# Silicon Valleys in Developing Countries

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# Concept

- Silicon: an element used in electronic devices
- Valley: a depression of the earth's surface usually between ranges of hills or mountains
- 'Silicon Valley' refers to the agglomeration of Information Technology (IT) companies in northern California
- Silicon Valley is a popular metaphor for referring to a geographic area where computer companies cluster
- Many developing countries are now trying to develop their own 'Silicon Valleys'



Area of detail →

# Camps, Valleys, Parks & Corridors

- A collection of software development companies clustered in one location

- Generally featuring:
  - Government support
  - Foreign companies
  - Communications infrastructure
  - Training facilities
  - Amenities

# Goals

- Attract foreign investment and generate foreign exchange from selling software for export

- Reduce brain drain by providing employment for high-skilled IT workers

- Generate sustainability and local know how of IT

# India

- Perhaps the best known example of a developing country software exporter is India

- Although software development is scattered throughout the country, many companies have clustered around the city of Bangalore

- Exports to more than 100 countries

- More than 185 of Fortune 500 outsource software development to India

- Over 400'000 IT professionals
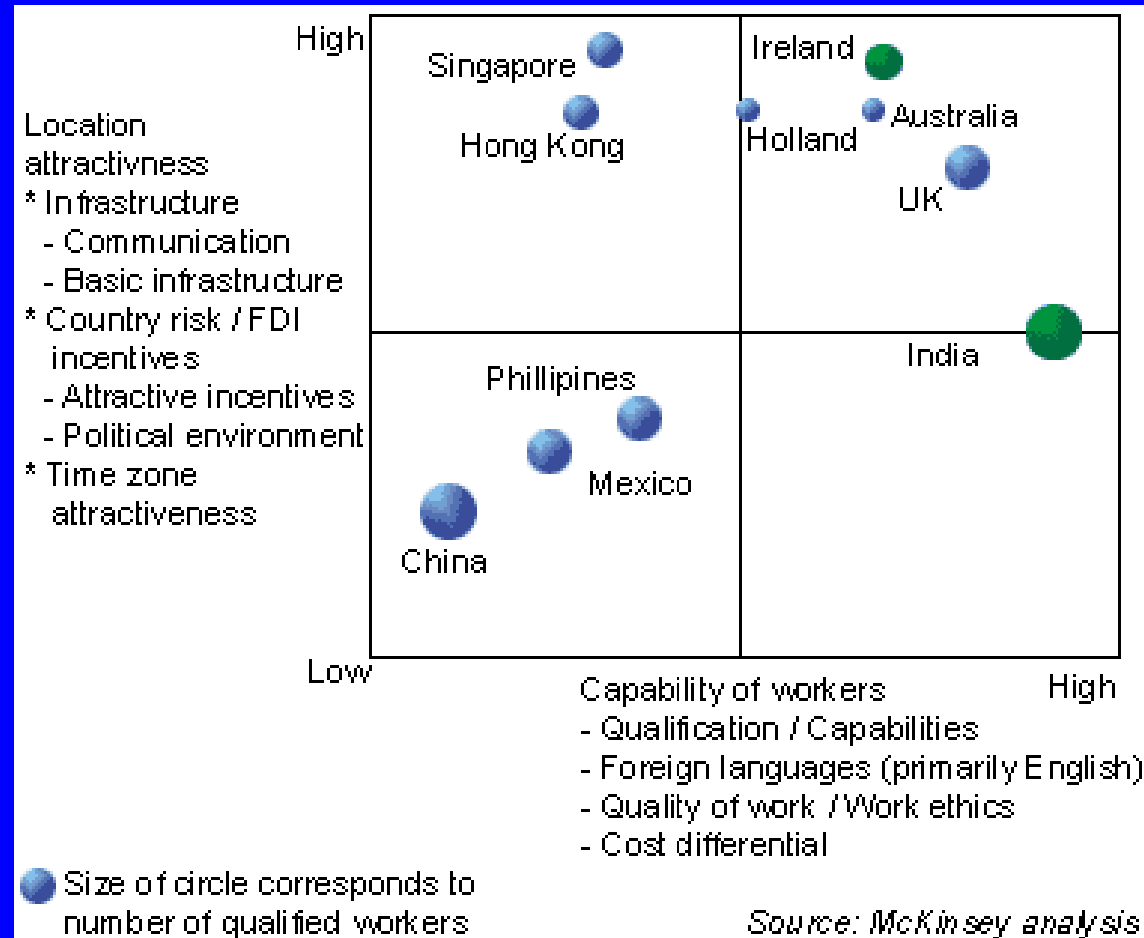
**India IT Software and Services Exports, US$ billion**



| 95-96 | 96-97 | 97-98 | 98-99 | 99-00 | 00-01 |
|-------|-------|-------|-------|-------|-------|
| $0.7  | $1.1  | $1.8  | $2.7  | $4.0  | $6.2  |

*Source: NASSCOM*

# India: Advantages

- Years of experience
- World's 2nd largest pool of English speaking manpower
- Good quality
- Low cost
- High number of engineering graduates
- Diaspora



High — Location attractivness
* Infrastructure
  - Communication
  - Basic infrastructure
* Country risk / FDI incentives
  - Attractive incentives
  - Political environment
* Time zone attractiveness
Low

Singapore, Hong Kong, Ireland, Holland, Australia, UK, Phillipines, Mexico, India, China

Capability of workers — High
- Qualification / Capabilities
- Foreign languages (primarily English)
- Quality of work / Work ethics
- Cost differential

Size of circle corresponds to number of qualified workers

Source: McKinsey analysis

**National Goal**
Make India a global Information Technology Power and one of the largest generators and exporters of software in the world within the next 10 years.
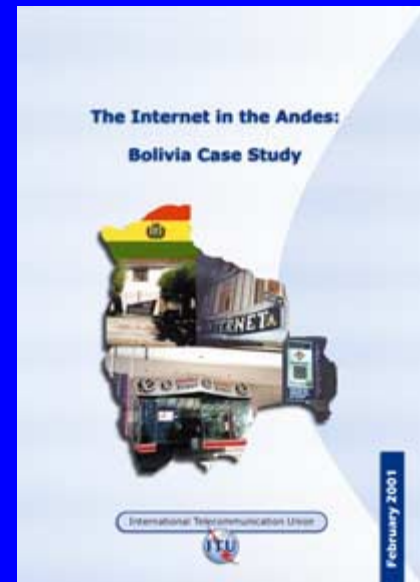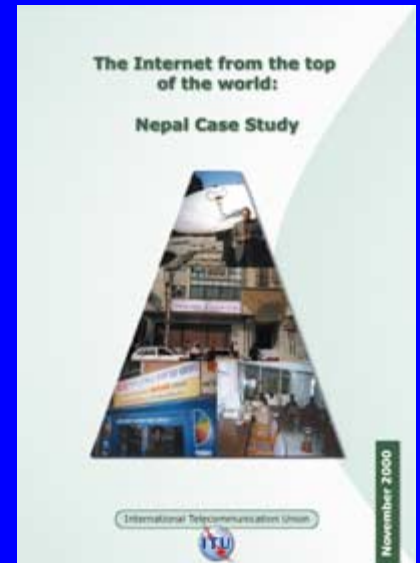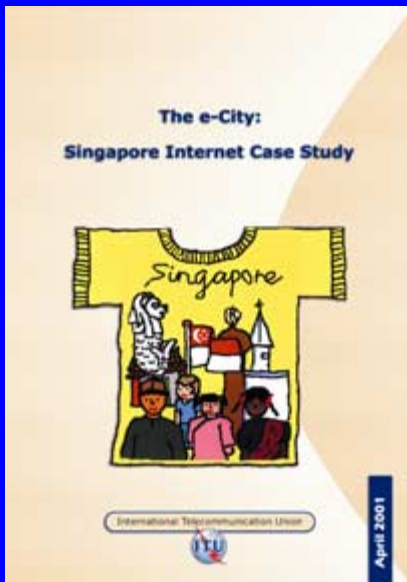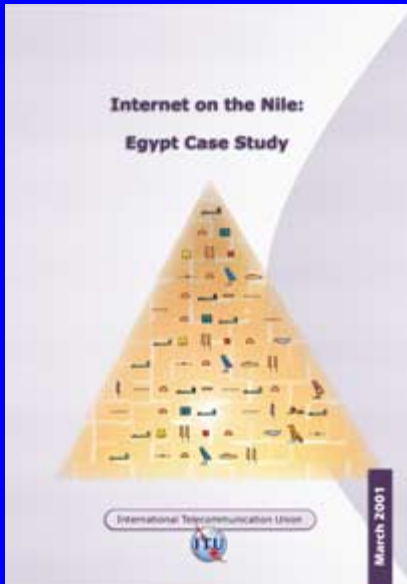**Hon'ble Prime Minister Atal Behari Vajpayee**

# Case studies

- ITU has carried out a series of case studies on Internet in different countries
- As a result, has come across examples of software development center projects:
  - Oman IT Park
  - Malaysia Multimedia Super Corridor
  - Saigon Software Park
  - Software Park Thailand
  - BaliCamp

http://www.itu.int/ITU-D/ict/cs

Internet on the Nile:
Egypt Case Study
International Telecommunication Union
March 2001

The e-City:
Singapore Internet Case Study
Singapore
International Telecommunication Union
April 2001

The Internet from the top of the world:
Nepal Case Study
International Telecommunication Union
November 2000

The Internet in the Andes:
Bolivia Case Study
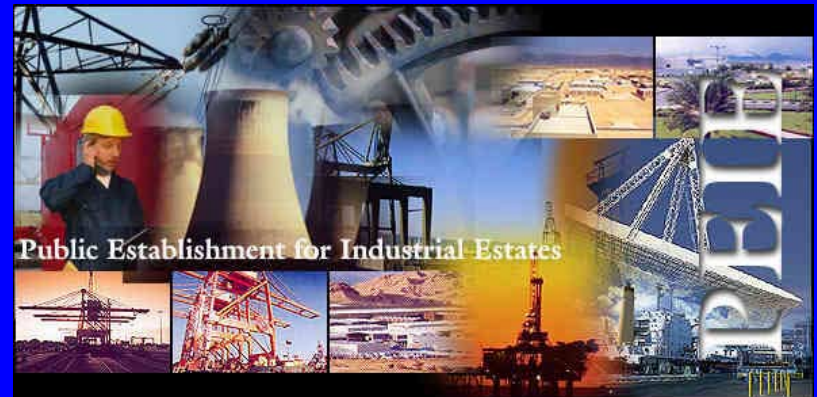International Telecommunication Union
February 2001

# Oman IT Park

- Building on experience from Industrial Estates developed for manufacturing

- Near town of Rusayl: 10 minutes from international airport, 1.5 km from university

- 300'000 square meters divided into offices for software companies, training center (with IT college to be built by private sector) and services (shopping, health club, food court, etc.)



Public Establishment for Industrial Estates

# Multimedia Super Corridor

- Country within a country (size of Singapore)
- Strong government support
- State-of-the-art transport and communication infrastructure
- Phased development
- Numerous incentives
- Both foreign and domestic companies

# Saigon Software Park

- One of 4 key areas of IT Master plan is software development

- Is building a number of 'software parks'

- Saigon Software Park launched in July 2000 with 30 companies

"The development of our country's software industry would benefit from the following fundamental advantages: ... Vietnamese people are capable of quickly absorbing this technology; there are in the overseas Vietnamese community many experts, who are experienced in the software industry and wish to establish cooperation and make investment in Vietnam."

# BaliCamp

- Single location on tourist island of Bali
- Entrepreneurial driven
- Operational since October 2000
- Strong on amenities to attract programmers

# Thai Software Park

- Hi-rise building on outskirts of Bangkok
- Established 1997
- Has around 30 companies on 8 floors
- Offers support services for software development

# Conclusions

- Variety of models
- Too early to judge success (or failure)
- IT Training important
- Islands of IT expertise
- What are SWOT?