intl Pax</b>	<b>3,510,742</b>	<b>3,898,586</b>	<b>4,019,317</b>	<b>4,978,072</b>	<b>5,251,759</b>	<b>6,751,934</b>	<b>9,274,929</b>	<b>21,048,953</b>	<b>25,553,247</b>
<b>Domestic Pax, 4 to 7% growth</b>	<b>1,757,596</b>	<b>2,456,109</b>	<b>2,554,354</b>	<b>3,107,762</b>	<b>3,260,074</b>	<b>3,966,379</b>	<b>4,158,886</b>	<b>7,103,181</b>	<b>7,802,468</b>
<b>Total Air Tr Pax</b>	<b>5,268,338</b>	<b>6,354,695</b>	<b>6,573,671</b>	<b>8,085,833</b>	<b>8,511,833</b>	<b>10,718,313</b>	<b>13,433,815</b>	<b>28,152,133</b>	<b>33,355,715</b>

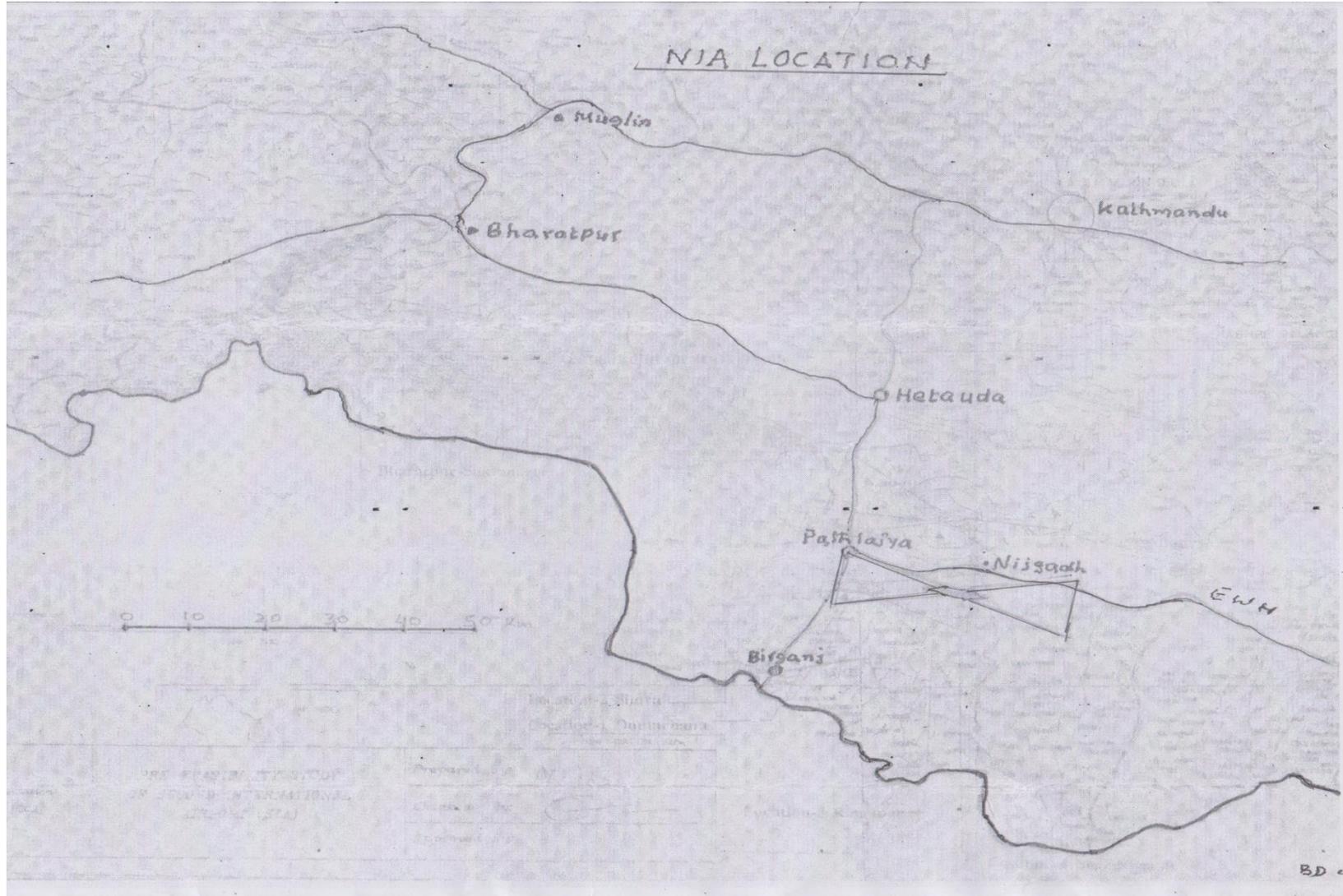
- Calculations are based on GDP, Tourism Revenue, Revenue per Tourist from 2016 Data from Tourism Board and Passenger Movement data of 2017 from TIA.
- Assumptions are made for GDP growth of 5 % to 8 % per year ; Contribution of Tourism to GDP as 2.5 %/yr in 2018, 3 % /yr in 2018-023, 3, 4 to 5 % / yr in 2024-028, and 10 to 15 %/yr in 2028 to 038 (assuming the SIA is completed in 2028).
- Revenue per tourist is assumed to increase at 2 % /yr; Air tourist comprise considered 80% of tourist, Non-tourist passenger movement is assumed to be 194 % in 2018, 150 to 140 % in 2019-2023, 120 % in 2024-2028, and 70 to 60 % in 20129-038.
- Domestic pax movement is assumed to increase at 4 % in 2018, 4 to 5 % in 2019-23, 5 to 6% in 2024-028, and 6 to 7% in 2029-038.

# हवाई ट्राफिक अनुमान

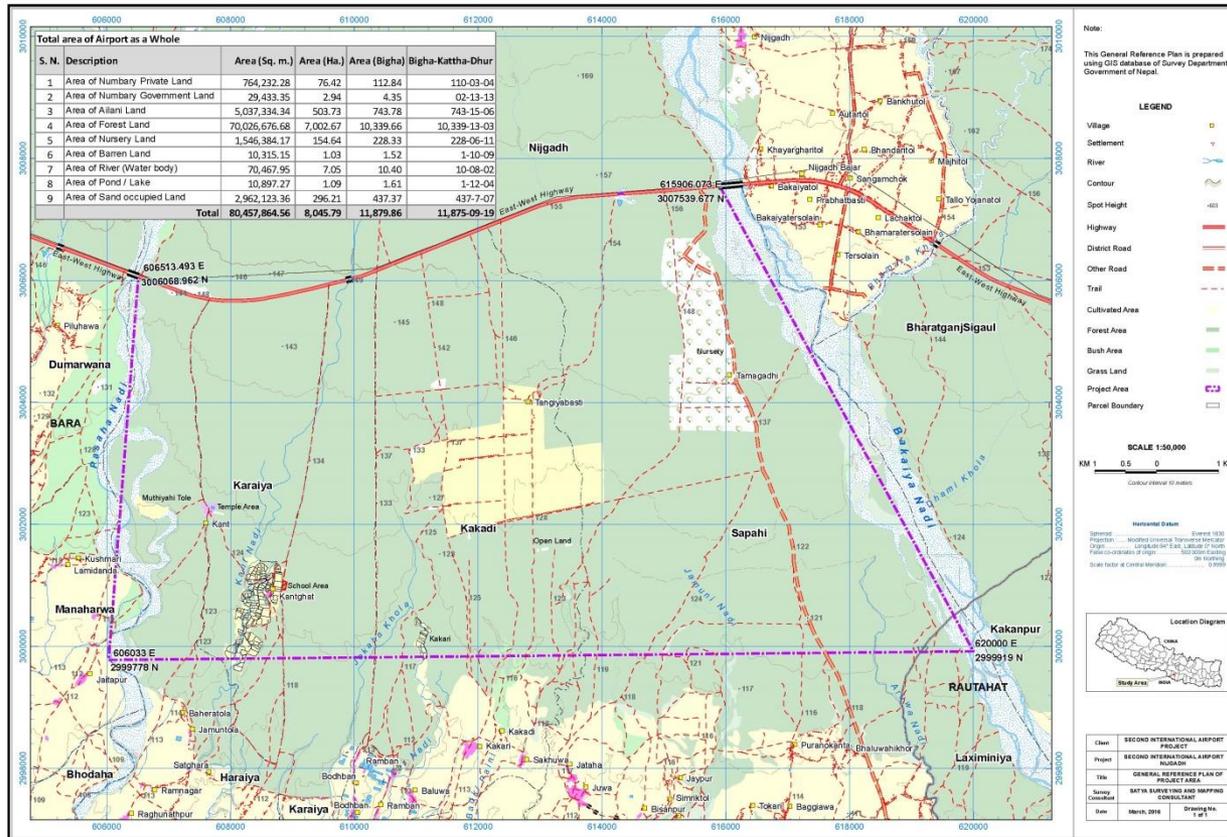
विवरण	किसिम	२०१८ Actual	२०२३	२०२८	२०३८
यात्रु संख्या, मिलियन	अन्तरराष्ट्रिय	४.० ४.३४	५.२५	९.२७	२५.५३
	आन्तरिक	२.५५ २.८५	३.२६	४.१६	७.८०
हवाई जहाज मुभमेन्ट	अन्तरराष्ट्रिय	३४,३३५ ३३,९३२	४१,०१५	७१,८६०	१७०,२००
	आन्तरिक	११५,९०० ९५,५८०	१०९,३९६	१३९,५९७	२६१,७४५

नोट: कुल गार्हसथ्य उत्पादनमा ५ देखि ८ प्र.श. वार्षिक बृद्धि र पर्यटन क्षेत्रको देन २.४ प्र.श. देखि १५ प्र.श., पर्यटक आम्दानी मा २ प्र.श बृद्धि, हवाई पर्यटक ८० प्र.श , गैर पर्यटक हवाई यात्रु पर्यटक हवाई यात्रुको २०० देखि ६० प्र.श हुने, आन्तरिक हवाई यात्रु ४ देखि ७ प्र.श हुने अनुमानमा आधारित ।

# Location of NIA

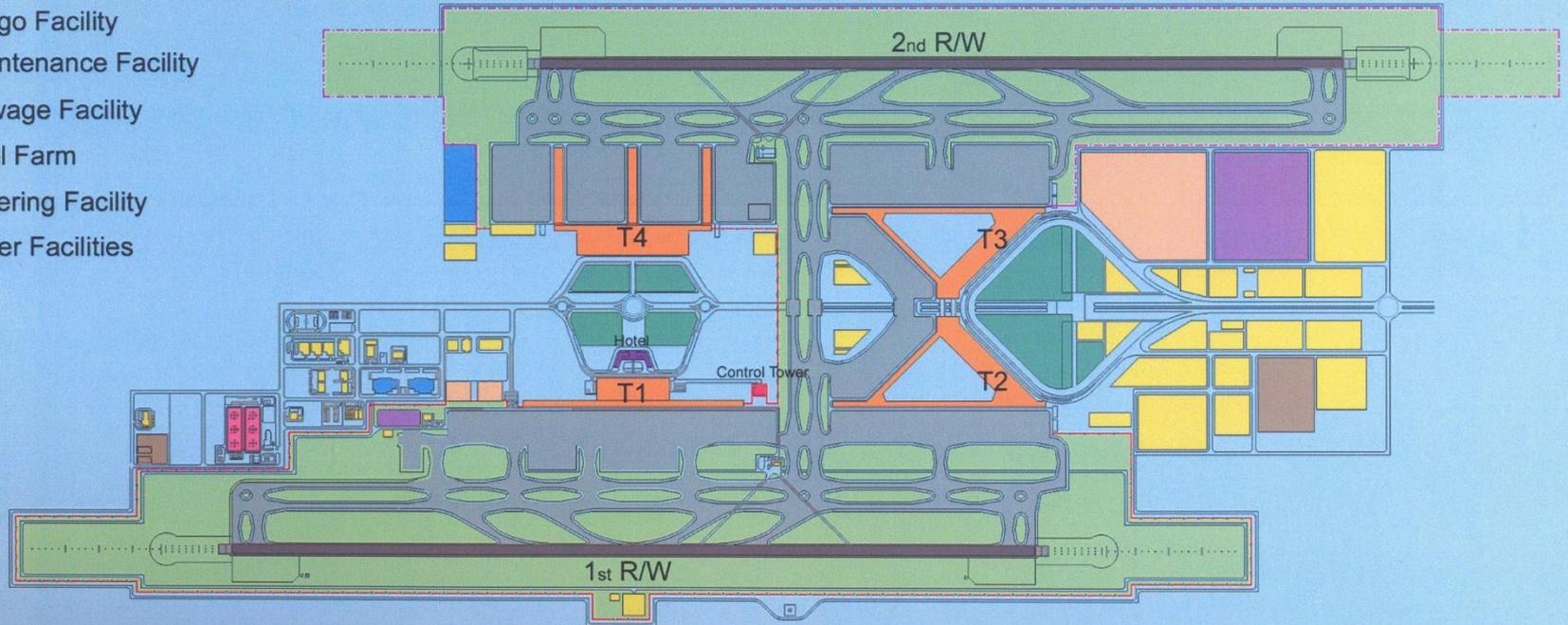


# Declaration of Second International Airport Area – Boundaries Nepal Gazette Part 3 dated 2071.12.30



### 3. Airport Master Plan

- Orange : Cargo Facility
- Purple : Maintenance Facility
- Brown : Sewage Facility
- Pink : Fuel Farm
- Blue : Catering Facility
- Yellow : Other Facilities



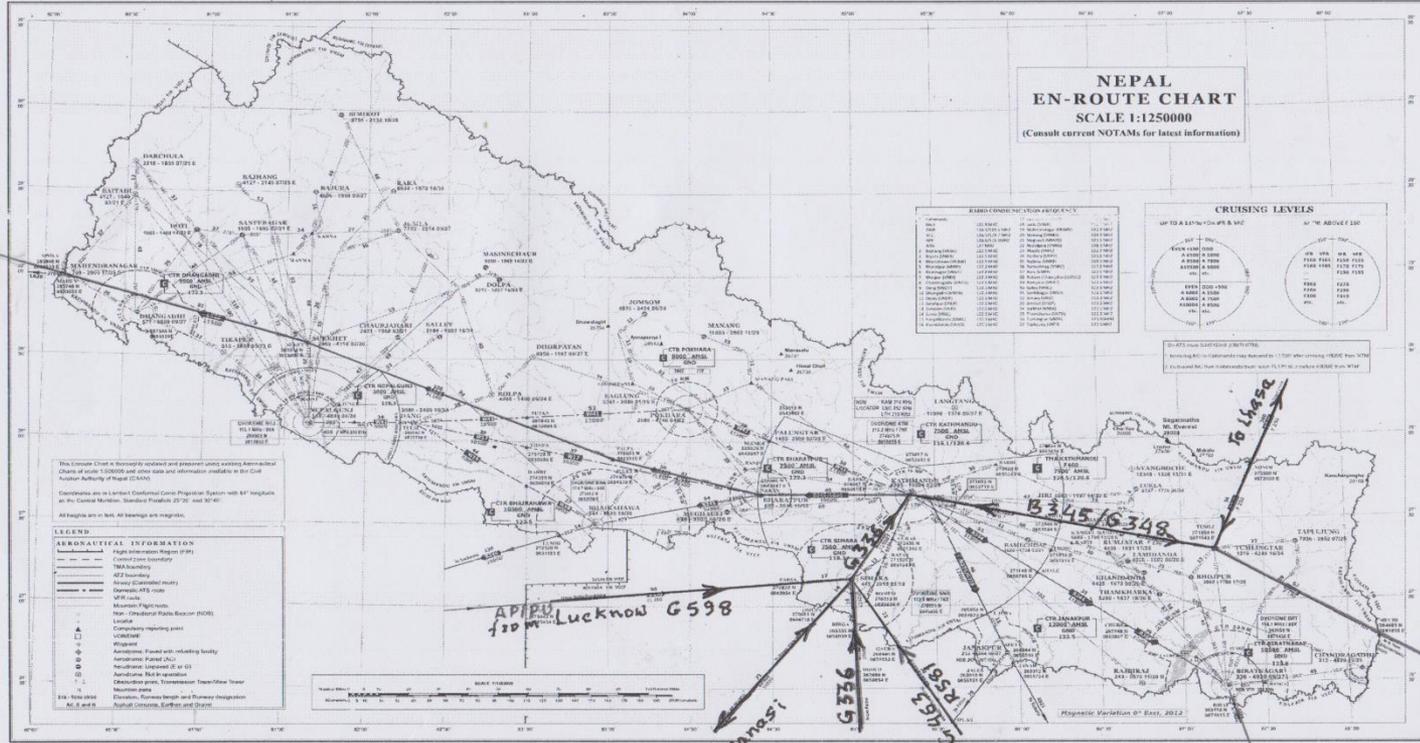
# SIA Fact sheet

Total Area within the Airport Boundaries = 80 sq.km. = 8045.79 Ha = 11,8876Bigaha

○Private Land Total = 110 Bigaha, Acquired 58 Bigaha (to be updated)

○Area for Airport only , 6.7 kmx4.0 km = 2700 ha Appx.

- Aerodrome reference code 4F
- Runway size Max 4700 m x 60 m with 7.5 m shoulder each side
- Design A/C B-747-400/ A 380
- Other facilities As Require for ARC -4F
- First phase Pax movement , ( 1<sup>st</sup> 10 yrs) = 10 million/year
- Final phase Pax movement , ( 40 yrs) = > 60 million/ year
- Transit Hub – 20 major cities within 4 hrs.
- Cargo Handling – 70,000 tons/yr.
- EMP – to be prepared
- Costs for Phase I - US \$ 1,200 million



**NEPAL  
EN-ROUTE CHART**  
SCALE 1:1250000  
(Consult current NOTAMs for latest information)

**RADIO COMMUNICATION FREQUENCIES**

Band	Frequency	Use
VHF	118.000 - 118.975	ATIS (118.100)
	119.000 - 119.975	Unassigned
	120.000 - 120.975	Unassigned
	121.000 - 121.975	Unassigned
	122.000 - 122.975	Unassigned
	123.000 - 123.975	Unassigned
	124.000 - 124.975	Unassigned
	125.000 - 125.975	Unassigned
	126.000 - 126.975	Unassigned
	127.000 - 127.975	Unassigned
HF	2.000 - 2.999	Unassigned
	3.000 - 3.999	Unassigned
	4.000 - 4.999	Unassigned
	5.000 - 5.999	Unassigned
	6.000 - 6.999	Unassigned
	7.000 - 7.999	Unassigned
	8.000 - 8.999	Unassigned
	9.000 - 9.999	Unassigned
	10.000 - 10.999	Unassigned
	11.000 - 11.999	Unassigned

**CRUISING LEVELS**

Altitude	Minimum	Maximum
UP TO 2,000 FT AGL	2,000	2,000
2,000 - 3,000	2,000	3,000
3,000 - 4,000	3,000	4,000
4,000 - 5,000	4,000	5,000
5,000 - 6,000	5,000	6,000
6,000 - 7,000	6,000	7,000
7,000 - 8,000	7,000	8,000
8,000 - 9,000	8,000	9,000
9,000 - 10,000	9,000	10,000
10,000 - 11,000	10,000	11,000
11,000 - 12,000	11,000	12,000
12,000 - 13,000	12,000	13,000
13,000 - 14,000	13,000	14,000
14,000 - 15,000	14,000	15,000
15,000 - 16,000	15,000	16,000
16,000 - 17,000	16,000	17,000
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25,000 - 26,000	25,000	26,000
26,000 - 27,000	26,000	27,000
27,000 - 28,000	27,000	28,000
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36,000 - 37,000	36,000	37,000
37,000 - 38,000	37,000	38,000
38,000 - 39,000	38,000	39,000
39,000 - 40,000	39,000	40,000
40,000 - 41,000	40,000	41,000
41,000 - 42,000	41,000	42,000
42,000 - 43,000	42,000	43,000
43,000 - 44,000	43,000	44,000
44,000 - 45,000	44,000	45,000
45,000 - 46,000	45,000	46,000
46,000 - 47,000	46,000	47,000
47,000 - 48,000	47,000	48,000
48,000 - 49,000	48,000	49,000
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71,000 - 72,000	71,000	72,000
72,000 - 73,000	72,000	73,000
73,000 - 74,000	73,000	74,000
74,000 - 75,000	74,000	75,000
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87,000 - 88,000	87,000	88,000
88,000 - 89,000	88,000	89,000
89,000 - 90,000	89,000	90,000
90,000 - 91,000	90,000	91,000
91,000 - 92,000	91,000	92,000
92,000 - 93,000	92,000	93,000
93,000 - 94,000	93,000	94,000
94,000 - 95,000	94,000	95,000
95,000 - 96,000	95,000	96,000
96,000 - 97,000	96,000	97,000
97,000 - 98,000	97,000	98,000
98,000 - 99,000	98,000	99,000
99,000 - 100,000	99,000	100,000

This Enroute Chart is thoroughly checked and prepared using existing Aeronautical Charts of scale 1:500000 and other data and information available to the Civil Aviation Authority of Nepal (CAAAN).

Coordinates are in Lambert Conformal Conic Projection System with 84° Longitude as the Central Meridian. Standard Parallel 27° 30' and 30° 30'.

All heights are in feet. All bearings are magnetic.

- LEGEND**
- AERONAUTICAL INFORMATION**
- Flight Information Region (FIR)
  - Control Zone boundary
  - TMA boundary
  - CTR boundary
  - Unmanned Aircraft System (UAS) boundary
  - Obstacle MSL scale
  - MFL scale
  - Minimum flight levels
  - Man - (Procedural Radio Beacon (PROB))
  - Land
  - Control tower reporting point
  - Uncontrolled
  - Proposed
  - Aeronautical Fixed Net (AFN) station
  - Communication Fix (COMFIX)
  - Aeronautical Information (AI) or CI
  - Aeronautical Information (AI) or CI
  - Obstacle point, Transmission Tower/Other Tower
  - Navigation point
  - Obstacle, Maximum Height and Flare Height Indication
  - MFL scale
  - Obstacle, Obstruction and Obstruction

7th EDITION

CIVIL AVIATION AUTHORITY OF NEPAL

L626

AP/PA from Lucknow G598

Vatansri

G356

G345

B345/G348

Bangor Base Kerkra

To Lhasa

To Paris

To Rajshahi

# Present Air Routes to and from Nepal

Airways	Sector	Direction of Route	Remarks
L626	Kathmandu-Mahendranagar-Delhi	Unidirectional Outbound	Area Navigation Route
<b>B345</b>	Lhasa-Tumlingtar-Kathmandu-Lucknow	Unidirectional Outbound route between Kathmandu and Lucknow and Bidirectional between Kathmandu and Lhasa	(* Agreement has been reached with India to make bidirectional between Lucknow and Kathmandu also
<b>G336</b>	Patna-Simara-Kathmandu	Unidirectional inbound route between Patna and Kathmandu	
<b>G335</b>	Kathmandu-Janakpur-Patna	Unidirectional outbound	(* Agreement has been reached with India to make bidirectional through out
<b>R325</b>	Kathmandu-Janakpur-Kolkata	Unidirectional outbound	(* Agreement has been reached with India to make bidirectional through out
<b>R344</b>	Kathmandu-Biratnagar-Katihar-Rajshahi	Unidirectional outbound	(* Agreement has been reached with India to make it bidirectional between Biratnagar and Kathmandu
<b>A467</b>	Kolkata-Katihar-Biratnagar	Bidirectional	(* Agreement has been reached with India to extend it up to Kathmandu and make it bidirectional through out
<b>G348</b>	Kathmandu-MECHI-Bagdogra-Paro	Bidirectional	Exclusively for Kathmandu-Paro flights
G598	Lucknow-APIPU-Simara	Unidirectional Inbound	
G590	Varanasi-Simara	Bidirectional	
R581	Kolkata-IPLAS-Simara	Unidirectional Inbound	

# Air Routes

July 1996 ASA bilateral talks

- **Delhi - Kathmandu:**

Delhi – Farukabad – Nepalganj –Kathmandu (B-203 Delhi-Kathmandu one way)

- **Kathmandu – Delhi:**

Kathmandu–Bhairahawa–Lucknow–Farukabad –Delhi - B-345 ?

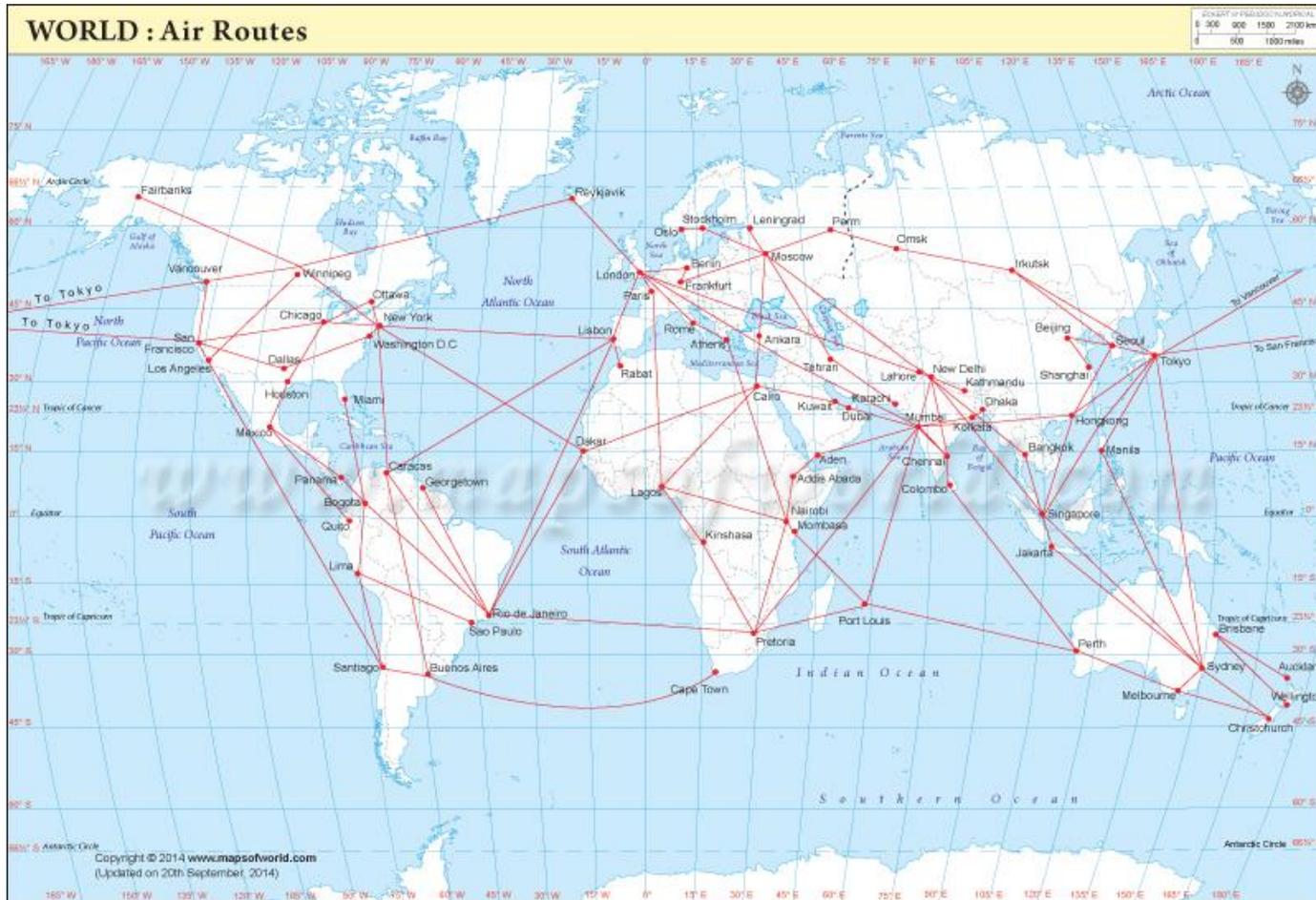
- **R – 344:**

Kathmandu – Biratnagar – Dacca/ Calcutta – **Bi-directional**

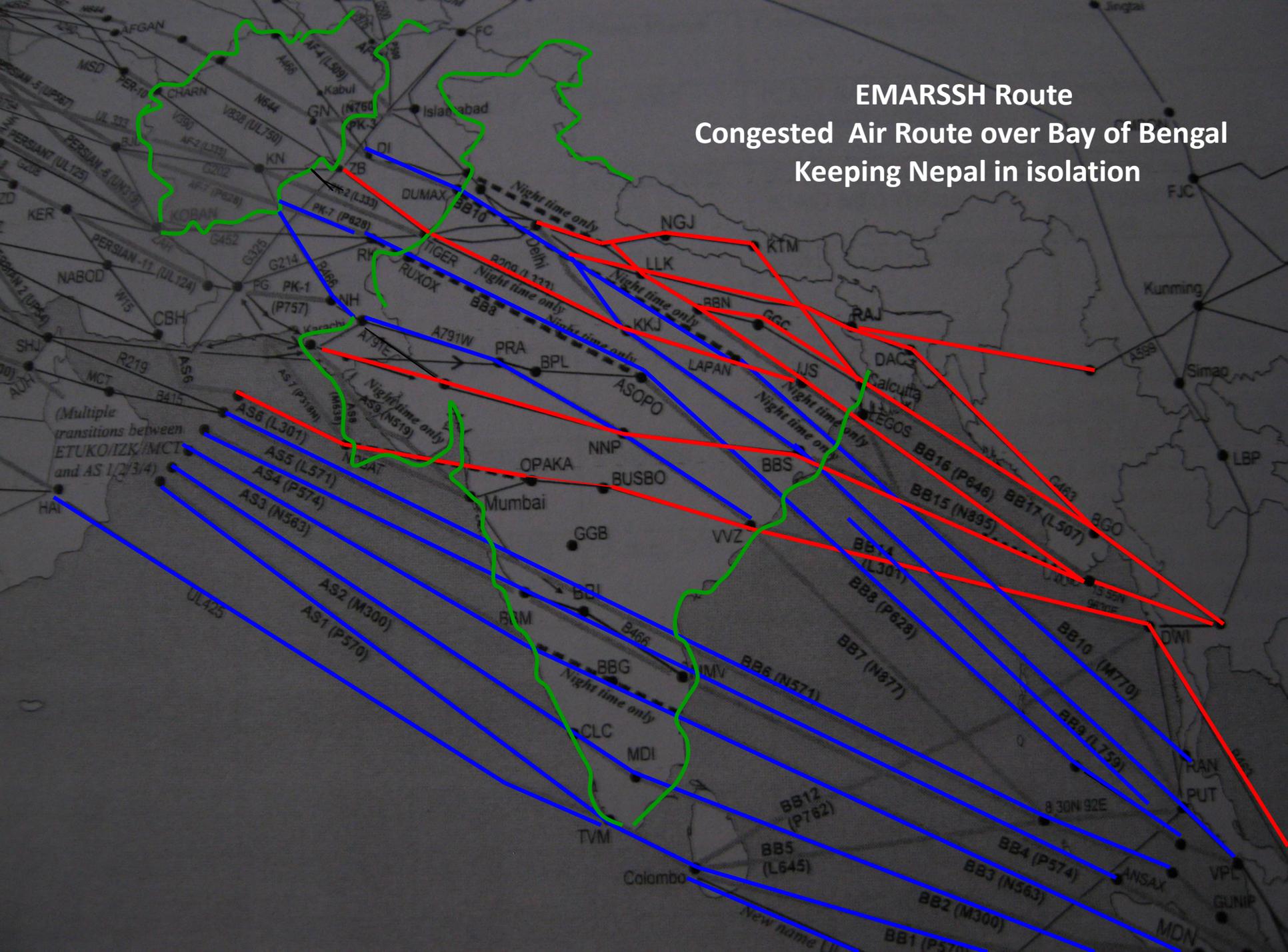
- **B-203:**

Kathmandu-Bagdora-Guwahati-Silcha-Imphal-Lasio: **Bi-directional**

# World: Air Routes



# EMARSSH Route Congested Air Route over Bay of Bengal Keeping Nepal in isolation



## अन्तरराष्ट्रिय विमानस्थलको ट्राफिक अनुमान

किसिम	२०१८	२०२३	२०२८	२०३८
त्रि.अ.वि.	६.५७	६.४८	६.४८	६.४८
गौतम बुद्ध अ.वि.	०.२६	१.८८	२.६४	३.३४
पोखरा अ.वि.	०.३९	०.८७	१.५६	३.०१
निजगढ अ.वि.			३.४७	२१.३१
जम्मा	७.२२	९.२३	१४.१५	३४.१४

## **4. History of National Plans Policies and Feasibility Studies**

# Policies

First National Aviation Policy in 2050 (1993), amendment in 2053 (1996), New Civil Aviation Policy in 2063 (2006)

## **National Transportation Policy 2058 (2001)**

For serving as a main basis for external trade through tourism and air cargo transportation : Build New International Hub Airport with facilities for precision landing , full descent in the Nepalese air space, and development of parallel runway.

## **National Civil Aviation Policy 2063 (2006)**

To develop Nepal as a transit hub in the Asia Pacific Region - a new international airport with state-of-art facilities will be built and developed with the Participation of GON and Private Sector.

Optimum utilization of Nepal airspace by Incorporating Nepal within International Air Route Network

# National Periodic Plans

## Five Year Plans of National Planning Commission

**Sixth Plan** 2037 -2042 (1980-1984): Complete economic and Technical feasibility study of Alternate International Airport.

**Seventh Plan** 2042 -2047(1985-1989): Continue feasibility study of Alternate International Airport.

**Eighth Plan** 2049 -2054 (1993-1997):Feasibility study of potential sites and Detail Study and Start of Construction of Second International Airport at the most suitable site.

**Ninth Plan** 2054-2059 (1998 – 2002) : Feasibility study of potential sites for Second International Airport.

**Tenth Plan** 2059-2063 (2002-2007): Commence construction of Second International Airport. Participation of National and Foreign private sectors, if GON is unable to mobilize financial resources.

**11<sup>th</sup> Plan** Three Year Plan 2064-2066 ((2007-2009): Infrastructure Development of **Second International Airport at Nijgadh of Bara District.**

# .....National Periodic Plans

## **Five Year Plans of National Planning Commission**

**12 th Plan- Three Year Plan 2067 -2069 (2010-2012): Agreement with LMW of Korea for Detail Feasibility study of Second International Airport at Nijgadh of Bara District.**

**13th Plan- Three Year Plan 2070 -2072(2013-2015): Commence construction of Second Intl. Airport at Nijgadh of Bara District through identification of investor on BOT basis.**

Continue construction of Regional Intl Airport at Bhairhawa Goutam Budha Airport.

Commencement of of Regional Intl Airport at Pokhara.

**14th Plan - 2073- 2075( 2016-2018): Land Acquisition, Resettlement, Social and Environmental Impact Study, Fencing of SIA at Nijgadh.**

Operation of GBIA, Detail Design completion and commencement of construction of PIA.

# Pre-feasibility Study 1995

## Locations

1. Simra Dumbarbana – 5 km SE of existing Simra Airport – air route arrangement, river training and flood control issues, land acquisition and resettlement issues.
2. Near Pathlaiya
3. Ratanpur , 8 to 9 km north from EWH - Close proximity of Hills
4. Nijgadh, unrestricted and obstruction free maneuvering airspace of minimum 20 km radius.
5. Bharatpur, Sukranagar – Proximity to Chitwan National Park; difficulties in circling approach for large size a/c.
6. Bhairahawa - proximity of border, western area intercepted by three rivers Ghaghar, Tinau, and Duna.
7. Nepalgunj Ranjha – Proximity of Dunduwa River, Resettlement problems, far from Kathmandu.
8. Biratnagar – LA and Resettlement issues, far away from Kathmandu, Close to the Indian border.
9. Pokhara – Feasible for small a/c only.
10. Dang – far away from Kathmandu. Minimum distance available for ascent and descent from west is not sufficient.

# Feasibility Study 1997

- Phase 1, 2010 – Rs. 69 billion = \$1.2 billion

34,000 m sq.m. Terminal Area, Domestic Terminal 14,000 sq.m.,  
9,500 sq.m. cargo terminal, Intl and dom Airline building (12,000 sq.m.),  
4,700 m. North Runway, Intl. and domestic Hangar (9,970 sq.m, 2,588  
sq.m., RFS, ATF farm, control tower.

# LMW Feasibility 2011

- Phase 1, 2010 –\$ 662 million

75,500 sq.m. Terminal Area, Domestic Terminal 1,500 sq.m., 5,000 sq.m. cargo terminal, Intl and dom Airline building (12,000 sq.m.), 3,600 m. Runway, Intl. and domestic Hangar (9,970 sq.m, 2,588 sq.m., RFS, ATF farm, control tower.

# CAAN Updated SIA Costs

S.N.	Item	Quantity	Cost, million US \$
1	Land Acquisition & Resettlement		62.11
2	EMP, D&S Consultancy General ,Security, Insurance		105.50
3	Works i/c EW, Runway, T'way, Apron Drainage, Security eqp		600.43
4	Pax Terminal Bldg	115,000 m <sup>2</sup>	232.05
5	Tower		1.10
6	Cargo Terminal	11,500 m <sup>2</sup>	10.35
7	Other bldgs	21,000 m <sup>2</sup>	20.61
8	A/C Hangar	30,000 m <sup>2</sup>	54.30
9	RFFS		17.10
10	CNS, Met, lighting		51.83
11	Power system, and others		53.38
	<b>Total</b>		<b>US\$ 1208.76</b>

## 5. Current Status and Concerns of SIA

# Current Status

- Airport boundary, appx 80 sq.km., declared on 2071. 12. 30 (13 April 2015) GOB Gazette Part 5, no. 47.
- In Progress
  - Land Acquisition
  - Fencing
  - EIA

# Current Concerns

## ➤ Environmental Impacts

- Tree cutting For Airport Only, Phase -I:

- Nos. of Trees - 194,596
- Nos. of Poles – 576,491
- Market Value of Royalty =Rs. 23 billion (appx)

## ➤ Implementation Modality:

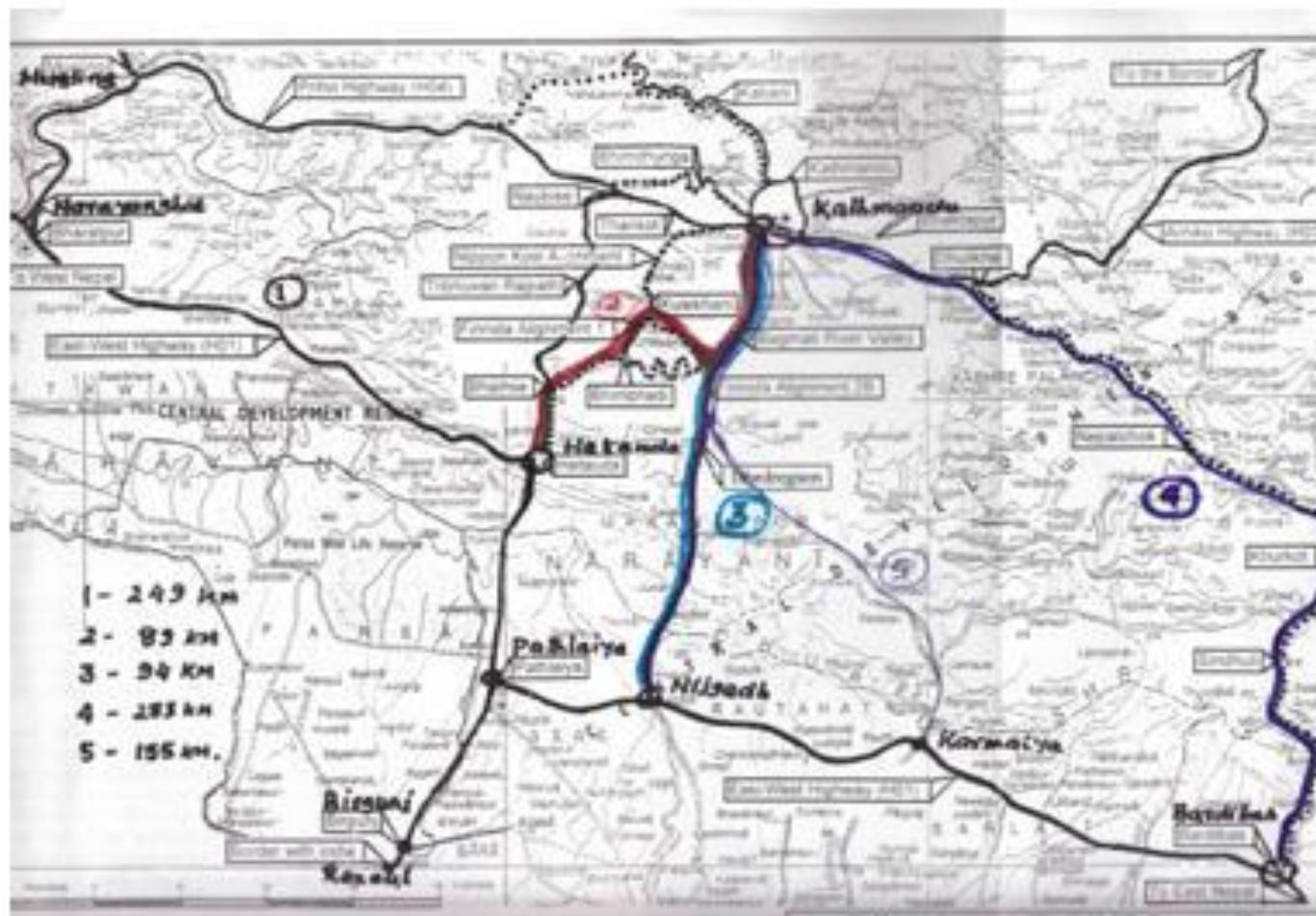
- PPP/BOT,
- Donor Funds,
- GON Funds

## ➤ Time Bound Targets and Commitments

- Procurement Laws and Institution
- Complimentary Fast Tracks

## 6. Supporting Highways – Fast Tracks

# Kathmandu – Terai Routes



# Kathmandu – Nijgadh E'Way – 76 km

- Under Construction by Nepal Army
- Concerns:
  - High Cuts: 30 m to 75 m in 32 locations
  - High Fills: > 20 m high fills in 8 locations
  - High Bridges : 99 Nos. out of which 26 nos. have >30 m high piers
  - Construction time
  - Operation and Maintenance

# Kathmandu-Kulekhani Hetauda Highway Project

## Concession Agreement with NPBCL in 2012

Total length of 53.7km

- 8 tunnels/8,830m (the longest is 4,430 m)
- 59 bridges/15,010m.

## Concerns:

- Investor arrangement
- Competition with FT, Toll free FT ?
- Common Initial 20 km

# Kathmandu-Kulekhani Hetauda Highway Project



## 7. Context of Airport City

# SIA with Airport City

COORDINATES

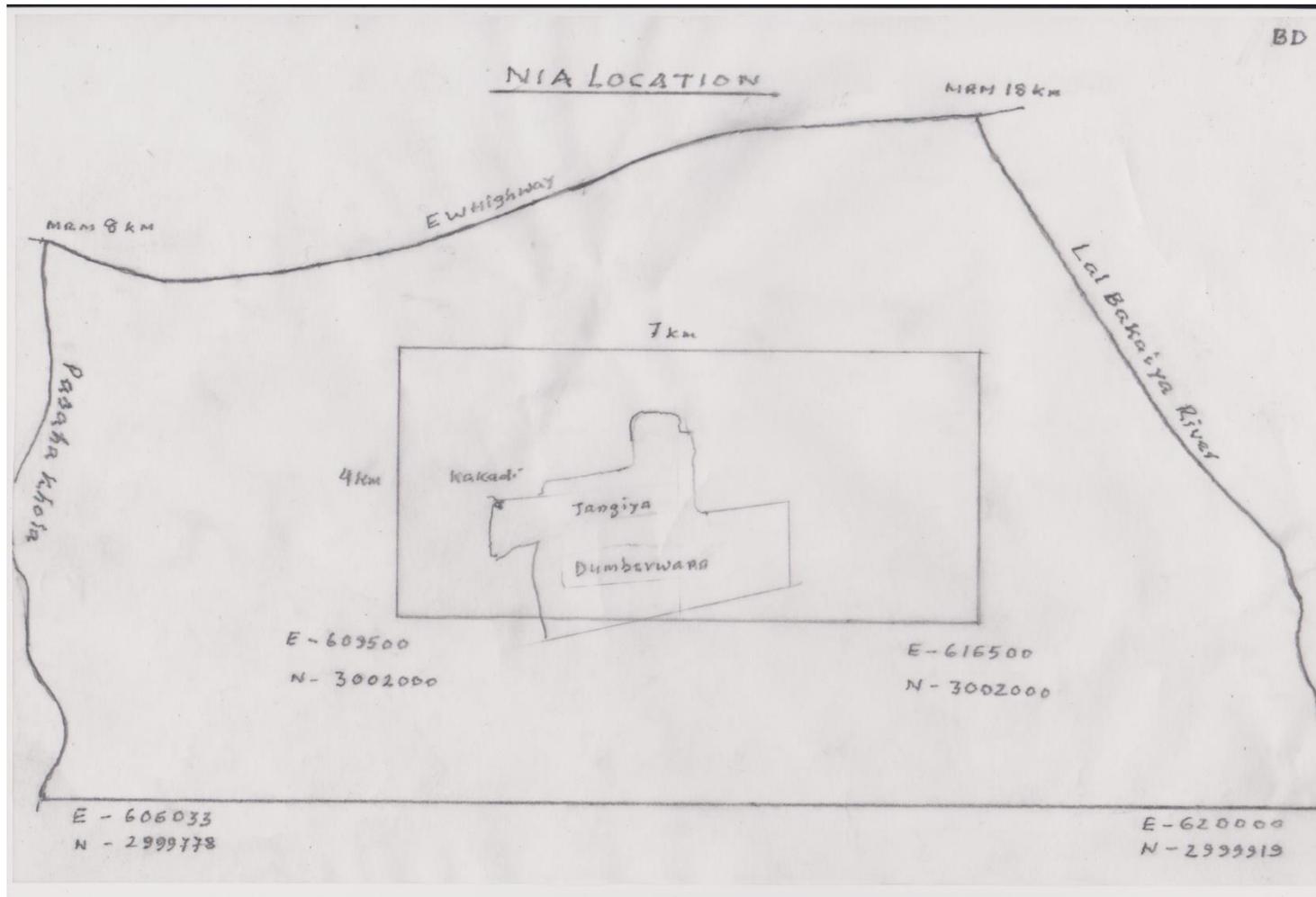
85 30 7.48

27 01 25.88



# Declaration of Second International Airport Area – Boundaries

Nepal Gazette Part 3 dated 2071.12.30



## 8. Conclusion and Recommendations

# Conclusion

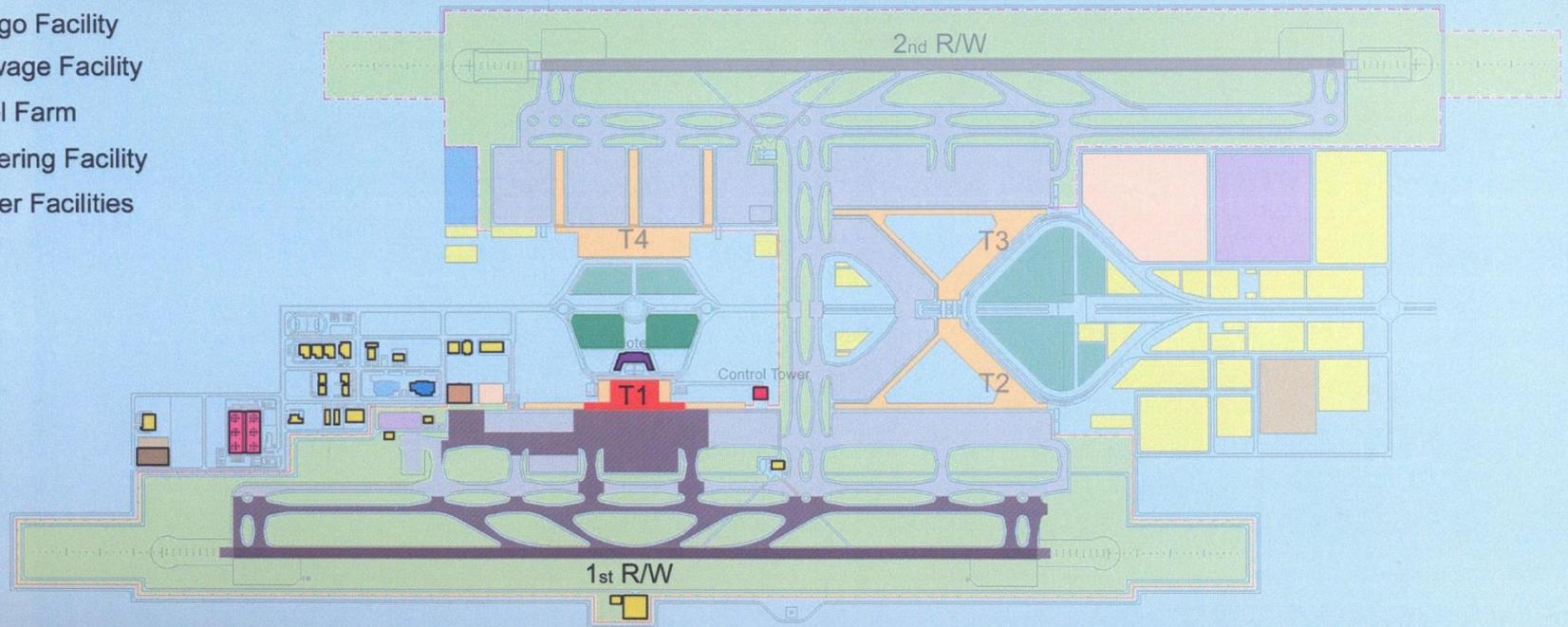
- Need and desire for the SIA is already established in all the National 5-yr and 3-yr Plans since Sixth Plan, 1980 - 84
- Implementation modality for the SIA is not yet decided
- There is no alternative to the established location
- PPP modality has/is not been possible due to too many legal and institutional requirements, conflicting short term interests and global liquidity crunch.
- GON decided on 2073/1/23 to arrange required fund resources of Rs 121 billion for construction period of 4 yrs.
- EIA concerns focused on overkill approach rather than Environmental Management Plan Approach.
- Encroachment and Deforestation cannot be prevented due to population pressure. For example, the settlement of 1439 households in Tangia Basti has deforested 503 hectare of forest land for agriculture in the **past 40 Years**. Resettlement and prevention of forest encroachment could be more effective with the airport than without the airport.
- Complementary Highway and Expressways constructions need to be adequately linked with SIA plans.

# Recommendations

- PP/BOT Approach is not feasible unless GON financing supports and guarantees are assured. This will require amendments in BOT Act, and intensive coordination, monitoring and facilitations by GON.
- Donor funding is unlikely for such a big project. Moreover, implementation shall be prolonged due to complex requirements of the donors. It will be a waste of time and loosing of priority if foreign investment either by PPP/BOT or by multilateral agency funding is attempted for such a green field project .
- Take up Phase I with minimum provisions with a five year target for about \$200 million per year on 100% GON funding. International consultants and contractors to be used only for those tasks beyond domestic capacity.
- Coordinate with FT and KKHTH projects and facilitate their accelerated implementation. Initial 20 km of the FT is common to FT and HHTH and should be completed in 3 years time by DOR under 100 % GON funding. Tolling to be applied for the remaining sections in both the FT and KKHTH.
- The SIA and FT will provide opportunities for technology transfer and capacity building of Nepalese engineers and decision makers and eventually to self reliant development.
- SIA may be renamed as NIA (New Intl. Airport)

## 4. Airport Layout Plan – 1<sup>st</sup> Phase

-  : Cargo Facility
-  : Sewage Facility
-  : Fuel Farm
-  : Catering Facility
-  : Other Facilities



The data in this presentation are compiled from various sources.

These are obtained informally and are intended to depict an indicative picture of the aviation and other infrastructure related to the development of NIA. The presenter of this paper does not assume any responsibility for the accuracy of the data.

With due appreciation to the Civil Aviation Officials and Experts who have contributed in the preparation of this presentation.

**Thank You**