



**Annual Info-Comm and Transport Statistical Bulletin  
(2<sup>nd</sup> Edition-March, 2011)**



**Ministry of Information and Communications**

**Royal Government of Bhutan**

## Foreword

The Ministry of Information and Communications (MoIC) is happy to share the second edition of the Annual InfoComm and Transport Statistical Bulletin 2011.

This Bulletin is designed to provide statistical information and related data on ICT, Media, Surface Transport and Civil Aviation sectors in the country. The information has been compiled from various sources and MoIC wishes to thank all the agencies for their cooperation. It has been formatted for easy reference and understanding and the information may be used freely. We will make every effort to ensure consistency of the figures with the Statistical Yearbook of Bhutan.

MoIC will post this information online, without a printed edition and we welcome feedback and suggestions on the content or design of this bulletin from our partner agencies and users.

TASHI DELEK.



Kinley Dorji  
Secretary,  
Ministry of Information and Communications

## Table of Contents

1. Introduction	3
2. Mandate of MoIC	3
3. About the Annual InfoComm and Transport Statistical Bulletin	4
4. Summary of MoIC Indicators	5-6

### Chapter 1- Information Society

1.1. ICT and Telecommunication Development	7
1.2. ICT uptake in Bhutan	8-9
1.3. Fixed Line Telephony	10-12
1.4. Mobile Cellular Telephony	12-15
1.5. Internet Services	16-18
1.6. Cost of accessing Fixed Broadband, 3G,EDGE, GPRS, Dial up, and Mobile cellular services	19-20
1.7. Media Profile	21

### Chapter 2: Aviation and Surface Transport Services

1. Aviation Sector	22-24
2. Surface Transport	25
2.1. Trend in vehicle growth	25-26
2.2. Ownership Pattern	26-28
2.3. Vehicle by Type and Ownership	28-31
2.4. Motor vehicle crash data	32
2.5. Causes of Motor vehicle crashes	33
2.6. Other important data	34
2.7. Vehicle imported as of June, 2010	34-37

## **1. Introduction**

The Ministry of Communications was bifurcated in July 2003 into two Ministries - the Ministry of Information and Communications (MoIC) and the Ministry of Works and Human Settlements. The creation of the Ministry of Information and Communications was aimed at focusing on the development of the Information and Communication Technology (ICT), Information & Media, Surface Transport and Civil Aviation sectors.

MoIC will continue its efforts to collect and disseminate reliable and up-to date data through the publication of Statistical Bulletin on an annual basis for all users to access the latest information.

## **2. Mandate of MoIC**

MoIC is mandated with the following responsibilities:

- Development of an efficient and reliable information and communication system to transform Bhutan to an information society
- Promotion of ICT in the country as an enabler of national development
- Development of safe and progressive national surface transport system
- Development of a safe and sustainable civil aviation sector of international standards that meets the national needs

In discharging the above mandates, MoIC is designated as the lead Government agency in Bhutan for formulation and implementation of policies, drafting of legislation, assist and facilitate in executing the development programs, and acting on behalf of the Royal Government, on matters related to ICT, Media, Surface Transport and Civil Aviation.

### **3. About the Annual Info-Comm. and Transport Statistical Bulletin**

The Annual Info-Comm. and Transport Statistical Bulletin, the 2<sup>nd</sup> report after the establishment of the Ministry of Information & Communications in 2003, is aimed at disseminating reliable information covering ICT, Media, Surface Transport and Civil Aviation sectors. We hope that the information provided in this publication will prove useful for use by Government agencies, general public, development partners, training institutions and schools.

The data in this report was collected and compiled by the Policy and Planning Division of MoIC with support from the Departments/Corporations/Private Sector agencies such as the Department of Information Technology & Telecom (DITT), Department of Information & Media (DoIM), Department of Civil Aviation (DCA), Road Safety and Transport Authority (RSTA), Bhutan Telecom Limited (BTL), Tashi Info-Comm. Limited (TICL), etc as the direct source of these information concerning their respective areas.

The information bulletin has been prepared based on 2010 data collected until December 2010, and therefore, valid as of that year. Although an attempt has also been made to provide detailed statistical information keeping most parameters into account, MoIC will continue its endeavor to improve and include missing or inadequate information in subsequent publications.

This bulletin is divided into two chapters. Chapter one provides information on information society which broadly encompasses ICT, information and media sectors. Chapter two deals with transportation, focusing on civil aviation and surface transport activities.

### Summary of MoIC Indicators:

Sector	Data (as of December 2010)
<b>ICT:</b>	
➤ Internet Subscribers	94,285 ( 18542 in 2009)-> 408% increase
➤ Fixed line telephone subscribers	26,292 (26,348 in 2009)- decreased by 2%
➤ No. of Dzongkhag HQ's with fixed line connections	All 20 Dzongkhags
➤ No. of Geog HQ's with access to Fixed line	197 out of 205
➤ Mobile cellular subscribers	394,316 (327,052 in 2009)- 20.6% increase
➤ No. of Dzongkhag HQ's with Mobile network	All 20
➤ No. of Geog HQ's with access to Mobile network	200 Geogs out of 205
➤ % of Population covered by Mobile network	56.7% of the total population,2010
<b>Media:</b>	
➤ Television Stations	1
➤ Radio Stations	6
➤ No. of newspapers	7 ( 2 daily, 5 weekly)- 1 more exclusive

	Dzongkha newspaper started publication from 19 <sup>th</sup> February 2011.
<b>Aviaton:</b>	
➤ Domestic Airports	3 under construction
➤ International Airports	1
➤ No. of Airlines operating	2
➤ Air services	8 routes in 4 countries + Myanmar
<b>Surface Transport:</b>	
➤ Vehicle Number as of December 2010	53,382
➤ Passenger Movement through public buses (excluding city buses)	921,628 (587,354 in 2009)- 57% increase
➤ No. of Passenger Transport buses in use	185 (160 in 2008-09)-15% increase
➤ Revenue collected	Nu.173.180 m (2009-10)-16% increase from 2008-2009 Financial year.

Note: For passenger movement and revenue, the data collected are on financial basis i.e. July-June period.

## Chapter 1 – Information Society

This chapter deals with basic information relating to information and communication technology such as telecommunication services, Internet, Mobile services and Media.

### 1.1. ICT and Telecommunication Development

In the last decade, Asia and Pacific region as a whole has experienced continuous ICT infrastructure development and service uptake, making it a world leader in ICT. This regional development had a positive and immediate impact on Bhutan. By December 2010, there were 26,292 fixed line telephone subscribers and 394,316 mobile users although 14,217 are in passive. B-Mobile, a subsidiary of BTL and Tashi-Cell, a subsidiary of TICTL, are currently the two service providers offering mobile services in the country.

Internet services are provided by Druk-net (under BTL), Samden Tech, Drukcom and TICTL. BTL is the sole provider of fixed line telecommunication in the country. Despite appreciable growth, ICT penetration rate remains low compared to other developing countries. Disparity between urban and rural areas is also clearly visible.

**Table 1.1: Key ICT indicators – as of December 2010**

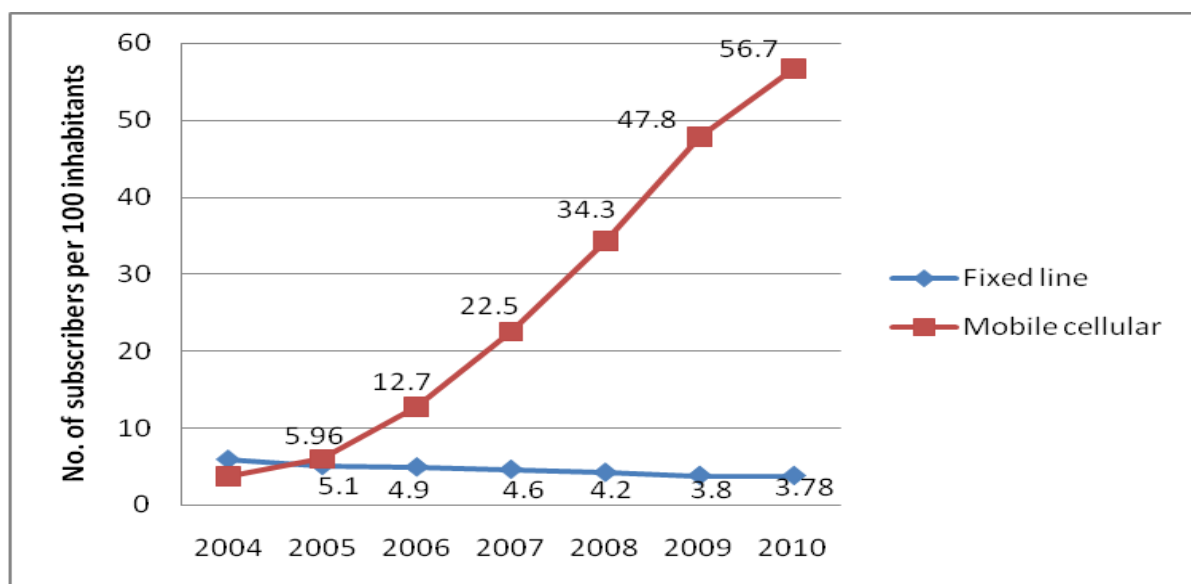
Indicators	Number
1. Fixed line telephone subscribers	26,292
2. Cellular mobile subscribers	394,316
3. Internet subscribers :	94,285
i) Lease line	199
ii) Dial-up	953
iii) Fixed Broadband Subscribers	8,675
iv) Mobile Broadband Subscribers	84,458
4. No. of geog with fixed-line telephone access	197 out of 205
5. No. of Geogs with access to mobile services	200 out of 205 Geogs
6. No. of Dzongkhag head-offices with fixed line and mobile services	All 20
7. Number of Community Centers	44



## 1.2. ICT uptake in Bhutan

Bhutan has made a modest progress in ICT uptake since its introduction in 1999. Fixed line penetration rate is currently 3.78 per 100 inhabitants, down from 5.9 in 2004. On the other hand, mobile penetration rate is 56.7 per 100 inhabitants from 5.96 in 2005 as shown below:

Chart 1.1: Penetration level of fixed line and mobile services, 2004-2010



Source: Bhutan Telecom Limited and Tashi-Cell, December, 2010

Growth in certain segment of ICT has been comparable with other developing countries while it is not as much in certain other aspects. For example, against 37 mobile subscribers per every 100 inhabitants in the Asia Pacific region in 2008, Bhutan had a comparable figure of 34.3 per 100 inhabitants. This figure for Bhutan increased to 56.7 in 2010 as much as it would have been in other countries in the Asia-Pacific Region.

On the other hand, the fixed line subscribers is at around 3.78 telephone lines per 100 inhabitants against 3.8 in the same time last year, a slight decrease of 0.02.

Internet usage in Bhutan has increased significantly with about 13.6 per every 100 inhabitants now having Internet access. Mobile broadband service is gaining increasing popularity with number of subscribers rising from 11,886 in 2009 to around 84,458 by December 2010 i.e. an increase of 611%. The actual number of users would be much higher if all users connected through lease-line and Wi-Fi connections are taken into account.

ICT penetration rate generally has remained low if we keep out mobile penetration as confirmed by the figures in chart 1.2.

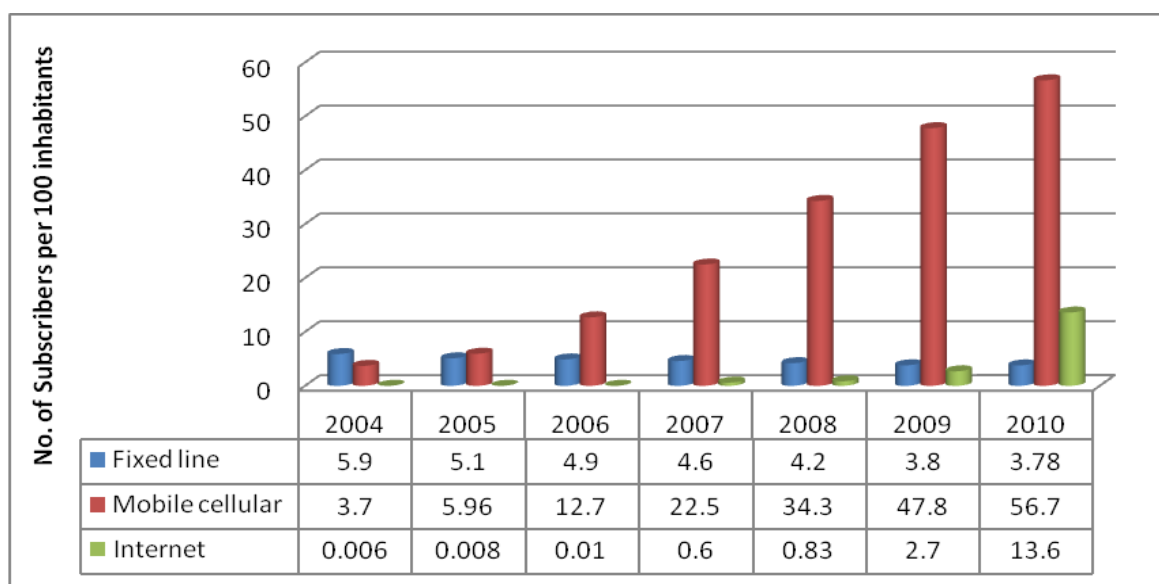
Chart 1.2: ICT development in Bhutan (subscribers per 100 inhabitants): 2004-2010<sup>1</sup>

Table 1.2: Total No. of subscribers by type

Year	Fixed line subscribers		Mobile cellular subscribers		Internet subscribers	
	Total subscribers	Subscribers per 100 inhabitants	Total subscribers	Subscribers per 100 inhabitants	Total subscribers	Subscribers per 100 inhabitants
2004	30,285	5.90	18,995	3.70	35	0.006
2005	32,709	5.10	37,842	5.96	48	0.008
2006	31,526	4.90	82,078	12.70	61	0.010
2007	30,279	4.60	148,179	22.50	4,040	0.600
2008	27,937	4.20	228,347	34.30	5,548	0.830
2009	26,348	3.80	327,052	47.80	18,542	2.700
2010	26,292	3.78	394,316	56.40	94,285	13.600

Source (chart1.2 and Table 1.2): Bhutan Telecom Limited and Tashi-Cell, December,2010

<sup>1</sup> Source: BTL, TashiCell, Samden Tech, Drukcom.

Internet subscribers refer to the number of households, corporate houses and government offices connected with Internet, and not the actual number of users.

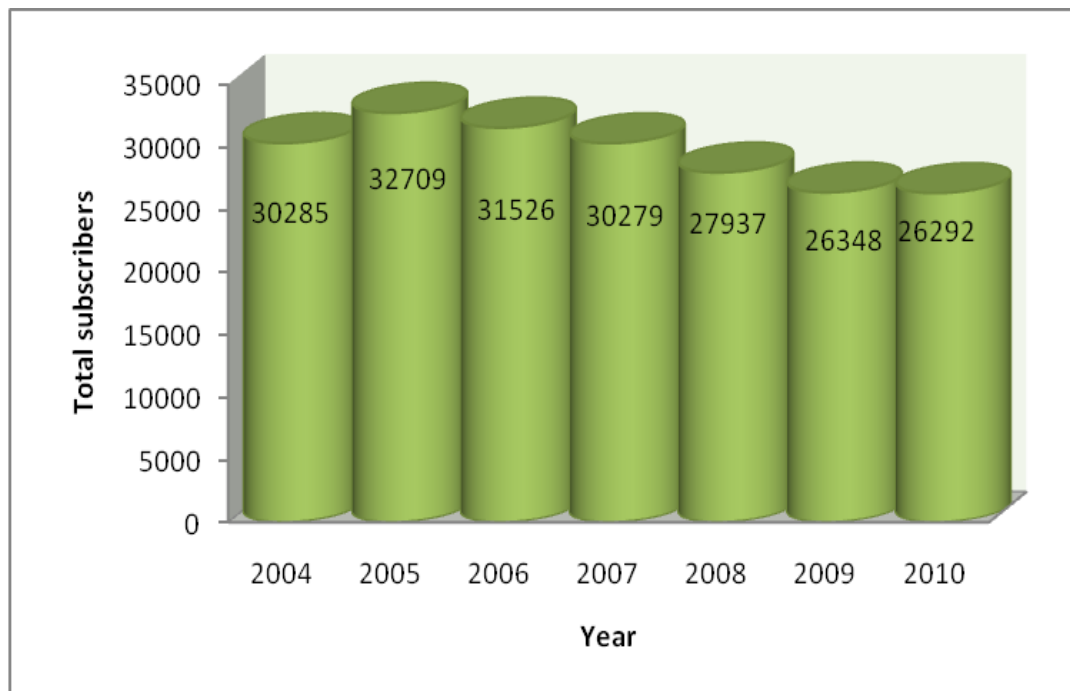
### 1.3. *Fixed-line telephony*

The first telephone network in Bhutan was established in 1963. It was only in 1998 that a fully digital national telecommunication network interconnecting all the twenty Dzongkhags head offices and major towns were established.

BTL is the only operator that provides fixed line telecommunication services in the country. Fixed line was one of the main mediums of voice communication prior to the introduction of mobile cellular service in November 2003 by which time there were around 23,657 subscribers nationwide.

Fixed line connections peaked in 2005 with 32,709 subscribers with an annual growth rate of 8 percent. Since then the number started declining to 31,536 in 2006, to 26,348 in 2009 and 26,292 by 2010. This is obviously attributed to the growing popularity of mobile services among urban and rural population. Decrease in subscriber number by almost 1,000 subscribers (except for 2010, where the number of connections remained stagnant) each year is considered significant, but this trend is not unique to Bhutan and experienced by many countries world over.

Chart 1.3: Trend in fixed line subscribers over the years (2004-2010)

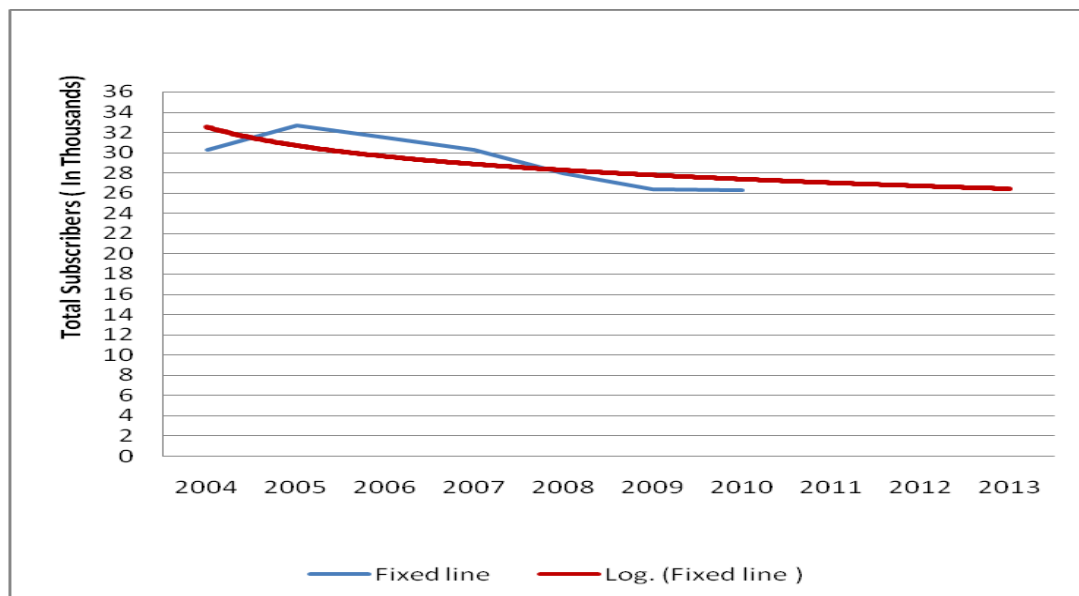


Source: Bhutan Telecom Limited, December, 2010

Table 1.3: Showing total number of fixed line subscribers and fixed line subscribers per 100 inhabitants for Bhutan Telecom

<i>Year</i>	<i>No. of subscribers</i>	<i>Fixed line Per 100 Inhabitants</i>
2004	30,285	5.90
2005	32,709	5.10
2006	31,526	4.90
2007	30,279	4.60
2008	27,937	4.20
2009	26,348	3.80
2010	26,292	3.78

Chart 1.4: Showing fixed telephone line trend, 2004-2013.



From the chart 1.4, fixed telephone line penetration in the country will remain somewhat stagnated or show a sign of decrease in the foreseeable future. Fixed telephone line subscribers are expected to decrease from 26,292 in 2010 to around 26,000 subscribers by 2013.

Table 1.4: Showing fixed line connections, by different Dzongkhag, 2010

Sl. No	Dzongkhag(s)	Total Fixed Line connections
1	Bumthang	1052
2	Chhukha	3627
3	Dagana	467
4	Gasa	75
5	Haa	356
6	Lhuentse	166
7	Monggar	844
8	Paro	1763
9	Pemagatshel	521
10	Punakha	719
11	Samtse	916
12	Samdrupjongkhar	947
13	Sarpang	1141
14	Thimphu	9979
15	Trashigang	699
16	Trashiyangtse	215
17	Trongsa	644
18	Tsirang	636
19	Wangdue Phodrang	961
20	Zhemgang	564
	<b>Total</b>	<b>26292</b>

#### 1.4. Mobile cellular telephony

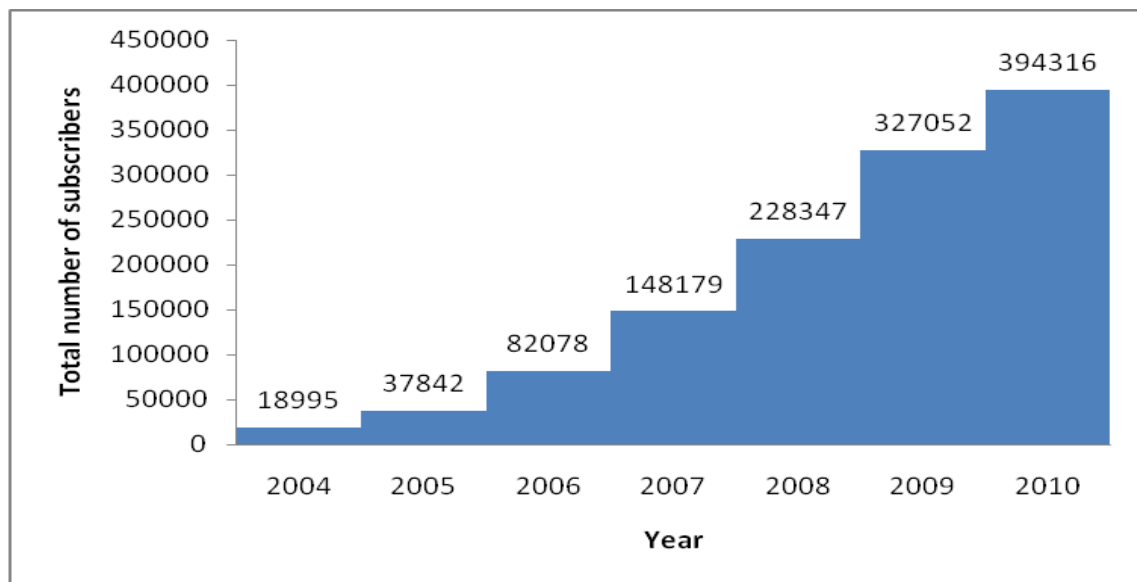
Mobile services were introduced in the country on 11 November, 2003 with Bhutan Telecom Limited as the only operator. In 2006, TICL was granted license to provide mobile cellular services, thus making it the second mobile service operator in the country. Mobile has since become the most effective and convenient means of communications in the country.

B-Mobile/Bhutan Telecom Limited has services in all 20 Dzongkhags; where as Tashi-Cell/Tashi Info-Comm. Limited has services in about 14 Dzongkhags. In 2010, mobile cellular subscribers increased by over 21%.

By December 2010, the two operators had combined subscriber's base of 394,316 mobile users, of which BTL had 312,316 subscribers<sup>2</sup> and Tashi-Cell had 82,000 subscribers.

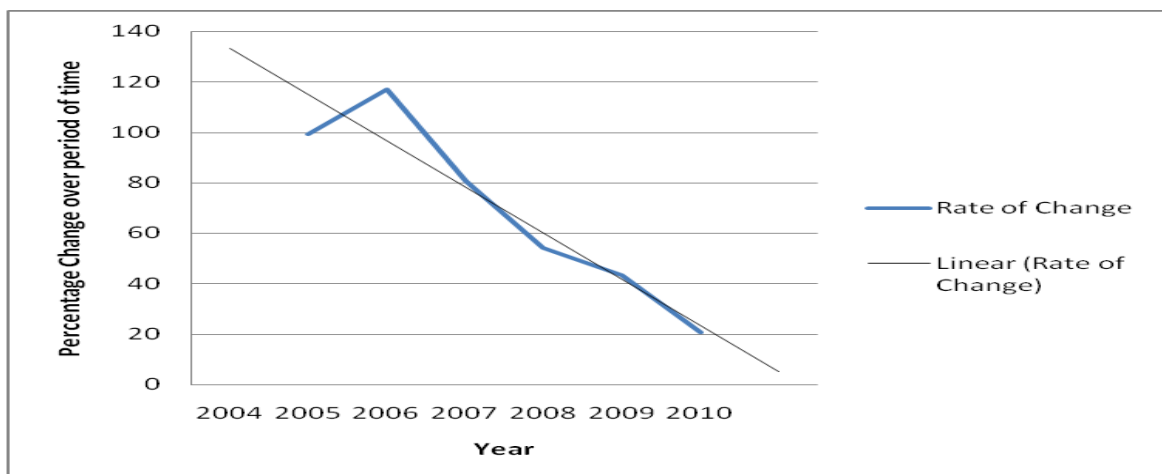
<sup>2</sup> On the total 312,316 mobile subscribers for BTL, 14,217 are in passive state

Chart 1.5: Mobile Cellular Subscribers, Bhutan, 2004-2010



Source: Bhutan Telecom Limited and Tashi-Cell, December, 2010

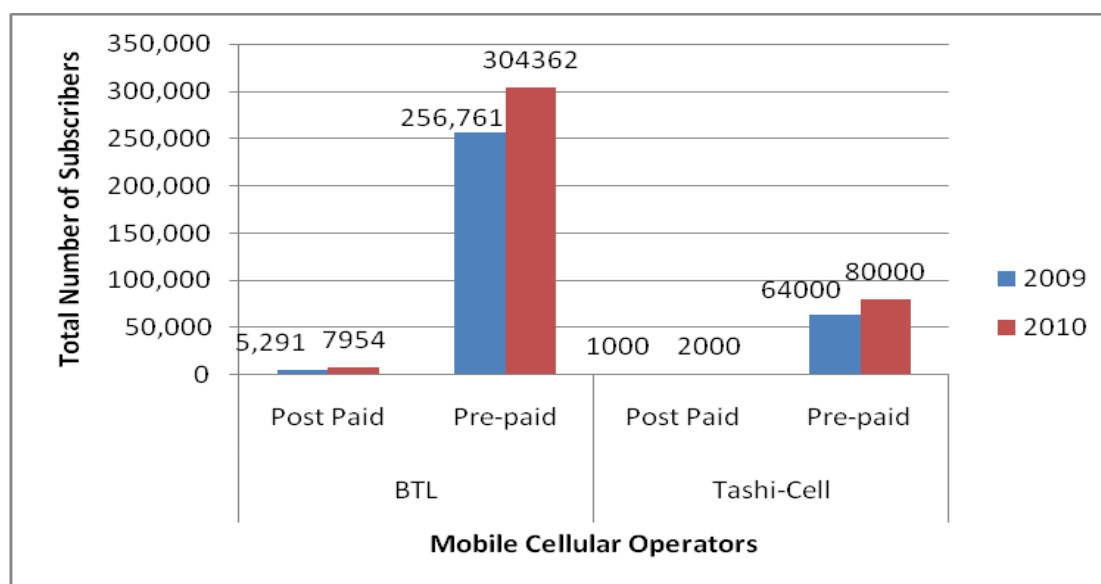
Chart 1.6: Percentage increase in actual number of subscribers, Bhutan, 2004-2010



Source: Bhutan Telecom Limited and Tashi-Cell, December, 2010

As shown in Chart 1.5 & 1.6, for the past 4 years, Bhutan though experienced an increase in actual number of mobile cellular subscribers, it has also experienced a decline in the rate at which the subscribers are added when compared to previous years i.e. on or before 2006. In future, it is expected that the percentage increase in the actual number of new subscribers added to the network will be lesser than 20% of its previous year's subscriber's base.

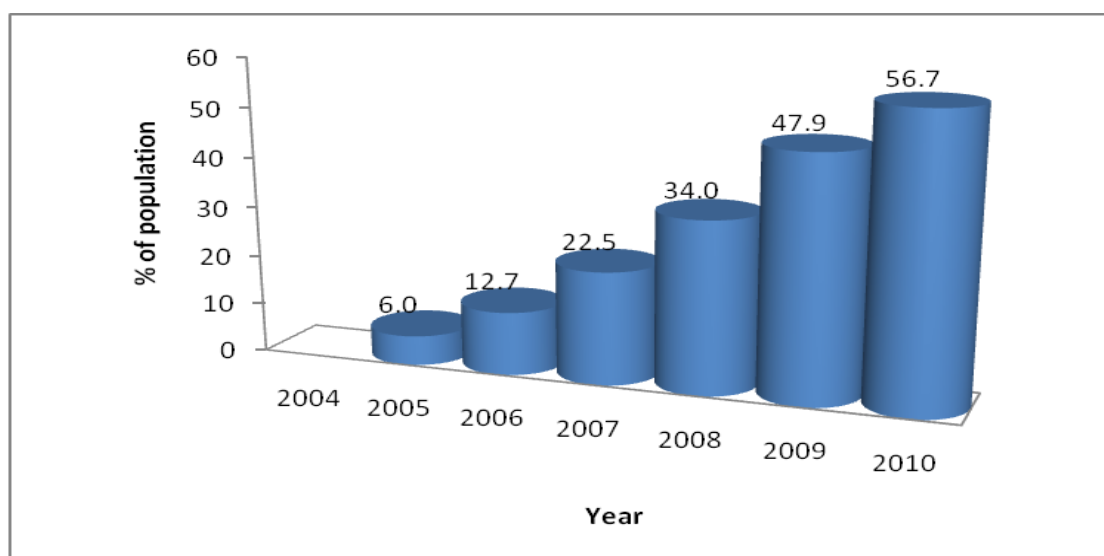
Chart 1.7: Share of Mobile cellular Subscribers, by type &amp; operator, 2009-2010



Source: BTL & Tashi-Cell, 2010

In 2010, BTL had 312,316 subscribers out of which 304,362 were pre-paid subscribers and 7,954 were post-paid mobile subscribers against Tashi-Cell's 82,000 out of which 80,000 were pre-paid and 2,000 post-paid subscribers (Shown in the Chart 1.7). BTL's subscriber base increased by almost 19.18% against Tashi-Cell's 26.15% in 2010.

Chart 1.8: Percentage of total population using mobile service, Bhutan, 2010



### Short Messaging Services (SMS)

Short Messaging Services (SMS) is now becoming more powerful than ever before in the country. In 2010, Mobile cellular subscribers in the country had sent as many as 69,981,396 SMSes of which 62,809,449 were sent by BTL subscribers and 7,171,947 were sent by Tashi-cell subscribers.

For B-Mobile, from the total 62,809,449 SMSes sent in by its subscribers, 53,241,889 SMSes (almost 85% of total SMSes) were shared locally between mobile cellular subscribers in the country. Whereas 237,831 SMSes (1% of the total SMSes) were shared with Mobile cellular subscribers of Indian network and as many as 9,329,729 International SMSes (i.e. almost 14% of the total SMSes) was shared by Bhutanese Mobile cellular subscribers with its international partners apart from India.

Table 1.5: Showing the total number of SMSes sent by B-Mobile, by destination and Month, 2010

Month	Local SMS	India SMS	International SMS
January	5,871,653	29,537	319,347
February	5,425,189	29,161	51,740
March	4,338,791	30,607	768,966
April	2,955,411	26,873	1,727,654
May	1,539,770	19,377	3,216,825
June	2,811,034	2,169	2,221,017
July	4,772,030	1,927	638,255
August	5,471,331	25,298	199,703
September	4,381,286	16,632	121,698
October	4,769,441	19,674	37,876
November	3,989,168	16,202	13,143
December	6,916,785	20,374	13,505
<b>Total</b>	<b>53,241,889</b>	<b>237,831</b>	<b>9,329,729</b>

Source: Bhutan Telecom



### 1.5. Internet services

Druknet, TICL, Samden Tech and Drukcom are the Internet Service Providers (ISPs) in the country providing range of Internet services as indicated below.

Operators	Type of services provided	Coverage
1. Druknet, BTL	Lease line Dial-up  Broadband (fixed)  3G/EDGE/GPRS (Mobile broadband)	Country-wide Country-wide where fixed line telephone services are available 18 Dzongkhag head-offices and where B-mobile signals are available 20 Dzongkhags ( 3G available only in Thimphu)
2. TashiCell, TICL	EDGE/GPRS, lease line connection	14 Dzongkhag head offices
3. Samden	Lease line connection	Thimphu
4. Drukcom	Lease line connection	Thimphu

The type of Internet<sup>3</sup> services provided by the ISPs are:

- a. **Lease line connection:** Lease line connection is the oldest form of internet connection in the country and is currently provided by Druknet, Tashi cell, Samden and Drukcom. By the end of 2010, there were around 199 lease line connections throughout the country, up from 35 in 2004, 48 in 2005, 61 in 2006, 80 in 2007, 109 in 2008 and 145 in 2009. Lease line connections have grown steadily over the years but these are mostly limited to government agencies and corporate houses.
- b. **Dial up connection :** Prior to the introduction of broadband services in 2008, dial-up connection was quite common among individuals and household users to access Internet. The highest number of dial-up users recorded was 4,014 in 2008 from where it started declining rapidly with better access to broadband services. By 2010, there were only 953 dial up internet subscribers in the country, a decrease of 2180 users when compared to 2009.
- c. **Broadband Internet**

Fixed broadband Internet services along with Mobile broadband was introduced for the first time in 2008. In 2010, total number of fixed broadband internet users reached 8,675, an increase of 57% i.e. 5,297 compared to 3,378 users in 2009. Though there was an

<sup>3</sup> Total number of household connected by lease line, dial up and fixed broadband and number of mobile broadband subscribers are taken as "Total Internet subscribers", as it is very difficult to calculate the actual number of Internet users via Internet Café, at Home, offices, etc

increase in the number of subscribers, broadband patronage has been rather slow, perhaps due to high tariff, especially for individual household users.

Chart 1.9: Internet Subscribers-by type and year, 2004-2010

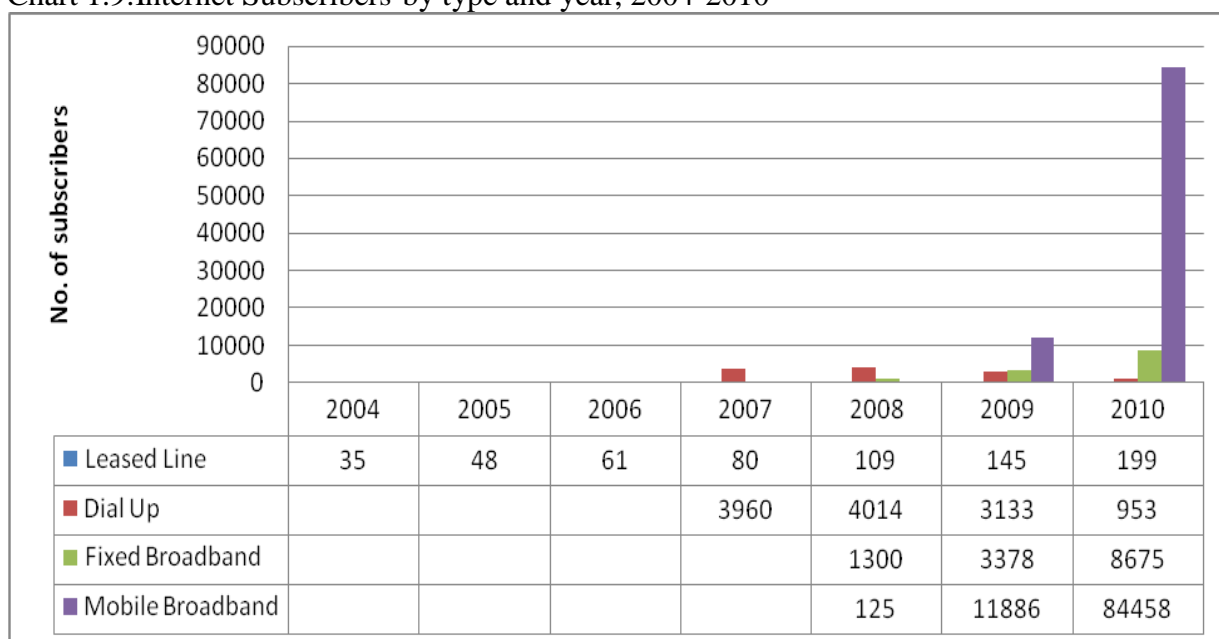
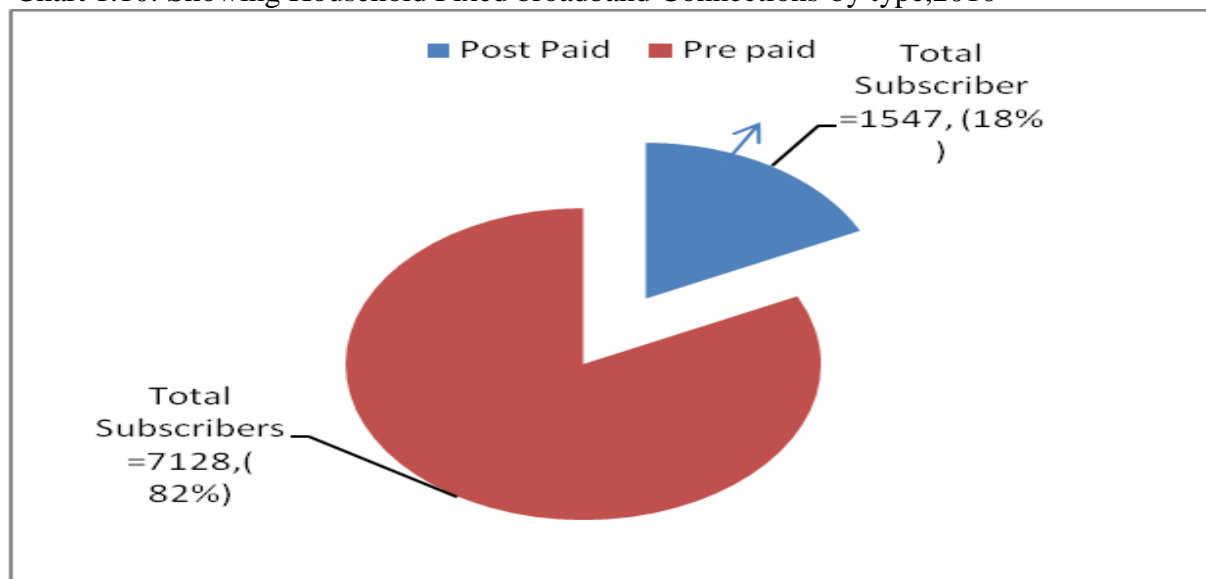


Chart 1.10: Showing Household Fixed broadband Connections-by type, 2010



Source: B-Mobile, Bhutan Telecom Limited, 2010

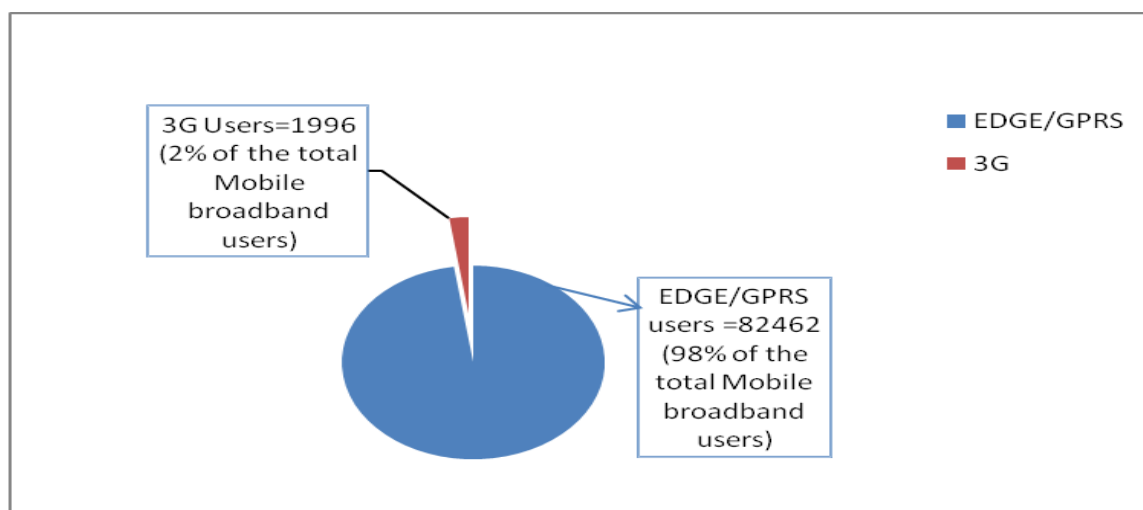
The Fixed broadband subscription remains strikingly low in Bhutan with just about 8,675 subscribers or 1.25% penetration rate compared to 20% in other economies, though it has increased by 0.75% compared to 2009.

Due to lack of infrastructure, fixed-line broadband service is available only in some urban locations such as Gedu, Punakha, Trashigang, Pemagatshel, Simtokha, Pasakha, Samdrup Jongkhar, Bumthang, Tshimasham, Paro, Gelephu, Wangdue Phodrang, Mongar, Deothang, Haa, Samtse, Trongsa, Trashiyangtse, Sarpang, Rurichhu, Gomtu, Lobesa, Zhemgang, Khaling, Nganglam, Dagana, Royal Thimphu College, Rangung, Chumey, Lhuntse, Gelposhing, Womrong, Thimphu, Phuentsholing, Dechencholing, Damphu, Satsam chorten (Paro) and Dagapala.

### Mobile Broadband:

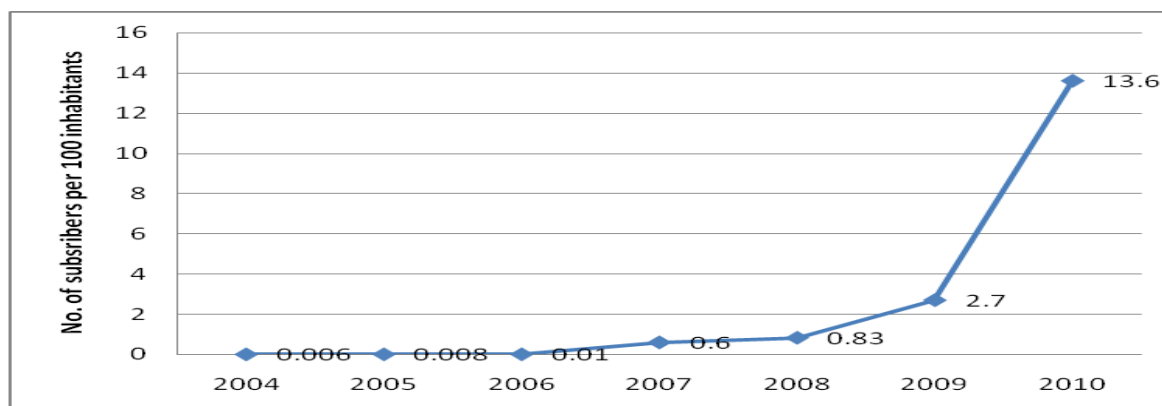
Mobile broadband saw a huge jump in its subscriber's base from 11,886 subscribers to around 84,458 subscribers in 2010, an increase of 611% from 2009. Mobile Broadband penetration rate in Bhutan is around 12% which is similar to those in lower middle and low income economies.

Chart 1.11: Mobile Broadband users-by type and percentage share, 2010



Source: Bhutan Telecom and Tashi Info-Comm, 2010

Chart 1.12: Internet subscribers per 100 Inhabitants, December, 2010



Source: MoIC

### 1.6. Cost of accessing Fixed Broadband, 3G, EDGE,GPRS,Dial up and Mobile phone

The fixed line broadband price differences in the region are also striking. The top economies in terms of fixed line broadband penetration have monthly subscription fees that correspond to about 1 percent of the monthly income. On the other hand, in some economies of the region, the cost of broadband subscription may represent more than 100 percent of the monthly income. In Bhutan, the average cost of accessing broadband (post-paid and pre-paid) ranges from **7 to 14** percent of monthly income for home and personal usage of broadband services.

#### 1. Fixed Broadband Tariff:<sup>4</sup> Monthly Post paid Rates:

Package Name	Circuit Bandwidth	Monthly Tariff(NU)	Data upload/Download Limit	Additional UsageCharge per MB (NU)
Personal	Upto 256 Kbps	479	2.5 GB	0.19
Home	Upto 256 Kbps	959	5 GB	0.19
Office	Upto 512 Kbps	1439	7 GB	0.19
Business	Upto 1 Mbps	2159	10 GB	0.19
Enterprise	Upto 2Mbps	2999	15 GB	0.19

#### 2.Monthly Prepaid Rates:

Package Name	Circuit Bandwidth	Monthly Tariff(NU)	Data Upload/Download Limit	validity
Personal	Upto 256 Kbps	399	2.5 GB	30 days
Home	Upto 256 Kbps	799	5 GB	30 days
Office	Upto 512 Kbps	1199	7 GB	30 days
Business	Upto 1 Mbps	1799	10 GB	30 days
Enterprise	Upto 2 Mbps	2499	15 GB	30 days

<sup>4</sup> Source: BTL, other ISPs do not provide Fixed broadband services as of now.

## 2. Tariff for 3G,EDGE & GPRS

### a. Bhutan Telecom Limited (B-Mobile):

<b>Package</b>	<b>Lite</b>	<b>Easy</b>	<b>Supreme</b>	<b>Unlimited</b>
Rate	NU 149	NU 399	NU 799	NU 999
Data Limit	300 MB	1.2 GB	2.5 GB	Unlimited

1. Pay-Per-Use: NU 0.003/KB (the pay-as-you-use can be subscribed by both postpaid and prepaid customers).

2. MMS (person to person): maximum size of MMS – 100 KB.

3. Video call: NU 1.75/unit (one unit is 20 seconds. The rates for video calls is only for on-net

### b. Tashi Info-Comm Private Limited:

1. Pay per use - It is available for both prepaid as well as post paid subscribers. For every kilobyte (KB) of data browsed, subscribers will be charged Nu. 0.01 only.

2. Unlimited usage - It is available only for postpaid subscribers. Subscribers pay a fixed amount of Nu. 777 for the whole month.

## 3. Tariff for Dial up internet connections:

- Minutes per Unit for NU 1.50

-

### **1.7. Media Profile: Current Scenario**

Bhutanese society is being transformed by the growth of media. The traditional and new media have become indispensable for modern living and they continue to influence the way we live, learn, work and relate to each other. A rapidly growing number of people are using the social media, now called the fifth estate.

Print media comprises newspapers, magazines and other publications. Currently, there are seven licensed newspapers (two daily and five weekly newspapers). One more newspaper was launched on 19<sup>th</sup> February 2011. There are seven licensed radio broadcasters, including BBS (Bhutan Broadcasting Service) – a state owned broadcaster – of which only 5 are currently operating. And there is only one Television broadcaster (BBS) also owned by the Government. Although, media in Bhutan is still in its infancy, the Royal Government and the Media Organizations are endeavoring to improve the quality and content of Media in Bhutan through development of professionalism.

#### **Print:**

Print media saw a sudden increase in the last couple of years as apparent from the date these were launched:

- i. Kuensel launched on 1967 as internal government bulletin.
- ii. Bhutan Times launched on 30<sup>th</sup> April, 2006
- iii. Bhutan Observer launched on 2<sup>nd</sup> June, 2006.
- iv. Bhutan Today launched on 30<sup>th</sup> October, 2008.
- v. Business Bhutan launched on 26<sup>th</sup> September, 2009.
- vi. The Journalist launched on 21<sup>st</sup> December, 2009.
- vii. Druk Nyeltshel launched on 2<sup>nd</sup> August, 2010
- viii. Druk Yoezer launched on 19<sup>th</sup> February, 2011

#### **Radio Broadcasters:**

- i. Bhutan Broadcasting Service (BBS) launched on November, 1973.
- ii. Kuzoo FM launched on 1<sup>st</sup> September, 2006.
- iii. Radio Valley launched on 12<sup>th</sup> April, 2007.
- iv. Centennial Radio launched on 21<sup>st</sup> September, 2008
- v. Sherubtse FM launched on 8<sup>th</sup> May, 2009
- vi. Radio High launched on 5<sup>th</sup> August, 2010.
- vii. Radio Wave launched on 12<sup>th</sup> October, 2010

## Chapter Two – Aviation and Surface Transport

### 1. Aviation sector:

#### (i) Airports

Type of airport(s)	Place	Altitude above sea level	Runway length	Runway width	Aerodrome Reference classification
International	Paro	7,300 feet (2,225 m)	2,255 m	30 m	4C
Domestic <sup>5</sup>	Yonphula	8,400 feet (2,560m)	1,300 m	30m	2B
Domestic	Bumthang	8,465 feet (2,580 m)	1,200 m	30m	2B
Domestic	Gelephu	726 feet (221 m)	1,200m	30m	2B

#### (ii) Number of helipads:

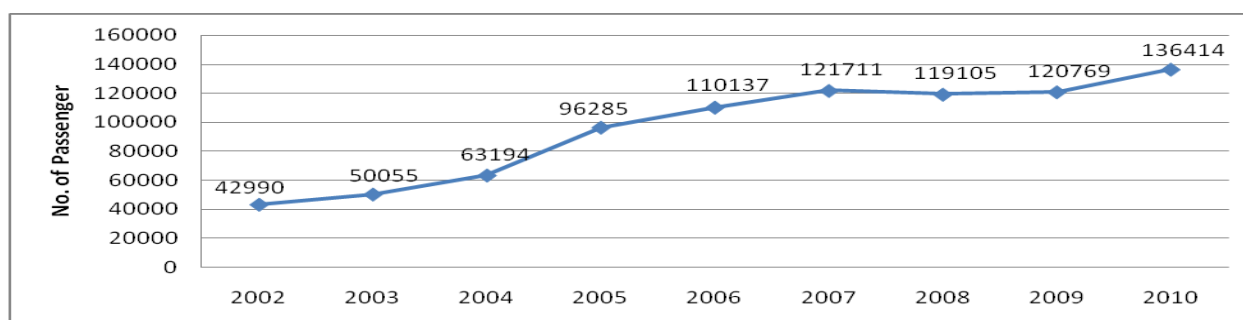
40

Drukair, the national flagcarrier of Bhutan, started air services in February 11, 1983. Since then, it has been the only airline in the country until August 23,2010 providing scheduled international air services and currently operating to the following routes:

- i) India : Delhi, Kolkata, Gaya, Bagdogra, Guwahati
- ii) Nepal : Kathmandu
- iii) Thailand : Bangkok
- iv) Bangladesh : Dhaka

In 2010, Druk Air saw the maximum number of air travellers numbering 136,414, an increase of 13% or 15,645 more passengers compared to 2009. The flow of air passengers is indicated in the table and graph below:

Chart 2.1: Annual air passenger flow via Druk Air,2010



<sup>5</sup> Works on development of 3 domestic airports are on-going

Table 2.1: Drukair Passenger Flow – 2010 and 2009, segregated by sectors

Sector	JANUARY-DECEMBER	
	Year 2010	Year 2009
<b>Paro to</b>		
Delhi	11479	10139
Bangkok	24361	22159
Kathmandu	10509	8597
Kolkata	11450	8070
Gay	751	1026
Dhaka	2952	1530
Bagdogra	2033	1302
Guwahati	118	
<b>Sub-total</b>	<b>63653</b>	<b>52823</b>
<b>to Paro</b>		
Delhi	12032	10037
Bangkok	24560	22410
Kathmandu	10675	8825
Kolkata	10374	7614
Gaya	850	897
Dhaka	2964	1407
Bagdogra	1965	1289
Guwahati	108	
<b>Sub-total</b>	<b>63528</b>	<b>52479</b>
Kathmandu/Delhi	0	2037
Delhi/Kathmandu	0	1102
Kolkata/Bangkok	0	1664
Bangkok/Kolkata	11	1586
Gaya/Bangkok	707	1447
Bangkok/Gaya	625	1415
Dhaka/Bangkok	2254	2720
Bangkok/Dhaka	1835	2377
Bagdogra/Bangkok	1819	649
Bangkok/Bagdogra	1716	470
Guwahati/Bangkok	180	
Bangkok/Guwahati	86	
<b>Sub-total</b>	<b>9233</b>	<b>15467</b>
<b>Grand Total</b>	<b>136414</b>	<b>120769</b>



From Table 2.1, Bangkok is the most frequently travelled sector compared to all the other sectors from Bhutan. In 2010, total number of 24,361 passengers travelled to Bangkok, an increase of 2202 travellers from 2009. Delhi, was the 2<sup>nd</sup> most travelled sector, followed by Kolkata and Kathmandu respectively. Guwahati is the least travelled sector from Bhutan. At the same time, Bangkok sector also remains the most frequently used sector to travel to Bhutan, followed by Delhi, Kathmandu and Kolkata.

Chart 2.2: No. of passengers travelling to and from Paro via Druk Air- by sector, 2010

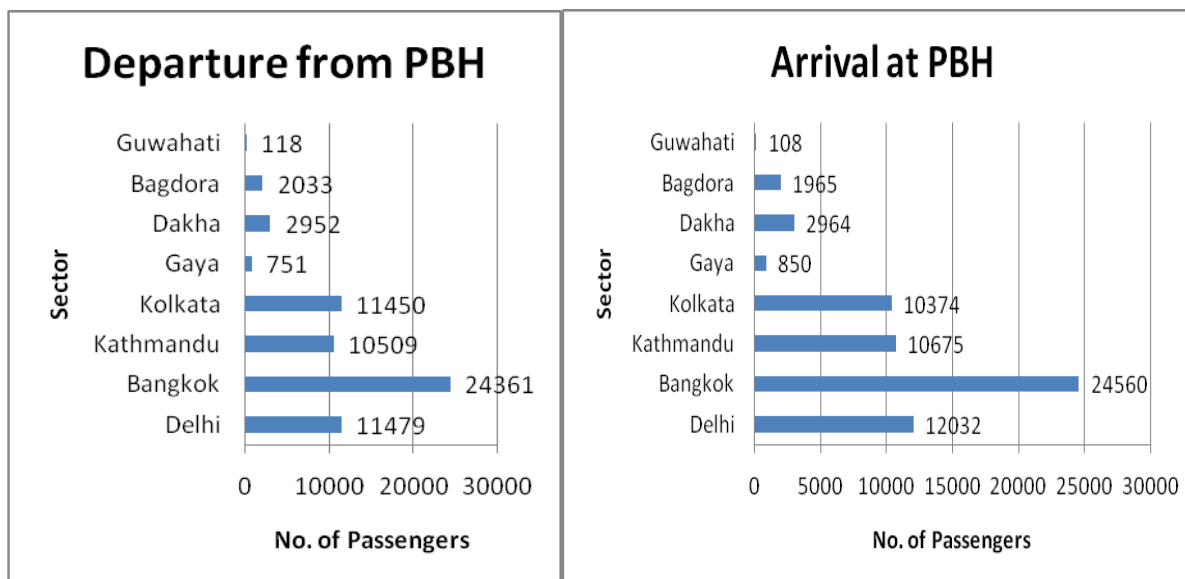
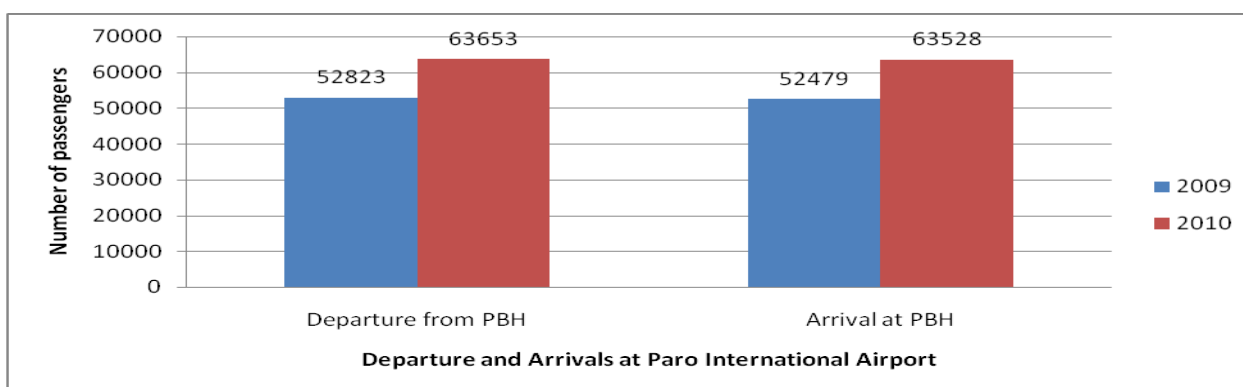


Chart 2.3: Departure and Arrival of Passengers at PBH, 2009-2010



In recent years, number of people travelling outside Bhutan has been slightly more than the number of people arriving in the country. In 2010, 63,653 passengers departed from Paro International Airport compared to 63,528 passengers arriving at the Airport. Nevertheless, last year Paro International Airport saw an increase in number of passenger using the airport compared to 2009 by 15,645 passengers i.e. more than 13 %.

## 2. Surface Transport:

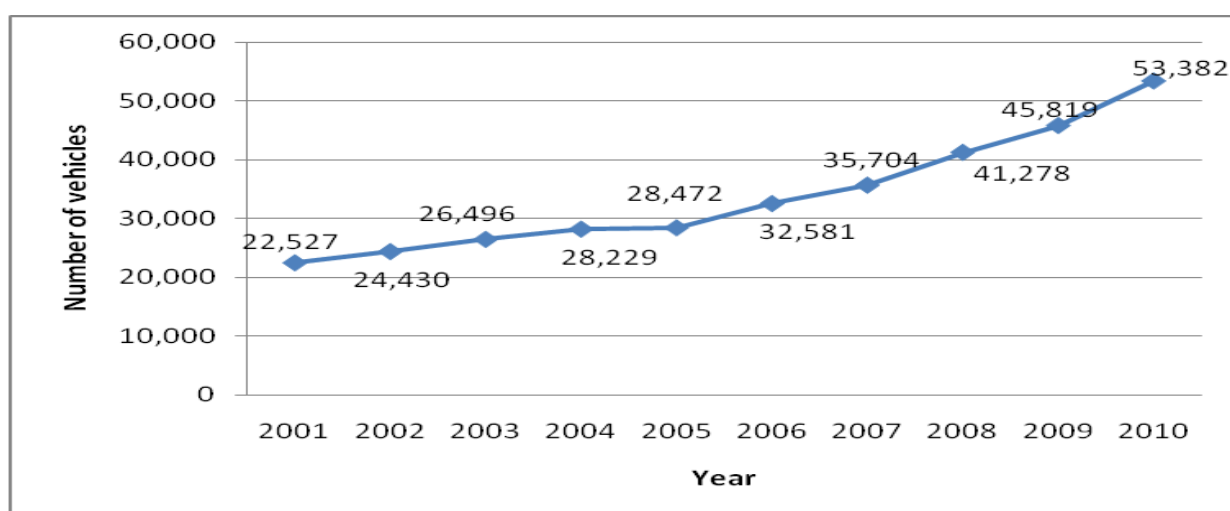
2.1. Surface transport is primarily segregated into two major elements based on functional and institutional arrangement:

a) Road infrastructure, broadly comprising the development of road network, bridge construction and their maintenance, is the mandate of the Department of Roads under the Ministry of Works and Human Settlement.

b) Transport management aspects including the issuance of licenses for public transport services, administration and enforcement of motor vehicle related activities, are carried out by the Road Safety Transport Authority under MoIC. Information in this bulletin is therefore, limited to this aspect only.

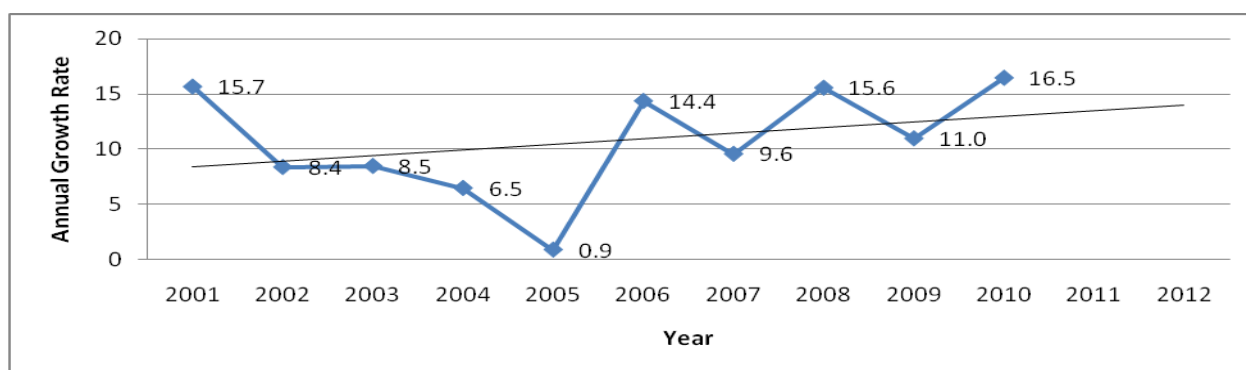
## 2.2. Trend in vehicle growth

Chart 2.4: Trend in vehicle growth, 2001-2010, Bhutan.



Source: RSTA

Chart 2.5: Annual Growth Rate and projected growth rate, 2001-2012



As of December 2010, there were 53,382 vehicles registered with RSTA i.e. an increase of 16.5 % compared to 45,819 vehicles in 2009. In the past decade, the country saw an increase of 30,855 vehicles over a period of 10 years.

At the current scenario, vehicle number in Bhutan is estimated to grow at an annual growth rate of 13-14% annually over the next two years (see above chart 2.5)

Table 2.2: Number of vehicles by type, 2001-2010<sup>67</sup>

Year	Heavy	Medium	Light	Two-wheeler	Taxi	PT	TR	Earth-movers	Others	Total Vehicle
2001	2863	697	9915	8165	201	n.a.	n.a.	408	278	22,527
2002	2747	770	10199	8371	1423	n.a.	n.a.	464	456	24,430
2003	4841	308	11575	7507	1560	n.a.	n.a.	321	384	26496
2004	4345	n.a.	12425	7707	1682	n.a.	n.a.	1682	388	28,229
2005	4352	n.a.	14365	6703	2050	n.a.	n.a.	511	491	28,472
2006	4176	343	17355	7903	2038	79	109	555	23	35704
2007	4547	467	19798	7458	2218	109	474	633	n.a.	35,704
2008	4624	659	24244	7734	2511	151	611	744	n.a.	41,278
2009	5198	786	27145	8027	2859	692	183	929	n.a.	45,819
2010	6568	1007	31162	8820	3599	756	210	1260	n.a.	53,382

Source: RSTA/MoIC

### 2.3. Ownership pattern

Of the total 53,382 vehicles in the country, approximately 8.7% or 4,622 vehicles are registered in the name of Government agencies, 91% or 48,625 registered in the name of private sector entities and individuals, with the remaining registered in the name of Diplomatic missions( see below chart 2.6) and rest as BHT. Vehicles registered in the name of Royal Body Guard, Royal Bhutan Army and Royal Bhutan Police are not included in the total number shown in the table above.

Of the total of 4,622 registered in the name of government agencies including state owned corporations, 46% are light vehicles, 22.7% two wheelers, 21.5% Heavy Vehicles and 4.3% Earth Moving Equipments. The remaining 5.5 % comprises of medium vehicles, power tillers and tractors.

<sup>6</sup> Source: RSTA/MoIC

<sup>7</sup> From 2007, vehicles which earlier was classified as “others” was clubbed into different category of vehicles

Chart 2.6: Vehicle ownership-by type-December 2010.

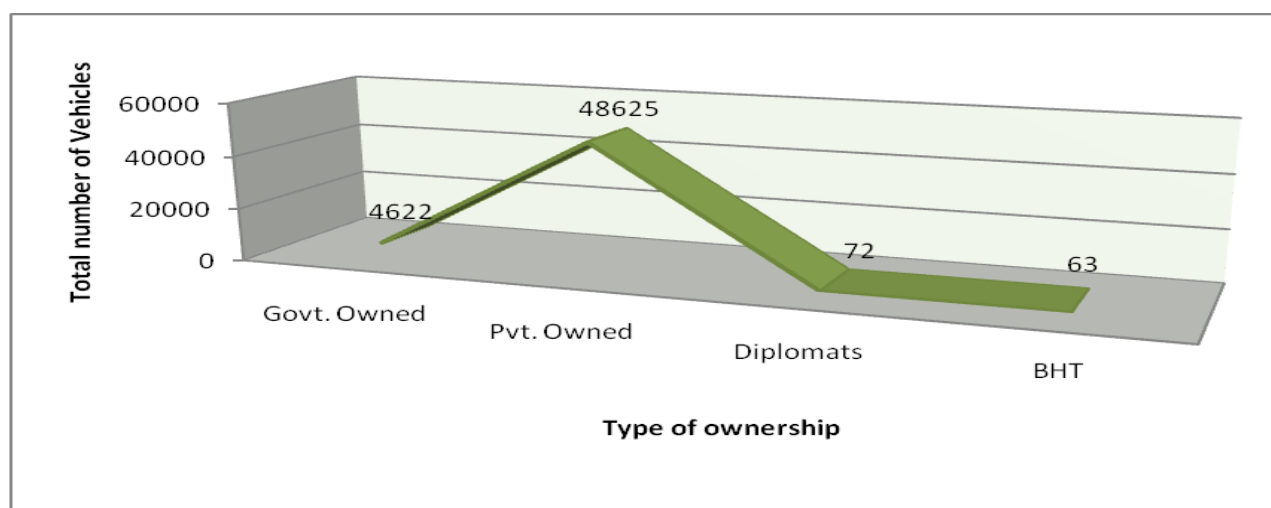


Table 2.3: Total no. of vehicles- by Region,type and Ownerships, 2010

Region	Ownership	HV	MV	LV	TW	PT	TR	EME	Taxi	Total
Thimphu	Govt. Owned	498	24	1293	498	8	14	107	0	2442
P/Ling		425	124	533	246	0	14	46	0	1388
Gelephu		30	7	109	98	0	1	10	0	255
S/Jongkhar		39	37	198	205	9	14	35	0	537
Thimphu	Private Owned	1795	164	17877	3449	405	57	327	2488	26562
P/Ling		3280	572	9087	2503	51	84	683	976	17236
Gelephu		180	46	828	818	79	3	14	97	2065
S/Jongkhar		321	33	1106	999	204	23	38	38	2762
Thimphu	BHT	0	0	63	0	0	0	0	0	63
P/Ling		0	0	0	0	0	0	0	0	0
Gelephu		0	0	0	0	0	0	0	0	0
S/Jongkhar		0	0	0	0	0	0	0	0	0
Thimphu	Diplomat	0	0	68	4	0	0	0	0	72
P/Ling		0	0	0	0	0	0	0	0	0
Gelephu		0	0	0	0	0	0	0	0	0
S/Jongkhar		0	0	0	0	0	0	0	0	0
Grand Total		6568	1007	31162	8820	756	210	1260	3599	53382

Source: RSTA/MoIC

Chart 2.7: % share of total number of vehicles- by region, 2010

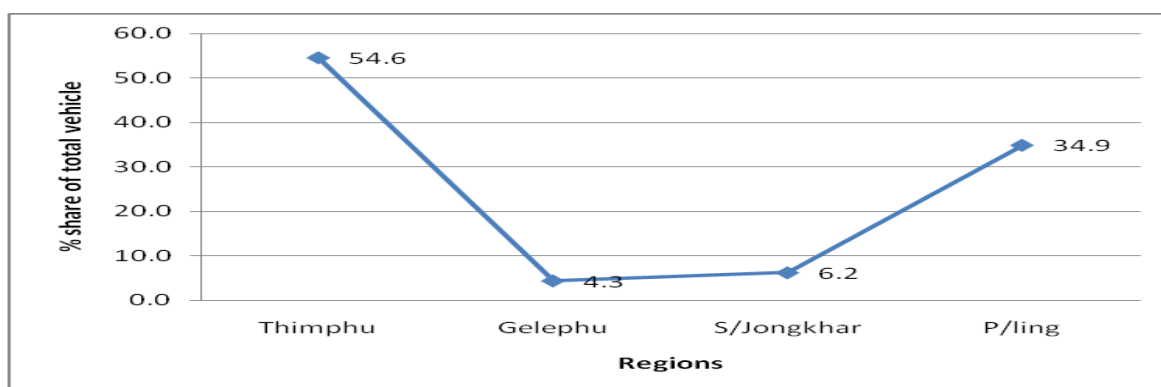


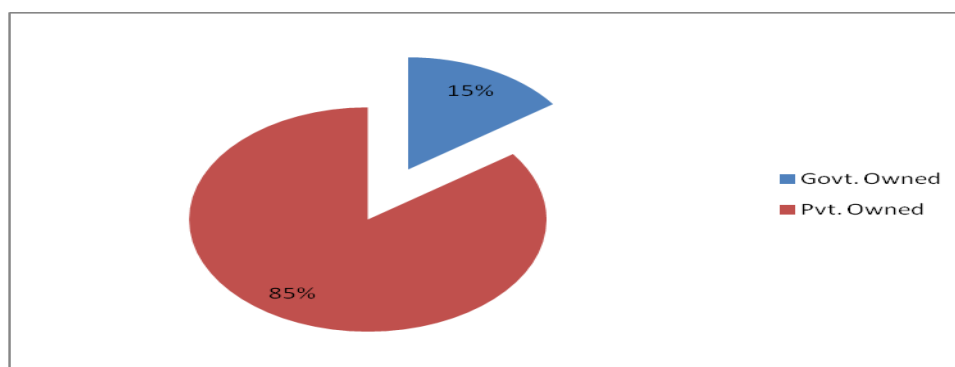
Table 2.4: Total number of vehicles by region, 2010

Region	Total Vehicle no.	% share of vehicles
Thimphu	29,139	54.6
Gelephu	2,320	4.3
Samdrupjonkhar	3,299	6.2
Phuentsholing	18,624	34.9
Total	53,382	100

#### 2.4. Vehicle by Type and Ownership: Heavy, Medium and Light vehicles

Heavy vehicle is defined as motor vehicle exceeding 10 tons gross vehicle weight or a bus seating more than 25 adults (including the driver). As of December 2010, there were around 6,568 heavy vehicles in the country i.e. an increase of 1370 (26.4%) heavy vehicles from 2009.

Chart 2.8: % share of Heavy vehicles- by Ownerships, 2010

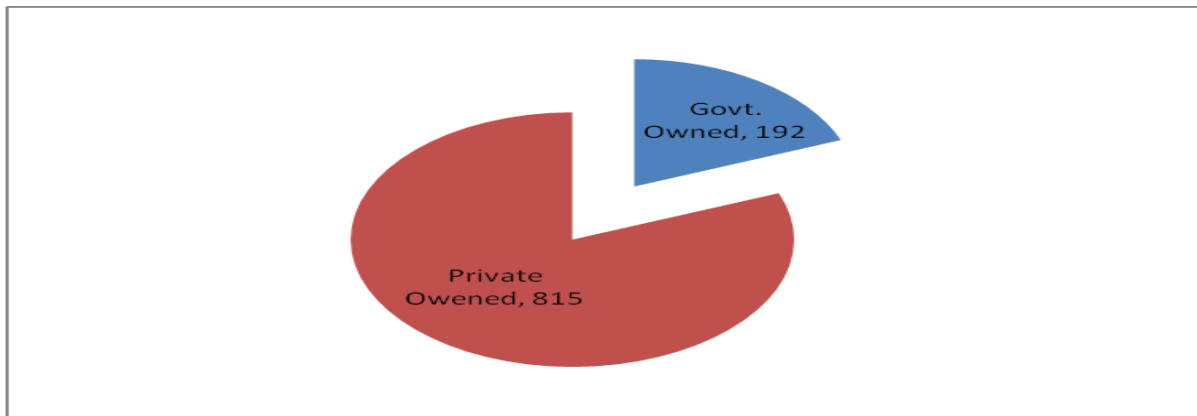


Source: RSTA/MoIC

Medium vehicles means a motor vehicle exceeding 3 tons but not exceeding 10 tonnes gross vehicle weight or a bus seating between 13 and 24 passengers. Number of medium vehicles

has increased in recent years from 697 in 2001 to around 1,007 by 2010. Number of medium vehicles had comparatively increased by 28% from 2009.

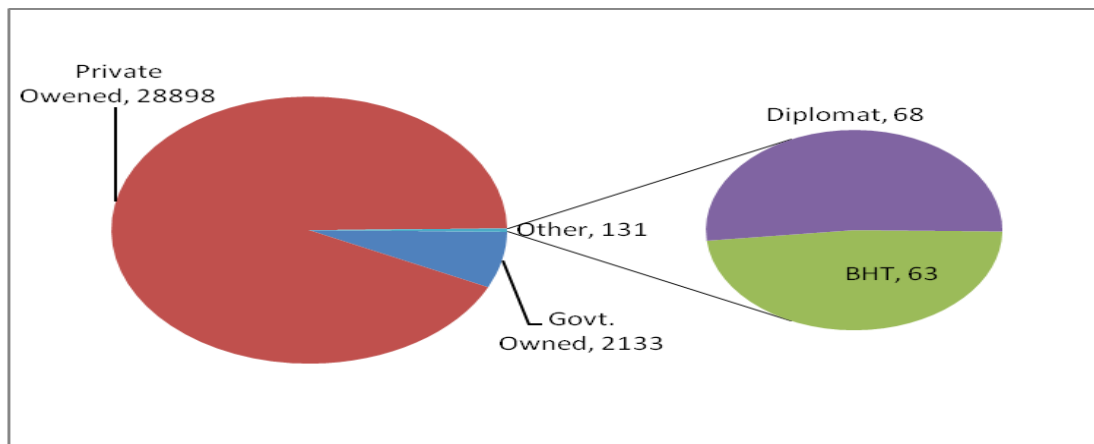
Chart 2.9: % share of Medium vehicles-by ownership, 2010



Source: RSTA/MoIC

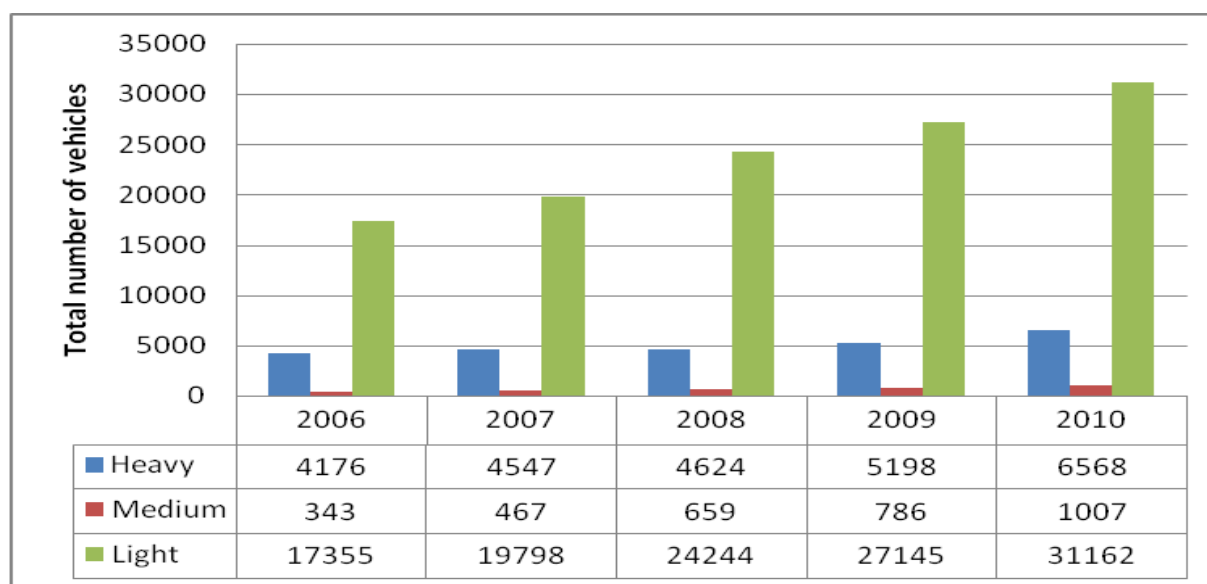
Light Vehicle means a motor vehicle (which is not a two-wheeler) seating not more than 12 adults (including the driver) and not exceeding 3 tones gross vehicle weight. At the beginning of the decade there were around 8,777 vehicles, by 2004 there were around 12638 light vehicles in the country. By 2010 end, there were 31,162 light vehicles, an increase of 4,017 ( or 14.8% ) numbers from 2009.

Chart 2.10: % share of Light vehicles-by ownership, 2010



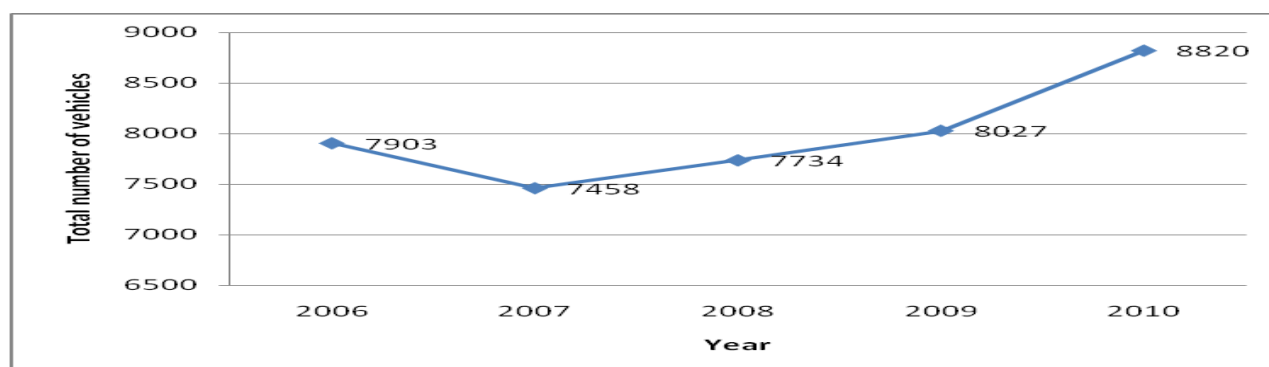
Source: RSTA/MoIC

Chart 2.11: Showing the trend of Heavy, Medium and Light vehicles,2001-09



Two Wheeler means a two-wheeled motor vehicle which has its own motive power but not human or animal power. In 2001, there were around 8,165 two wheelers in the country. Number of two wheelers declined slightly over the year from 8,165 in 2001 to around 8,027 by 2009. But in 2010, number of Two Wheelers saw a jump in its number to 8,820 i.e an increase of 793 ( or 9.9%) from 2009. Number of two wheelers are more in Thimphu and Phuntsholing.

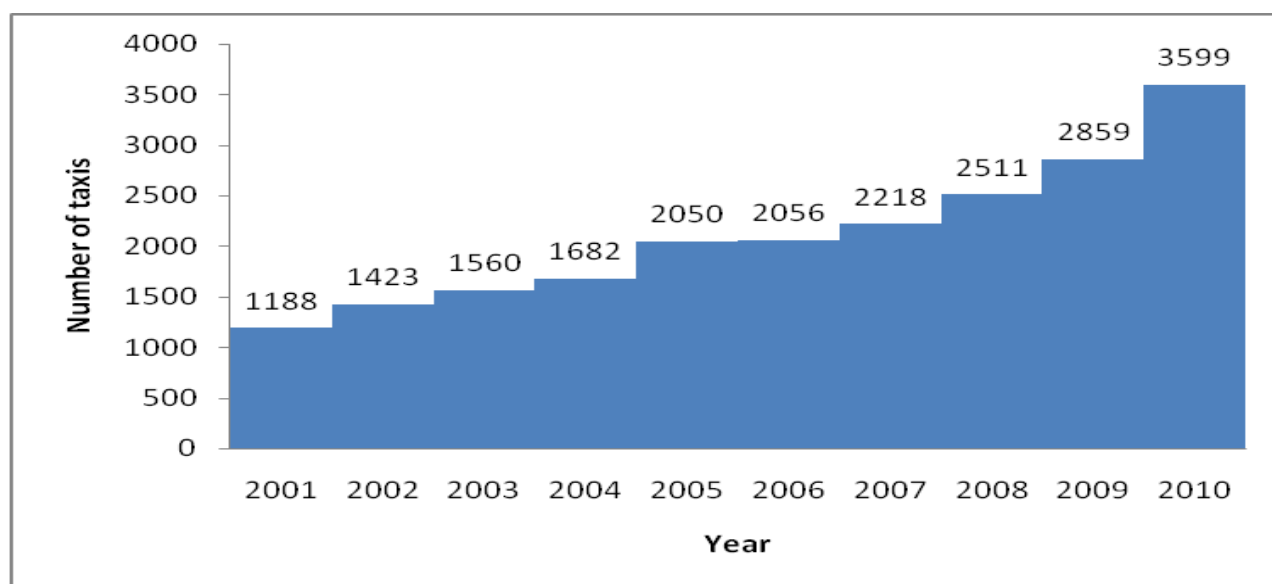
Chart 2.12 : Trend in Two wheeler, 2010



### Taxi:

Taxis are an important mode of public transport in the country, and most popular in urban areas. Numbers of taxis has consistently increased over the past few years. In the early 2001, there were around 1,188 taxis in the country. Within a year, 235 new taxis were added in the country, thereby increasing the total number to 1,423 taxis. Number of taxis has since been increasing steadily to reach the current figure of 3,599 taxis by December 2010. Taxi numbers in the country has increased by around 25.9% from 2009.

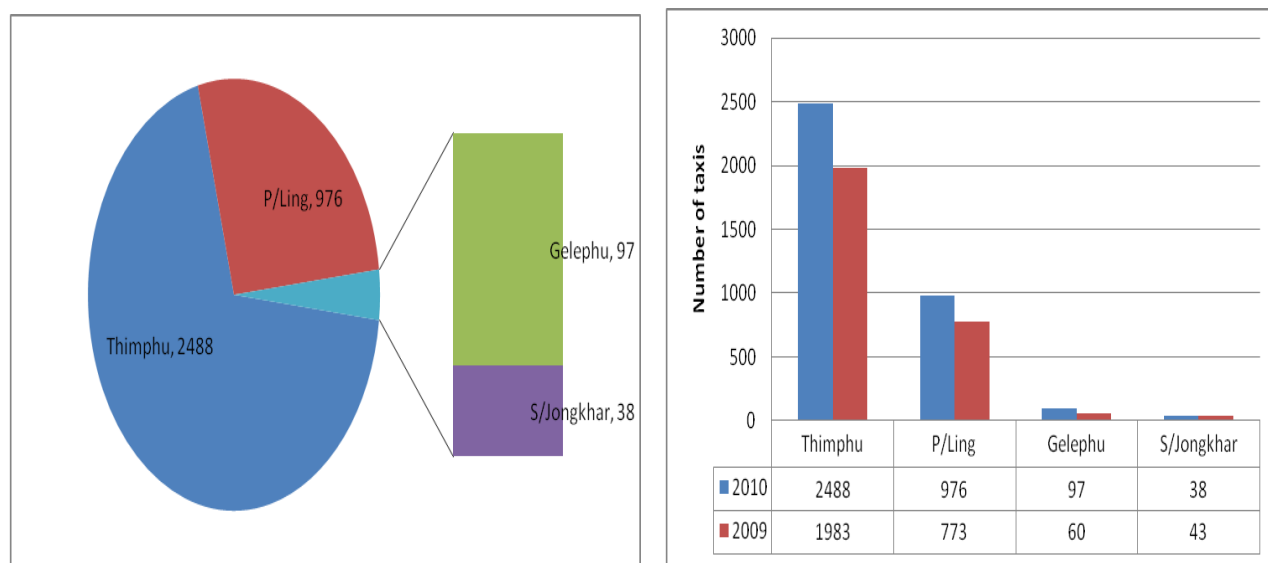
Chart 2.13: Trend of taxi growth in Bhutan, 2001-2010



Source: RSTA/MoIC

Thimphu region alone has 2,488 taxis compared to Phuentsholing region's 976 followed by Gelephu and Samdrupjongkhar regions with 97 and 38 taxis respectively (chart 2.14). According to the records (chart 2.15), number of Taxis in Thimphu region has increased by 25.5%, Phuentsholing region by 26.3% and Gelephu region by 61.7% compared to 2009. In contrast to the increasing trend in other 3 regions, number of taxis in SamdrupJongkhar region declined by almost 11.6%. Reason for this decline remains to be ascertained.

Chart 2.14: Showing number of taxis- by region, 2010. Chart 2.15: No. of taxis-by region.



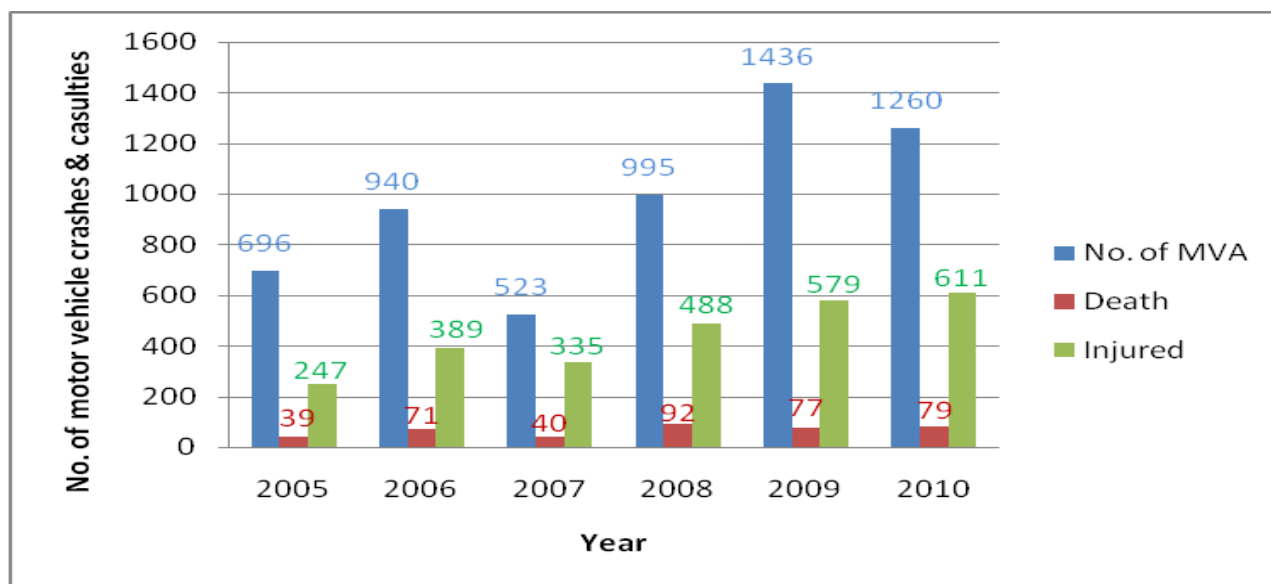


## 2.5. Motor vehicle crash data – 2010

Table 2.5: Motor vehicle crashes,2005-2010

Year	No. of motor vehicle crashes	Death	Injured
2005	696	39	247
2006	940	71	389
2007	523	40	335
2008	995	92	488
2009	1436	77	579
2010	1260	79	611

Chart 2.16: Number of motor vehicle crashes and casualties



The year 2010 saw a decline in number of motor vehicle accidents from 1,436 in 2009 to 1,260. Despite decrease in number of accidents in 2010, number of deaths increased by 2 and injured by 32 against 2009 figures.

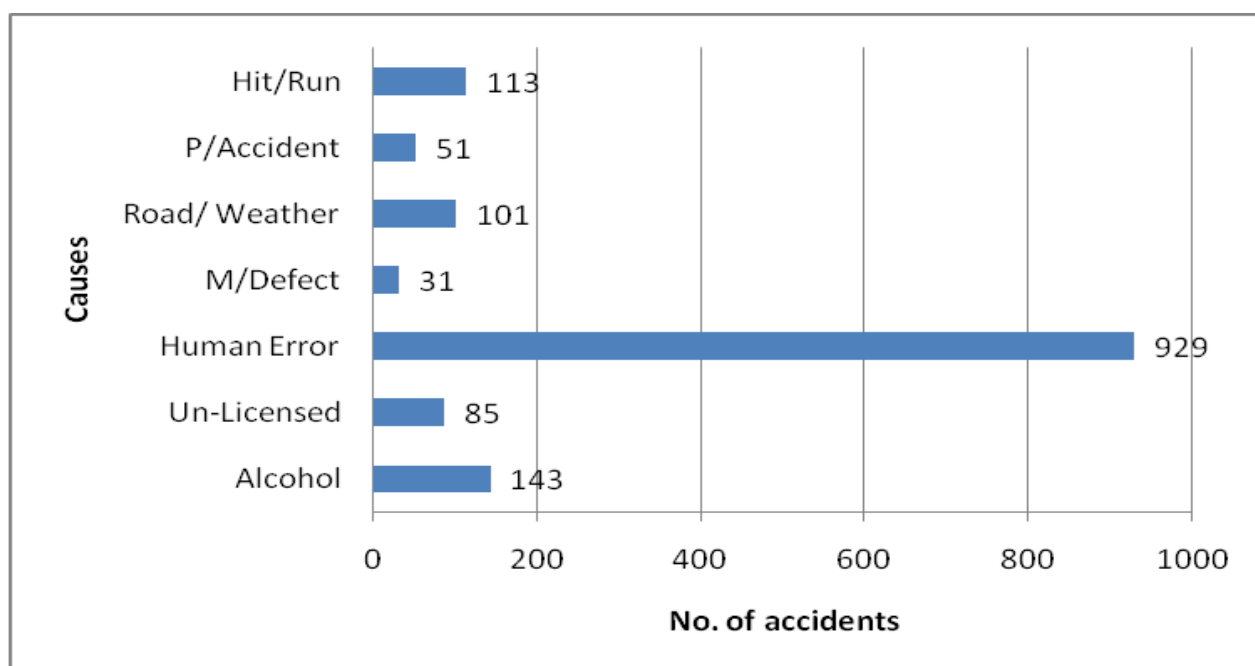
## 2.6. Causes of motor vehicles crashes - 2010

Year	Causes						
	Alcohol	Un-Licensed	Human Error	M/Defect	Road/ Weather	P/Accident	Hit/Run
2005	31	19	518	78	50	88	77
2006	28	52	651	95	114	80	81
2007	29	28	114	95	50	6	25
2008	82	43	742	78	110	13	90
2009	119	126	800	65	18	20	230
2010	143	85	929	31	101	51	113

Source: Traffic Division,RBP, RSTA/MoIC

“Human Error” remains the main causes of motor vehicle accidents in 2010 followed by alcohol –related crashes, road conditions, weather conditions, Hit and Run , un-licensed driving, Pedestrian accidents and mechanical defect respectively.

Chart 2.17: Causes of motor vehicle crashes as of December 2010

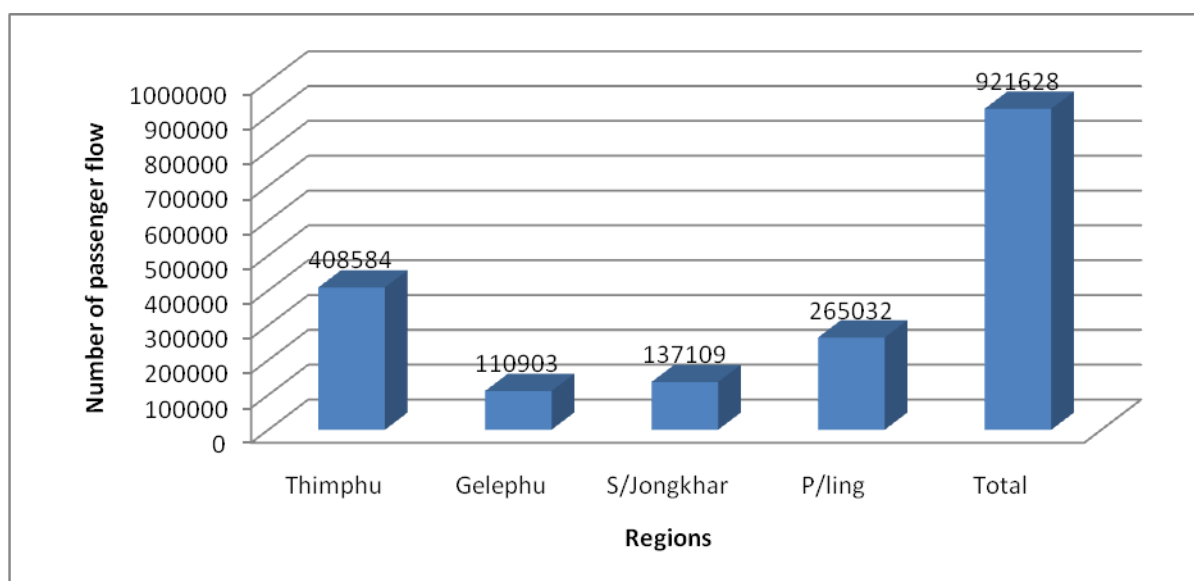


## 2.7. Other important data

Table 2.6: Driving Licenses Issued as of December,2010(cumulative figure)

Sl.No	Region	Total
1	Thimphu	35,385
2	Phuentsholing	7,353
3	Gelephu	6,821
4	Samdrupjonkhar	5,820
5	All 4 Regional Office(commercial driving licenses)	7,557
	Total	62,936

Chart 2.18: Surface Transport passenger flow, June 2009-July 2010.



Source: RSTA/MoIC

## 2.8. Vehicles imported as of June 2010

Between June and December 2010, Bhutan imported vehicles from as many as 49 different companies in Japan, South Korea, China, Europe and India as shown in Table 2.7. From the records available with RSTA, Maruti-Suzuki brand of vehicles were the maximum to be imported as apparent from table 2.7 below:

Chart 2.19: Top 14 Vehicle Models purchased by Bhutanese as of June,2010

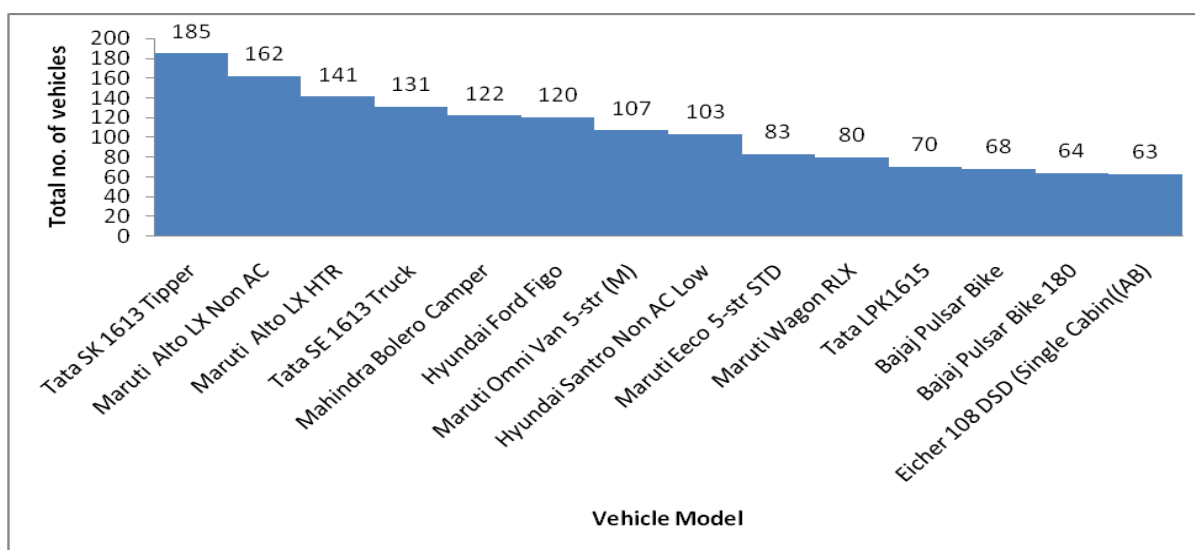


Table 2.7: Detail data of vehicles imported as of June 2010- By Company, Model and Numbers

Company	Vehicle Type	Numbers	Principle Country of imported vehicle
AMW	Tipper/Truck	33	India
Ashok Leyland	Tipper/Truck	40	India
Ashok Leyland	Bus	1	India
Bajaj	Bike	155	India
Bajaj	Scooter	1	India
BMW	Light vehicle	1	Germany
Bongua	Power Tiller	33	-
Britannia	Road Roller	1	India
Caterpillar	Bull Dozer D7G3	1	U.S.A
Caterpillar	Excavator	18	U.S.A
Caterpillar	Loader	2	U.S.A
Chevrolet	Light vehicle	38	U.S.A
Cifa	Truck loader	1	U.S.A
Doosan	Excavator	2	South Korea
Dronphen	Power Tiller	4	-
Eicher	Truck	155	India
Eicher	Bus	5	India
Escort	Tractor	21	India
Escort	Crane	4	India

Ford Figo	Light vehicle	124	U.S.A
Ford	Ford Tractor	9	U.S.A
Great Wall	Light vehicle	5	China
Hero Honda	Bike	40	India
Hero Honda	Honda Scooter	1	India
Honda	Bike	1	Japan
Honda	Light vehicle	29	Japan
Hummer	Light vehicle	1	U.S.A
Hyundai	Light vehicle	596	South Korea
Hyundai	Excavator	2	South Korea
JCB	Excavator	41	India
Jining Rising Business Machine Co. LTD	Truck Crane	1	China
Kamatsu	Excavator	56	Japan
Kia	Light vehicle	16	South Korea
Kobelco	Excavator	26	U.S.A
Kuboto	Tractor	1	Japan
Kuboto	Power Tiller	9	Japan
L&T	Compactor	1	India
Land Rover	Light vehicle	3	United Kingdom
Luoyang Lutong Trading Co.	Road Roller	2	China
Mahindra & Mahindra	Light vehicle	246	India
Maruti	Light vehicle	970	India
Mercedes Benz	Light vehicle	4	Germany
Mitsubishi	Light vehicle	5	Japan
Mitsubishi	Power Tiller	52	Japan
Normet OY	Dozer	1	Finland
Puzzoolana	Pay loader	1	India
Reva	Electric car	5	India
Royal Enfield	Bike	2	United Kingdom
Sakai	Road roller	1	Japan
Same Range Tractor	Tractor	9	Italy
Shandong	Forklift truck	2	China

Guangming Machinery Company			
Shiv Shakti Road Equipments Pvt. Ltd	Road Roller	1	India
Speed Craft	Road roller	7	
Ssangyong Motors	Light vehicle	6	China
Suzuki	Light vehicle	3	Japan
Tata	Mini Truck	168	India
Tata	Ambulance	2	India
Tata	Light vehicle	40	India
Tata	Bus	13	India
Tata	Truck	400	India
Toyota	Coaster Bus	19	Japan
Toyota	Light vehicle	125	Japan
Volkswangen co.	Light vehicle	1	United Kingdom
Voltas	Truck	1	
Volvo	Excavator	28	USA/India
Wuhan Chancay	Road Roller	1	China
Yamaha	Bike	23	Japan
	<b>Grand Total</b>	<b>3616</b>	

## Technical Notes

### 1. Fixed Telephone Lines per 100 Inhabitants

Fixed Telephone lines refer to telephone lines connecting a customer's equipment i.e. telephone set to Public Switched Telephone Network and which have a dedicated port on public payphones. Fixed telephone line per 100 inhabitants is calculated by dividing the number of fixed lines by the population and multiplying by 100.

### 2. Mobile cellular per 100 inhabitants.

Mobile cellular per 100 inhabitants is obtained by dividing the number of mobile cellular subscriptions by number of mobile cellular subscriptions by the population and multiplying by 100.

### 3. Internet users per 100 inhabitants

Internet users in the bulletin refers only to those who are connected with either lease line, dial up connections, fixed broadband and mobile broadband. Internet users per 100 inhabitants is calculated number of users with internet connections by total population multiplied by 100.

### 4. Fixed Broadband Internet subscribers

Fixed broadband Internet subscribers refers to subscribers who pay for high speed access to the public Internet at speeds equals to, or greater than, 256 kbps. Fixed broadband internet subscribers per 100 inhabitants is calculated by dividing the population of the country and by multiplying by 100.

### 5. Mobile Broadband Subscriber per 100 inhabitants

Mobile broadband internet subscribers per 100 inhabitants is calculated by dividing the population of the country and by multiplying by 100.