Infrastructure Projects in Iran

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Self Introduction

▸ 2002 – 2006 Undergraduate Student, Department of Civil Engineering, Power and Water University of Technology, Tehran, Iran

▸ 2007- 2009 Master Course Student, Department of Civil Engineering, Iran University of Science and Technology, Tehran, Iran

▸ 2011 – Present Doctoral Course Student, Department of Urban Management, Graduate School of Engineering, Kyoto University, Japan

General Information
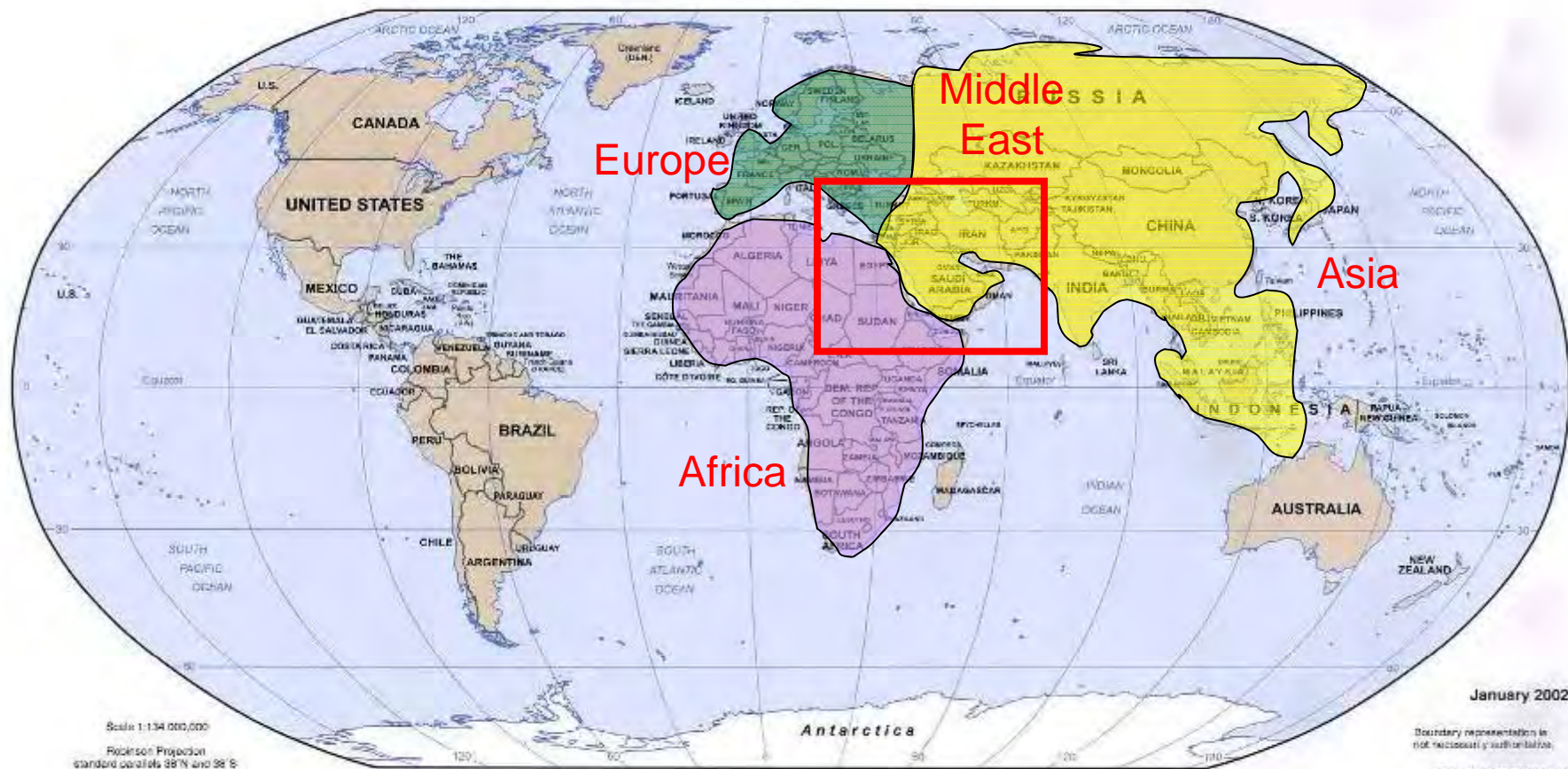
General Information

General Information

Ancient Name:

Perse, Pars, Persia (Until 1935)   **Persians (Parsians)**

Conventional Name:

Iran (After 1935)   **Iranians**

Type of Government:

Republic (Islamic Republic)

Conventional Long Full Name:

Islamic Republic of Iran

General Information

Race Background:

Aria (Arya)

Area: **1.648 million sq km (Slightly Larger than Alaska)**

Population: **70,688,433 (July 2006 est.)**

Religion: **Shi'a Muslim 89%, Sunni Muslim 9%, Zoroastrian, Jewish, Christian, and Baha'i 2%**

General Information

Capital: **Tehran**

Calendar: **Persian Calendar**

This year: 1392

A Solar Calendar which is more accurate than Gregorian calander

Persian New Year: **21st March**

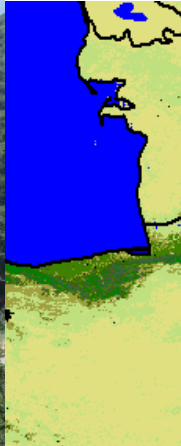**Official Language:** **Farsi (Persian)**

Reference: CIA Facebook
                    wikipedia.com

General Information

History

Achaemenian Empires (3200 BCE – 330 BCE)

History

Cyrus, the Great

Old Testament, Ezra Chapter 1
Cyrus king of Persia released God's people from their captivity, with license to return and build the temple in Jerusalem: and restored the holy vessels which Nabuchodonosor had taken from them.

Darius, the Great

Old Testament, Ezra Chapter 6
Darius finds the decree of Cyrus in the archives of Achmetha (Hamadan), and directs Tatnai not to disturb the Jews in their work. He also exempts them from tribute, and supplies everything necessary for the offerings. The Temple is finished in the month of Adar, in the sixth year of Darius, and is dedicated with great solemnity.

Achaemenian Empires (3200 BCE – 330 BCE)

Reference: Wikipedia.org

History

All Nations Gate, Statue of Xerxes the Great, Persepolis, Achaemenian Capital

Reference: bia2.com

dreamview.net

History

The First Human Rights Document Ever Made by
Cyrus the great Persia, Achaemenian Era

History

Ctesiphopn, Sassanid Palace, Now in Iraq

Natural Scenery

Photo : Javad Moghimi — FARS NEWS AGENCY

Reference: dreamview.net

Fars News Agency

Tourism Attractions

Ferdowsi Monument, Mashad

Ali Qapu, Esfahan

Sioseh Pol(33 Bridges), Esfahan

Khajoo Bridge Esfahan

Reference: dreamview.net

gettyiamges.com

Tehran

Reference: dreamview.com

flicker.com

Tehran

Reference: flicker.com

Tehran

Reference: flicker.com

Tehran

Reference: flicker.com

Art and Iranians

Photo:Soodabeh Karimi ©

Iranian Miniature

Reference: iranonline.com

Art and Iranians

Hand-knotted Persian Silk/wool Rug

Reference: manhattanrugs.com

Art and Iranians

Handicraft Copper
Works

Reference: salamiran.org

Infrastructures in Iran

Infrastructures
Oil & Gas

1908
Masjed Soleyman
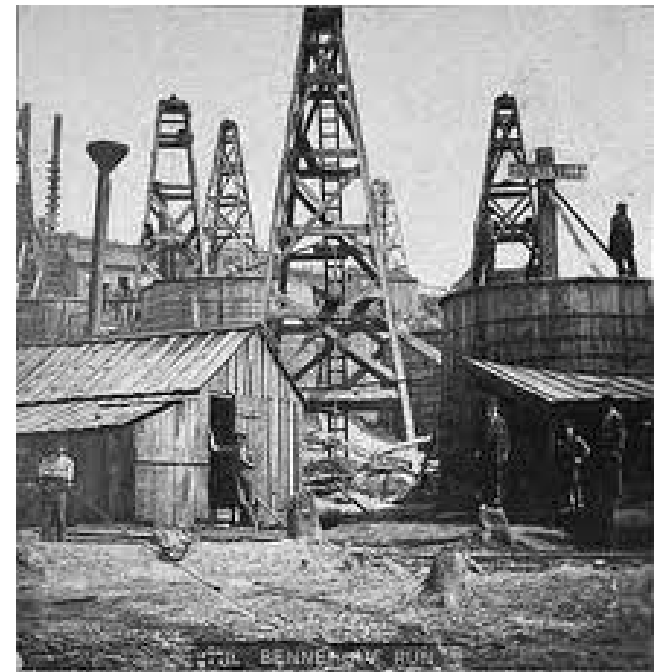
Infrastructures
Oil & Gas

Infrastructures
Oil & Gas

Infrastructures
Oil & Gas

Graph 3.1: World proven crude oil reserves (bn b)

Graph 3.2: World proven natural gas reserves (1,000 bn standard cu m)

Infrastructures
Oil & Gas

OPEC Members' proven crude oil reserves (bn b)

Legend: Algeria, Angola, Ecuador, IR Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates, Venezuela

OPEC Members' proven natural gas reserves (1,000 bn standard cu m)

Legend: Algeria, Angola, Ecuador, IR Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates, Venezuela
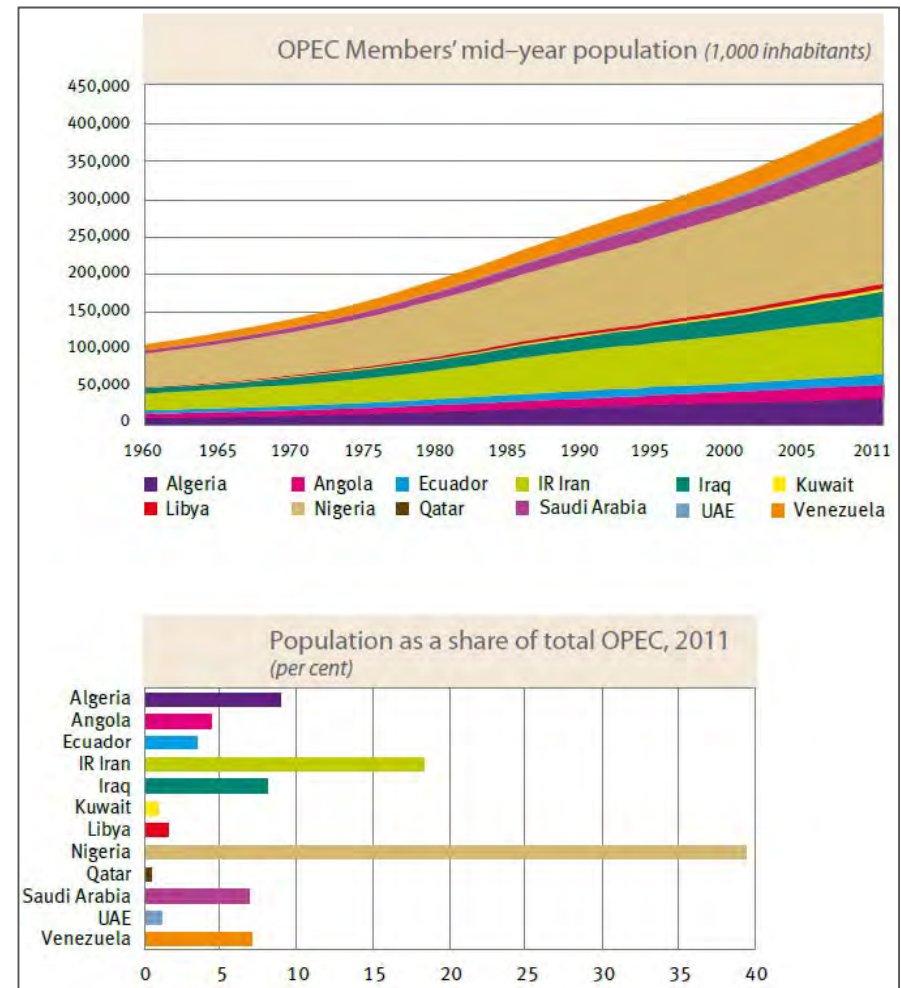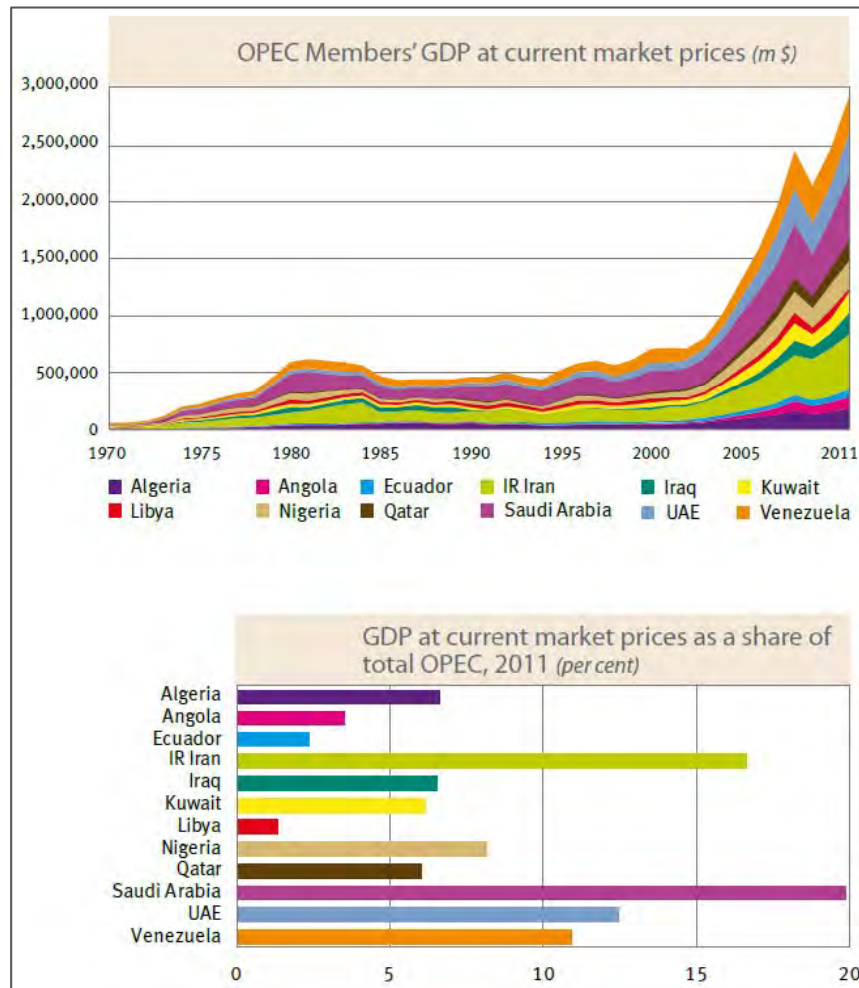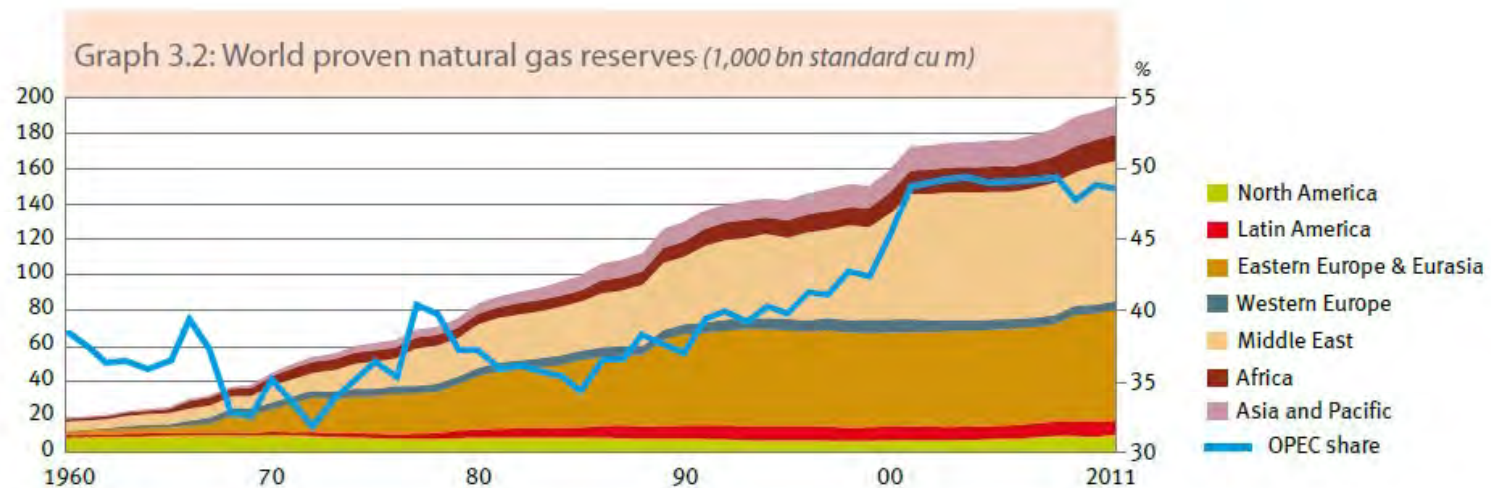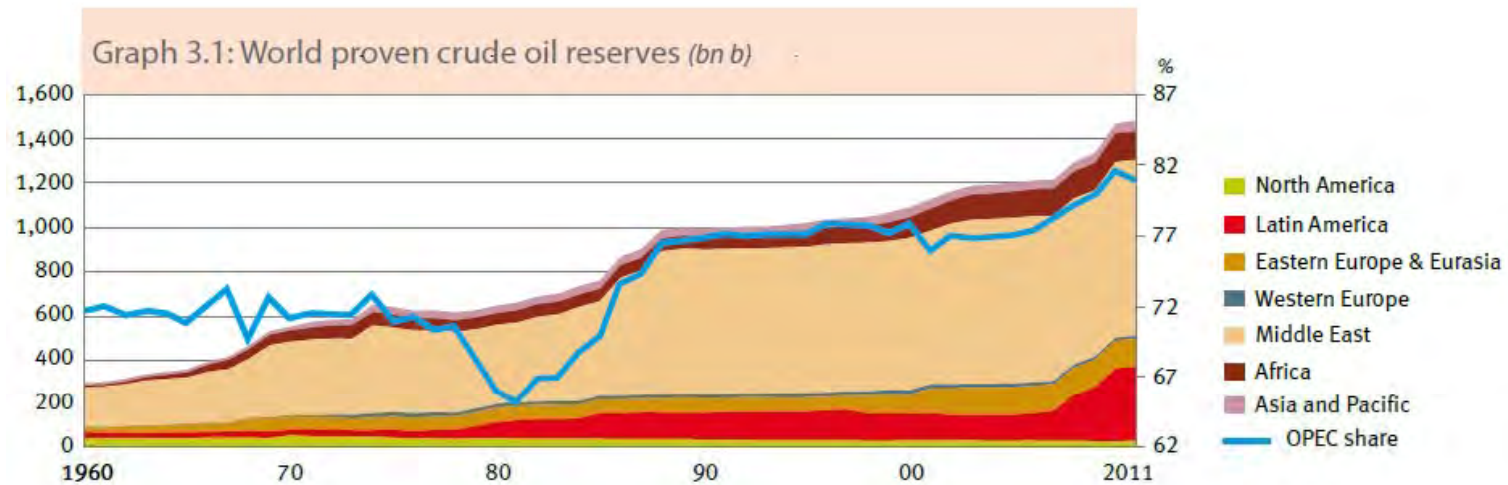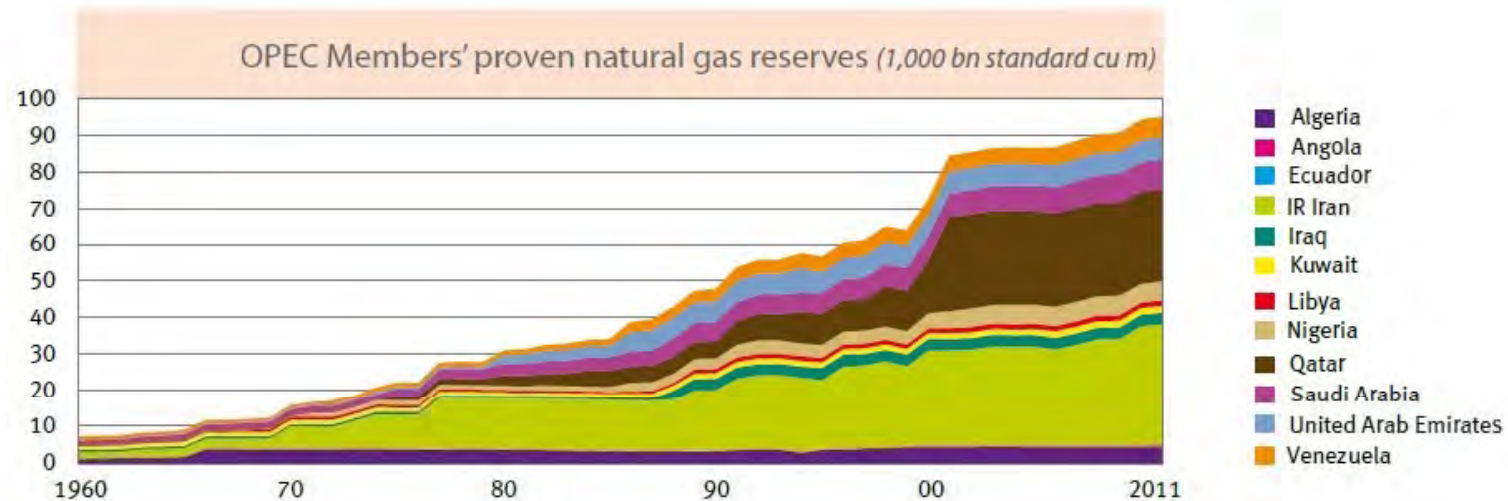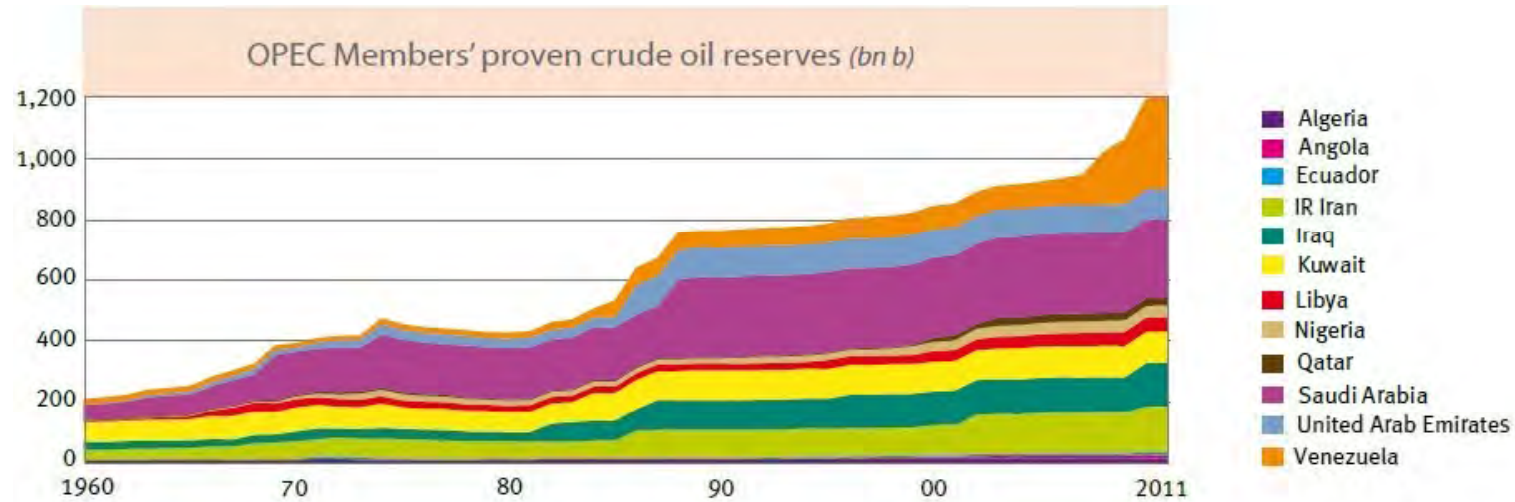
Infrastructures
Oil & Gas

Top Proven World Oil Reserves

In Billions of Barrels, as of January 1, 2010

Country	Billions of Barrels
Saudi Arabia	259.9
Canada	175.2
Iran	137.6
Iraq	115.0
Kuwait	101.5
Venezuela	99.4
U.A.E.	97.8
Russia	60.0
Libya	44.3
Nigeria	37.2
Kazakhstan	30.0
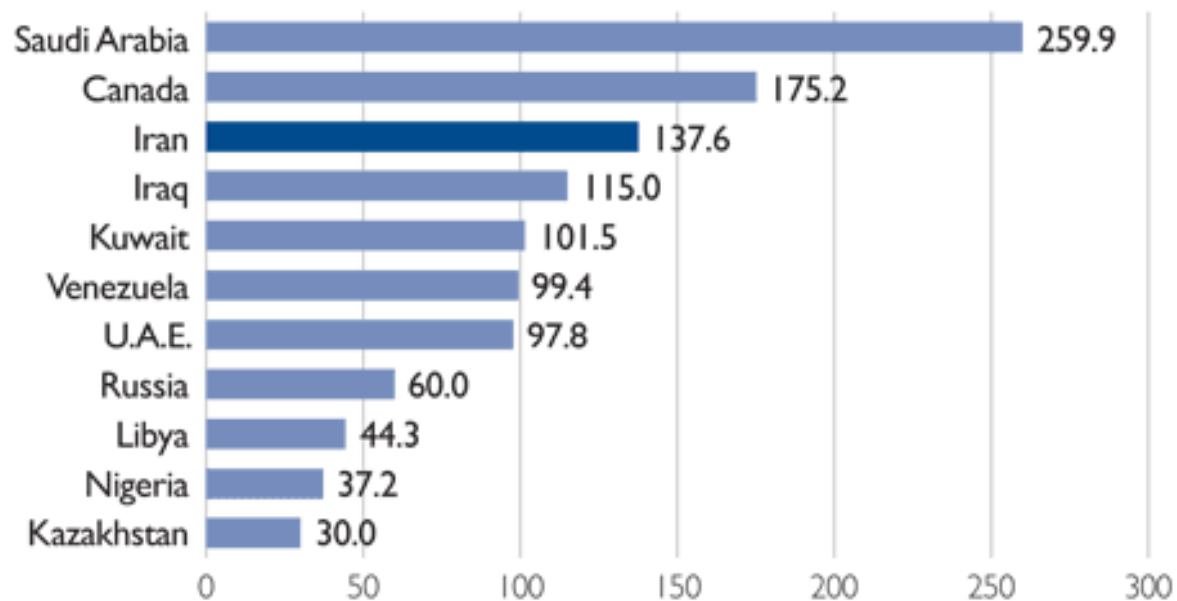
Source: Business Monitor International, "Iran Oil and Gas Report," July 1, 2010, p. 12.

Chart 1 • B 2508 ☎ heritage.org

Infrastructures
Oil & Gas

Top 10 proven natural gas reserve holders, end-2011

trillion cubic feet

Source: Oil & Gas Journal, as of January 1, 2012
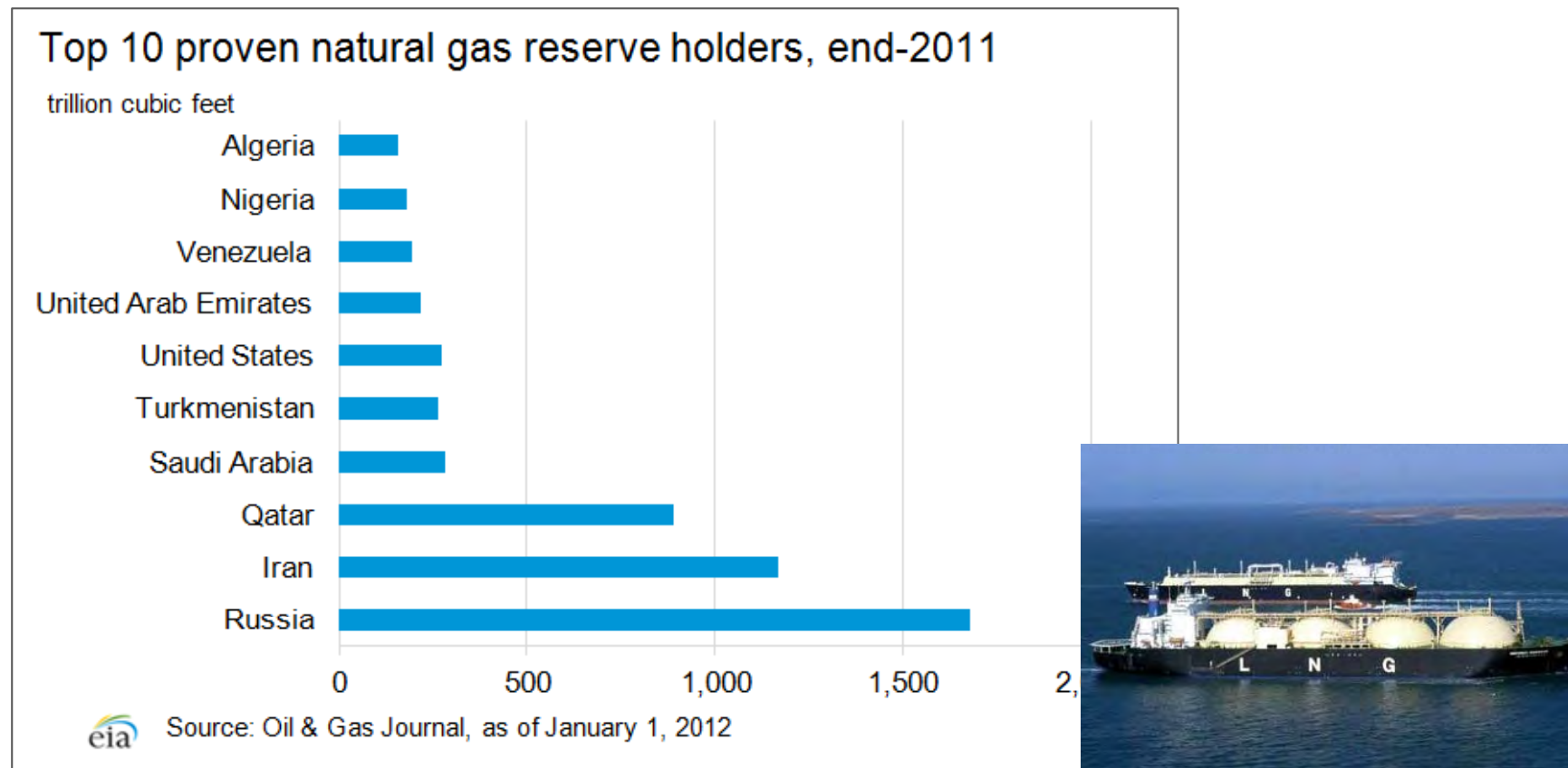
Infrastructures
Large Dams

Caeser Dam- 3rd Century

Dez Dam- 1963

Infrastructures
Large Dam Power Plants

Karoon 1 Dam, 1976

Infrastructures
Rail road

1936
Veresk Rail Road Bridge

Infrastructures
Rail road

▨	< 0.01 km⁻¹
▨	0.01 – 0.02 km⁻¹
▨	0.02 – 0.03 km⁻¹
▨	0.03 – 0.04 km⁻¹
▨	0.04 – 0.05 km⁻¹
▨	0.05 – 0.06 km⁻¹
▨	0.06 – 0.07 km⁻¹
▨	0.07 – 0.08 km⁻¹
▨	0.08 – 0.09 km⁻¹
▨	0.09 – 0.10 km⁻¹
▨	0.10 – 0.11 km⁻¹
▨	0.11 – 0.12 km⁻¹
▨	0.12 – 0.13 km⁻¹
▨	No railroad/Data missing
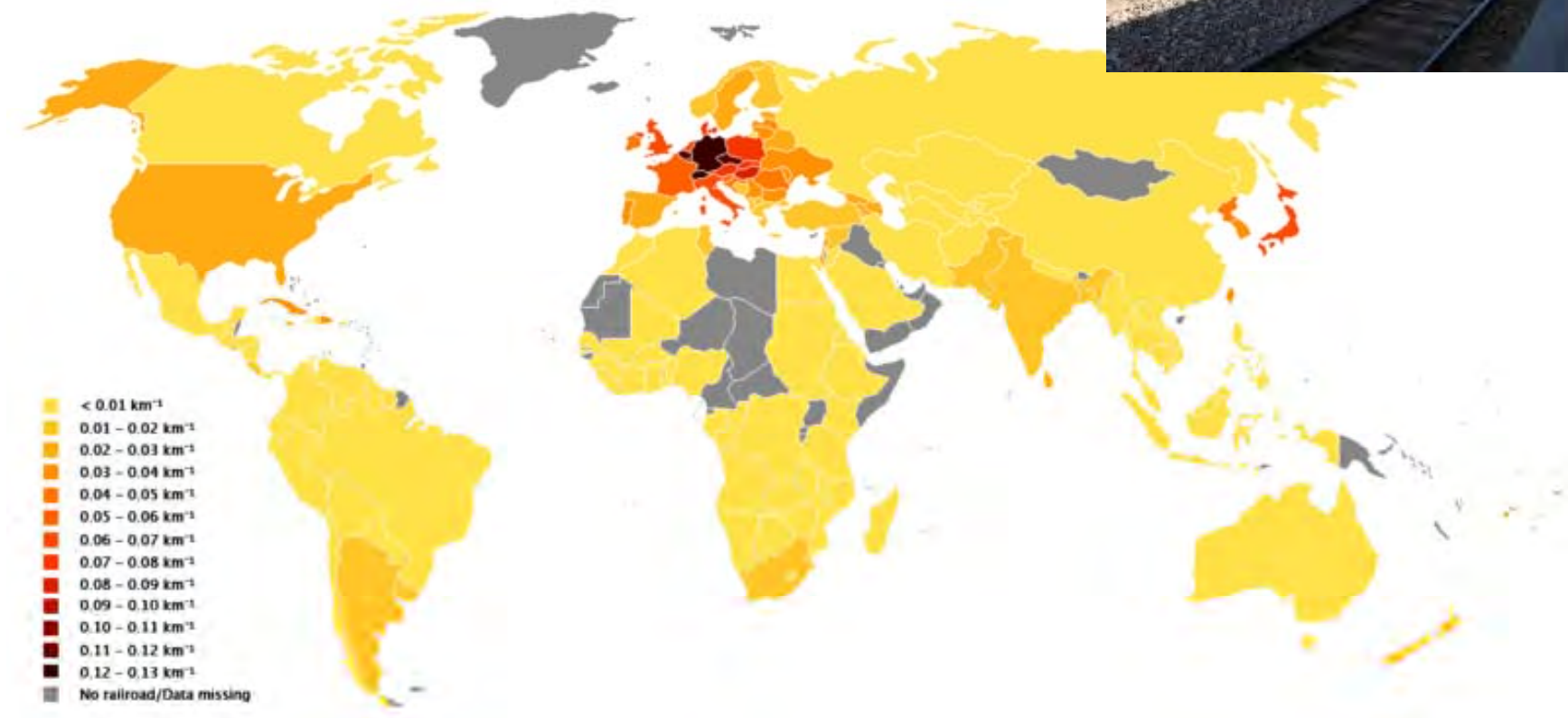
Infrastructures
Rail road

Rail road

Passenger-km of rail transport per year [edit]

Countries with more than 5 billion passenger-km

Country	Billion passenger-km	Year
India	1046[1]	2011
China	815.7	2011
European Union	397.8	2011
Japan	395.1[2]	2011
Russia	139.8	2011
France	88.1	2011
Germany	79.2	2011
United Kingdom	62.7	2011
Ukraine	50.6	2011
Egypt	40.8	2010
Italy	40.6	2011
Spain	22.7	2011
South Korea	21.6	2011
Pakistan	20.6	2010
Indonesia	20.3	2010
Switzerland	18.0	2011
Iran	17.9	2011
Taiwan (Republic Of China)	17.9	2011
United States	17.2[3]	2010
Netherlands	16.8	2011
Kazakhstan	16.6	2011
Poland	15.7	2011
South Africa	13.9	2007
Belgium	10.8	2011
Austria	10.4	2011
Denmark	10.1	2011
Argentina	8.6	2010
Belarus	7.9	2011

Passenger km per head of population [edit]

Only countries with five billion or more passenger km are include

Country	Kilometers/year
Japan	3,084
Switzerland	2,422
France	1,370
Denmark	1,329
Austria	1,245
Russia	1,220
Ukraine	1,150
Belarus	1,030
Belgium	1,009
Netherlands	940
Germany	910
Kazakhstan	880
Italy	780
India	777
United Kingdom	770
Hungary	690
Czech Republic	660
People's Republic of China	653
South Korea	650
Sweden	620
Egypt	550
Spain	460
Poland	450
Republic of China	410
Romania	380
Iran	180
Argentina	170
Pakistan	160
Thailand	150
Indonesia	110

Freight rail by billions of tonne-kilometers [edit]

Countries with more than 10 billion tonne-km, only revenue-earning traffic is included (not gross

Country	Billion tonne-kilometers	Year
China	2,947[14]	2011
United States	2,469[15]	2010
Russia	2,011	2010
India	668[16]	2011
Canada	323[15]	2011
European Union	300	2010
Brazil	268	2010
Ukraine	218	2010
Kazakhstan	197	2009
South Africa	113	2008
Germany	106	2010
Mexico	69.2	2009
Australia	64.2	2010
Belarus	42.7	2009
Poland	34.3	2010
France	22.8	2010
Uzbekistan	22.2	2009
United Kingdom	21.2	2007
Austria	21.1	2009
Japan	20.4	2010
Iran	20.2	2010
Latvia	17.2	2010
Czech Republic	13.6	2010
Lithuania	13.4	2010
Italy	12.0	2010
Argentina	12.0	2010
Colombia	11.9	2008
Turkmenistan	11.8	2009
Sweden	11.5	2006
Turkey	11.0	2010

Rail road

Brief railway statistics by country

An important stage to use the brief traffic data according to UIC in 2007 and (List of countries by GDP (PPP) per capita).

Rank	Country	area	pop	Av GDP	Rail co	Net km	Dbl km	El km	HSR km	Loco. No.	pkm	tkm	HS. PKm	train weight	Pass. %
1	Russia	17.09	143	16	RZD	128	36	48	1.3	20101	173	2090	14	2528	42
2	Germany	0.36	82	35	DB	34	18	20	1.2		74	91	22	410	10
3	France	0.55	62	34	SNCF	29	16	14	1.8		81	40	48	496	
4	Japan	0.38	127	34	JR	20	8	12	2.5		253	23	79	368	29
5	South Korea	0.1	48	28	KNR	3	1	2	0.32		32	11	10	472	
6	UK	0.24	61	37	NR	16		5	0.3		48	21			
7	Taiwan (Republic Of China)	0.036	23	31	TRA	1	0.67	0.69	0.33		9	1			
8	Spain	0.51	45	31	Renfe	15	5	9	1.27		21	11	4		
9	Italy	0.3	59	31	FS	16	7	12	0.82		45	21	9		
10	Turkey	0.78	74	13	TCDD	9	04	1.9	0.25		6	10		572	
11	Switzerland	0.041	8	43	SBB	4	2	3			15	13		442	
12	Iran	1.6	71	11	RAI	7	1	0.15	0.25	400	13	21	0	1088	4
13	USA	9.6	302	47	AMTK	227						2820		5254	
14	Egypt	1	73	6	ENR	5	1.5	0.07			41	4			
15	India	3.28	1132	3	IR	63	17.4	17.8			696	481		1614	
16	China	9.6	1342	6	CR	91	33	36	5	19000	876	2764			
17	World	149	6400	10	United Nations	900	250	240	9		2468	9486	178	1677	10
18	Poland	0.31	38	17	PKP	19	9	12							
19	South Africa	1.22	48	10	SAR	24	2	8		3421	14	109		2700	
20	Kazakhstan	2.72	16	11	KTZ	14	5	4		1727	14	191			
21	Brazil	8.54	189	10	PR	29		0.5		2394		232			
22	Pakistan	.796	169	3	PR	7		0.3		544	26	6			
23	Austria	0.08		40	OBB										
24	Morocco	0.44	32	4	ONCFM	2	0.6	1			4	6		915	

Iran transport system

Road network

Main trunk roads

The main rail trunk lines connected or will connect Iranian network with almost all neighbor countries: Turkmenistan, Afghanistan, Turkey, Iraq and Pakistan.
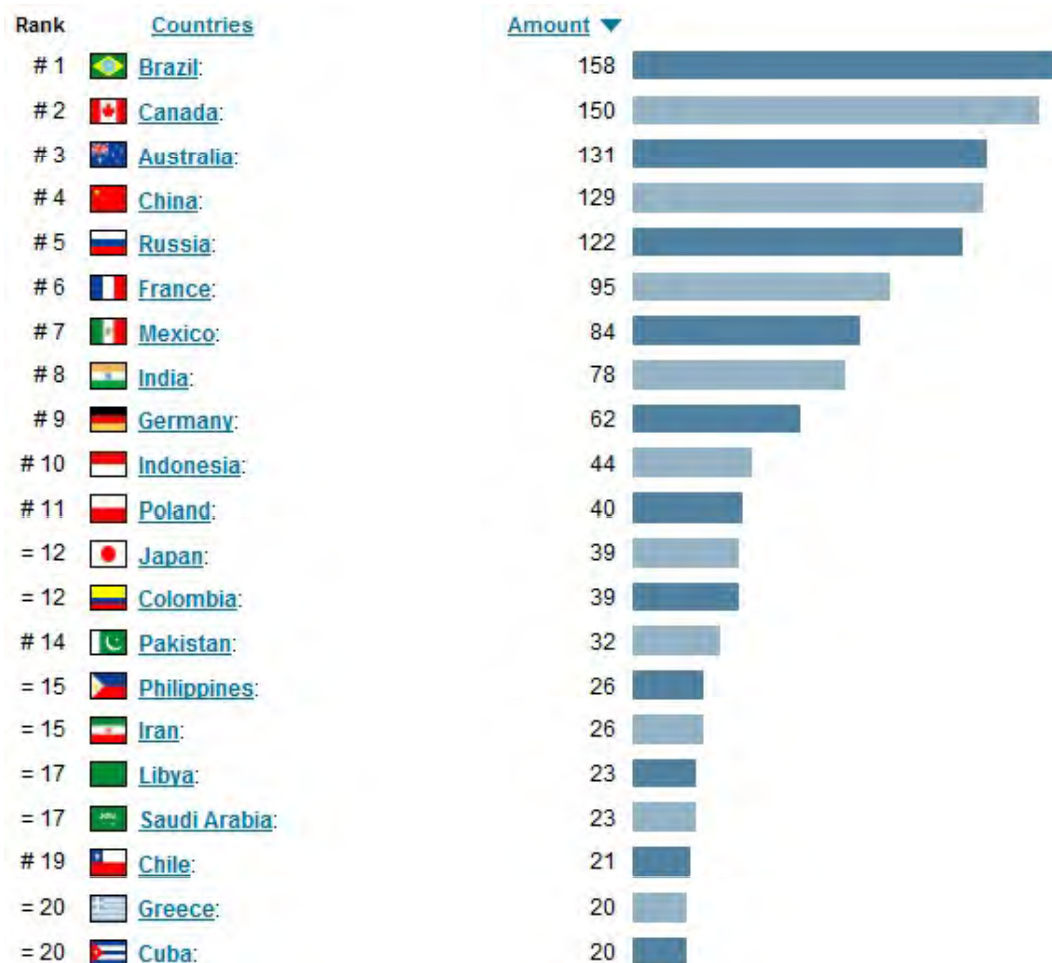
Infrastructures Merchant Marin

Rank	Countries	Amount ▼	Date	
# 1	Panama:	240,190,316 Dwt	2007	
# 2	Liberia:	109,450,945 Dwt	2007	
# 3	Greece:	57,898,789 Dwt	2007	
# 4	Hong Kong:	57,423,309 Dwt	2007	
# 5	Marshall Islands:	55,644,008 Dwt	2007	
# 6	Bahamas, The:	54,276,183 Dwt	2007	
# 7	Singapore:	52,487,127 Dwt	2007	
# 8	Malta:	41,033,203 Dwt	2007	
# 9	China:	33,819,636 Dwt	2007	
# 10	Cyprus:	30,843,848 Dwt	2007	
# 11	Norway:	22,299,832 Dwt	2007	
# 12	Korea, South:	17,371,943 Dwt	2007	
# 13	India:	14,339,440 Dwt	2007	
# 14	Germany:	14,261,476 Dwt	2007	
# 15	Man, Isle of:	13,890,881 Dwt	2007	
# 16	Italy:	13,150,989 Dwt	2007	
# 17	United States:	12,616,742 Dwt	2007	
# 18	United Kingdom:	12,315,588 Dwt	2007	
# 19	Japan:	11,689,142 Dwt	2007	
# 20	Antigua and Barbuda:	10,757,767 Dwt	2007	
# 21	Denmark:	10,604,081 Dwt	2007	
# 22	Bermuda:	8,615,385 Dwt	2007	
# 23	Malaysia:	8,364,578 Dwt	2007	
# 24	Iran:	8,309,580 Dwt	2007	
# 25	Saint Vincent and the Grenadines:	8,255,014 Dwt	2007	
# 26	France:	7,533,631 Dwt	2007	
# 27	Turkey:	7,039,492 Dwt	2007	
# 28	Philippines:	6,164,312 Dwt	2007	

Infrastructures
Airport

Rank	Countries	Amount ▼
# 1	Brazil:	158
# 2	Canada:	150
# 3	Australia:	131
# 4	China:	129
# 5	Russia:	122
# 6	France:	95
# 7	Mexico:	84
# 8	India:	78
# 9	Germany:	62
# 10	Indonesia:	44
# 11	Poland:	40
= 12	Japan:	39
= 12	Colombia:	39
# 14	Pakistan:	32
= 15	Philippines:	26
= 15	Iran:	26
= 17	Libya:	23
= 17	Saudi Arabia:	23
# 19	Chile:	21
= 20	Greece:	20
= 20	Cuba:	20

Tehran Subway

Subway Stations in Tehran

Reference: tehranmetro.com

Subway Infrastructure in Capital Tehran

Criteria	Tehran	The Global Average (112 Cities)
Total Length of Subway Lines (km)	125	73.25
Number of Subway Stations	77	63
Number of Subway Cars Per Kilometer	5.2	8.83
Number of Subway Cars Per Station	8.4	10.19

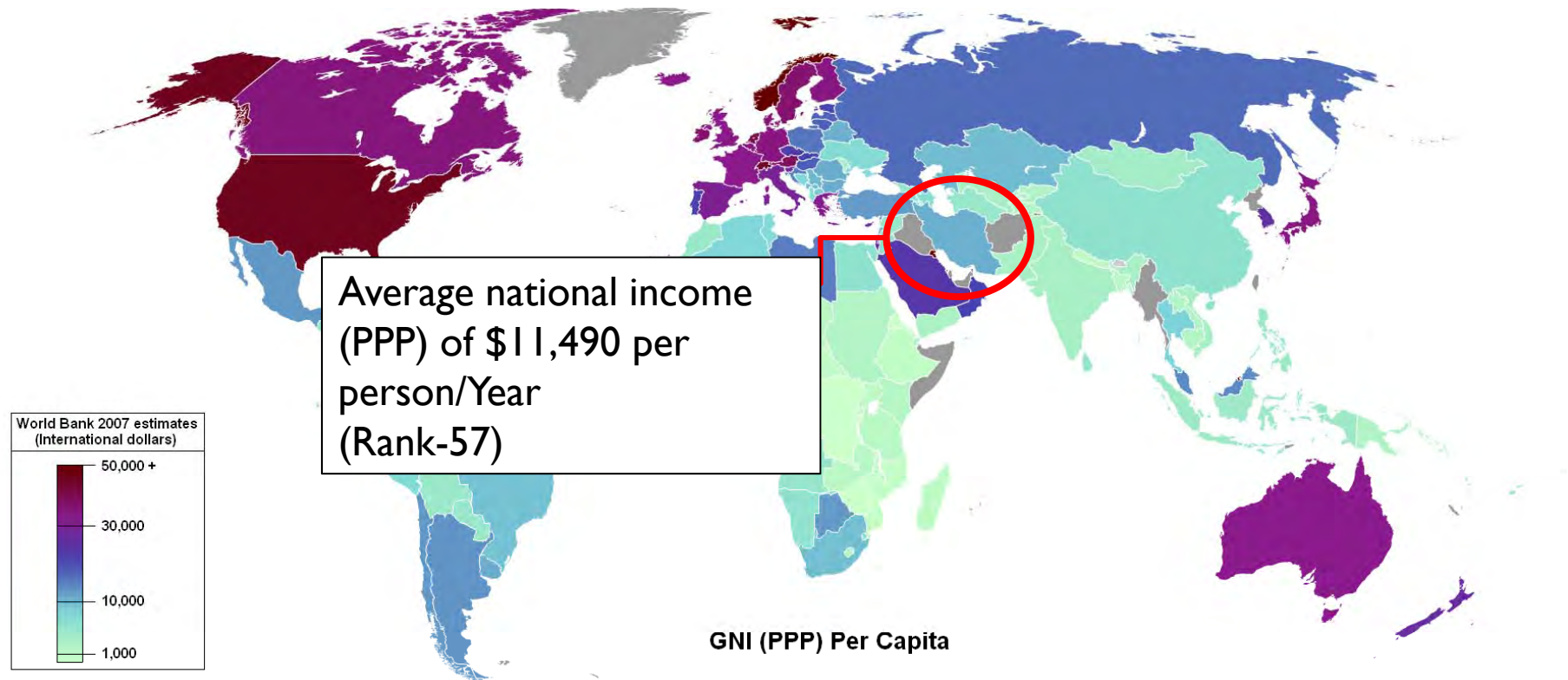## Subway Infrastructure in Tehran Comparing with 20 Development Countries

Item	Amount	Ranking
Tehran City Area (km2)	777	17
Tehran City Population (Person)	8.2	12
Population Density (Person/km2)	10553	2
Total Length of Subway Lines (km)	125	11
Number of Active Stations	77	12
Annual Trips in 2009 (Million Trips)	460	11
Total Line length Per Unit Area	0.16	4
Total Line Length Per Person	15.2	9
Number of Wagons Per Unit Length	6.3	16

http://www.nationmaster.com

Iran Gross domestic product (GDP)

GDP (PPP)= 843.86 billion dollars (Rank-18)

GDP, PPP (current international $) 2011

- over 8,000 Billions
- 8,000 - 3,000 Billions
- 3,000 - 1,500 Billions
- 1,500 - 750 Billions
- 750 - 350 Billions
- 350-125 Billions
- less than 125 Billions
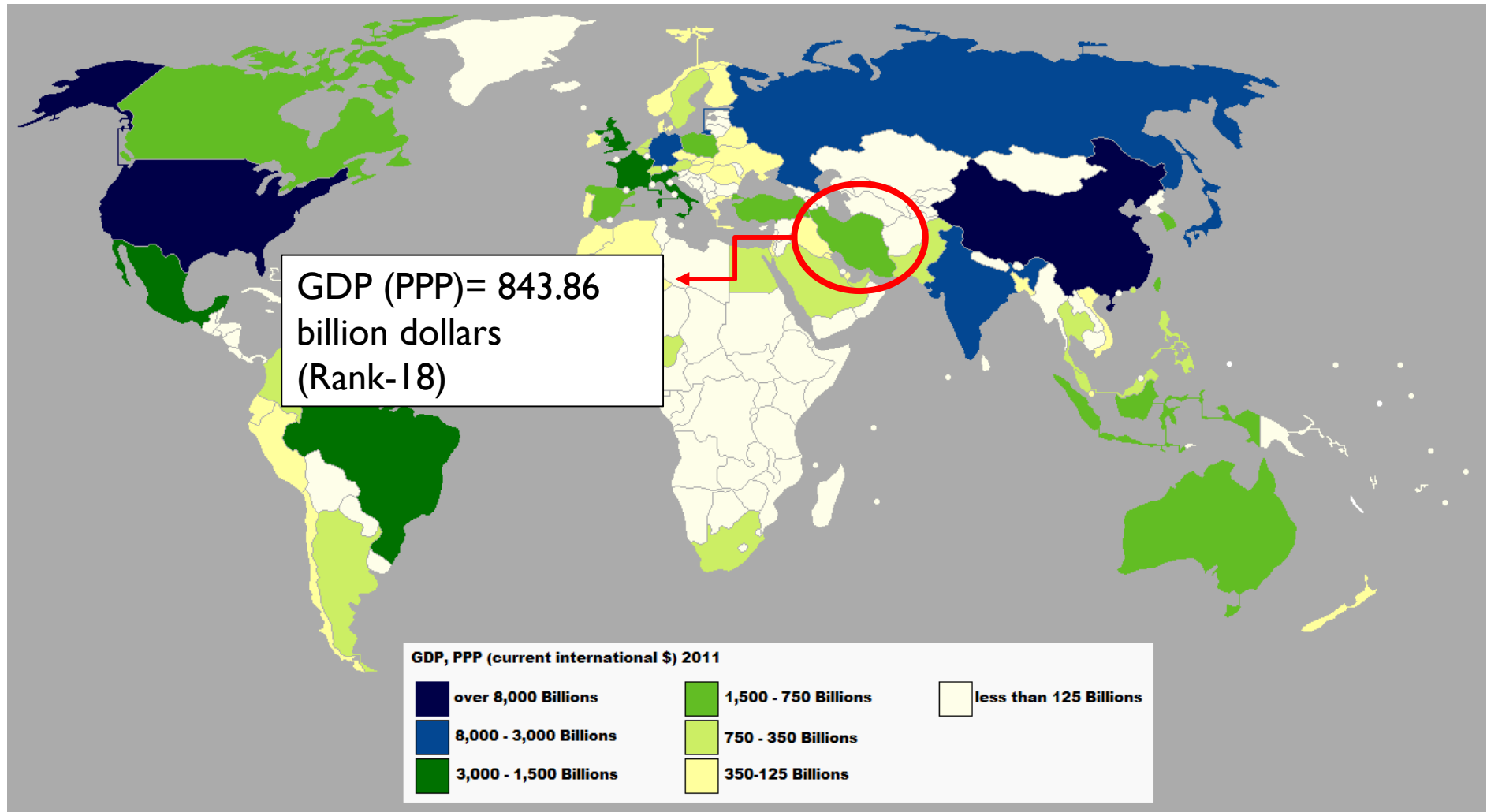
Gross National Income(GNI) per capita at Purchasing Power Parity (PPP)

Average national income (PPP) of $11,490 per person/Year (Rank-57)

World Bank 2007 estimates (International dollars)

50,000 +

30,000

10,000

1,000

GNI (PPP) Per Capita

Water Management in Ancient Persia

- Traditional Ice Houses of Iran

- A water reservoir with four wind catchers

- Water Mills to Harness the Power of Water
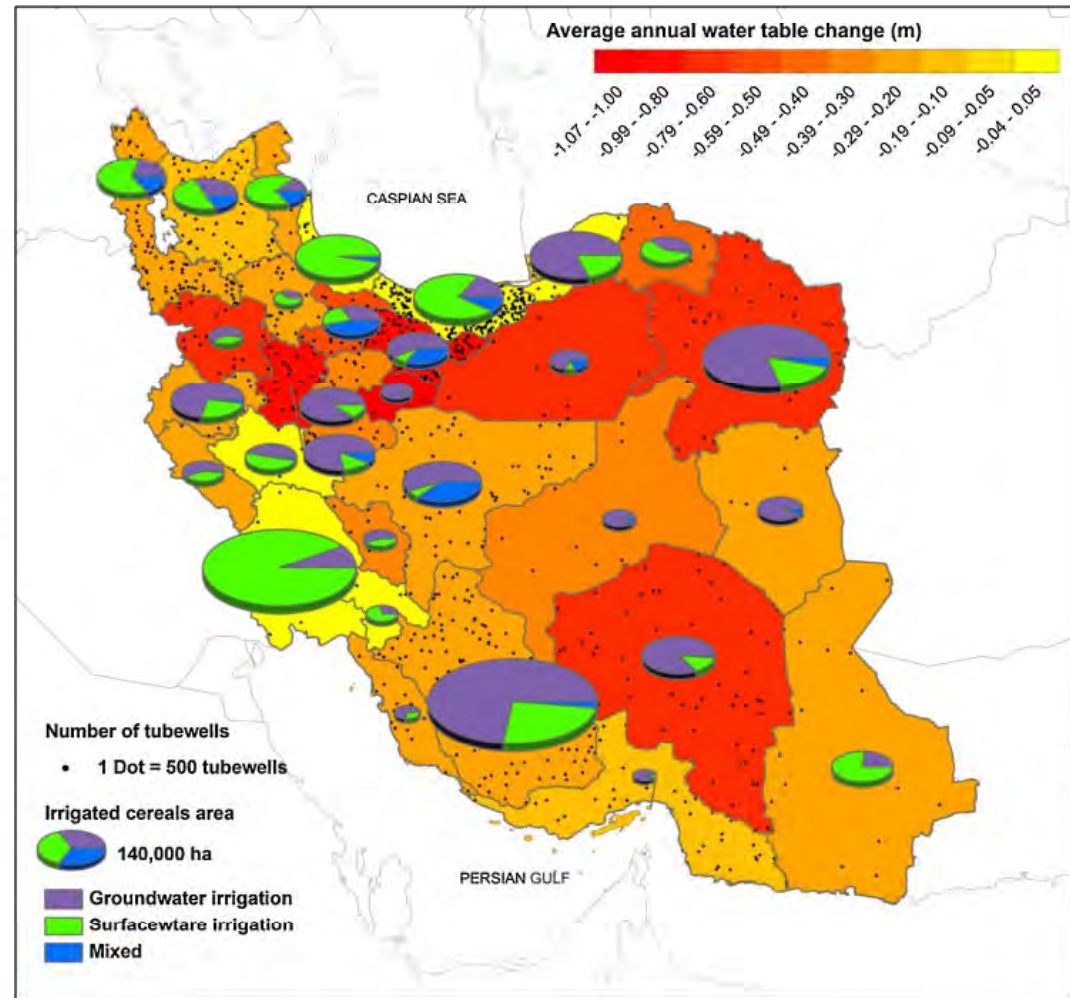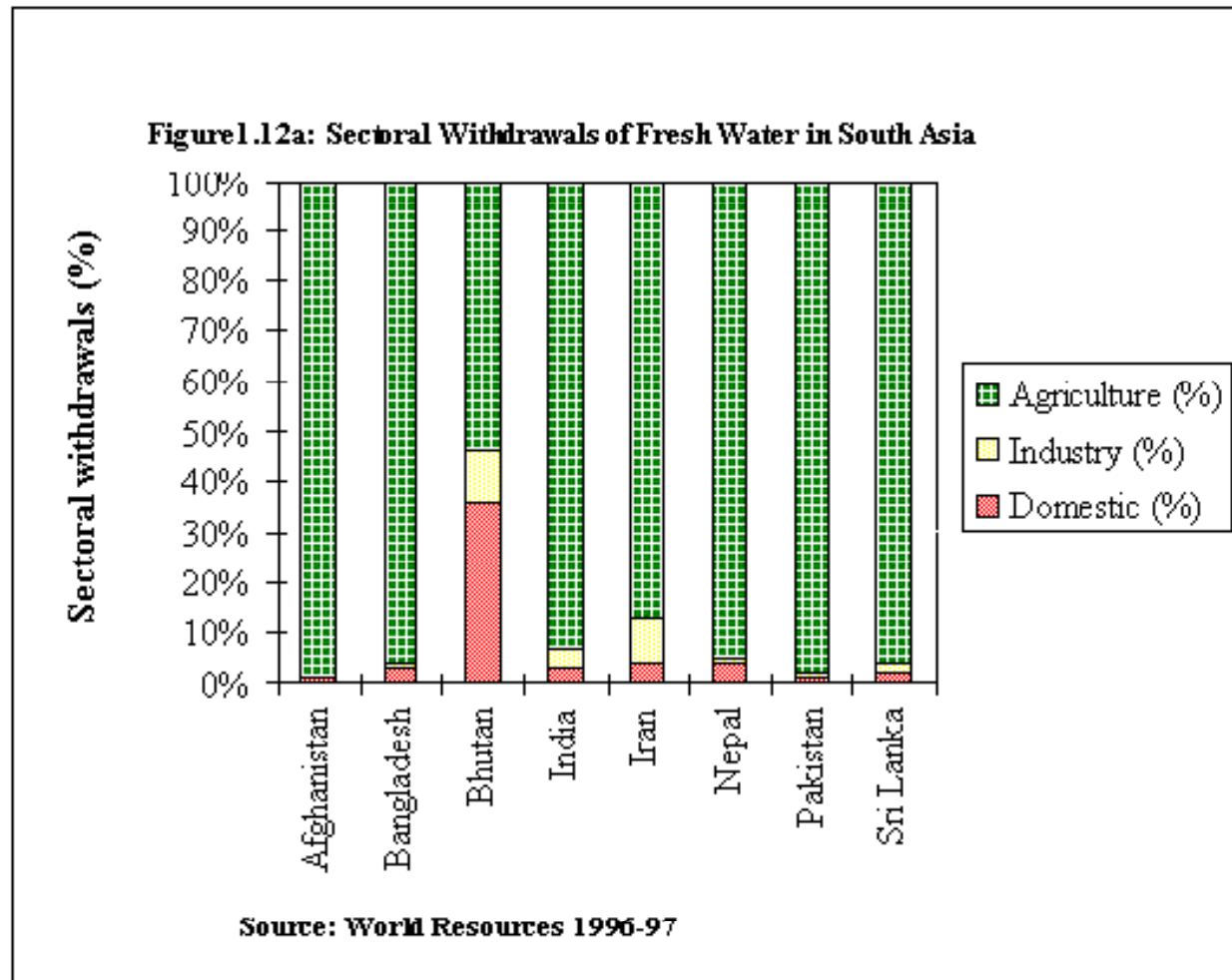
- Multi-Functional Solid Bridges-16th century

Sustainability of groundwater resources

Annual Freshwater Withdrawals

Figure1.12a: Sectoral Withdrawals of Fresh Water in South Asia

Source: World Resources 1996-97

Assessment of major Water & Wastewater Sector until 2050

Time section Parameter title			Base year 2004	4th Plan		Projection	
				Begin	End	10 years	20 years
				2005	2009	2015	2025
Predicted population (in Millions)	Urban		43.9	45.2	50.1	56.1	70.0
	Rural		21.5	22.7	21.2	21.0	20.5
Population coverage (%)	Water	Urban	97.7	98.0	100	100	100
		Rural	57.5	62.0	88.0	94.0	100
	Waste-water	Urban	17.7	24.0	40.0	49.0	60.0
		Rural	0.45	0.5	8.0	16.0	30.0

Telecommunications Industry
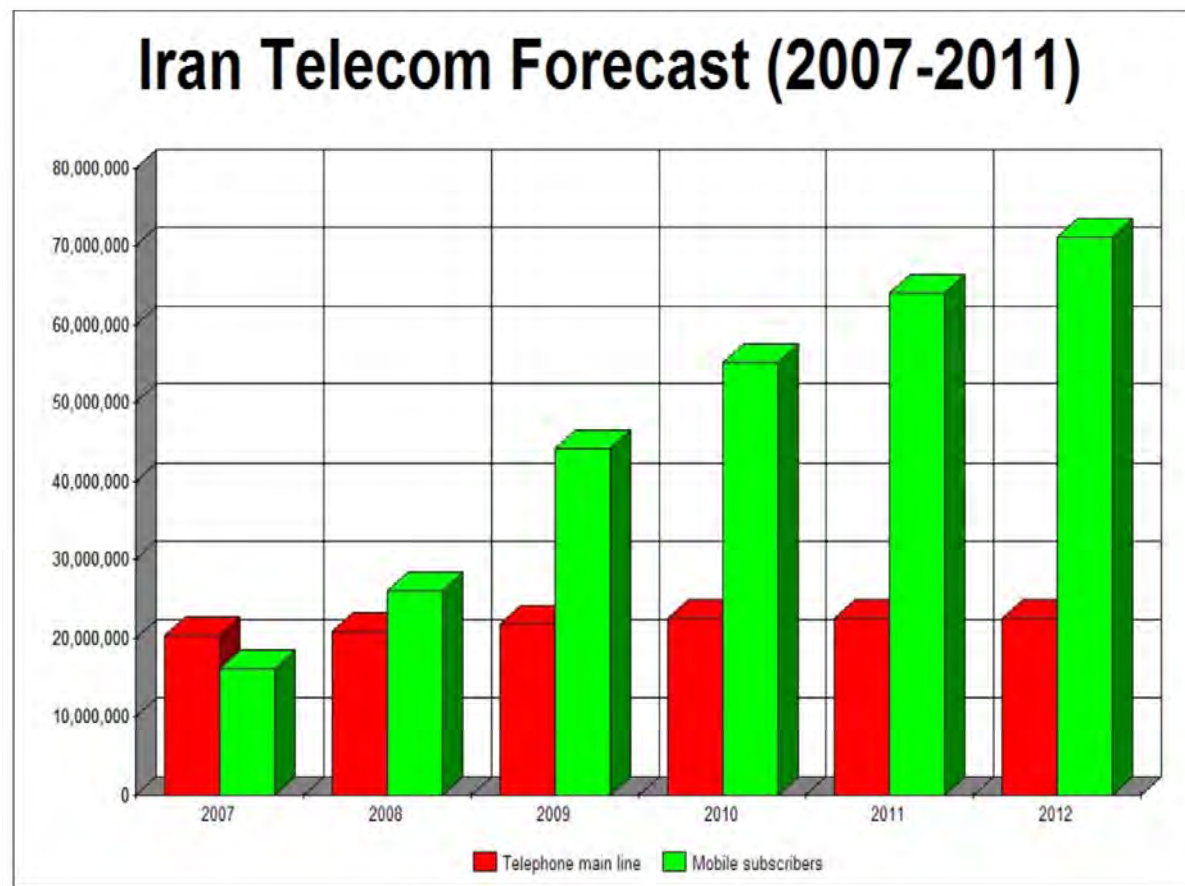
My Message

Never give up. You only get one life. Go for it!