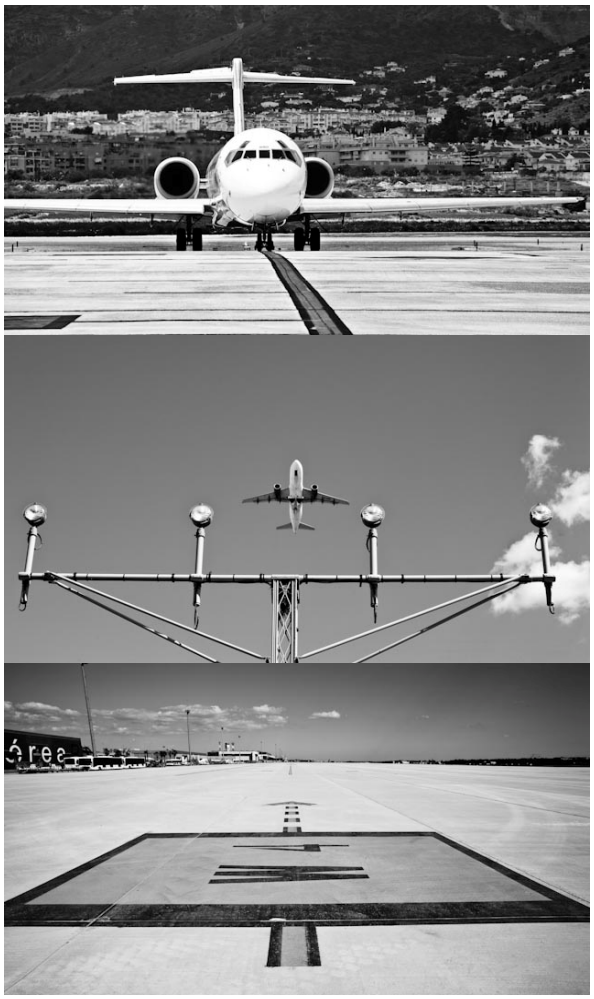

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Capacity Development of
Civil Aviation Authority of Nepal

NATIONAL AIRPORTS PLAN
Current Situation and Diagnostic. DRAFT

SEPTEMBER 2012

The present document is embedded into the Project "Capacity Development of Civil Aviation Authority of Nepal", more specifically into the part "2A- National Plan for Civil Aviation Development".

The main aim of this document is to analyze the current situation of the airport network in Nepal, studying the following:

a) *Airports distribution and classification*

b) *Individual airport diagnosis*

c) *Network coverage*

This first diagnostic of the current state of operation will be used to determine the required actions to achieve in the airports, once the future network is defined. A 20-years strategic plan will be defined in this matter.

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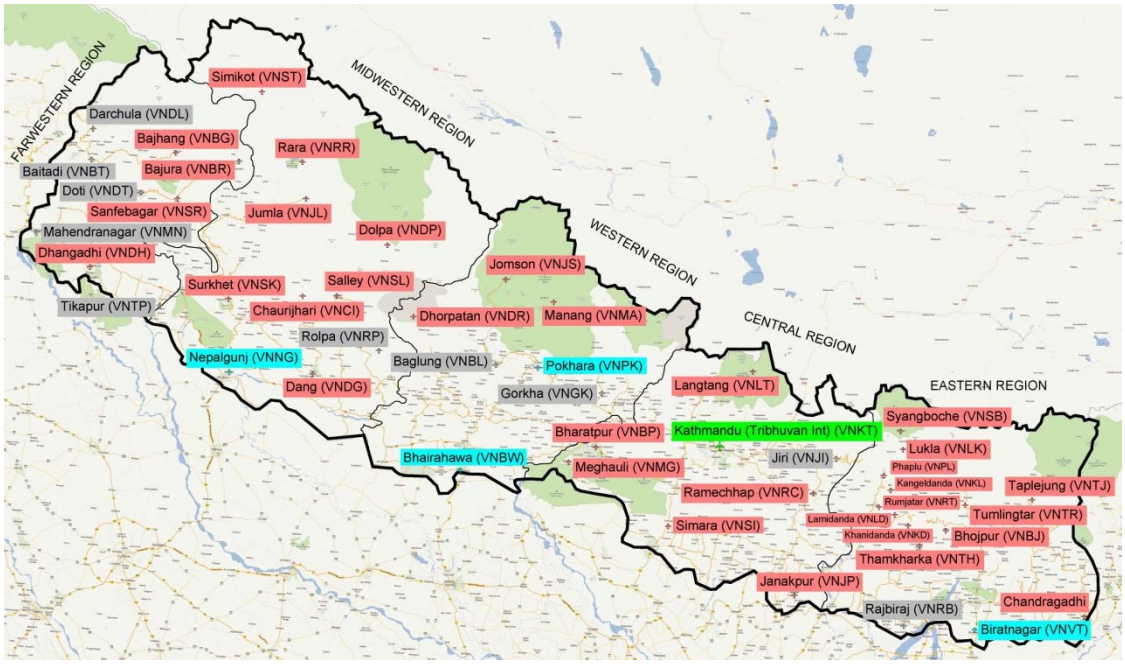
1. AIRPORTS NETWORK IN NEPAL

1.1. Airports distribution

Nepal has a large airport network, made up of a total of 48 airports. They are distributed all over the country, although in the eastern and western regions they are more assembled, specially because of the complicated terrain which makes difficult by other means of transport to reach them.

Figure 1. Airports in Nepal



Nepal's five administrative regions, with their corresponding airports, are shown in the table below:

Table 1. Nepal airports by region

Eastern	Central	Western	Mid Western	Far Western
Bhojpur	Bharatpur	Baglung	Chaurjhari	Baitadi
Biratnagar	Janakpur	Bhairahawa (*Gautam Buddha*)	Dang	Bajhang
Chandragadhi (Bhadrapur)	Jiri	Dhorpatan	Dolpa	Bajura
Kangeldanda (Solukhumbu)	Kathmandu (Tribhuvan)	Gorkha	Jumla	Darchula
Khanidanda (Manamaya)	Langtang	Jomson	Nepalgunj	Dhangadhi
Lamidanda	Meghauli	Manang	Rara (Mugu)	Doti
Lukla (*Tenzing-Hillary*)	Ramechhap	Pokhara	Rolpa	Mahendranagar
Phaplu	Simara		Salley (Rukum)	Sanfebagar
Rajbiraj			Simikot	Tikapur
Rumjatar			Surkhet	

Eastern	Central	Western	Mid Western	Far Western
Syangboche				
Taplejung				
Thamkharka				
Tumlingtar				

Apart from this administrative division in the country, Nepal can be divided into three ecological areas as regards the landscape: Terai, Hills and Himalayas. These ecological belts run east-west and are vertically intersected by Nepal's major, north to south flowing river systems.

Most people in the country live in the plainest area, as life is much easier there than in mountainous zones. The next figure shows the distribution of Nepali population by district, confirming the previous statement except for the two most populated districts: Kathmandu and Morang, where the second business city in Nepal, Biratnagar, is located.

The distribution of airports according to the ecological classification is shown in the table below. Most of the airports are spread into the Hills (37.5%) and Himalayas (35.4%), where in some cases they are the unique mean of transport in the surroundings.

Table 2. Nepal airports by ecological areas

Terai	Hills	Himalayas
Bhairahawa (*Gautam Buddha*)	Baglung	Bajhang
Bharatpur	Baitadi	Bajura
Biratnagar	Bhojpur	Darchula
Chandragadhi (Bhadrapur)	Chaurjhari	Dolpa
Dang	Dhorpatan	Jiri
Dhangadhi	Doti	Jomson
Janakpur	Gorkha	Jumla
Mahendranagar	Kathmandu (*Tribhuvan*)	Kangeldanda (Solukhumbu)
Meghauli	Khanidanda (Manamaya)	Langtang
Nepalgunj	Lamidanda	Lukla (*Tenzin- Hillary*)
Rajbiraj	Pokhara	Manang
Simara	Ramechhap	Phaplu
Tikapur	Rolpa	Rara (Mugu)
	Rumjatar	Simikot
	Salley (Rukum)	Syangboche
	Sanfebagar	Taplejung
	Surkhet	Tumlingtar
	Thamkharka	

1.2. Airports operational classification

Only 34 of the 48 airports have regular flights, whereas another 4 are considered charter and the rest of them are inoperative. However, if an airline asks for the permission to operate a flight in one of those last airports, and its infrastructures are in good conditions, it is possible to operate in them.

- **Charter airports**
  - Dhorpatan
  - Langtang
  - Meghauli
  - Syangboche

- **Inoperative airports**
  - Baglung
  - Baitadi
  - Darchula
  - Doti
  - Gorkha
  - Jiri
  - Mahendranagar
  - Rajbiraj
  - Rolpa
  - Tikapur

Airports with scheduled flights are currently classified in three categories: international, regional and domestic.

- **International Airport**

  Currently there is only one airport with international operations arriving/departing from the country: Tribhuvan International Airport in Kathmandu.

- **Regional Hub Airports**

  There are four airports considered as regional hubs, as they receive passengers from Kathmandu and spread them to other smaller airports in the region where they are sited. There are not cross sector flights in Nepal, so people fly through Kathmandu and these airports from one point to another.

  These four regional airports are Biratnagar (serving mainly Eastern region), Pokhara and Bhairahawa (*Gautam Buddha*) (Western region) and Nepalgunj (Mid-Western and Far West regions).

- **Domestic Airports**

  The rest of airports with scheduled flights are domestic. In general they only have regular flights to a Regional airport, and sometimes it is the only way of arriving to these areas because road access is not possible.

  Within this group very different airports are considered. Some of them are similar in infrastructures to regional airports, while others consist simply in a kind of *runway* with very few or no more facilities to use.

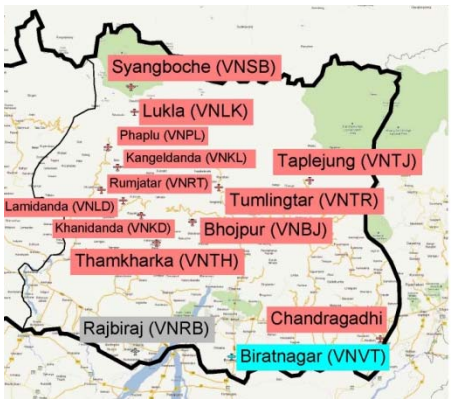
  The airports beneath this denomination are listed below:

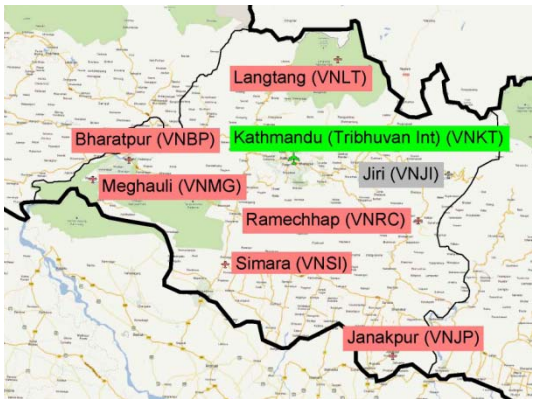
  - Bajhang
  - Bajura
  - Bharatpur

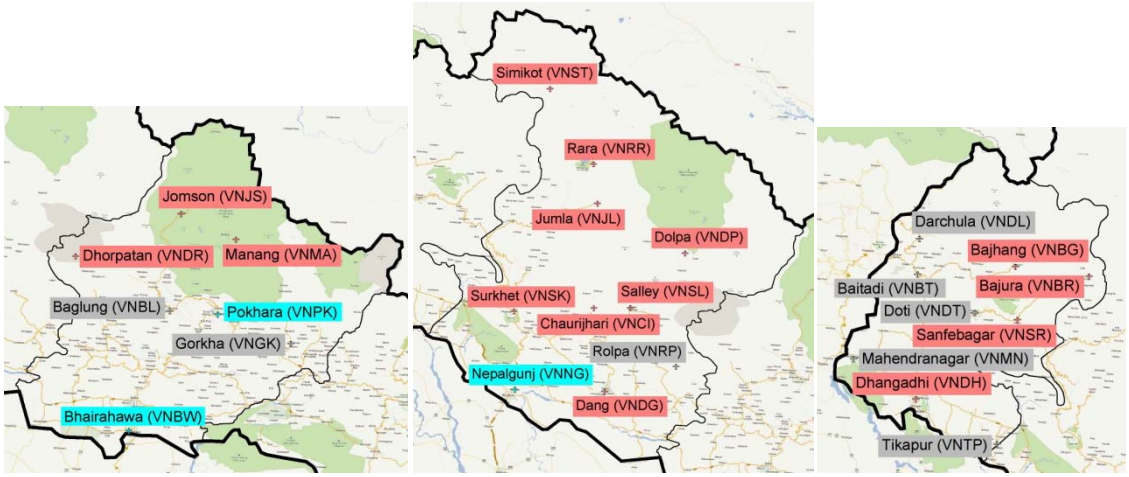
- Bhojpur
- Chandragadhi (Bhadrapur)
- Chaurjhari
- Dang
- Dhangadhi
- Dolpa
- Janakpur
- Jomson
- Jumla
- Kangeldanda (Solukhumbu)
- Lamidanda
- Lukla (*Tenzing-Hillary*)
- Khanidanda (Manamaya)
- Manang
- Phaplu
- Rara (Mugu)
- Ramechhap
- Rumjatar
- Salley (Rukum)
- Sanfebagar
- Simara
- Simikot
- Surkhet
- Thamkharka
- Taplejung
- Tumlingtar

In the Figure 2 all the airports in the country are shown by region and by the previous classification (green color shows the international airport, blue the regional ones, red the domestic and grey the inoperative airports).

Figure 2. Airports in Eastern, Central, Western, Mid Western and Far Western regions, respectively







1.3. Other airports

Apart from the described airports network, the Government of Nepal is planning to build some more airports in the country. Six of them are now under construction, although they are in different phases of development.

Kamalbazaar is already finished, although it isn't permitted to fly there for the moment. Kalikot and Dolpa (Masinechaur) will supposedly be completed next year (2013), while Khijichandeshwari and Lamjung will need at least five years to start operation, as the project has just started. Gulmi is the sixth planned airport.

Another five more airports have been proposed by CAAN to be built in Nepal: Dharan, New Pokhara, Ilam, Second International Airport and Udayapur.

1.4. Airports under study

All the described airports play a role in the airport network of Nepal. The operative ones, those with scheduled or charter flights, will be individually studied, and also all of them as a whole to determine the position each one should hold in the network for the future.

According to it, the minimum infrastructure each airport must have to operate safely will be determined.

The airports which are going to be studied are shown below, classified by the region they are located in and by type of airport.

Table 3. Airports under study by type and region

	Eastern	Central	Western	Mid Western	Far Western
International		Kathmandu (*Tribhuvan*)			
Regional Hub	Biratnagar		Pokhara Bhairahawa (*Gautam Buddha*)	Nepalgunj	
Domestic	Bhojpur Chandragadhi Kangeldanda Khanidanda Lamidanda Lukla (*Tenzing-Hillary*) Phaplu Rumjatar Syangboche Taplejung Thamkharka Tumlingtar	Bharatpur Janakpur Langtang Meghauli Ramechhap Simara	Dhorpatan Jomson Manang	Chaurijhari Dang Dolpa Jumla Rara Salley Simikot Surkhet	Bajhang Bajura Dhangadhi Sanfebagar

2. CURRENT SITUATION DIAGNOSIS

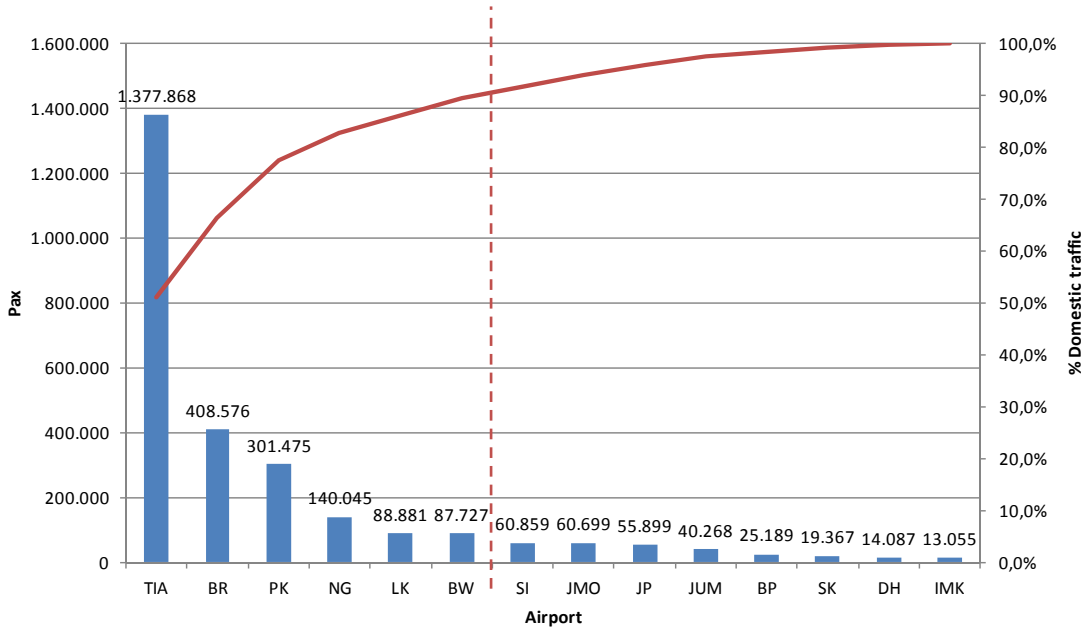
2.1. Traffic distribution by airports

Before looking at each airport individually, the corresponding relative traffic of some airports is going to be shown. They are the busiest airports in Nepal, and the following table and figure show the way the domestic traffic is distributed between them.

Table 4. Domestic traffic in the busiest airports within Nepal in 2009

Airport	Pax 2009	Proportion of domestic traffic	Accumulated proportion of domestic traffic
Tribhuvan (TIA)	1.377.868	51,1%	51,1%
Biratnagar (BT)	408.576	15,2%	66,3%
Pokhara (PK)	301.475	11,2%	77,5%
Nepalgunj (NG)	140.045	5,2%	82,7%
Lukla (LK)	88.881	3,3%	86,0%
Bhairahawa (BW)	87.727	3,3%	89,3%
Simara (SI)	60.859	2,3%	91,5%
Jomson (JMO)	60.699	2,3%	93,8%
Janakpur (JP)	55.899	2,1%	95,8%
Jumla (JUM)	40.268	1,5%	97,3%
Bharatpur (BP)	25.189	0,9%	98,3%
Surkhet (SK)	19.367	0,7%	99,0%
Dhangadhi (DH)	14.087	0,5%	99,5%
Simikot (IMK)	13.055	0,5%	100,0%
Chandragadhi (BDP)	No Data	0,0%	100,0%

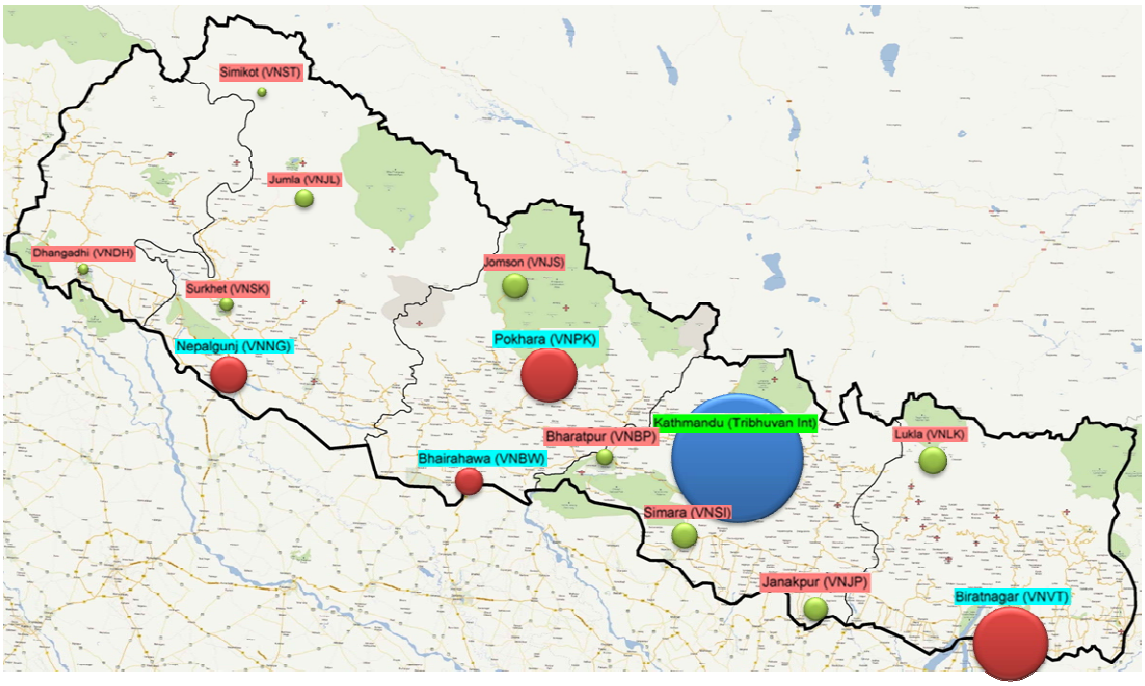
Figure 3. Passengers and proportion of domestic traffic by airport in 2009



As Kathmandu is the most populated area in the country, and also the unique air gateway for international travelers coming to Nepal and then spread within the territory, it results that Tribhuvan International Airport collects approximately half of the total domestic air traffic in the country.

Furthermore, there are not cross sector flights between cities, but passengers have to fly to remote areas by regional airports, so, as it can be observed in Figure 3, nearly 90% of the domestic traffic is operated only from/to six airports of the 38 operative ones: the four mentioned regional airports, TIA and Lukla, one of the most touristic airports in Nepal. Figure 4 shows this traffic distribution between the busiest airports along the country: circumferences size varies according to the domestic passengers movement registered in 2009.

Figure 4. Passengers traffic distribution along the country



2.2. Preliminary information

All the airports in the country can be operated under Visual Flight Rules (VFR), but only five of them are ready for an airplane to take-off or land with Instrumental Flight Rules (IFR). In a country like Nepal, with its landscape and associated meteorology, this implies a problem in terms of real operational time: most of Nepali airports have frequently meteorological problems associated with wind, clouds or rain which force the airport to close for some hours or, even, some days.

Apart from these daily problems in operation, some airports of Nepal must close during the complete monsoon season. They are said to be seasonal, and the number of them is 20.

According to the AIP, 29 airports are considered STOL (Short Take-Off and Landing) ones, that is, airports in which the runway length, location and/or obstacles in the departure or approach path constitute a handicap for the construction of a conventional airport. In this case, most of Nepal airports are considered STOL because they are located in a valley between high mountains or even on the mountains, so their runway is too short, their runway slope too high or they need complicate procedures to operate at.

Currently only 14 of the total number of airports in the country have a paved runway, while another 22 have grass surface and the last two has it made of clay material.

In accordance to the AIP, only 9 of the airports have Air Traffic Control, while most of them provide Aerodrome Flight Information Service (AFIS) on VHF Frequency. Eight of them don't provide any of these services and six are unmanned.

With regard to their profits, not all the airports in the country are profitable, but some of them should be maintained as they act as a *social* means of transport. The government has classified up to 14 airports as *social* and is trying to implement some aids for

private airlines to encourage them to operate in these routes, so people living in those areas is not completely isolated. These *social airports* are the following ones: Bajhang, Bajura, Bhojpur, Chaurijhari, Dolpa, Jumla, Lamidanda, Manang, Phaplu, Rumjatar, Salley, Simikot, Thamkharka and Tumlingtar. They are usually served from a Regional Airport, but lately some of these routes are changing or even disappearing with the construction of new roads.

Of the rest of the airports in the country, the most touristic ones, and so mainly the most profitable, are Pokhara, Lukla, Jomson, Syangboche, Phaplu, Manang, Taplejung, Meghauli, Dolpa and Rara. Biratnagar Airport is also one of the most profitable ones (in fact, it is the third Nepali airport in terms of passengers) as Biratnagar is the second business city in the country.

In previous sections it has been said that Tribhuvan International Airport is the unique airport in Nepal with international routes in the current situation, but CAAN is thinking about opening some others airports to international traffic. These plans spread to Pokhara and Bhairahawa, but for the moment it will be for near "regional" destinations (because of lateral agreements with India, flights to/from there are treated like regional ones). Pokhara is now restructuring the terminal building and it is expected to link the city with Lucknow (India) in winter 2012-2013, and Gautam Buddha Airport is being conceived as a pilgrim airport for hinduists coming mainly from India to visit Lumbini, Lord Buddha's birth place.

It is important to point that, although Pokhara Airport is being redesign, there is a project of a new airport in the city to substitute the first one. It will be also analyzed with the available information, although it will need still some years to start operation.

Apart from these plans of opening international operation in those existing airports, Government of Nepal decided some years ago to build another international airport in Kathmandu: SIA (Second International Airport). For the moment it is only a project, but in case it was built, it would affect considerably to the airports network organization.

2.3. Individual diagnosis

In this section all the 38 airports under study will be analyzed individually to have a look at their current situation, in order to compare them further on with the demanded requirements and identify the necessary actions to achieve in each one.

Some data incoherence have been found in the available documents and sources, apart from some lack of information and some downgraded piece of, so it has been very difficult to obtain a homogeneous data card to fill in for each airport.

All the collected information about the airports network is described further on.

- **BAJHANG**

ICAO Code:		VNBG			
Location	**Region:**	Far Western	**Zone:**	Seti	**District:** Bajhang
ARP Coordinates:		293220N / 0811107 E			
Elevation:		1250m/4100t			
Use:		Scheduled flights			
Types of Traffic permitted:		VFR			

According to AIP, it is a STOL airport.

AIRFIELD AND APRON

Runway

- **Designation:** 07/25
- **Dimensions (m):** 640 x 30
- **Surface:** Grass
- **Turn Pad:** Not available

Taxiway

No Data

Apron

There is an area where aircrafts can wait in front of the main building.

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

The airport provides Aerodrome Flight Information Service (AFIS) on VHF Frequency.

Markings and lighting

No Data

Rescue and Fire Fighting Service

No Data

Fuelling facilities

Re-fuelling facilities not available.

Passenger facilities: Terminal building

There is a terminal building for passengers to be processed. Reconstruction works of the building/control tower and staff residences are being taken up, after they were damaged during the period of conflict.

Operating capacity and obstacles

It is a seasonal airport.

- **BAJURA**

ICAO Code:		VNBR			
Location	**Region:**	Far Western	**Zone:**	Seti	**District:** Bajura
ARP Coordinates:		293013 N / 0814006 E			
Elevation:		1404 m/ 4606 ft			
Use:		Scheduled flights			
Types of Traffic permitted:		VFR			

According to AIP, it is a STOL airport. It serves as the only one means of transportation of that area.

AIRFIELD AND APRON

Runway

- **Designation:** 09/27
- **Dimensions (m):** 588x30
- **Surface:** Grass
- **Turn Pad:** Not available

Taxiway

No Data

Apron

No Data

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

The airport provides Aerodrome Flight Information Service (AFIS) on VHF Frequency.

Markings and lighting

No Data

Rescue and Fire Fighting Service

No Data

Fuelling facilities

Re-fuelling facilities not available.

Passenger facilities: Terminal building

There is a terminal building for passengers to be processed. Reconstruction works of the building/control tower and staff residences are being taken up, after they were damaged during the period of conflict.

Operating capacity and obstacles

Seasonal airport.

- **BHAIRAHAWA (*Gautam Buddha*)**

ICAO Code:		VNBW			
Location	**Region:**	Western	**Zone:**	Lumbini	**District:** Rupandehi
ARP Coordinates:		273026N / 0832505 E			
Elevation:		105m/344 ft		**Reference Tª:**	42 °C
Use:		Scheduled flights			
Types of Traffic permitted:		IFR / VFR			

It serves the role of gateway for air passengers coming and going from Lumbini, the birthplace of Lord Buddha. Besides, this airport serves as the entry point for the foreigners and Indians coming to Kathmandu via surface route through Sunauli, the border town, which is 5 km from the airport.

AIRFIELD AND APRON

Runway

- **Designation:** 10/28
- **Dimensions (m):** 1500x30 (TORA/TODA/ASDA/LDA: 1500 m)
- **Surface:** Bitumen
- **Turn Pad:** The RWY ends in a turn pad in both thresholds, and it is the only way for aircrafts to turn around.

Taxiway

There is a perpendicular TWY to link the RWY with the apron. It is made of bituminous surface and 23 m wide.

Apron

The apron is made of asphalt concrete and it has an area of 90 x 62 Sq. m.

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

The airport is equipped with a DVOR/DME (BWA) for approaching and exit procedures.
There is an approach light system in THR28.
PAPI equipments are located at both ends of the runway.
Traffic is managed by air traffic controllers in the Control Tower. It is one of the eight controlled airports where Aerodrome Control Service is being provided on VHF frequency.
The airport has a meteorological office to provide METAR data to the TWR. It is available during operation hours.

Control Zone and Holdings Points, Instrument Approach and Standard Departure Charts are available in the AIP document.

Markings and lighting

Centre lines are marked in RWY and TWY. Furthermore, RWY has Designation, THR, TDZ and edge marks. TWY has holding positions at all TWY/RWY intersections marked. In the apron the taxiing guidance signs at intersections with TWY and RWY and at holding positions and guide lines are marked.

According to the AIP there are RWY edge, end and THR lights and TWY edge lights.

Rescue and Fire Fighting Service

Category V ICAO. The rescue equipment available as per category.

Fuelling facilities

Jet A1 is available during operation hours. It is provided by Nepal Oil Corporation.

Passenger facilities: Terminal building and parking

There is a terminal building, but There are not offices for Customs and Immigration.
There is a car parking area in front of the main building.

Handling facilities/Hangar

There are no hangars in the airport.

Cargo handling

Available with local airlines operator

Operating capacity and obstacles

The airport is available throughout the year.
Sometimes cases of bird concentration in the vicinity of the aerodrome may be encountered. No special procedures have been adopted to control these bird concentrations except driving them through guards and security personnel.
Visibility is not adequate for VFR flight about 25% of the time. The airspace within Nepalese borders (Indian border is 5km away) does not offer enough space for landing/departure for large-sized aircraft.

According to AIP there is only a chimney as an obstacle, but critical obstacle zones lie here in the form of hills, which will limit the holding pattern of big aircrafts. No forest exists in the surroundings of Bhairahawa airport.

- **BHARATPUR**

ICAO Code:		VNBP				
Location	**Region:**	Central	**Zone:**	Narayani	**District:**	Chitwan
ARP Coordinates:		274041 N / 0842546 E				
Elevation:		207 m/ 679 ft				
Use:		Scheduled flights				
Types of Traffic permitted:		VFR				

From the tourism point of view this airport has the potential of serving as a connecting link with Meghauli airport, which is situated in the proximity of Chitwan National Park.

AIRFIELD AND APRON

Runway

- **Designation:** 15/33
- **Dimensions (m):** 1200 x 30 (TORA/TODA/ASDA/LDA: 1200 m)
- **Surface:** Bitumen
- **Turn Pad:** The RWY ends in a turn pad in THR15

Taxiway

There is a taxiway made of bituminous surface. Its dimensions are 50 x 20 Sq. m.

Apron

The surface is paved with asphalt concrete. With 90 x 62 Sq. m., its capacity is four parking position of DHC-6 type aircrafts.

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

The airport has a NDB (BHP) for approaching and exit procedures.
Traffic is managed by air traffic controllers in the Control Tower.
The airport has a meteorological office to provide METAR data to the TWR.

CTR and ATZ and VFR Holding Charts are available in the AIP document.

Markings and lighting

Runway has Designation, THR, TDZ, edge and Centre Line marked. The taxiway has Centre line and holding positions at TWY/RWY intersection marked.
In the apron there are taxiing guidance signs at intersections with TWY and RWY and at holding positions and guide lines marked.

Rescue and Fire Fighting Service

The rescue equipment in the airport consists of wheel type fire extinguishers.

Fuelling facilities

Re-fuelling facilities not available.

Passenger facilities: Terminal building

The airport has a terminal building for passengers to be processed.

Handling facilities/Hangar

There are no hangars in the airport.

Cargo handling

Available with local airlines operator

Operating capacity and obstacles

This airport is available throughout the year.
Sometimes cases of bird concentration in the vicinity of the aerodrome may be encountered. No special procedures have been adopted to control these bird concentrations except driving them through guards and security personnel.

According to the AIP there is no obstacle in the vicinity.

- **BHOJPUR**

ICAO Code:		VNBJ			
Location	**Region:**	Eastern	**Zone:**	Koshi	**District:** Bhojpur
ARP Coordinates:		270851 N / 0870303E			
Elevation:		1208 m/ 3962 ft			
Use:		Scheduled flights			
Types of Traffic permitted:		VFR			

According to AIP, it is a STOL airport. The district is recently connected with the earthen road.

AIRFIELD AND APRON

Runway

- **Designation:** 17/35
- **Dimensions (m):** 534 x 30
- **Surface:** Clay
- **Turn Pad:** Not available

Taxiway

No Data

Apron

The parking capacity of apron for DHC-6 type aircraft is maximum three.

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

The airport provides Aerodrome Flight Information Service (AFIS) on VHF Frequency.

Markings and lighting

No Data

Rescue and Fire Fighting Service

No Data

Fuelling facilities

Re-fuelling facilities not available.

Passenger facilities: Terminal building

The airport has a passenger terminal. Reconstruction works of the building/control tower and staff residences are being taken up, after they were damaged during the period of conflict.

Operating capacity and obstacles

The airport is seasonal.
It is fit for one way landing through threshold 35 only, and takeoff through threshold 17.
Airport is always disturbed by winds after 9 or 10 am; so the flights must operate before that time to avoid cancellation.

- **BIRATNAGAR**

ICAO Code:		VNVT			
Location	**Region:**	Eastern	**Zone:**	Koshi	**District:** Morang
ARP Coordinates:		262903 N / 0871552 E			
Elevation:		72 m/236 ft		**Reference Tª:**	40 °C
Use:		Scheduled flights			
Operational hours:		6:00-18:00 (VFR)/ 6:00-23:00 (IFR) by request			
Types of traffic permitted:		IFR/VFR			

Biratnagar Airport serves as a hub of Eastern Region of Nepal. The Airport supports some STOL Airports in the region.

AIRFIELD AND APRON

Runway

- **Designation:** 09/27
- **Dimensions (m):** 1500x30 (TORA/TODA/ASDA/LDA: 1500 m)
- **Surface:** Bitumen
- **Turn Pad:** The RWY ends in a turn pad in both thresholds, and it is the only way for aircrafts to turn around as the parallel taxiway doesn't reach both ends.
- **Condition:** It seems to be in good conditions for operation.
- **RWY strip/RESA** The RWY doesn't have a strip and its borders end directly in the grass, which is higher than recommended. It can be risky as some birds or animals can hide and enter the RWY unexpectedly.
  The RWY doesn't have Runway End Safety Area.

Taxiway

The airfield has two perpendicular entrance and exit taxiways, 23 m wide. One of them connects the runway and the apron in front of the terminal building, and the other links with a parallel taxiway, which was built last year.

Apron

The apron has an area of 178.5x62.5 m and it has six positions for C or smaller aircrafts. The taxiing guidance signs are marked, but the aircraft stand markings are not.
It has also a helicopter position to permit its take-off and landing.
There are two different surfaces in the apron (approx 50% of the total each one): the oldest has been resurfaced with asphalt concrete overlay and the new one was made of asphalt.

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

The airport has two radio aids: NDB (VTN) and VOR/DME (BRT), although they are not always operative.
There is an approach lighting system in THR 09 and PAPI in both thresholds.
There are three windsocks: one near each RWY end and one in the middle.
Traffic is managed by air traffic controllers in the Control Tower.
The airport has a meteorological office to provide METAR data to the TWR. It is available during operation hours.

Control Zone and Holdings Points, Instrument Approach, Standard Departure, Standard Terminal Arrival Route and Aerodrome Ground Movement Charts are available in the AIP document.

Markings and lighting

RWY has Designation, THR and TDZ marks. Edge and centre lines are marked in RWY and TWY. In the apron only the taxiing guidance signs are marked.

According to the AIP there are RWY edge lights and RWY end lights.

Rescue and Fire Fighting Service

Category V ICAO. According to the AIP the equipment is the required by the category. In the visit airport staff said they have 15 firemen working in two shifts and one vehicle of 10,000 l capacity (9,000 l water and 1,000 l foam).

Fuelling facilities

Jet A1 is available during operation hours. It is provided by Nepal Oil Corporation.

Passenger facilities: Terminal building and car parking

The airport has one terminal building, which is being expanded. It has one hall area of 452.79 Sq. m. in which passengers enter the building and do the check-in process. Airlines have here their own check-in counters and the baggage checking is also done here, previous to its entry way to the apron. There is a canteen.

There is a security control with two metal detectors (for males and females) to enter the departure hall. People wait here for the boarding and can buy in a small shop located there. There are two boarding gates.

The arrival hall (84.15 Sq. m.) is located at the left of the terminal hall and is connected directly with the apron. It is now congested in peak hours, so a new arrival lounge (170 Sq. m.) is being built at the other side of the building. Passengers will use one or another lounge depending on the position in which their plane parks.

There is also in the airport an area for VIP passengers next to the arrival hall.

In the second floor of the terminal building offices are sited.

There are not offices for Customs and Immigration.

There is a parking for vehicles in front of the main building.

Handling facilities/Hangar

There are no hangars in the airport.

Some fuel tankers are parked in the aircraft apron.

Cargo handling

Available with local airlines operator

Operating capacity and obstacles

This airport is available throughout the year.

The way of operation is decided according to the wind, but the normal operation is approaching by THR09 and departing by THR27.

Sometimes cases of bird concentration in the vicinity of the aerodrome may be encountered. No special procedures have been adopted to control these bird concentrations except driving them through guards and security personnel.

According to the AIP there are two obstacles: a telecommunication TWR antenna and the VOR/DME antenna.

- **CHANDRAGADHI (BHADRAPUR)**

ICAO Code:		VNCG			
Location	**Region:**	Eastern	**Zone:**	Mechi	**District:** Jhapa
ARP Coordinates:		263413 N / 0880433 E			
Elevation:		95 m/ 312 ft			
Use:		Scheduled flights			
Types of traffic permitted:		VFR			

Due to its proximity to eastern boarder of Nepal, the airport finds strategic significance as domestic destination for travelers coming from north eastern states of India as well as from Bhutan and Bangladesh.

AIRFIELD AND APRON

Runway

- **Designation:** 10/28
- **Dimensions (m):** 1500 x 30 (TORA/TODA/ASDA/LDA: 1500 m)
- **Surface:** Bitumen
- **Turn Pad:** There is a turning pad in both thresholds.

Taxiway

There is a taxiway to connect the RWY with the apron. It is made of bituminous surface.

Apron

The surface is paved with asphalt concrete.

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

The airport has one NDB (JPA) for approaching and exit procedures.
There are PAPI lights in THR10.
Traffic is managed by air traffic controllers in the Control Tower.
The airport has a meteorological office to provide METAR data to the TWR.

Aerodrome Traffic Zone (ATZ) and VFR Holdings Charts are available in the AIP document.

Markings and lighting

Centre lines are marked in RWY and TWY. Furthermore, RWY has Designation, THR, TDZ and edge marks. TWY has holding positions at all TWY/RWY intersections marked. In the apron the taxiing guidance signs at intersections with TWY and RWY and at holding positions and guide lines are marked.

Rescue and Fire Fighting Service

There is no rescue equipment in the airport.

Fuelling facilities

Re-fuelling facilities are not available.

Passenger facilities: Terminal building

The airport has a terminal building for passengers to be processed.

Handling facilities/Hangar

There is no hanger space for visiting aircrafts.

Cargo handling

Available with local airlines operator

Operating capacity and obstacles

This airport is available throughout the year.
VFR condition prevails for 50 to 70% of the time only.

According to the AIP there are no obstacles in the vicinity.

- **CHAURJHARI**

ICAO Code:		VNCJ			
Location	**Region:**	Mid Western	**Zone:**	Rapti	**District:** Rukum
ARP Coordinates:		283738 N / 0821136E			
Elevation:		741 m/ 2430 ft			
Use:		Scheduled flights			
Types of traffic permitted:		VFR			

According to AIP, it is a STOL airport.

AIRFIELD AND APRON

Runway

- **Designation:** 03/21
- **Dimensions (m):** 487 x 30
- **Surface:** Grass
- **Turn Pad:** There is a turn pad at THR 21.

Taxiway

There is not a taxiway, airplanes run into the building by the grass.

Apron

There is no apron in the airport, airplanes park in front of the building but there is not any delimited parking area.

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

The airport provides Aerodrome Flight Information Service (AFIS) on VHF Frequency.

Markings and lighting

There are not markings in the airport.

Rescue and Fire Fighting Service

No Data

Fuelling facilities

Re-fuelling facilities not available.

Passenger facilities: Terminal building

The airport has a passenger terminal. Reconstruction works of the building/control tower and staff residences are being taken up, after they were damaged during the period of conflict.

Operating capacity and obstacles

The airport is seasonal.

- **DANG**

ICAO Code:		VNDG				
Location	**Region:**	Mid Western	**Zone:**	Rapti	**District:**	Dang
ARP Coordinates:		280644 N / 0821733 E				
Elevation:		634 m/ 2079 ft				
Use:		Scheduled flights				
Types of traffic permitted:		VFR				

According to AIP, it is a STOL airport.

AIRFIELD AND APRON

Runway

- **Designation:** 16/34
- **Dimensions (m):** 1158 x 46
- **Surface:** Grass
- **Turn Pad:** Not available

Taxiway

No Data

Apron

No Data

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

The airport provides Aerodrome Flight Information Service (AFIS) on VHF Frequency.

Markings and lighting

No Data

Rescue and Fire Fighting Service

No Data

Fuelling facilities

Re-fuelling facilities not available.

Passenger facilities: Terminal building

There is not a building for passengers to be processed.

Operating capacity and obstacles

The airport is seasonal.

- **DHANGADHI**

ICAO Code:		VNDH				
Location	**Region:**	Far Western	**Zone:**	Seti	**District:**	Kailai
ARP Coordinates:		284512 N / 0803455E				
Elevation:		176 m/ 577 ft				
Use:		Scheduled flights				
Types of traffic permitted:		VFR				

According to AIP, it is a STOL airport. It serves as a hub airport to far western development regions. This airport can provide a good opportunity to serve as a trans-border link for commercial and economic benefits between Nepal and northern regions of India. In the past, this airport was one of the busiest airports serving the people of far-western region; traffic decreased after the construction of Karnali Bridge.
It is located about 12 km far from Dhangadhi.

AIRFIELD AND APRON

Runway

- **Designation:** 09/27
- **Dimensions (m):** 1800 x 30 (RWY 27 THR displaced 130 m; total length 1670 m)
- **Surface:** Bitumen
- **Turn Pad:** The runway ends in a turning pad in both thresholds, a half circle of 30 m radius.

Taxiway

There is a TWY to connect the RWY with the apron. Its dimension is 85 x 20 m. It is made of asphalt pavement.

Apron

The area of apron is 92 x 60 m and its surface is asphalt pavement.

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

The airport provides Aerodrome Flight Information Service (AFIS) on VHF Frequency.
There is one NDB (DHI) and PAPI lights are available.

Markings and lighting

Runway: Designation, THR, TDZ and Centre Line marked.
Taxiway: Centre line, holdings positions and TWY / RWY intersections marked.
Apron: Guide lines marked.

Rescue and Fire Fighting Service

No Data

Fuelling facilities

Re-fuelling facilities are available.

Passenger facilities: Terminal building

Currently there is a terminal building, but the construction of a new one, a control tower and an office building has been recently contracted out.

Operating capacity and obstacles

The airport is seasonal.
The RWY is designed to cope the requirements of Fokker-100 aircraft or equivalent.
The adequate VFR condition at the airport is 70 to 90% of time.

- **DHORPATAN**

ICAO Code:		VNDR				
Location	**Region:**	Western	**Zone:**	Dhawalagiri	**District:**	Baglung
ARP Coordinates:		283100 N / 0830200 E				
Elevation:		2728 m/ 8950 ft				
Use:		Charter flights				
Types of traffic permitted:		VFR				

According to AIP, it is a STOL airport. It lies within the Dhorpatan Hunting Reserve.

AIRFIELD AND APRON

Runway

- **Designation:** 09/27
- **Dimensions (m):** 365 x 30
- **Surface:** Grass
- **Turn Pad:** No Data

Taxiway

No Data

Apron

No Data

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

No Data

Markings and lighting

No Data

Rescue and Fire Fighting Service

No Data

Fuelling facilities

Re-fuelling facilities not available.

Passenger facilities: Terminal building

No Data

Operating capacity and obstacles

No Data

- **DOLPA**

ICAO Code:		VNDP				
Location	**Region:**	Mid Western	**Zone:**	Karnali	**District:**	Dolpa
ARP Coordinates:		285909 N / 0824909E				
Elevation:		2503 m/ 8209 ft				
Use:		Scheduled flights				
Types of traffic permitted:		VFR				

According to AIP, it is a STOL airport. It serves as the only means of transportation for Shey-Phoksundo National Park (famous destination for tourists).

AIRFIELD AND APRON

Runway

- **Designation:** 15/33
- **Dimensions (m):** 490 x 30
- **Surface:** Grass
- **Turn Pad:** No Data

Taxiway

No Data

Apron

There is an area where aircrafts can wait in front of the main building.

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

The airport provides Aerodrome Flight Information Service (AFIS) on VHF Frequency.

Markings and lighting

No Data

Rescue and Fire Fighting Service

No Data

Fuelling facilities

Re-fuelling facilities not available.

Passenger facilities: Terminal building

There is a building for passengers. Reconstruction works of the building/control tower and staff residences are being taken up, after they were damaged during the period of conflict.

Operating capacity and obstacles

The airport is seasonal.

- **JANAKPUR**

ICAO Code:		VNJP					
Location	**Region:**	Central	**Zone:**	Janakpur	**District:**	Dhanusha	
ARP Coordinates:		264239 N / 0855528 E					
Elevation:		71 m/ 233 ft		**Reference Tª:**		40 °C	
Use:		Scheduled flights					
Types of traffic permitted:		VFR					

Janakpur is the birthplace of Davis Sita (Janaki), so the number of Indians coming to visit this holy place is important. Also, the places related to Lord Ram, Ram Janaki Temples (recognized as World Heritage Site), are very close to this airport, what converts this area in a religious tourists destination.

AIRFIELD AND APRON

Runway

- **Designation:** 09/27
- **Dimensions (m):** 1300 x 30 (TORA/TODA/ASDA/LDA: 1300 m)
- **Surface:** Bitumen
- **Turn Pad:** There is a turning pad near both thresholds, although THR09 one is not available.

Taxiway

There is a taxiway to connect the RWY with the apron. It is made of bituminous surface.

Apron

The surface is paved with asphalt concrete.
Its capacity is four parking position of DHC-6 type aircrafts.

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

The airport has a NDB (JKP) for approaching and exit procedures.
There is PAPI in THR09.
Traffic is managed by air traffic controllers in the Control Tower.
The airport has a meteorological office to provide METAR data to the TWR.

Markings and lighting

Centre lines are marked in RWY and TWY. Furthermore, RWY has Designation, THR, TDZ and edge marks. TWY has holding positions at all TWY/RWY intersections marked. In the apron the taxiing guidance signs at intersections with TWY and RWY and at holding positions and guide lines are marked.

According to the AIP RWY has end, THR and edge lights. In the TWY there are blue edge lights.

Rescue and Fire Fighting Service

The rescue equipment in the airport consists of wheel type fire extinguishers.

Fuelling facilities

Re-fuelling facilities not available.

Passenger facilities: Terminal building

The airport has a terminal building for passengers to be processed.

Operating capacity and obstacles

This airport is available throughout the year.
About 25% of the flight time the visibility is not adequate for VFR flights at the airport. On the other hand, flight cancellations during monsoon period are only about 10% of time.
Sometimes cases of bird concentration in the vicinity of the aerodrome may be encountered.

No special procedures have been adopted to control these bird concentrations except driving them through guards and security personnel.

- **JOMSON**

ICAO Code:		VNJS				
Location	**Region:**	Western	**Zone:**	Dhawalagiri	**District:**	Mustang
ARP Coordinates:		284652N / 0834321E				
Elevation:		2736 m/ 8976 ft				
Use:		Scheduled flights				
Types of Traffic permitted:		VFR				

According to AIP, it is a STOL airport. It is located at the bank of Kali Gandaki River lying in between majestic mountains Dhaulagiri, Annapurna and other towering peaks. The airport lies in the world famous Annapurna round trek route.

AIRFIELD AND APRON

Runway

- **Designation:** 06/24
- **Dimensions (m):** 610 x 30
- **Surface:** Bitumen
- **Turn Pad:** The runway ends in a turn pad in both thresholds.

Taxiway

There is an asphalt paved TWY. Its dimensions are 17 x 30 m.

Apron

The surface is paved with asphalt concrete. It has 170 x 42 Sq. m.

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

The airport provides Aerodrome Flight Information Service (AFIS) on VHF Frequency.

Markings and lighting

Runway: Designation, THR, TDZ and Centre Line marked.

Rescue and Fire Fighting Service

No Data

Fuelling facilities

Re-fuelling facilities not available.

Passenger facilities: Terminal building

The airport has a terminal building for passengers to be processed.

Operating capacity and obstacles

This airport is available throughout the year.
Visibility is not adequate for VFR flight about 15% of the time
The airport is disturbed by high-speed winds after 12 o'clock; so it is operated in the morning only.
The runway has facility of both ways landing/take off as per the favorable wind direction.
The runway length is adequate for Twin Otter and Dornier aircrafts.

- **JUMLA**

ICAO Code:		VNJL				
Location	**Region:**	Mid Western	**Zone:**	Karnali	**District:**	Jumla
ARP Coordinates:		291626 N / 0821123E				
Elevation:		2375 m/ 7790 ft				
Use:		Scheduled flights				
Operational hours:		Sunrise to sunset				
Types of traffic permitted:		VFR				

According to AIP, it is a STOL airport. Jumla Airport is situated on the bank of Tila River in the Jumla Valley of Karnali Zone. It is the busiest STOL airport of the mid and far western development region. This airport has been playing a significant role in the enhancement of trade and travel surrounding the region, because it is a prime means of transportation goods and people in the region, from Surkhet and Nepalgunj.

AIRFIELD AND APRON

Runway

- **Designation:** 09/27
- **Dimensions (m):** 670 x 30
- **Surface:** Bitumen
- **Turn Pad:** The runway ends in a turn pad both thresholds.

Taxiway

There is a TWY made of asphalt pavement to connect the RWY and the apron.

Apron

It is an asphalt concrete surface.

The parking capacity of apron for DHC-6 type aircraft is maximum five.

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

The airport provides Aerodrome Flight Information Service (AFIS) on VHF Frequency.

Markings and lighting

Centre and edge lines are marked in RWY and TWY. Furthermore, RWY has Designation, THR, and TDZ marks. TWY has TWY/RWY intersections marked. In the apron the taxiing guidance signs at intersections with TWY and guide lines are marked.

Rescue and Fire Fighting Service

No Data

Fuelling facilities

Re-fuelling facilities not available.

Passenger facilities: Terminal building

There is a terminal building in the airport. Reconstruction works of the building/control tower and staff residences are being taken up, after they were damaged during the period of conflict.

Operating capacity and obstacles

This airport is available throughout the year.

This airport has both -way landing and takeoff facilities with operation hours from 6 am to 6 pm. It is noted that even during winds at 30 knots of speed, the flights are safely landing and taking off at this airport.

At no time the visibility is inadequate for VFR flights.

The flight cancellation during monsoon is only 10% because the runway is laid with asphalt concrete.

- **KANGELDANDA (SOLUKHUMBU)**

ICAO Code:		VNKL			
Location	**Region:**	Eastern	**Zone:**	Sagarmatha	**District:** Solukhumbu
ARP Coordinates:		272500 N / 0863818 E			
Elevation:		2097 m/ 6880 ft			
Use:		Scheduled flights			
Types of traffic permitted:		VFR			

According to AIP, it is a STOL airport.

AIRFIELD AND APRON

Runway

- **Designation:** 11/29
- **Dimensions (m):** 520 x 26
- **Surface:** Grass
- **Turn Pad:** Not available

Taxiway

No Data

Apron

No Data

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

The airport provides Aerodrome Flight Information Service (AFIS) on VHF Frequency.

Markings and lighting

No Data

Rescue and Fire Fighting Service

No Data

Fuelling facilities

Re-fuelling facilities not available.

Passenger facilities: Terminal building

Construction of terminal and tower buildings projects are being managed.

Operating capacity and obstacles

The airport is seasonal.

- **KATHMANDU** ***(Tribhuvan International Airport)***

ICAO Code:		VNKT			
Location	**Region:**	Central	**Zone:**	Bagmati	**District:** Kathmandu
ARP Coordinates:		274149.8 N / 0852128.5 E			
Elevation:		1339.54 m/ 4394.76 ft		**Reference Tª:**	27.8 ºC
Use:		Scheduled flights			
Types of traffic permitted:		IFR/VFR			

Tribhuvan International Airport, the only airgate to Nepal, is located about 5.56 km east of the capital city, Kathmandu. It is the only International Airport having an overwhelming share to contribute to the sustainability of civil aviation in Nepal. There have been massive transformations on TIA especially since the last decades, in order to meet traffic demands at present and to cope with future demands. The major focus of development is explicable in terms of capacity enhancement for enhancing safety, security and comfort for the traveling public in general.

AIRFIELD AND APRON

Runway

- **Designation:** 02/20
- **Dimensions (m):** 3050x46 (1.2% slope)
  (02 TORA/TODA/ASDA/LDA: 3050/3290/3050/3050)
  (20 TORA/TODA/ASDA/LDA: 3050/3200/3050/2930)
- **Surface:** Bitumen
- **Turn Pad:** The RWY ends in a turn pad in both thresholds, and it is the only way for aircrafts to turn around as the parallel taxiway doesn't reach both ends.
- **Condition:** The RWY has many areas showing pavement distresses of varying types, due to the fact that since the last resurfacing, it has outlived its useful life as there has been an increase in traffic and consequent high wheel loads. This has resulted in a few bumps.
- **RWY strip/RESA** The RWY has a strip of 3140 x 150 Sq. m.
  Only northern part of the RWY has RESA. Currently it is only 90 m long from the end of the strip (as opposed to the ICAO recommended RESA length of 240 m), due to the land falling away steeply.
- **CWY** RWY has CWY in both ends: 02 (245 x 150 m) and 20 (150 x 150 m)

Taxiway

The airfield has a parallel taxiway, but it doesn't reach both RWY ends. Furthermore, there are five exit taxiways (TWY1, TWY2, TWY3, TWY4 and TWY5, starting from THR20) which link the RWY and the TWY. They are 23 m wide and made of bituminous surface.
Distance between RWY and TWY (109 m) is not enough to comply with ICAO standards, and is less than the required for any of the passenger jet aircraft operating in the airport.
In the airfield there is also a decommissioned cross runway, which is being used now as a taxiway to reach the hangars.

Apron

There are two civil aprons in the airport: one for domestic traffic and other for international operations. Both of them are served like remote aprons, to which passengers reach by bus.
The international one is located in front of the international terminal building and has 9 aircraft parking positions.
The domestic apron is further from the domestic terminal and is located near THR20. It has

enough space to house 25 aircrafts.
There is also a military and maintenance apron, apart from the previously commented, and an helicopter apron located at the end of decommissioned cross runway.
The helicopter landing area is located east of the runway opposite to TWY2 and TWY3..
According to AIP, apron surface is made of cement concrete.

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

The airport has four radio aids: NDB (KAM), VOR/DME (KTM) and two locators, Nalinchowk (LNC) and Thecho (LTH).
There is an approach lighting system of high intensity consisting of extended center line 870 m in THR 02 (Cat-I) and PAPI in both thresholds.
Traffic is managed by air traffic controllers in the Control Tower.
The airport has a meteorological office to provide METAR data to the TWR, ACC and Approach. It is available during operation hours.

Aerodrome, Aircraft Parking (Int. and Domestic), Aerodrome Ground Movement, Slope – Longitudinal Profile, Aerodrome Obstacle, Visual Aerodrome Traffic, Standard Departure, Standard Terminal Arrival Route, Instrumental Approach, TIA Controlled Airspace, Kathmandu Terminal Area, IFR Holdings, VFR Holdings, Mountain Flight Route and Heli-lane Charts are available in the AIP document.

Markings and lighting

Centre lines are marked in RWY and TWY. Furthermore, RWY has Designation, THR, TDZ and edge marks. TWY has holding positions at all RWY/TWY intersections marked. In the apron taxiing guidance signs at all intersections with TWY and RWY and at all holding positions, guide lines and nose-in guidance at aircrafts stands are marked.
There are also stop bars, where appropriate.

According to the AIP there are RWY end, THR and edge lights and TWY edge lights.

Rescue and Fire Fighting Service

Category VIII ICAO. According to the AIP the equipment is the required by the category.

Fuelling facilities

Jet A1 is available during operation hours. It is provided by Nepal Oil Corporation. There are six trucks, 1,20,000Liters, 1000 Liters/min.

Passenger facilities: Terminal building and car parking

The airport has three terminal buildings: domestic, international and VVIP.
The Domestic terminal is located the nearest THR20. Only passengers can enter the building, as there is a policeman controlling it. There is a security control with two metal detectors and two X-Ray machines (men and women) and once it is crossed, there is a hall in which companies have their own counters for passengers to do the check-in. Then the passengers pass another security control to access the boarding hall, where two boarding gates can be found, apart from a restaurant and some other facilities. Boarding gates end directly in the apron, where buses take the passengers to the domestic apron and their corresponding aircraft.
There is not arrival lounge in this terminal, but passengers are conducted directly to a covered shed outside the building where baggage claim is located.

The international terminal is located in front of the international apron, lightly nearer to THR20 than the domestic terminal. It has two entrance halls and airlines counters are distributed between both of them. In this case counters are flexible, not property of each company. Before entering this lounge, passengers must pass a security control in which their baggage is controlled (once it is checked in, not all the luggage is controlled). Then passengers go upstairs to the immigration control, where some passport controls are sited, and pass a

security control to enter the boarding area. There are five international boarding gates, which access directly the apron.
In the same way, arrival passengers enter the building by foot and reach the passport control, where Visa must be obtained. Once they have passed the immigration control they go downstairs to the baggage claim lounge, where there are three baggage belts. The meters and greeters waiting area is located outside the terminal building, in front of the gate for passengers to leave the building.

VVIP terminal building is located just in front of the domestic apron.

There is a parking for vehicles in front of the international terminal building and a remote car park for the domestic terminal, so passengers have to walk under covered walkways to the terminal.

Handling facilities/Hangar

There are many hangars in the airport. At the end of the decommissioned cross runway there are two of them, property of Buddha Air and Yeti Airlines. Between the domestic and the international aprons there are two more hangars: a military one and a NAC (Nepal Airlines Company) maintenance hangar.

Cargo handling

Available with local airlines operator.

Operating capacity and obstacles

This airport is available throughout the year.
Due to both weather and very high and hazardous terrain around the airport, all IFR traffic lands from the south and takes off towards the south.
Normally from July/August to November/December, cases of bird concentration and bird strikes at or in the vicinity of the aerodrome have been reported now and then. In other months stray birds may be encountered occasionally. Lots of measures have been adopted to control these birds concentrations, including driving them through guards and security personnel.

According to the AIP there are 33 obstacles, which can be consulted in the AIP.

- **KATHMANDU (*Second International Airport*)**

ICAO Code:		-				
Location	**Region:**	Central	**Zone:**	Narayani	**District:**	Bara
ARP Coordinates:		-				
Elevation:		-		**Reference Tª:**		-
Use:		Scheduled flights				
Operational hours:		-				
Types of traffic permitted:		IFR/VFR				

In 2007, Government of Nepal decided to build full flagged Second International Airport (SIA) in Bara, Nijgadgh. The proposed location is approximately 70 km far from Kathmandu, so it should also imply the construction of a highway to connect both places.

One Korean private company conducted a detailed feasibility study and submitted a proposal to Nepal Government through BOOT scheme. This report is under study in the Ministry of Tourism and Civil Aviation.

If this new airport is necessary or, even, recommended to be built is going to be tackled in the project, because it would affect all the airport network distribution.

- **KHANIDANDA (MANAMAYA)**

ICAO Code:		VNKD					
Location	**Region:**	Eastern	**Zone:**	Sagarmatha	**District:**	Khotang	
ARP Coordinates:		271051 N / 0864611 E					
Elevation:		1357 m/ 4435 ft					
Use:		Scheduled flights					
Types of traffic permitted:		VFR					

According to AIP, it is a STOL airport. The district is still not connected with the road network and hence the airport serves as the major means of connection with the other cites of the country.
Flight operation has started at the airport after the completion of the runway.

AIRFIELD AND APRON

Runway

- **Designation:** 08/26
- **Dimensions (m):** 510 x 27
- **Surface:** Grass
- **Turn Pad:** Not available

Taxiway

No Data

Apron

No Data

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

The airport provides Aerodrome Flight Information Service (AFIS) on VHF Frequency.

Markings and lighting

No Data

Rescue and Fire Fighting Service

No Data

Fuelling facilities

Re-fuelling facilities not available.

Passenger facilities: Terminal building

Construction of terminal and tower buildings projects are being managed.

Operating capacity and obstacles

The airport is seasonal.

- **LAMIDANDA**

ICAO Code:		VNLD				
Location	**Region:**	Eastern	**Zone:**	Sagamartha	**District:**	Khotang
ARP Coordinates:		271511 N / 0864012E				
Elevation:		1227 m/ 4024 ft				
Use:		Scheduled flights				
Types of traffic permitted:		VFR				

According to AIP, it is a STOL airport. It serves as the only means of transportation of that area. It is the gateway to Halesi Mahadev (Lord Shiva), a famous pilgrimage place.

AIRFIELD AND APRON

Runway

- **Designation:** 08/26
- **Dimensions (m):** 516x30
- **Surface:** Grass
- **Turn Pad:** No Data

Taxiway

No Data

Apron

There is an area where aircrafts can wait in front of the main building.

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

The airport provides Aerodrome Flight Information Service (AFIS) on VHF Frequency.

Markings and lighting

No Data

Rescue and Fire Fighting Service

No Data

Fuelling facilities

Re-fuelling facilities not available.

Passenger facilities: Terminal building

There is a terminal building for passengers. Reconstruction works of the building/control tower and staff residences are being taken up, after they were damaged during the period of conflict.

Operating capacity and obstacles

The airport is seasonal.

- **LANGTANG**

ICAO Code:		VNLT				
Location	**Region:**	Central	**Zone:**	Bagmati	**District:**	Rasuwa
ARP Coordinates:		281200 N / 0853600 E				
Elevation:		3658 m/ 11998 ft				
Use:		Charter flights				
Types of traffic permitted:		VFR				

According to AIP, it is a STOL airport. It lies in the area of Langtang National Park.

AIRFIELD AND APRON

Runway

- **Designation:** 09/27
- **Dimensions (m):** 420 x 30
- **Surface:** Grass
- **Turn Pad:** No Data

Taxiway

No Data

Apron

No Data

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

No Data

Markings and lighting

No Data

Rescue and Fire Fighting Service

No Data

Fuelling facilities

Re-fuelling facilities not available.

Passenger facilities: Terminal building

No Data

Operating capacity and obstacles

No Data

- **LUKLA (*Tenzing-Hillary*)**

ICAO Code:		VNLK			
Location	**Region:**	Eastern	**Zone:**	Seti	**District:** Achham
ARP Coordinates:		274116 N / 0864353 E			
Elevation:		2846 m/ 9334 ft			
Use:		Scheduled flights			
Types of traffic permitted:		VFR			

According to AIP, it is a STOL airport. Lukla, the gateway to the Mount Everest, is a world famous tourist airport. It is also the busiest STOL airport of Nepal as well as a major hub for earning foreign currency from tourists. The airport is located inside the buffer zone of Sagarmatha National Park.

AIRFIELD AND APRON

Runway

- **Designation:** 06/24
- **Dimensions (m):** 527 x 30 (Upslope 11.7%)
- **Surface:** Bitumen
- **Turn Pad:** Not available

Taxiway

There is not taxiway, aircrafts enter the apron directly from the RWY.

Apron

The apron is made of asphalt pavement and it measures 65 x 50 Sq. m.
It has 4 parking positions for aircrafts.

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

The airport provides Aerodrome Flight Information Service (AFIS) on VHF Frequency.

Markings and lighting

Runway has Designation, THR, TDZ and Centre Line marked. Taxiing guidance signs at intersections with RWY and guide lines are marked in the apron.

Rescue and Fire Fighting Service

No Data

Fuelling facilities

Re-fuelling facilities not available.

Passenger facilities: Terminal building

No Data

Operating capacity and obstacles

This airport is available throughout the year.
Operation is managed taking-off from THR24 and landing by THR06.
About 50% of the time the visibility is not adequate for VFR flights during the monsoon season. Flight cancellation during this period is also about 50% of all flights.
Due to the prevailing weather patterns, particularly wind conditions, most aircraft movements are conducted in the morning hours, before high winds due to lowering of the jet stream are encountered from about mid-day.
There is no missapproach procedures in Lukla airport, as it is completely fit in a valley.

- **MANANG**

ICAO Code:		VNMA				
Location	**Region:**	Western	**Zone:**	Gandaki	**District:**	Manang
ARP Coordinates:		283829 N / 0840521 E				
Elevation:		3381 m/ 11089 ft				
Use:		Scheduled flights				
Types of traffic permitted:		VFR				

According to AIP, it is a STOL airport. The district is still not connected with the road network and hence the airport serves as a major means of connection with the other cites of the country, both for social and touristic reasons. The airport lies in the world famous Annapurna round trek route. It is the airport having highest elevation (11089 ft) among the operational airports of the country.

AIRFIELD AND APRON

Runway

- **Designation:** 11/29
- **Dimensions (m):** 650 x 30
- **Surface:** Grass (black topping works have been started)
- **Turn Pad:** No Data

Taxiway

Black topping works have been started.

Apron

Black topping works have been started.
Some land have been recently acquired to extend the airport.

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

No Data

Markings and lighting

No Data

Rescue and Fire Fighting Service

No Data

Fuelling facilities

Re-fuelling facilities not available.

Passenger facilities: Terminal building

There is a terminal building in the airport.

Operating capacity and obstacles

The airport is seasonal.
It is feasible for both-way landing but take off through THR29 only.

- **MEGHAULI**

ICAO Code:		VNMG			
Location	**Region:**	Central	**Zone:**	Narayani	**District:** Chitwan
ARP Coordinates:		273438 N / 0841342 E			
Elevation:		152 m/ 498 ft			
Use:		Charter flights			
Types of traffic permitted:		VFR			

According to AIP, it is a STOL airport. It functions as a seasonal STOL airport and mainly serves the foreign tourists visiting the Tiger Tops Resort and the Jungle Lodge.

AIRFIELD AND APRON

Runway

- **Designation:** 08/26
- **Dimensions (m):** 1067 x 46
- **Surface:** Grass
- **Turn Pad:** Not available

Taxiway

No Data

Apron

There is an area where aircrafts can wait in front of the main building.

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

There is not permanent control tower in Meghauli, communication and navigation are conducted with VHF.
Unmanned airport.

Markings and lighting

No Data

Rescue and Fire Fighting Service

No Data

Fuelling facilities

Re-fuelling facilities not available.

Passenger facilities: Terminal building

There is a terminal building for passengers to be processed.

Operating capacity and obstacles

The airport is seasonal.
The adequate VFR condition at the airport is 50 to 70% of time.
Its unpaved runway is not favorable for flights during monsoon, so they cannot operate in this season.

- **NEPALGUNJ**

ICAO Code:		VNNG			
Location	**Region:**	Mid-Western	**Zone:**	Bheri	**District:**	Banke
ARP Coordinates:		280606N / 0813959 E			
Elevation:		158m/518 ft		**Reference Tª:**	42 °C
Use:		Scheduled / Charter flights			
Operational Hours:		Sunrise to sunset			
Types of traffic permitted:		IFR / VFR			

The airport is located 4 km away from the city.
It is a hub airport having air links with up to 10 airports of mid- western and far-western region. It has played a significant role in the enhancement of development works in many remote mountains areas by providing logistic support through scheduled and charter fixed wing aircraft and helicopters. In future, it can also contribute greatly to tourism development as a great many potential tourist destinations lie in the mid western region. It can also serve as a main air gate for Indian pilgrims to visit the Kailash Man Sarover situated in Tibet. Nowadays Nepali and Indian tourists come here to reach Simikot or to start trekking trips.

AIRFIELD AND APRON

Runway

- **Designation:** 08/26
- **Dimensions (m):** 1505x30 (TORA/TODA/ASDA/LDA: 1505 m)
- **Surface:** Bitumen
- **Turn Pad:** The runway ends in a turn pad in both thresholds, and is the only way for the aircraft to turn around because the parallel taxiway doesn't reach both ends.
- **Condition:** The RWY seems to be in good conditions for operation.
  It is thought that it could be extended at least 300 m to permit bigger aircrafts to operate in Nepalgunj.
- **RWY strip/RESA** The RWY doesn't have a strip and its borders end directly in the grass, which is higher than recommended. It can be risky as some birds or animals can hide and enter the RWY unexpectedly.
  The RWY doesn't have Runway End Safety Area.

Taxiway

The runway has three perpendicular exit taxiways, 15 m wide: A, B and C. Two of them (A, B) connect the runway and the apron and the other (C) links with a parallel taxiway and an hangar.
The airport also has a parallel taxiway, at a distance of 168 m from the RWY, which connects the apron with C entrance/exit TWY.
The dimension of this TWY is around 350 x 13m, as it was built for Twin Otters, although all airplanes in the airport are using it to reach THR08. It has bituminous surface.

Apron

The apron has an area of around 2400 Sq. m. and it has six taxiing guidance signs marked, although the aircraft stand marking stands are not. In spite of it, and according to the airport, up to ten aircrafts could be placed in the apron. Its surface is made of asphalt concrete.
A discontinuity is observed in the surface which crosses the apron in perpendicular.
It has also a helicopter position to permit its take-off and landing. The surface of this area is concrete.
In accordance with the airport, it should be extended.

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

The airport has two radio aids: NDB (NPJ) and VOR/DME (NGJ), although it is not always operative.
There is an approach lighting system in THR 26 and PAPI in both thresholds.
There are three windsocks: one near each RWY end and one in the middle.
Traffic is managed by air traffic controllers in the Control Tower.
The airport has a meteorological office to provide METAR data to the TWR. It is available during Air Traffic Service operational hours.
The night landing facilities are also available at this airport.

Nepalgunj TMA, CTR and ATZ, Instrument Approach, Standard Departure and Standard Terminal Arrival Route Charts are available in the AIP document.

Markings and lighting

RWY has Designation, THR and TDZ marks. Edge and centre lines are marked in RWY and the exit TWYs. The parallel TWY has only the centre lines marked. In the apron only the taxiing guidance signs are marked. They are also marked at intersection with TWY and RWY.

There are RWY edge lights and RWY end lights. According to AIP the RWY has also THR and wingbar lights.
The four TWYs have edge lights.
Signs in the airfield are hidden because the grass near the RWY and TWY is higher than recommended.

Rescue and Fire Fighting Service

Category V ICAO. According to the AIP the equipment is the required by the category, but in the visit it was realized that the unique serviceable vehicle was not operative and it had been like this for the last eight months. It was noticed by NOTAM. They had several fire extinguishers to cope with any kind of problem.
In the visit the airport said they have 7 firemen working in the RFFS.
There is one ambulance in the airport.

Fuelling facilities

Jet A1 is available during operation hours. It is provided by Nepal Oil Corporation.

Passenger facilities: Terminal building and car parking

Nepalgunj Airport has a terminal building linked to the apron by three undercover corridors, dedicated to Arrivals, VIP passengers and Departures.
The building has an entrance hall where passengers have immediately their baggage manually checked, as there are not scanners in the airport. After this, passengers do the check-in process in the corresponding airline check-in counters. Each company operating in the airport has its own counter/s.
To enter the boarding lounge there is a security control with two metal detectors (men and women), although at the moment of the visit they were not operative (they have been inoperative for some time) and passengers were checked one by one in a small room. They have asked for X-Ray machines. Next to the security control there is a small shop.
The boarding hall has only one boarding gate, but a lot of space for passengers to wait for their flight.
The arrival lounge is a room where passengers enter directly from the apron and where they can pick up their baggage from a table where it is placed by handling workers.
There is also a VIP room and a VVIP room with direct access to the apron (by the undercover corridor) where these kinds of passengers can wait for their flight or have a rest after it.
Offices are sited in the second floor of the terminal building.
There are not offices for Customs and Immigration.

There is a parking for vehicles in front of the main building and in the hangar area. It is made of plain cement complete.

Handling facilities/Hangar

There is an hangar in the airport with an area of 2.400 Sq. m. and capacity for four Twin Otters. When it was built, Nepal Airlines used it, but after some time the airline stopped using it because of the large costs. Nowadays it is almost empty.

The hangar is linked with the RWY by C exit TWY.

Cargo handling

Available with local airlines operator.

There is a building of around 180 Sq. m. as the cargo area, because some time ago there were a lot of cargo flights from this airport to the isolated regions. Nowadays they are operated from Surkhet to minimize the flight distance.

Operating capacity and obstacles

This airport is available throughout the year.

Approximately 60% of time flights are operated through THR26, although the operation is decided according to the wind.

During monsoon season the airport normally has to close for a couple of hours, and in winter, sometimes it is closed for two or three days, due to the low visibility.

Sometimes cases of bird concentration in the vicinity of the aerodrome may be encountered. No special procedures have been adopted to control these bird concentrations except driving them through guards and security personnel.

According to the AIP there are three obstacles, all of them water tanks: NAC water tank, water tank city and hanger water tank.

- **PHAPLU**

ICAO Code:		VNPL				
Location	**Region:**	Eastern	**Zone:**	Sagarmatha	**District:**	Solukhumbu
ARP Coordinates:		273053 N / 0863510 E				
Elevation:		2468 m/ 8097 ft				
Use:		Scheduled flights				
Types of traffic permitted:		VFR				

According to AIP, it is a STOL airport. It is in close proximity to District Headquarter Salleri.

AIRFIELD AND APRON

Runway

- **Designation:** 02/20
- **Dimensions (m):** 670 x 30
- **Surface:** Grass
- **Turn Pad:** Not available

Taxiway

There is a taxiway.

Apron

The apron has a capacity of 2 DHC-6 or similar airplanes.

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

The airport provides Aerodrome Flight Information Service (AFIS) on VHF Frequency.

Markings and lighting

No Data

Rescue and Fire Fighting Service

No Data

Fuelling facilities

Re-fuelling facilities not available.

Passenger facilities: Terminal building

There is a terminal building. Reconstruction works of the building/control tower and staff residences are being taken up, after they were damaged during the period of conflict.

Operating capacity and obstacles

The airport is available throughout the year.
The adequacy of VFR condition at the airport is more than 90% if the time.

- **POKHARA**

ICAO Code:		VNPK				
Location	**Region:**	Western	**Zone:**	Gandaki	**District:**	Kaski
ARP Coordinates:		281200 N / 0835854 E				
Elevation:		822 m/ 2696 ft		**Reference Tª:**		35 °C
Use:		Scheduled flights				
Operational hours:		Sunrise to sunset (if there is a delay, they wait)				
Types of traffic permitted:		VFR				

Pokhara Airport is the most popular tourist destination of Nepal after Kathmandu. It is a platform for trekking to the famous trekking area, the Annapurna area. The Pokhara valley itself offers picturesque looks of Machhapuchhre, Annapurna and Dhaulagiri Mountain, beautiful lakes like Phewa, Rupa and Begnas and deep gorges, falls and caves.
Pokhara Airport is the second busiest airport after Tribhuvan International Airport (TIA) and caters 50 % of the annual tourist flow in Nepal.

AIRFIELD AND APRON

Runway

- **Designation:** 04/22
- **Dimensions (m):** 1444x30 (TORA/TODA/ASDA/LDA: 1444 m)
- **Surface:** Bitumen
- **Turn Pad:** The RWY ends in a turn pad behind THR22, and it is the only way for aircrafts to turn around as the parallel taxiway doesn't reach the end. As it reaches THR04, there is not a turning pad in that side.
- **Condition:** The RWY seems to be in good conditions for operation.
- **RWY strip/RESA** The RWY doesn't have a strip and its borders end directly in the grass.
  The RWY doesn't have Runway End Safety Area.

Taxiway

The airfield has two perpendicular entrance and exit taxiways, 23 m wide. One of them connects the runway and the apron beside the terminal building, and the other links with a parallel taxiway to reach THR04. They have bituminous surfaces.
There is also another taxiway which exits and enters the runway and connects with an isolated parking position. In peak hours some aircrafts can release the runway using this TWY.

Apron

The apron is located next to the terminal building and it has five positions, usually used by 2 Avro-Liners and 3 Twin-Otters. Its dimensions are 247 x 57 Sq. m. The taxiing guidance signs are marked, but the aircraft stand markings are not.
There is not a designated helicopter landing area, although helicopters also operate in the airport.
There is an isolated parking position near THR22 with capacity for two ATR-43. Its surface is made of gravel.

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

Some radio aids were placed in the airport but they didn't work well because of the narrow valley in which the airport is located. Currently they have a DME (PHR).
There is a PAPI system in THR04, although it is not used a lot because aircrafts do curve

approaches.
There are two windsocks in the airfield.
Traffic is managed by air traffic controllers in the Control Tower.
The airport has a meteorological office to provide METAR data to the TWR. It is available during operation hours.

VFR Holdings Chart is available in the AIP document.

Markings and lighting

Centre lines are marked in RWY and TWY. Furthermore, RWY has Designation, THR, TDZ and edge marks. TWY has holding positions at all TWY/RWY intersections marked. In the apron the taxiing guidance signs at intersections with TWY and RWY and at holding positions and guide lines are marked.

According to the AIP RWY has end, THR and edge lights, and TWY has edge lights.

Rescue and Fire Fighting Service

Category V ICAO. According to the AIP the equipment is the required by the category. In the visit the airport said they have 10 firemen working in two shifts, an ambulance and two vehicles, although one of them is not working at the moment.

Fuelling facilities

Jet A1 is available during operation hours. It is provided by Nepal Oil Corporation.

Passenger facilities: Terminal building and car parking

The airport has one terminal building, which is being expanded. Only passengers can enter the building, there is a policeman at the entry to control that. It has a hall area in which passengers do the check-in process and where airlines have their counters. There are two metal detectors (men and women) and an X-Ray machine to scan all the baggage before entering the plane. Some airlines offices are located in a corridor next to the hall, and a restaurant and a terrace can be accessed by some stairs from there.
The departure hall has two boarding gates, distributed by airlines, which come out directly into the apron. There is also a small shop where souvenirs and candies can be bought.
An arrival terminal building was built last year next to the current terminal for passengers to arrive and wait for their baggage. There is also a waiting hall for people waiting for arriving passengers located in landside of the airport. The previous arrival terminal is being restructured for international operations, both departures and arrivals. Some flights to India are going to be operated from Pokhara Airport, so passengers flows must be separated.
In the second floor of the building offices are sited.
A new meeting hall is also being built next to the Control tower. It is thought to be used from airside, but with possibility of entry from landside.

There is a parking for vehicles in front of the main building.

Operating capacity and obstacles

This airport is available throughout the year.
The way of operation is decided according to the wind, but the normal operation is RWY04 because obstacles are further from its end.
About 4% of time the visibility is not adequate for VFR flights at the airport, but the flight cancellation during monsoon period is only 2%.
There is an Army post in each side of the runway and Army people have permission to cross the runway twice per day.
Aircrafts do curve approaches because mountains are very near to the airport.
Sometimes cases of bird concentration in the vicinity of the aerodrome may be encountered. No special procedures have been adopted to control these bird concentrations except driving them through guards and security personnel.
There are some local traffic regulations because of paragliding activities taking place in the vicinity of the airport.

According to the AIP there are three obstacles: a Radio Nepal antenna, a hill top view TWR and some trees in the south west.

- **NEW POKHARA**

ICAO Code:		-				
Location	**Region:**	Western	**Zone:**	Gandaki	**District:**	Kaski
ARP Coordinates:		-				
Elevation:		-		**Reference Tª:**		-
Use:		Scheduled flights				
Operational hours:		-				
Types of traffic permitted:		VFR				

As a result of the increasing demand, proximity to the city, the adverse impact of runway layout and approach limitations construction of the existing Pokhara Airport, a new Pokhara Airport is necessary.

The proposed new airport lies in Chhine Danda, Kaski district, which is located approximately 3 km south of the existing Pokhara airport, and preliminary studies have been undertaken for its development.

The Master Plan for New Pokhara Airport provides for a **2500m x 45m** runway suitable for Code 4D aircraft. More technical information data (based on JICA Report 1989) is detailed in Table 5.

Currently, 1.580.710 Sq. m. of land have been already adquired and the property fencing is completed, as well as the gradation (removing of Ali Kanla). Access road has also been already connected to national highway.

The tender (prequalification) for partial earthwork for airport construction is published and EPC tender notice was published on February 2012.

The project has now run into controversy after the lowest bid is nearly doubled than the Government's estimated cost.

Mobilization of financial resources for construction will take at least 2 years and construction works are undertaken in 2012, so the new airport is expected to be ready in 2020.

Table 5. Technical information about new Pokhara airport (according to JICA Report 1989)

Description	Parameter
RWY	2500 x 45
RWY strip	2620 x 300
Aircraft	B757/1, HS748, ATR/2, DHC6/1*
TWY	168 x 18
Pax Terminal Int (Sqm)	6000
Pax Terminal Dom (Sqm)	5000
TWR and Operation building (Sqm)	1500
Cargo Terminal (Sqm)	1000
Admin. building (Sqm)	200
Car Parks	200
Access road (lanes)	4
Fuel supply (Kl per week)	100
RFFS	Cat. VIII
DVOR/DME system	1
Cat. I approach system	1

**More recent information indicates that the design aircraft will be A320/B737.*

- **RAMECHHAP**

ICAO Code:		VNRC			
Location	**Region:**	Central	**Zone:**	Janakpur	**District:** Ramechhap
ARP Coordinates:		272338 N / 0860341 E			
Elevation:		494 m/ 1620 ft			
Use:		Scheduled flights			
Types of Traffic permitted:		VFR			

According to AIP, it is a STOL airport. It is located at the bank of Tmakoshi River. Though Ramechhap is connected to a road network, the airport is considered as necessary to serve the society as it is useful for old and sick people for whom it is difficult to travel by bus.

AIRFIELD AND APRON

Runway

- **Designation:** 03/21
- **Dimensions (m):** 518 x 30
- **Surface:** Grass
- **Turn Pad:** No Data

Taxiway

No Data

Apron

No Data

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

No Data

Markings and lighting

No Data

Rescue and Fire Fighting Service

No Data

Fuelling facilities

Re-fuelling facilities not available.

Passenger facilities: Terminal building

There is a terminal building.

Operating capacity and obstacles

The airport has seasonal availability.
The airport is feasible for both way landing and take off.
70 to 90% of time the visibility is adequate for VFR flights.
The runway lies in the low bank of the river, so during monsoon time it is risky to be flooded.

- **RARA (MUGU)**

ICAO Code:		VNRR				
Location	**Region:**	Mid-Western	**Zone:**	Karnali	**District:**	Mugu
ARP Coordinates:		293100 N / 0820900E				
Reference Elevation:		2720 m/8924 ft				
Use:		Scheduled flights				
Types of traffic permitted:		VFR				

According to AIP, it is a STOL airport. It is an important gateway to tourism to the greatest lake of Nepal, Rara lake, in Mugu District. It is located about 2.30 hours walking distance from the Rara lake and 2.00 hours from the district headquarter Gamgadhi. This airport is adjacent to the boundary of Rara National Park and within the Buffer Zone. It serves as the only means of transportation of Mugu District.

AIRFIELD AND APRON

Runway

- **Designation:** 18/36
- **Dimensions (m):** 555 x30 (Upslope 6.5%.)
- **Surface:** Gravel / Grass
- **Turn Pad:** Not available
- **Condition:** There are many loose stones in the runway. Improvement of its orientation and gradient has started.

Taxiway

No Data

Apron

The apron dimensions are 230 x 125 m.

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

No Data

Markings and lighting

No Data

Rescue and Fire Fighting Service

No Data

Fuelling facilities

Re-fuelling facilities not available.

Passenger facilities: Terminal building

There is not a terminal building.

Operating capacity and obstacles

The airport has seasonal availability.
Airplanes take off using THR36 and land by THR18.
Land falls away steeply at both ends.

- **RUMJATAR**

ICAO Code:		VNRT			
Location	**Region:**	Eastern	**Zone:**	Sagarmatha	**District:** Okhaldhunga
ARP Coordinates:		271813 N / 0863302 E			
Elevation:		1371 m/ 4500 ft			
Use:		Scheduled flights			
Types of traffic permitted:		VFR			

According to AIP, it is a STOL airport. It is located 11 km away from the district headquarters, Okhaldhunga. In the past, when no road connection existed, it was vital for sick people.

AIRFIELD AND APRON

Runway

- **Designation:** 01/19
- **Dimensions (m):** 549 x 30
- **Surface:** Clay/Grass
- **Turn Pad:** Not available

Taxiway

No Data

Apron

The apron capacity is 3 aircrafts of DHC-6 type and 2 helicopters.

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

The airport provides Aerodrome Flight Information Service (AFIS) on VHF Frequency.

Markings and lighting

No Data

Rescue and Fire Fighting Service

No Data

Fuelling facilities

Re-fuelling facilities not available.

Passenger facilities: Terminal building

There is a terminal building in the airport.

Operating capacity and obstacles

The airport is seasonal.

The adecuacy of VFR condition at this airport is 70 to 90% of the total time. There are also high wind speed and unfavorable wind direction problems during the months of March, April and May. During these months all the flights need to be operated before 11 o'clock.

- **SALLEY (RUKUM)**

ICAO Code:		VNSL				
Location	**Region:**	Mid-Western	**Zone:**	Rapti	**District:**	Rukum
ARP Coordinates:		283814 N / 0822658 E				
Elevation:		1580 m/ 5184 ft				
Use:		Scheduled / Charter flights				
Types of traffic permitted:		VFR				

According to AIP, it is a STOL airport.

AIRFIELD AND APRON

Runway

- **Designation:** 16/34
- **Dimensions (m):** 540 x 30
- **Surface:** Grass
- **Turn Pad:** Not available

Taxiway

No Data

Apron

There is an apron of about 4700 Sq. m.

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

The airport provides Aerodrome Flight Information Service (AFIS) on VHF Frequency.

Markings and lighting

No Data

Rescue and Fire Fighting Service

No Data

Fuelling facilities

Re-fuelling facilities not available.

Passenger facilities: Terminal building

There is a terminal building in the airport. Reconstruction works of the building/control tower are being taken up, after they were damaged during the period of conflict.

Operating capacity and obstacles

The airport is seasonal.

- **SANFEBAGAR**

ICAO Code:		VNSR			
Location	**Region:**	Far-Western	**Zone:**	Seti	**District:** Achham
ARP Coordinates:		291410 N / 0811256 E			
Elevation:		600 m/ 1955 ft			
Use:		Scheduled flights			
Types of traffic permitted:		VFR			

According to AIP, it is a STOL airport.

AIRFIELD AND APRON

Runway

- **Designation:** 03/21
- **Dimensions (m):** 427 x 30
- **Surface:** Grass
- **Turn Pad:** Not available

Taxiway

No Data

Apron

No Data

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

The airport provides Aerodrome Flight Information Service (AFIS) on VHF Frequency.

Markings and lighting

No Data

Rescue and Fire Fighting Service

No Data

Fuelling facilities

Re-fuelling facilities not available.

Passenger facilities: Terminal building

There is a terminal building for passengers to be processed. Reconstruction works of the building/control tower and staff residences are being taken up, after they were damaged during the period of conflict.

Operating capacity and obstacles

The airport is seasonal.

- **SIMARA**

ICAO Code:		VNSI					
Location	**Region:**	Central	**Zone:**	Narayani	**District:**	Bara	
ARP Coordinates:		270945 N / 0845854 E					
Elevation:		71 m/ 233 ft		**Reference Tª:**		37 °C	
Use:		Scheduled flights					
Types of traffic permitted:		IFR/VFR					

Simara Airport is the most strategic domestic airport of Nepal for two reasons. It is only 39 miles far from Kathmandu by air; on their hand, Raxaul, an Indian city, is only 20 kilometers away from this airport. Furthermore, the importance of this airport is due to its location near to Birgunj which is a commercial and industrial town linking Raxaul as well. This airport can be purposefully used in case of natural disasters when ground transport is not accessible.
The airport is connected to Mahendra highway.

AIRFIELD AND APRON

Runway

- **Designation:** 01/19
- **Dimensions (m):** 1192 x 30
- **Surface:** Bitumen
- **Turn Pad:** There is a turn pad in both thresholds.

Taxiway

There is a taxiway to connect the RWY with the apron. It is made of bituminous surface and it measures 15 x 20 Sq. m.

Apron

The surface is paved with asphalt concrete and its dimensions are 90 x 60 Sq. m.

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

The airport has two radio aids: NDB (SIM) and VOR/DME (SMR) for approaching and exit procedures.
There is PAPI in both thresholds.
Traffic is managed by air traffic controllers in the Control Tower.
The airport has a meteorological office to provide METAR data to the TWR.

Control Zone and Holdings Points, Standard Terminal Arrival Route, Instrument Approach and Standard Departure Charts are available in the AIP document.

Markings and lighting

Centre lines are marked in RWY and TWY. Furthermore, RWY has Designation, THR, TDZ and edge marks. TWY has holding positions at all TWY/RWY intersections marked. In the apron the taxiing guidance signs at intersections with TWY and RWY and at holding positions and guide lines are marked.

Rescue and Fire Fighting Service

The rescue equipment in the airport consists of wheel type fire extinguishers.

Fuelling facilities

Re-fuelling facilities not available.

Passenger facilities: Terminal building

There is a terminal building for passengers to be processed.

Operating capacity and obstacles

The airport is available throughout the year.
About 75% of time the visibility is not adequate for VFR flights, although this percentage can increase to 90% during monsoon. Flight cancellation during this period is about 10%.
Sometimes cases of bird concentration in the vicinity of the aerodrome may be encountered. No special procedures have been adopted to control these bird concentrations except driving them through guards and security personnel.

According to the AIP, there are some obstacles: a water tank and some trees on the approach path to RWY19.

- **SIMIKOT**

ICAO Code:		VNST				
Location	**Region:**	Mid Western	**Zone:**	Karnali	**District:**	Humla
ARP Coordinates:		295816 N / 0814908 E				
Elevation:		2971 m/ 9747 ft				
Use:		Scheduled flights				
Types of traffic permitted:		VFR				

According to AIP, it is a STOL airport. It serves as a gateway to mount Kailash (Tibet) and Lake Mansarovar as well as for the rafting in the Karnali River, so it is an important destination for tourists. It serves as the only means of transportation of this area, because the road network connection to this area is yet to be constructed.

AIRFIELD AND APRON

Runway

- **Designation:** 10/28
- **Dimensions (m):** 549 x 18
- **Surface:** Grass (black topping works have been initiated)
- **Turn Pad:** Not available
- **Condition:** The surface profile is very uneven giving poor riding quality.

Taxiway

No Data

Apron

No Data

For the improvement of the airport, land acquisition and runway black topping works have been initiated.

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

The airport provides Aerodrome Flight Information Service (AFIS) on VHF Frequency.

Markings and lighting

No Data

Rescue and Fire Fighting Service

No Data

Fuelling facilities

Re-fuelling facilities not available.

Passenger facilities: Terminal building

There is a small terminal building.

Operating capacity and obstacles

It is a seasonal airport.
RWY28 is the predominant runway in use, while RWY10 is used for takeoff, in view of the hostile terrain all round. Due to the approach over the valley, severe up and down wind drafts are experienced in the afternoons and evenings and, consequently, current flights are scheduled mainly in the mornings.
The adequate VFR condition at the airport is 50 to 70% of time.

- **SURKHET**

ICAO Code:		VNSK				
Location	**Region:**	Mid Western	**Zone:**	Bheri	**District:**	Surkhet
ARP Coordinates:		283509 N / 0813807E				
Elevation:		687 m/ 2254 ft				
Use:		Scheduled / Charter flights				
Operational Hours:		Sunrise to sunset				
Types of traffic permitted:		VFR				

According to AIP, it is a STOL airport. It served most of the remote sectors of the western part of Nepal with the whole of Karnali zone – Jumla, Humla, Kalikot, Mugu and Dolpa – together with Bajura and at times Rukum as well. This airport was strategically important for the transportation of food grains, clothes, medicines, iodine-mixed salt, construction materials, office goods, school materials like books and stationeries as well as other commercial goods, but in the last years its traffic has decreased because of the construction of new accessibility roads to isolated areas. Currently there are only one or two scheduled flights/week.

AIRFIELD AND APRON

Runway

- **Designation:** 02/20
- **Dimensions (m):** 1040x30
- **Surface:** Bitumen
- **Turn Pad:** The RWY doesn't have a turn pad in any of its ends.
- **Condition:** The RWY is being extended 200 m in its northern part. It seems to be in good conditions for operation.
- **RWY strip/RESA** The runway doesn't have strip and its borders end directly in the grass, which is higher than recommended. It can be risky as some birds or animals can hide and enter the RWY unexpectedly. The RWY doesn't have Runway End Safety Area.

Taxiway

The runway has two perpendicular exit taxiways in the middle of the runway, but slightly displaced to the north. Both of them connect with the apron, and cross above a small canal, so a small stone wall is located in their borders.

Apron

The apron has five marked aircraft positions with their taxiing guidance signs, but the aircraft stands are not marked.

Helicopters don't have a specific landing area, but they also park in the apron.

There are two different surfaces in the apron: concrete and asphalt concrete.

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

Instrumental aids cannot be installed in Surkhet due to the mountains surrounding the airport.

At the moment there is one windsock near the THR02, but when the expansion works are finished, another one is going to be placed near the other threshold.

According to the AIP there is one NDB (SKT) for approaches and exits at the airport.

PAPI is installed for THR02.

Traffic is managed by air traffic controllers in the Control Tower.

The airport has digital meteorological equipment recently installed.

Nepalgunj TMA, CTR and ATZ, Instrument Approach, Standard Departure and Standard Terminal Arrival Route Charts are available in the AIP document.

Markings and lighting

RWY has Designation, THR and TDZ marks. Centre lines are marked in RWY and TWY. In the apron only the taxiing guidance signs are marked. They are also marked where they intersect TWY and RWY.

Runway-holding position markings are also observed in both taxiways.

Rescue and Fire Fighting Service

The airport doesn't have fire fighting service, but they have some fire extinguisher distributed within the building.

Fuelling facilities

There are fuel facilities available and provided by Nepal Oil Corporation.

Passenger facilities: Terminal building and car parking

The airport has a terminal building connected with the apron by two undercover corridors: one for departures and one for VIP passengers arrivals.

The passenger enters the building by an entrance hall where his baggage is manually checked. Airlines are located here with their counters to do the check-in process (7 counters in total). To enter the boarding lounge, passengers have to go through a security control, equipped with two metal detectors (men and women).

There is one boarding gate to access the platform.

Passengers arriving to the airport enter the terminal building by a lateral door.

There is a VIP room to put this kind of passenger up.

There are non offices for Customs and Immigration.

In the second floor of the terminal building offices are sited

There is no parking in the terminal area, as the fencing is very near the building.

Handling facilities/Hangar

There is not any hangar in the airport.

Cargo handling

There is a cargo building outside the airport, at the other side of the access road.

Operating capacity and obstacles

This airport is available throughout the year.

Surkhet is surrounded by mountains, which are nearer THR02 than THR20, so normal operation in the airport consists of arriving by THR02 and departing from THR20.

Sometimes the airport has to close because of cross wind, especially in February and March.

Mountains are very near both thresholds.

No other significant obstacles are observed.

- **SYANGBOCHE**

ICAO Code:		VNSB					
Location	**Region:**	Central	**Zone:**	Sagarmatha	**District:**	Solukhumbu	
ARP Coordinates:		274837 N / 0864243 E					
Elevation:		3763 m/ 12345 ft					
Use:		Charter flights					
Types of traffic permitted:		VFR					

According to AIP, it is a STOL airport. It is the gateway to the Mount Everest and is located inside the Sagarmatha National Park. The airport is not in operation since long time and only fixed wing aircrafts are sometimes operated as charter flight.

AIRFIELD AND APRON

Runway

- **Designation:** 13/31
- **Dimensions (m):** 405 x 26
- **Surface:** Grass
- **Turn Pad:** Not available

Taxiway

No Data

Apron

No Data

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

No Data

Markings and lighting

No Data

Rescue and Fire Fighting Service

No Data

Fuelling facilities

Re-fuelling facilities not available.

Passenger facilities: Terminal building

No Data

Operating capacity and obstacles

No Data

- **TAPLEJUNG**

ICAO Code:		VNTJ				
Location	**Region:**	Eastern	**Zone:**	Mechi	**District:**	Taplejung
ARP Coordinates:		272103 N / 0874145 E				
Elevation:		2419 m/ 7936 ft				
Use:		Scheduled flights				
Types of traffic permitted:		VFR				

According to AIP, it is a STOL airport. It serves as gateway to Kanchanjanga Conservation Area, thus very important destination for tourist movement. Although Taplejung is connected by highway, its last part is earthen road with sharp loops and excessive gradients.

AIRFIELD AND APRON

Runway

- **Designation:** 07/25
- **Dimensions (m):** 950 x 30
- **Surface:** Clay
- **Turn Pad:** No Data
- **Condition:** Improvement works have started

Taxiway

No Data

Apron

No Data

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

No Data

Markings and lighting

No Data

Rescue and Fire Fighting Service

No Data

Fuelling facilities

Re-fuelling facilities not available.

Passenger facilities: Terminal building

There is a terminal building in the airport.

Operating capacity and obstacles

The airport is seasonal.
Operation is managed landing by THR07 and taking off by THR25.
The adequacy of VFR condition at the airport is less than 50% of the time, because it is located in a foggy area where most of time fog is in and out in short duration of time. In the peak season of winter the airport suffers from snowfall up to 4 feet on the runway surface. In rainy season the runway becomes soft and slippery resulting in closure of the airport for three months. In good season too, unfavorable wind speed and direction and turbulence in-route result in flight cancellation.

- **THAMKHARKA**

ICAO Code:		VNTH			
Location	**Region:**	Eastern	**Zone:**	Sagarmatha	**District:** Khotang
ARP Coordinates:		270245 N / 0865115 E			
Elevation:		1585 m/ 5200 ft			
Use:		Scheduled flights			
Types of traffic permitted:		VFR			

According to AIP, it is a STOL airport. The district is still not connected with the road network and the airport serves only means of the transportation for the people of that area.

AIRFIELD AND APRON

Runway

- **Designation:** 36/18
- **Dimensions (m):** 580 x 30
- **Surface:** Grass
- **Turn Pad:** No Data

Taxiway

No Data

Apron

No Data

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

The airport provides Aerodrome Flight Information Service (AFIS) on VHF Frequency.

Markings and lighting

No Data

Rescue and Fire Fighting Service

No Data

Fuelling facilities

Re-fuelling facilities not available.

Passenger facilities: Terminal building

Constructions of terminal and tower buildings projects are being managed.

Operating capacity and obstacles

This airport is available throughout the year.

- **TUMLINGTAR**

ICAO Code:		VNTR				
Location	**Region:**	Eastern	**Zone:**	Koshi	**District:**	Sankhuwasabha
ARP Coordinates:		271902 N / 0871143 E				
Elevation:		401 m/ 1315 ft				
Use:		Scheduled flights				
Types of traffic permitted:		VFR				

According to AIP, it is a STOL airport. It is the gateway to Makalu- Barun Area, a famous tourist destination of Nepal. This airport has a vital role for trade and tourism development as well as positive contribution to socio-economic development of the entire region.

AIRFIELD AND APRON

Runway

- **Designation:** 16/34
- **Dimensions (m):** 1220 x 46
- **Surface:** Grass
- **Turn Pad:** No Data

Taxiway

Black topping works are being taken up.

Apron

Black topping works are being taken up.

AIRPORT ACTIVITIES SUBSYSTEM

Navigation and landing aids

The airport provides Aerodrome Flight Information Service (AFIS) on VHF Frequency.
The airport has a NDB (TTR) for approaches and exits.

Markings and lighting

No Data

Rescue and Fire Fighting Service

No Data

Fuelling facilities

Re-fuelling facilities not available.

Passenger facilities: Terminal building

There is a terminal building.

Operating capacity and obstacles

The airport is available throughout the year.

2.4. Global diagnosis

After all the gathered information and the previous individual airports evaluation, there are some common aspects to point out about the airports infrastructure in Nepal.

Starting with the airfield, most of the airports in the country have a short and unpaved runway and a kind of *taxiway* to reach a surface where aircrafts can stop and wait for the passengers. This infrastructure can be enough for the traffic they serve, but they need to be well maintained, which doesn't always occur.

Bigger airports in Nepal have also a parallel taxiway to release the runway operation, but this happens only in some of them (Nepalgunj, Pokhara, TIA and Biratnagar). Only Tribhuvan International Airport has strip and RESA in its runway, although they have not the required dimensions to comply with ICAO Annex 14.

It has also been observed and reported that Terai airports have some problems with the grass, because usually it is higher than recommended. It can be risky as some birds or animals can hide and enter the RWY unexpectedly.

With regard to terminal buildings, most of the airports don't even have a building for passengers to be processed, or there is not information about it, and some of which do have it in very bad conditions and with not many facilities to use.

Nepali airports, in general, don't have aircraft facilities. As the network is conceived as radial with some regional hubs serving the rest of airports, aircrafts are supposed not to need hangar facilities or fuel service in those secondary airports, so mainly only the regional ones offer these kinds of services.

3. NETWORK COVERAGE

All the previous airports belong to the Nepali national airports network. The importance of a national network is that a considerable extent of the country, or the population, is covered for a minimum. In the case of Nepal this is especially critical because road access has not a big grade of development and there are a lot of isolated remote areas. But also because of that, it is very difficult to have many zones covered by air transport, because those remote airports don't have a road to spread passengers and, in most cases, the only way to leave the airport is by foot.

To have an idea about the distribution of roads in Nepal, Table 6 shows the road density per 10,000 population and per 100 Sq. m. of land. The road density per 10,000 population in the mountains in the Central Region is 8.4, higher than the national average (6.68), whereas Far Western Region has 3.07 only.

Table 6. Roads density by Development Region

Development Region	Road Density	
	Length per 10,000 population	Length per 100 km^2
Eastern	5.91	11.6
Central	7.76	14.8
Western	5.4	8.6
Mid Western	6.47	4.7
Far Western	6.14	6.8
Nepal	6.68	10.4

In order to evaluate the air transport coverage in the country, the three kinds of roads in Nepal (highways, main roads and secondary roads) have been identified and associated with a circulation speed. Taking into account these speeds and the roads reaching the airports, isochronal curves have been drawn to include the areas in which people can access the airport in a maximum time of 1 hour or 2 hours.

Figure 5. Isochrones 1 hour

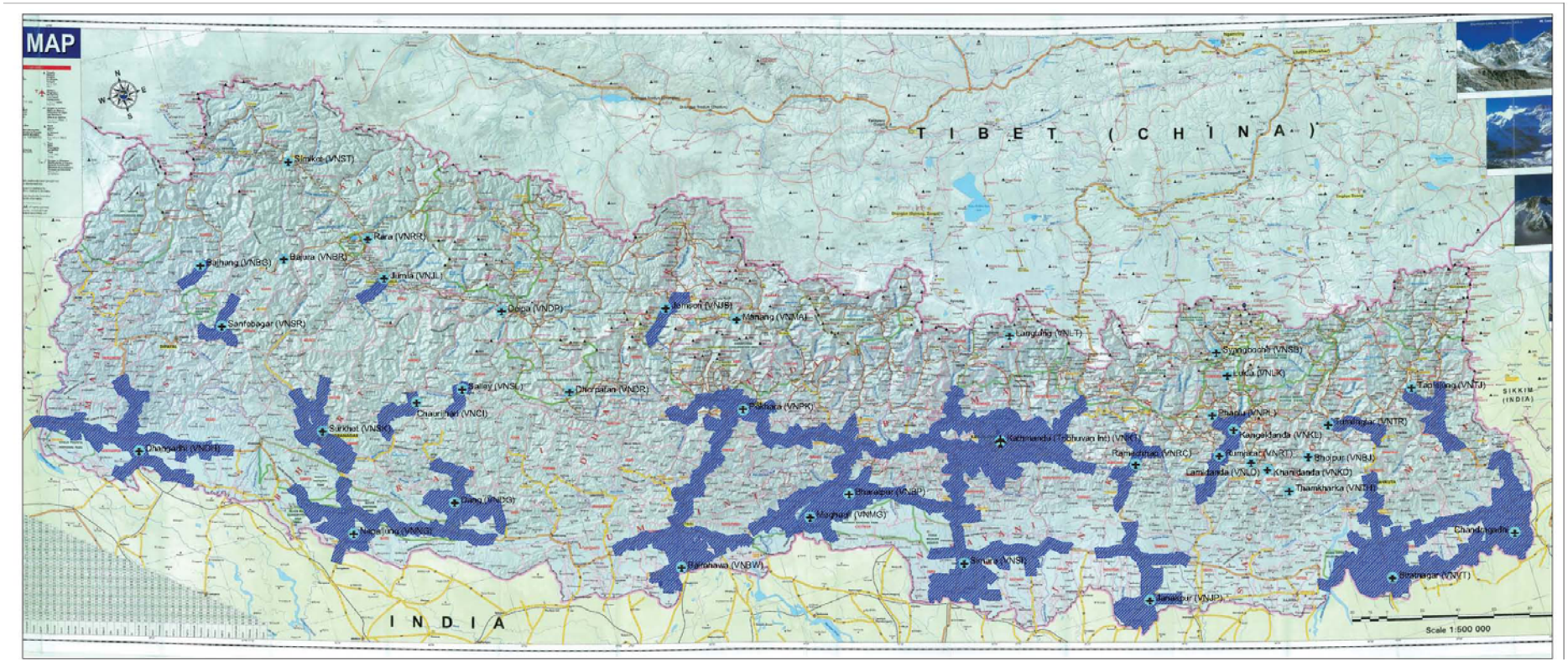
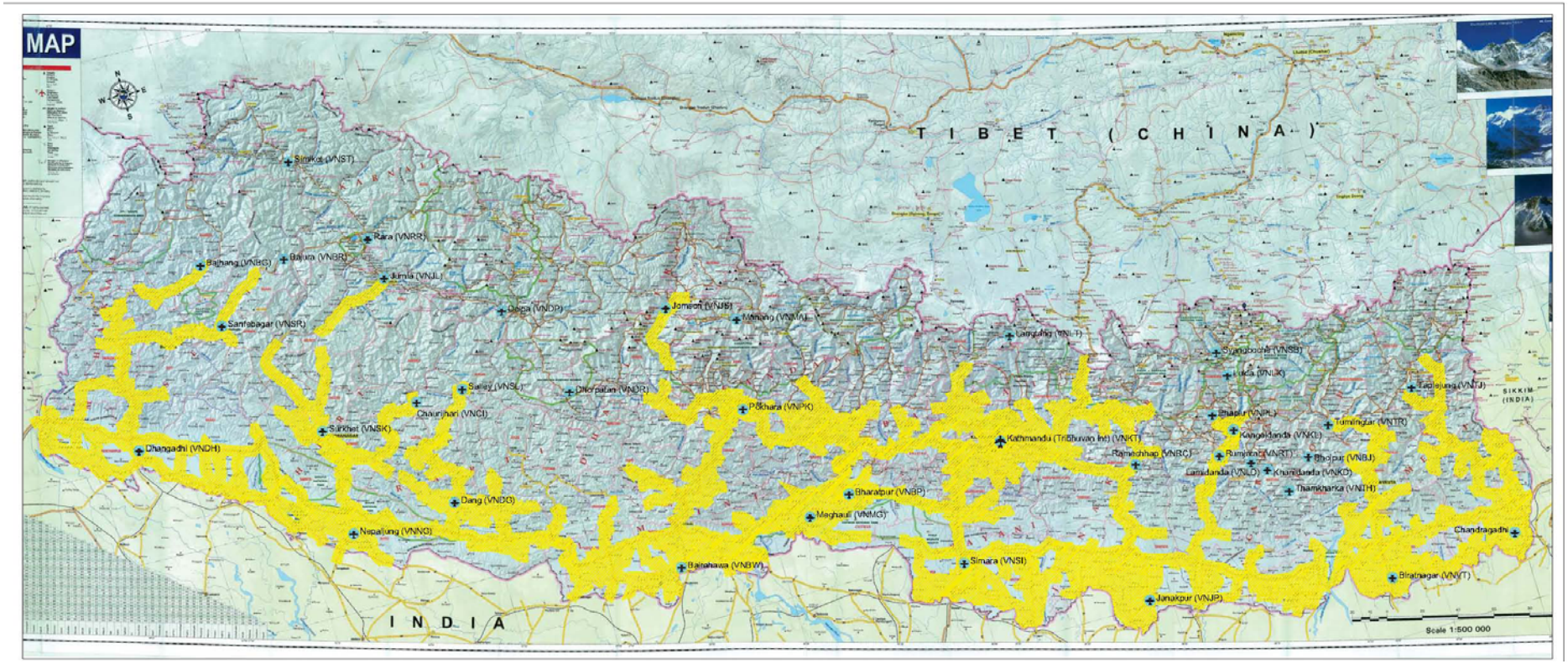


Figure 6. Isochrones 2 hours



Although it was observed that Terai was the area with less concentration of airports in the country, it is the most covered area in terms of air transport. This is because the terrain is practically plain and roads are easier to build, so there are more of them and, in general, better in category.

In the Himalayas area there are more airports in number, but the coverage is worse because most of them are isolated in terms of road transport, so they are more difficult for passengers to reach and they spend more time in it.

Anyway, it was said before that population is more concentrated in the Terai area, so it is correct to say that most populated areas in Nepal can reach an airport in less than two hours time.

4. DIAGNOSIS CONCLUSIONS

Air transport in Nepal has a great importance for both foreign and local people moving from one point to another within the country, due to the lack of good infrastructure in terms of road transport. Furthermore, the continually growing demand of these kinds of services shows the importance this business has for the country's economy.

For that reason, it is essential that the airports infrastructure in the country respond to the required demand, being able to operate all the traffic arriving and departing and assuring safe and reliable operations.

Having had a look at the airports network, some issues have been found.

First of all, ICAO standards, and even recommendations, are not fulfilled by any of the airports. In fact, currently only Tribhuvan International Airport should comply with them, as it is the unique international airport for the moment, but it doesn't comply either.

If some more airports are thought to be opened to international traffic, as it has been pointed, ICAO recommendations and standards should also be applied.

For the rest of airports, some recommendations based on international standards and procedures will be made to enhance their safety, taking into account their own possibilities. Thus, it will be tried to decrease aviation accident rate in Nepal.

In relation with terminal buildings and other facilities, some proposals will be made so that Nepali airports have a minimum infrastructure and level of service, and turn out comfortable for passengers to use.

A maintenance plan will also be considered, regarding to both airside and landside of airports, to make the airports system able to remain in good conditions for the future.

With regard to the airports operational capacity, some problems have been noticed with meteorological circumstances, such as fog, wind or rain, in a lot of airports.

Currently TIA is the most congested airport in Nepal, and it needs some expansions. There is a Master Plan on the table and Priority 1A works are going to be undertaken. Specifically this airport will be studied in order to find the required facilities for the expected demand.

Regarding to the network coverage, it has been observed that most populated areas have an airport at a maximum of two hours distance by road. Taking into account the projects for new roads in the country (*National Roads Plan*), the social necessity of existing or new airports will be evaluated.