

India@Risk 2007



India Economic Summit

**A Global Risk Network
and
Confederation of
Indian Industry
Briefing**



Confederation of Indian Industry



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Foreword

This report has been prepared by the World Economic Forum's Global Risk Network and the Confederation of Indian Industry (CII) for the India Economic Summit in New Delhi on 2-4 December 2007. Last year, the latest insights into trends, potential consequences and mitigation relevant to six key risks facing India were identified. This year, the trends and mitigation strategies of these risks are further explored:

- 1) Economic Impact of Demographics – India is facing a demographic dividend. What must be done to ensure it does not turn into a demographic liability? Can the “inequality trap” be overcome and inclusive growth achieved?
- 2) Loss of Freshwater (quantity and quality) – How best can India cope with increasing freshwater insecurity?
- 3) Economic Shocks and Oil Peaks – How vulnerable is India to external economic turbulence? What exogenous crises would risk derailing India's growth prospects (e.g. an oil price shock)?
- 4) Geopolitical Risks: Globalization vs Protectionism – What happens if there is a backlash or retrenchment from globalization? With the explosion of expectations, can India keep up with its own aspirations?
- 5) Climate Change: The Environment and Challenges to India's Growth – Can India balance the complex trade-offs between the environment and growth? What are the risks and opportunities for India?
- 6) Societal Risks: Infectious Diseases – What must be done to combat the spread of high-mortality disease and pandemics? What if India fails?

“**The six risks are intimately interlinked and generate many other threats to the Indian economy. Along with national security, the three pillars of security – human, economic and physical – need to be raised to bring the economy to a position where the challenges can be met. The risks were identified because of their interconnectedness, which magnifies their impact.**”

Shamsher S. Mehta, Director-General, Confederation of Indian Industry (CII), India

In preparing this report, more than 40 experts from business, academia, non-government organizations and policy-making were asked to consider the drivers of the recent period of unprecedented growth in India and the opportunities that exist, as well as the threats to India's continuing progress.

It is clear that India is at an inflection point – the prospect of sustaining 8-10% growth is achievable, but a number of basic challenges are acting as a handbrake on development and need to be addressed. It is well known that the existing infrastructure in India is stretched to its upper limits, and that increased investment is required. But there is also an urgent need for the government, private sector and civil society to collaborate on governance reforms to eliminate corruption and ensure equity in the provision of basic services such as education, water and sanitation. Finally, much can be gained by removing constraints inherent in inefficient government bureaucracies, complex tax regulations and labour market rigidities.

Reform is difficult in any country, but it will be of utmost importance for India. Decision-makers cannot assume that tomorrow's growth story will read like today's. The economic fundamentals are in place, but political dynamics and the scope of structural reforms are more likely to shape the next chapter.

About the Global Risk Network

This report builds on the existing work of the Global Risk Network of the World Economic Forum, primarily the annual *Global Risks* report produced in collaboration with Citi, Marsh & McLennan Companies (MMC), Swiss Re and the Wharton School Risk Center.

The Global Risk Network is composed of an unparalleled network of industry, risk and country experts who work with business leaders and policy-makers to:

- Create a framework for assessing and prioritizing existing and emerging risks to global business over the short and long term
- Alert key decision-makers to the impact these risks might have on their environments
- Assist leaders in their reflection on how risks may be mitigated at the global, regional, industry and company levels
- Transform these global risks into business opportunities

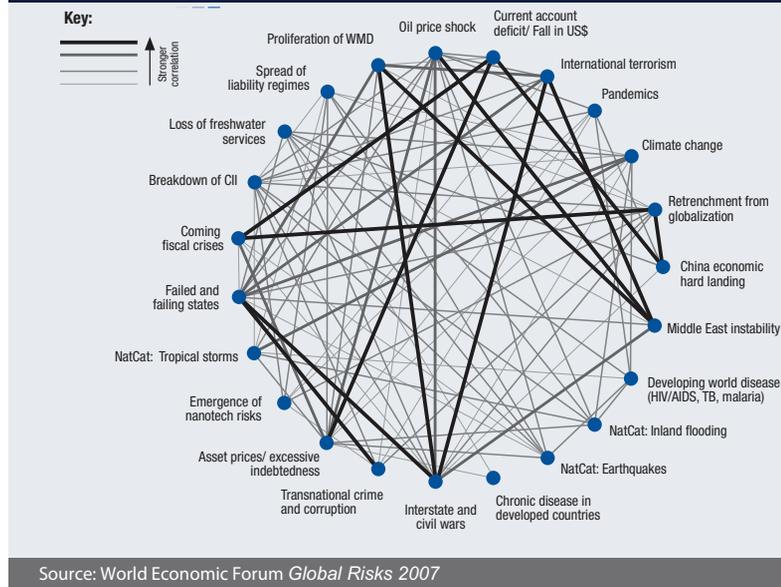
To generate a global risk, an issue must have global scope, cross-industry impact, and there must be *uncertainty* as to how the risk will manifest itself (in regard to the likelihood of occurrence and severity of impact).

Over the last three years, the Global Risk Network has engaged a wide range of experts in the economic, geopolitical, environmental and societal fields to explore the nature of the risk landscape facing governments, societies and businesses. In conjunction with its partners, the Global Risk Network has identified 23 **core global risks** to the international community over the next 10 years.

These core global risks have been assessed in terms of likelihood and severity (see figure below). In addressing likelihood, actuarial principles were applied in the few cases where sufficient data existed; in most cases only qualitative assessments, based on expert opinion, were possible. Although some risks are inherently long term (such as climate change), and others (such as an oil price shock) could occur in the near term, all risks were evaluated within a 10-year time frame.

A more detailed description of the core global risks can be found in the *Global Risks 2007* report, published for the World Economic Forum Annual Meeting in Davos (and available at <http://www.weforum.org/en/initiatives/globalrisk>).

The Correlation Matrix



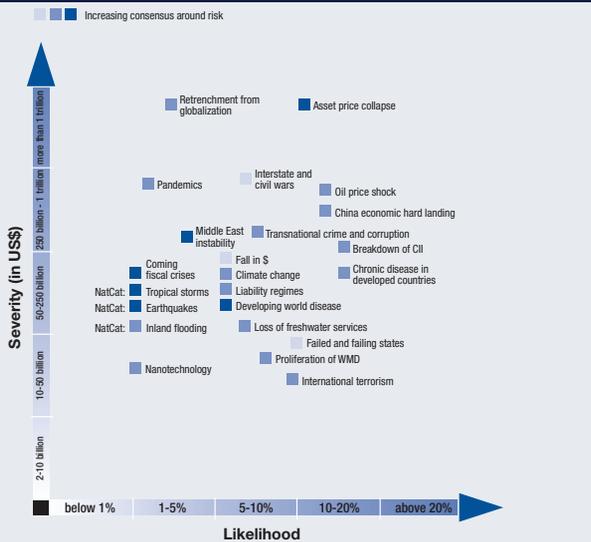
One approach to thinking about interconnectedness is to assess correlation – the matrix below portrays the strength of the macro correlations perceived by experts to exist between the global risk issues assessed above.

Within the framework of these 23 interconnected global risks tracked by the Global Risk Network, six risks were identified by CII and the Forum as critical to the future of India (in terms of their likelihood and/or the severity of their impact). Risks to India were identified, assessed and ranked with each of the following risk families represented: societal, geopolitical, economic and environmental. Risk correlation was accommodated in the assessment, with the selected risks framed to highlight the potential for Indian contagion.

This is not to suggest that other issues facing India are any less serious or potent; this report does not propose to rank or prioritize the risks. Rather, the study is intended to analyse some of the critical issues facing India and distil expert insight in a concise and meaningful way.

As for global risks, it is clear that the six threats to India's future profiled herein are not separate, isolated issues on the risk landscape; their drivers, triggers and consequences are highly interconnected. For a country characterized by increasing interdependence, the imperative is for collective action to mitigate these shared risks. Ring-fencing is no longer an option.

The 23 Core Global Risks: 10-year Horizon



It is a central tenet of work conducted by the Global Risk Network that global risks do not manifest themselves in isolation. This was apparent when the domino effects of Hurricane Katrina briefly shook the global system. More recently, the connections between two of the major issues for public policy and private enterprise – energy security and climate change – have reinforced the sense that global risks share a common lineage.

India Economic Summit:

A Global Risk Network and Confederation of Indian Industry Briefing

Executive Summary: Economic Impact of Demographics – Challenges to Indian Growth

India is facing a demographic dividend. Might it turn into a demographic liability?

Risk

- India's population is a paradox: while India enjoys one of the largest and most balanced demographics in terms of age (54% of the population is below 25 years of age), it is one of the most persistently imbalanced in terms of income inequality and gender (e.g. male/female birth ratio of 1.12). This could lead to far-reaching imbalances in society.
- In the short term, India faces the immense task of feeding, educating, training and employing its youthful population. The pace of upward mobility, urbanization and industrialization poses significant adjustment costs and risks to policy-makers.
- In the long term, India faces the challenge of managing an ageing population with inadequate pensions and rectifying the skewed demographic picture, with an alarming number of men with little prospect of having a wife and children – which may become a potential social and public health time bomb if effective policy action is not taken.

Important Trends

- Growing India: India is the world's second most populous country and is expected to be the most populous by 2040. The country is undergoing the same forces of demographic transition that have been experienced elsewhere, only delayed by a few decades. By 2040, India's population structure will mirror that presently found in major industrial countries.
- Young India: Over 700 million Indians are below 35 years of age, and over 550 million are below 25. However, despite its youthful population, India's size means that it is home to the second largest number of older people in the world, in absolute terms (after China). This is often overlooked, but is critical in terms of health and pension policies.
- Unequal India: The rising income gap is creating an urban-rural divide and a north-south imbalance. A quarter of India's population lives below the poverty line with most living off the land on small farms with little access to new technology .
- Urbanizing India: Almost 70% of Indians still reside in rural areas, although in recent decades migration to larger cities has led to a dramatic increase in the country's urban population. By 2025, the percentage of urban population will be 40%.
- Megacity India: India is home to around 18% of the world's population, but accounts for only 2.42% of the total world area; the emergence of megacities is inevitable. By 2025, there will be more than 13 urban agglomerations of more than 10 million people.
- Aspirational India: The emerging middle class will surge tenfold, exceeding 500 million by 2025. It will command 60% of the country's spending power. This will be an historic shift.
- Imbalanced India: The skewed demographic picture is as persistent as it is alarming (as of 2001, there were 927 girls to 1,000 boys, against a world average of 1,045 women to 1,000 men). Dubbed the "missing women phenomenon" and due to the cultural "preference" for male children, this imbalance continues despite sex selective abortions being banned in India for more than a decade.
- Literate India: Although literacy rates have risen considerably, more progress is needed. A marked discrepancy still exists across gender and social backgrounds. Children receive on average of only 10 years of education, three years less than in many emerging countries.
- Working India: Although regular employment has risen, it still only represents 15% of total employment. Employment in firms with more than 10 employees accounts for only around 4% of total employment. The working age population is likely to be 800 million by 2016, and this is likely to pose enormous challenges in terms of providing adequate education and employment opportunities. Employment for 71 million additional persons has to be created in the next five years. Because 60% of the population depends on agriculture, these agricultural workers will need to gain new skills to work in the changing economy.

Impacts

- India's population has been labelled the "demographic dividend", and the working age population is unlikely to peak before 2016; which is a massive opportunity that India cannot afford to miss. But to avoid a "demographic liability", India must grow by 8-10% per year to provide jobs for the expanding working-age population.
- Urbanization is one of the key drivers of the next phase of growth. Urban workers are more productive for a variety of reasons – higher value-added occupations, resource efficiencies and network effects in production and consumption. But rapid urbanization can lead to mega-slums and challenges to quality of life and social harmony, and environmental impacts.
- In the short to medium term, social unrest could become a major issue if the growing inequalities in access to basic needs are not addressed. Socio-economic imbalances can feed a vicious circle of despair if disadvantage is transmitted across generations.
- In the long term, ageing increases fiscal pressures through higher government spending on healthcare, social security, etc. Only about 11% of the working-age population participates in mandatory, formal programmes designed to provide income security after retirement.



Mitigation

- Government and business should not ignore the opportunity that exists in educating, integrating and mobilizing India's poor as a source of labour and new markets. The democratization of quality education is required, with well-trained teachers and better use of technology along with reforms to ensure incentives are in place for teachers and students.
- Providing vocational training and productive jobs for the huge labour force will not be easy, and most doubt that the services sector and IT jobs will be the answer. India's growth strategy must include a much larger and more competitive manufacturing sector.
- Reform existing labour laws to increase employment in larger companies. Remove the stringent requirement to obtain government permission to lay off workers from manufacturing plants with more than 100 workers. Consolidation of labour laws should be considered.
- Salaries of all educational professionals need to be drastically improved for India to maintain its competitiveness. Greater accountability should rest with local officials to ensure teacher attendance in rural areas.
- The top of the education pyramid, the Indian Institute of Management and Indian Institute of Technology, have served India well – it is the bottom of the pyramid that now needs broadening – expanding the provision of primary formal and non-formal education to realize the goal of Universalization of Elementary Education (UEE).
- Since investment in tertiary education is very low (0.8% of GDP), the private sector has started to partner with tertiary educational institutions to provide increased funding to targeted programmes intended for specialized fields.
- Due to the poor basic infrastructure, private sector employers have begun to create mini-towns or suburbs with all the basic services to attract highly motivated employees.
- The self-sustaining benefits of education are clear: Prime Minister Manmohan Singh pointed out that if India can find productive jobs for its young labour force, it will result in a significant increase in India's savings rate in the next 5-10 years, thus generating the resources for investment in new infrastructure that is needed to successfully modernize and grow.
- Public pension reforms and health insurance will play a key role in alleviating the long-term fiscal burden provoked by ageing; the cost would be low (relative to GDP). In addition, notions of old age and retirement may have to change (e.g. retirement age is fixed at 58-60 in most government jobs).
- There is an urgent need for a range of high impact social reform policies to overcome a long-standing cultural preference for male children and to reverse a potentially disastrous future imbalance in the male/female ratio of India's population.

Examples

- India's Sarva Shiksha Abhiyan programme of universal primary school coverage employs innovative methods to impart education and increase enrolment.
- The Old Age Social and Income Security project (1999) recommended a simple and convenient pension system, while the National Policy for Older Persons encourages individuals to make provisions for their own retirement.
- The Skills Development Initiative of CII develops and spreads much needed, internationally benchmarked occupational skills among India's current and potential workforce.
- The state of Kerala, notable for its progressive social programmes, has had success in mitigating gender imbalance. Its demographics are more typical of a middle-income country, with a female-male ratio of 1.05.

“ It is imperative to deal with population growth and to depoliticize the issue. If the demography of the country is handled well, demographic liability can turn into a great opportunity. The threat the country faces today is not from the revolution of rising expectations but from the revolution of unfulfilled expectations. ”

R. M. Abhyankar, Former Ambassador of India to European Union and Belgium

India Economic Summit:

A Global Risk Network and Confederation of Indian Industry Briefing

Executive Summary: Loss of Freshwater (Quantity and Quality)

How best can India cope with increasing freshwater insecurity?

Risk

- India has 18% of the world's population, but only 4% of its water resources. Increasing stress on freshwater may exacerbate the country's health and humanitarian problems, increase salinization of existing water supplies, constrict economic growth and lead to tensions between states, districts and users.
- Changing climate, increasing urbanization, population growth and changing diets may accelerate stresses on existing freshwater resources; freshwater systems are vital to preserving land for agriculture and industry, as well as key ecosystem services including flood control.

Important Trends

- India's National Commission on Water predicted that, by 2050, demand for water will exceed all available sources of supply. Already, about 15% of all groundwater aquifers in India are in critical condition, and this figure will grow to 60% in the next 25 years, threatening communities and development.
- While 83-95% of people have access to drinking water, it is estimated that only 60-65% have ready access to quality drinking water. Per capita freshwater services are low and falling over time. No municipality in India can provide a continuous 24-hour clean drinkable water service. Continuous water service is often supplemented by private water service providers.
- Indian rivers – the Ganges and Indus – are among the world's top 10 rivers at risk, threatening livelihoods of people along its banks in India (source: WWF). Most water sources are contaminated by sewage and agricultural run-off.
- While many improvements have been made in the last 15 years, only 22% (rural) and 59% (urban) of the population have access to adequate sanitation.
- Availability is highly uneven: 70% of precipitation is delivered in four months and varies from 100 mm in the west of Rajasthan to over 10,000 mm at Cherrapunji in Meghalaya.
- The World Bank estimates that 21% of communicable disease in India is related to contaminated water; 1,600 children under five die of diarrhoea each day.
- Agriculture accounts for 80-81% of water use (irrigation), while industry accounts for 7-8% and drinking water accounts for 4-5%. There is increasing industrial demand for water (in terms of percentage use) while the demand in rural areas is expected to increase sharply with development.
- Most water supply systems now depend on groundwater; overexploited blocks are growing at an alarming rate of 5.5% per annum.
- Climate change may worsen dry seasons and droughts, as well as weaken water retention in the variable monsoon periods (as 65% of agriculture is rain-fed).
- Unregulated groundwater pumping is not only draining utility resources, but also depleting water tables across the subcontinent. In many regions, groundwater levels have fallen as much as 1-3 metres and 12% of India's aquifers are severely overdrawn.
- India's rapidly expanding urban centres are facing serious challenges as inadequate supplies and ageing infrastructure stretch the resources of cash-strapped utilities.

Impacts

- Social, political and economic tensions over access to quality water resources may cause short- and long-term damage to the business and investment climate in India.
- Degradation of natural freshwater systems will create the need for investment in water-related infrastructure, especially pumps and distribution systems, dams for flow management and treatment systems for drinking water, potentially creating billions in costs.
- If these investments fail, absolute growth and relative income disparities are likely to worsen.
- Floods and droughts affect vast areas of the country. One-sixth of the country is drought-prone. Floods affect an area of around 7.5 million hectares per year. An increasingly urbanized population will be vulnerable to new flood risks.

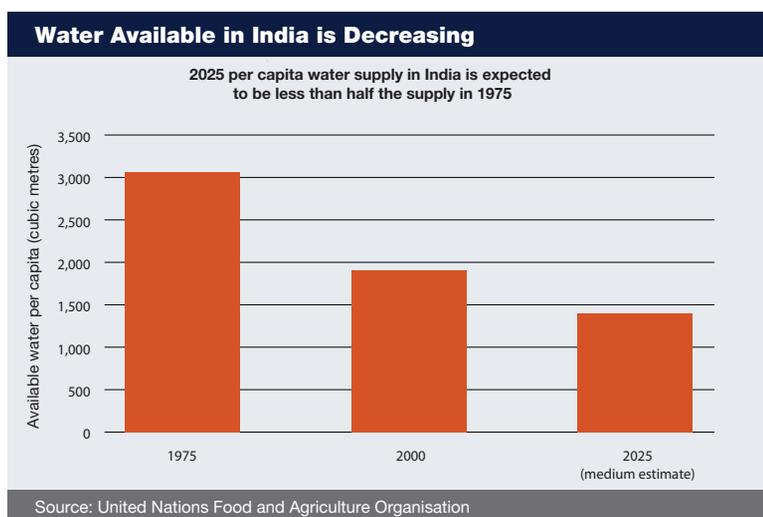


Mitigation

- While water is a state issue, and within the purview of various ministries, it would benefit from an integrated policy approach (e.g. by avoiding misuse of water due to local policies such as free electricity for irrigation and preventing development in flood plain zones).
- The state has to define water entitlements at all levels, improve the quality and quantity of data and make these data available to the public, and stimulate the formation of user groups at all levels – river basin, aquifer and irrigation district.
- Groundwater resources should be managed so as not to exceed recharging possibilities and to ensure social equity. There is also scope for improving the performance of existing water resource facilities (e.g. conservation of groundwater through artificial recharge).
- New regulatory and governance models for water metering, pricing and access are being adopted in many parts of India; effective pricing will spur innovation and free government subsidies for investment in technology.
- Increase water recycling between agriculture, industry and municipal users. Treated municipal waste may be used for industrial purposes, which may in turn be adequate for agriculture irrigation.
- To decrease the amount of disease spread through drinking water, latrine usage and hygiene must be improved simultaneously.
- Increase investment to maintain and rehabilitate the existing water and sanitation infrastructure to reduce leakage and blockages.
- Industry should be active in its approach to water and engage with the community and the government to identify local strategies to conserve and recycle water. Private sector participation may introduce innovation and financial resources and improve service efficiency and accountability (e.g. public-private investment in watershed/river basin management).
- Adoption of and education about efficient farming practices (e.g. reducing over-irrigation, rainwater harvesting and drip-fed agriculture) may help mitigate problems in rural communities.
- As per the National Water Policy, non-conventional methods, frontier research and development, and traditional water conservation practices need to be explored further.
- Although expensive, increase research and development in desalination methods and study successes in the Middle East and Singapore.
- Transition towards drip irrigation for agriculture and learn best practices from countries such as Israel.
- Improvements in existing strategies and new techniques are needed to eliminate the pollution of surface and groundwater resources. The principle that “the polluter pays” should be followed in management of polluted water.

Examples

- A multitude of new water pricing regimes and innovative programmes at state and local levels (e.g. rainwater harvesting is mandated for certain complexes in Rajasthan)
- Hundreds of NGO-led watershed management projects
- Minimum needs programme/accelerated rural water supply programme
- Jawaharlal Nehru National Urban Renewal Mission



“Conserving water in India will come down to three Ps: pricing, political will and policy.”

Ralph R. Peterson, Chairman and Chief Executive Officer, CH2M HILL Companies, USA

India Economic Summit:

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Executive Summary: Economic Shocks and Oil Peaks

How vulnerable is India to external economic turbulence? What exogenous crises would risk derailing India's growth prospects (e.g. an oil price shock)?

Risk

- The mood is upbeat; the consensus is for a repeat of a Goldilocks year of growth in 2008 (i.e. 8% plus). With this favourable economic outlook, a population of around 1.13 billion, and an economy that is the fourth largest in the world (measured by purchasing power parity), India is far better placed to withstand an economic downturn than it was in the 1990s.
- While sustained 8-10% growth for India is possible, it is not a given. Three ugly bears are threatening the Goldilocks scenario: a rising rupee, an oil price shock and an asset price collapse (either local or global).
- Growth is threatened not just by shocks and shifts but by curbs and constraints; political, social, economic and environmental constraints to current growth trends are already beginning to show. India's progress depends on continued structural reforms, while economic interdependence means that shocks are more likely than ever to be global.

Important Trends

- India is the second fastest-growing major economy in the world, with a GDP growth rate of 9.4% for the fiscal year 2006-2007 (the fastest expansion in 18 years). However, India's huge population results in a per capita income of US\$ 3,800 at PPP and US\$ 735 at nominal (2006 estimate). Thus, the World Bank classifies India as a low-income economy.
- The ongoing integration of the BRIC economies into the global trading and financial system is expected to continue to drive economic growth for the next 10 years. For India, Prime Minister Manmohan Singh has called for a growth rate of about 7-8% per annum, sustained over the next 10-15 years.
- Despite perceptions of India being in the shadow of China's economic miracle, extensive reforms have been instrumental in attracting foreign direct investment (up from US\$ 100 million in 1991 to US\$ 16 billion today). Since economic liberalization began in 1991, annual GDP growth has been twice as high as it had been and, as a result, poverty levels have fallen by one-third.
- The Indian rupee has appreciated by 12% since the beginning of 2007 and is being acutely felt in export and employment-intensive sectors such as IT, textiles and leather. The government has responded by providing relief packages to exporters.
- Rapid escalation of asset prices is a concern, particularly equities and real estate, which have been driven by significant capital flows and liquidity (e.g. prior to the recent legislation, Participatory Notes – sold to offshore investors – grew tenfold over three years).
- India's growth has been concentrated in its booming technology, outsourcing and services sectors (28%), which have enriched a relatively small community. Agriculture – which employs two-thirds of the population – and manufacturing have not shared in the spoils. Indeed, while service sector wages have grown, manufacturing wages are stagnant.
- Growing consumer confidence after several years of sustained growth, low real interest rates, a stronger boost to public spending and an expansion in total wages have helped to make domestic demand an additional engine for growth (private spending is now 60% of India's GDP versus 40% in China).
- India ranks sixth in the world in energy consumption, sourced mainly from coal (55%) and petroleum (32%), with two-thirds of the latter imported (i.e. a little over one-fifth of total energy use). To achieve its ambitious goal of energy independence by 2030, India will have to more than triple capacity from 130,000 megawatts at present to over 400,000 megawatts.

Impacts

- While the consensus economic outlook is upbeat, India remains vulnerable to the vagaries of world currency, commodity and financial markets. With a trade deficit of 7% of GDP, a global economic slowdown would seriously affect India's growth and the well-being of its population. The Minister of Finance of India, Palaniappan Chidambaram, said that high oil prices have cost India 1% in terms of GDP growth.
- A key danger for India lies in the so-called "regressivity" of financial crises; in simple terms, crises are socio-economically regressive due to the massive (and often wasteful and inequitable) diversion of fiscal resources to resolution mechanisms and have a disproportionate effect on the poorest members of society, who lack a safety net.

Mitigation

- **Labour Reform:** Sustainable growth rates of 8% or more are within reach. The challenge is to build on the current momentum and extend the success of the US\$ 1.5 billion outsourcing, IT and software industries. Reform is required to simplify labour laws and improve the flexibility of the workforce, while building in appropriate safety nets and policies that focus on retraining and redeployment of workers.
- **Currency:** To mitigate the risk of a rising rupee, some companies are looking to relocate manufacturing plants and regional delivery centres to other parts of the world and ensure diversification of various currencies. On the other hand, the rising rupee will have a beneficial effect on importers, help offset crude oil prices and reduce international capital costs. Capital account liberalization is a long-term aim that will help balance these risks.
- **Infrastructure:** Despite US\$ 350 billion expenditure (public and private) in fiscal 2007, bottlenecks are well known and persistently troublesome, particularly in terms of water and sewerage, railways, roads, airports and electricity. The current investment-to-GDP ratio of 35% should rise to 40% over the next few years.
- **Public-private Partnerships:** Now accounting for 3.5-4% of GDP, PPPs should be broadened from ports and airports to roads and basic infrastructure, particularly in rural areas and underdeveloped regions. A public-private agency should be created to concentrate national efforts on attracting investors and promoting innovation by offering tax credits for R&D spending.
- **Financial Services:** Improved access to credit and insurance will help buffer the small to medium size enterprise sector (which represents 40-60% of employment) against external shock. This would require better creditor rights, credit bureaus, prudential regulation and the innovation of financial products.
- **Resilience:** Fiscal restraint will help India weather future turbulence and the inevitable downturns, as will adopting countercyclical policies. Businesses in the region should play a more active role in helping to build economic resilience by attacking shortcomings such as labour and capital inefficiencies, poor quality education and low levels of research and development.
- **Energy Policy:** Oil prices cannot be the sole driver of India's energy policy. India has the ability to reduce dependence on external oil and gas over the next 10 years (the incentive to do so increases at about US\$ 60-70/barrel). Choices available include reducing energy intensity, new exploration for offshore oil and gas, as well as new techniques for extracting oil, the increased use of alternative energy (e.g. wind, solar, biomass), nuclear energy and more investment in research and development. This requires establishing an effective regulatory framework.

Examples

- India's economy has rapidly become more open, with exports rising to 23% of GDP from 11% ten years ago, with credit risk remaining low and robust capital flows achieved.
- The Electricity Act of 2003 aims to create a liberal and competitive framework for development.
- Increasing government and corporate debate over the need for enhanced energy efficiency
- Drive to further integrate energy policies around energy security principles
- G8+5 discussions on energy security and the Gleneagles Dialogue on Climate Change
- Andhra Pradesh's progress in the area of land reform and streamlining of title processing should encourage other states to follow suit.



India Economic Summit:

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Executive Summary: Globalization vs Protectionism

What happens if there is a backlash or retrenchment from globalization?

Risk

- The world may be becoming more interconnected in terms of technology and economic interdependence, but the core issues that can divide people and nations have not abated.
- India's elites have become more globally interconnected, but the poor and lower-middle class are still disconnected and not feeling the benefits of globalization and liberalization. The mismatch of interests and/or negative perceptions could lead to an endogenous backlash against globalization, as well as social and political tensions (e.g. naxalism in some pockets of India).
- Globally, populism again appears to be gaining force, as the diffuse benefits of globalization remain less visible than well-publicized concentrated dislocations. Continued exogenous protectionism (e.g. WTO/Doha Round, US and EU agricultural subsidies) could trigger a global slowdown, with severe economic and political impacts (particularly in developing countries like India).
- Divergent views: Some experts see a reversal of globalization as a key risk, while others posit that India is well shielded by virtue of its low share of world trade, huge international diaspora and success in becoming an ICT hub. Some experts believe that inequalities are beginning to diminish, while others say they are growing. In the end, what matters are issues related to the perception of unfairness.

Important Trends

- India's exports of goods and services have increased dramatically from US\$ 37 billion in 1995 to US\$ 130 billion in 2005, demonstrating increased integration into the global economy.
- The relationship between India and the Association of Southeast Asian Nations (ASEAN) can benefit both parties. As part of the "Look East" strategy, India will have to lower its tariffs barriers (which are still high compared to other Asian economic countries) to reach ASEAN standards.
- Given India's extremely diverse society and the strong inequities among states in terms of power, revenues and governance, states will have a strong role to play in adopting relevant reforms, attracting business and defending their interests. Effective decentralization is central to guarantee better social integration and political representation.
- India has strong international economic relations and has proven a high capacity in the fast-growing sectors. However, as liberalization becomes widespread in Asia, the competition increases.
- In addition, one of the critical problems facing India's economy is the sharp and growing regional variations among India's different states and territories in terms of per capita income, poverty, availability of infrastructure and socio-economic development.
- The "informal" economy in India accounts for 26% of GDP compared to 16% in China (informality means tax evasion, corruption, unfair competition and organized crime). This is a barrier to growth and liberalization, as countries with large informal economies cannot build or maintain institutions with enough corruption resilience and integrity for societies to thrive.
- Over-regulation and high taxes foster these illegal and informal markets, while corruption (and associated vote buying and "clientism" in the delivery of public services) undermines notions of citizenship and acts to trap societies into a low-level equilibrium of political dysfunction.
- In the last 10 years, public opinion in India seems to have shifted a little more in favour of globalization, as the benefits become better understood.
- In the West, cultural protectionism and conservative, value-based ideologies are on the rise, potentially reducing the appetite for trade liberalization and labour market reforms.

Impacts

- Short-term economic distortions and pitfalls of globalization, such as rising inequality, could trigger a social backlash against globalization. Any backlash would reduce the appetite for FDI in India among foreign investors/companies.
- Growth in India relies on a few fast-growing sectors, as other structures in the society and economic sectors remain very weak. In this context, a globalization backlash could challenge the overall stability of the country.



Mitigation

- As India's Minister of Finance P. Chidambaram mentioned at last year's India Economic Summit, democracy is a strong weapon against protectionism. The government needs to pursue its policy of reforms in the most inclusive way possible.
- The central and state governments need to develop policies to encourage the diversification of the rural economy, and help create a smooth transition from agriculture into other economic activities.
- Improve the national supply chain by upgrading physical infrastructure and introducing administrative and tariff reforms.
- To avoid the consequences of a backlash from globalization, there is a strong need to strengthen ties with economic partners such as the EU and the US. India's bilateral trade with the US is already more than 20% of its global trade and this trend will probably rise. In case of a failure in negotiations, India's economy could suffer.
- Pursue economic reforms to remain competitive compared to other Asian countries. High trade barriers can damage India's trade relations.
- Finalize the negotiations between India and ASEAN on the Free Trade Agreement (FTA), which will permit the strengthening of existing trade relations, up to US\$ 20 billion by 2012 according to some estimations. The current level of South Asian trade (US\$ 2-3 billion/year) represents a missed opportunity and should be increased.
- Continue important ongoing trade negotiations, in particular on the India-China Joint Force and the India-Gulf Cooperation Council (GCC) Free Trade Agreement to deepen existing economic and cultural links that can strongly benefit India's economy.
- To curb corruption, focus on campaign finance reform; greater transparency in public bidding (e.g. using online systems); the legalization of lobbying and its regulation; greater transparency in government relations, reducing over-regulation; and increasing an "absolute" anti-corruption culture inside companies. Partial reforms yield partial results.

Examples

- South Asia Free Trade Agreement (SAFTA) offers opportunities and challenges for India
- South Asia Association for Regional Cooperation (SAARC)
- BIMST – EC free trade agreement between Bangladesh, India, Malaysia, Singapore and Thailand has contributed to lower tariff barriers in India.
- In addition to existing international, regional and bilateral trade agreements, the Ministry of Commerce and Industry is developing trade promotion programmes for enhancing trade with Latin America, sub-Saharan Africa and the CIS region.
- The Right to Information Act (2005) and equivalent acts require government officials to furnish information requested by citizens (or face punitive action) and computerization of services; and various central and state government acts have established vigilance commissions and have considerably reduced corruption or opened avenues to redress grievances. The 2006 report by Transparency International puts India in 70th place and states that significant improvements have been made by India in reducing corruption.

“ We accept the logic of globalization. We recognize that globalization offers us enormous opportunities in the race to leapfrog in development processes. It also obliges us to set in motion processes which would minimize its risks. ”

Manmohan Singh, Prime Minister of India

India Economic Summit:

A Global Risk Network and Confederation of Indian Industry Briefing

Executive Summary: Climate Change: The Environment and Challenges to India's Growth

How can India best balance the complex trade-offs between the environment and growth?

Risk

- Climate change is a low priority for India as the main priority remains India's continuing economic growth. Opportunities will be created by the need for new investments, e.g. in alternative energies, carbon capture and storage, and adaptation methods.
- Direct human and economic impacts of climate change manifest themselves in the form of extreme weather events, floods, drought, increasing food insecurity, disease and population displacement. Indirect impacts of global climate change could have dramatic effects on demand and investment patterns, as well as interrupting business operations and supply chains.

Important Trends

- India has become a major global player in carbon emissions – it is now number four in the world in its overall carbon dioxide emissions, behind China, the US and the EU. India's emissions per capita increased by 50% in the last 15 years.
- Although controversial, the Indo-US nuclear deal would expand low-emission fuel options for India. National political discussions are ongoing to reach consensus.
- Trends in India's climate change risk depend on global drivers: global carbon emissions and deforestation; both are systemic and entrenched. There is wide global scientific consensus that climate change and its effects are taking place more rapidly than previously believed.
- Mean surface temperature in India has increased broadly in line with the global trend, while in 2007, the worst flooding in western India in over a century killed over 1,200 people with millions of people displaced. Glacial retreat is obvious on Indian mountains.
- There are some indications of decline in the southwest monsoon in the latter half of the 20th century, although the long-term trend remains unclear. Risk remains that disparities in land and sea warming could disrupt the monsoon system.

Impacts

- In a "baseline" global scenario of doubled atmospheric carbon concentration, regional temperature rises of 2-5°C exacerbate food, water and weather insecurity. Effects are disproportionately borne by women and the poor. The largest consequences may be distributional and humanitarian and may lead to a backlash against current economic policies.
- Impact projections for India suggest more intense rainfall and the potential for increased flooding during the rainy season, with risk of severe drought in the drier seasons in the coming 50-70 years. Significant vulnerability exists due to significant social and economic dependence on rain-fed agriculture.
- Any increase in the frequency and severity of cyclones will affect coastal communities and infrastructure. Moreover, a rise in sea level could cause displacement (e.g. eastern state of Orissa) and salinization of groundwater. What happens if large regions become "un-insurable"? In addition, growing coastal and urban populations add to flood risk, which may also be exacerbated in the western Himalayan region by snowmelt.
- The effects of climate change on global demand and investment patterns will only become clear over the next 15-50 years. India is potentially well positioned for both foreign and domestic investment in climate change mitigation and adaptation (e.g. sinks and biofuels), although lack of clarity on long-term policies may hamper progress.
- Participation in the post-Kyoto framework for emissions reduction remains uncertain, but international pressure is increasing with India's emissions. The potential for the development of a leapfrog economy (distributed energy systems, biofuels, and service-centric output) may mitigate this pressure.

Mitigation

- Climate Change mitigation requires new technologies that are currently not available in India. India should consider a greater focus on adaptation and find the most efficient solutions to impacts of climate change.
- In July 2007, Prime Minister Manmohan Singh established a Council on Climate Change to consider ways to increase energy efficiency and boost the use of renewable energy sources while seeking to integrate climate change policy across different ministries.
- Implement a joint public-private awareness-building campaign on potential impacts of climate change and market opportunities
- Upfront investment will accelerate the development and deployment of clean technologies. India has one of the most active renewable energy programmes, and has mandated a 10% blending of ethanol with petrol to boost its biofuel output.



- Fostering Clean Development Mechanism (CDM) projects (of which India has over 400 project approvals), India is the number two country in terms of the number of certified emission reductions issued. CDM initiatives present a market opportunity for the private sector. However, greater private sector investment will depend on a clear signal from global policy-makers that CDM will continue beyond 2009.
- Affordable insurance and weather-based catastrophic bonds from the private sector can be provided to protect populations that are vulnerable to the impacts of climate change.
- Disaster response and management programmes can be strengthened to address growing weather variability.
- The private sector should assess climate change vulnerabilities within operations and throughout the entire supply chain. Erratic flow of raw materials or site inaccessibility by employees can be expected. In addition, it should evaluate overall carbon emissions and explore energy efficiency or employ simple available technology to reduce emissions.
- Regional and national mitigation strategies need to focus on adaptation:
 - *Crops*: Development of new drought and heat-resistant varieties; polders and improved drainage; alternative crops; adjustment of plantation and harvesting schedules; non-chemical pest control
 - *Water*: Decreased dependence on rain-fed agriculture, primarily through rainwater harvesting and storage; Soil moisture conservation; enhanced flood forecasting; improved water markets and pricing
 - *Health*: Grain storage and provision of emergency feeding stations; provision of safe drinking water and sanitation; disaster preparedness planning; surveillance for disease emergence
 - *Industry*: Improve adaptation capabilities and technologies; infrastructure protection; incorporate climate change in development programmes; emergency preparedness
 - *Other*: community education; land use management; infrastructure monitoring and protection
- Indirect economic impacts are best mitigated by strengthening India as an investment centre, diversification of economic activity and cooperation with global accords.
- Global mitigation will focus on a “post-2012 framework” for emissions reductions and atmospheric carbon stabilization. Benefits, if successful, will be seen from 2050-2100 and warming will continue until that point.

Examples

- Planning commission directive on biofuel adoption
- Ongoing participation in CDM projects
- Engagement with the global dialogue (e.g. G8+5 Gleneagles Dialogue on Climate Change)
- CII Centre of Excellence for Sustainable Development initiatives
- Several Indian companies (e.g. Infosys Technologies) are buying voluntary carbon credits.

“ India is a willing partner on climate change, but clearly it’s not a willing punching bag because it has its limitations. A billion people are going to be consuming a lot of services and goods that will create emissions. We will need technology; we will need money. But India will be willing to align with the world. ”

Sunil Bharti Mittal, Chairman and Group Chief Executive Officer, Bharti Enterprises; President, Confederation of Indian Industry (CII), India

India Economic Summit:

A Global Risk Network and Confederation of Indian Industry Briefing

Executive Summary: Infectious Diseases

What will it take to combat infectious diseases and pandemics? What if India fails?

Risk

- It is difficult to get clear estimates of the number of people currently living with HIV/AIDS in India, but there is no doubt that the prevalence is high and represents a risk for the country. In addition, many cases still remain unreported, particularly in some remote states, and many infected people do not have access to basic healthcare and appropriate treatment.
- TB is one of the leading causes of mortality in India, killing nearly 1,000 daily. HIV/AIDS and TB are highly-connected and mutually reinforce each other; the high prevalence of both threatens the Indian society and economy by reducing the workforce, diminishing productivity and cutting household incomes. Other diseases (e.g. malaria) are developing new drug-resistant strains.
- An avian influenza outbreak or similar pandemic in South-East Asia would risk a rapid spread and high mortality facilitated by growing interconnectiveness and transportation. Weak preparedness, lack of an early alert system and limited access to drugs and vaccine will worsen the situation.

Important Trends

- The overall public health expenditure is low and not focused on the poorest regions and population. Only a very small percentage of population is covered by health insurance.
- The pharmaceutical sector in India is a leader in generic production and able to produce quality products at low price, but suffers from a lack of adequate legislation to protect intellectual property, which hurts foreign investment. A loophole in the patent law that allows Indian regulators to block patent application for certain kinds of drugs if they do not demonstrate advances in “efficacy” discourages investment in research in India (e.g. Novartis’ decision to no longer invest in R&D in India).
- Indian Finance Minister Palaniappan Chidambaram identified HIV/AIDS as one of the most “frightening” risks for the country. The epidemic in India remains extremely varied, reflecting socio-cultural diversity and making it difficult to implement programmes at the national level. New trends such as a growing feminization of the epidemic and a move towards rural areas have been observed.
- High TB prevalence related to HIV infection poses a major public health challenge. Although huge achievements have been made in detecting and treating TB, recent trends show a decrease in the number of cases detected and suspect investigation rates in several states.
- Improvements in access to testing and treatment have helped diminish the black market for treatment in India, particularly for HIV/AIDS and TB. However, the public finds many disincentives to visiting a hospital, including long distances and waiting times due to lack of trained healthcare professionals. The lack of basic healthcare infrastructure prevents programmes from being implemented effectively.
- Malaria has developed new drug-resistant trends that particularly affect poor regions and populations that already have lower access to care and treatment. India’s malaria prevalence is higher than in Pakistan, Indonesia and Sri Lanka. In addition to traditional rural malaria, urban malaria has now emerged.
- If an avian influenza or similar pandemic occurs, it will travel very quickly in India due to high population density. The impact of an avian influenza outbreak in India is rated as “extreme”.

Impacts

- The HIV/AIDS epidemic worsens poverty and could put a brake on economic development in India. Underdevelopment and poverty also make the population more vulnerable to the epidemic and make it more difficult to implement effective prevention measures. In the Forum’s *Global Competitiveness Report 2007-2008*, the business impact of HIV/AIDS in India is high, ranked 100 out of 131 countries.
- TB and malaria epidemics spread and develop more drug-resistant trends, threatening and killing thousands of people.

Mitigation

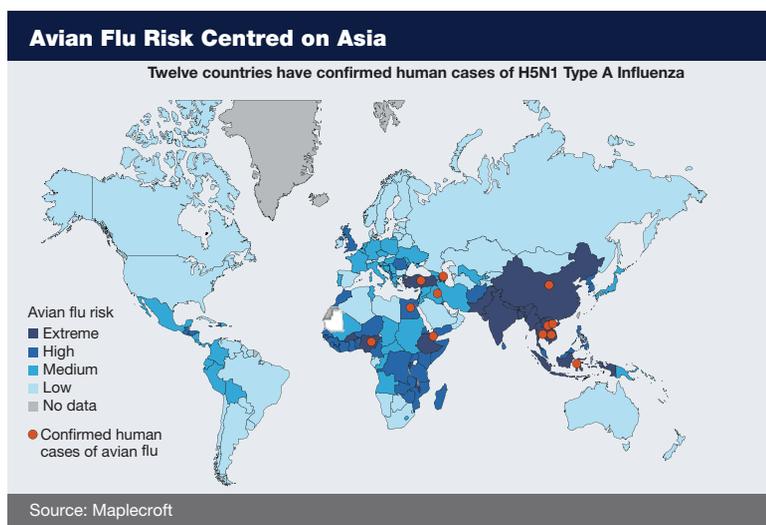
- Government spending on healthcare, at 0.9% of GDP, needs to increase in order to improve basic access to services and quality of life.
- Decentralization to the regional and state level is key in conducting health programmes to guarantee that all groups benefit from adequate treatment. Some groups remain extremely under-represented, notably in HIV sentinel surveillance.
- One of the key strategies to mitigate the HIV/AIDS risk is to expand the coverage and safety of antiretroviral therapy and high quality treatment and care at a decentralized level. The government committed to providing free treatment to HIV-positive individuals and Anti-Retroviral Treatment Centres have been rolled out to provide these services. As yet, only 48,000 out of the 125,000 known cases are on treatment.
- The lack of basic infrastructure in the health sector is a threat, as adequate antiretroviral and multidrug-resistant treatments require much time and many medical examinations. Availability and access to medical facilities needs to be guaranteed throughout the country.



- Engage the private sector in scaling up access to antiretroviral therapy and strengthen the integration of services with other prevention methods in collaboration with public health programmes. There is great opportunity to engage the private sector in partnerships, as 80% of health infrastructure is in the private sector. With a better regulatory framework, the private sector could provide insurance coverage, training and information campaigns against stigma and discrimination for employees and their families.
- Address both HIV and TB infections as a single entity and harmonize and better coordinate the programmes. At present, they tend to be implemented at different levels: HIV services mainly at the district level, while TB programmes are fully decentralized and act at the community level. Patients should be automatically subjected to a full health check-up and provided with relevant health information.
- The irrational use of drugs is still widespread in India, as patients buy drugs from the black market that are not adapted to their needs. This phenomenon is hard to control. The government should hold the seller accountable for the consequences, both financially and legally.
- The country needs to strengthen its Influenza Pandemic Preparedness and Response Plan and coordinate at all levels to respond to a pandemic outbreak, with a clear definition of all stakeholders' roles in case of a crisis. It should also ensure that enough drugs and vaccine are available to fulfil demand.
- Stronger regulations and higher investments in R&D are needed in the pharmaceutical sector if India is to be a leader in developing new drugs and attract foreign investment.
- The government should explore creating incentives for more private sector employers to provide basic affordable health insurance for staff members and their families.

Examples

- NACO (National AIDS Control Organization), an initiative of the Ministry of Health and Family Welfare now in its third phase, is responsible for coordinating the overall response to HIV/AIDS; its main objective is to reduce the virus's spread through a decentralized and comprehensive programme of generating awareness and changing behaviour by identifying the most vulnerable groups among the population. It works in consultation with NGOs and encourages public-private partnerships, in particular by including prevention and treatment as part of employee benefit programmes.
- To improve staff training and share knowledge, the government has created working groups that meet regularly and organize trainings. Fourteen states have participated so far, and the remaining ones should be covered by the end of 2007.
- To better understand the relation between HIV and TB and develop more targeted and efficient programmes, the government implemented a pilot programme in high endemic areas for high-suspect patients. The programme led to new and better statistics, showing that under these conditions, 20-25% of TB-infected patients are HIV-positive.
- Mobile hospitals have been tested in different parts of India, moving doctors and health facilities to the countryside and remote regions to guarantee better access to medical care.
- The India Business Alliance to Stop TB, supported by CII and the World Economic Forum and their respective member companies
- The Revised National Tuberculosis Control Programme has achieved full geographical DOTS (Directly Observed Treatment, Short Course) coverage, placing more than 100,000 patients under treatment every year. DOTS has diminished the trend of MDR TB in the places where it has emerged. According to a study covering more than 100 million people, the number of cases of MDR TB has not increased, remaining around 3% of all TB cases.



Emerging Risks



Organized Terrorism

In recent times, India has faced the worst terrorist attacks on its soil since 2004, second only to Iraq in terms of lives lost. Marginalization, inequalities and poor standards of living create a favourable field for terrorism to arise. Regional tensions create a high risk of terrorist attacks in India, which may threaten overall security and economic development in the country.

- In most cases, external terrorist groups are responsible for attacks in India.
- Some of the major events include the attack inside the Red Fort in New Delhi in January 2001, the blast in the Indian Parliament in December 2001, the attack on Hindu worshippers in a temple in Gujarat in September 2002 and the four explosions in Mumbai in 2002-2003, one of them killing 12 train passengers in March 2003.
- In the World Economic Forum's *Global Competitiveness Report 2007-2008*, India ranks 93 out of 131 countries in terms of business cost of terrorism, behind Saudi Arabia and Morocco.
- The lack of opportunities in education and access to work increases the risk of terrorism and violence within the country.
- Terrorist groups benefit from the government's inability to deliver adequate services and ensure security, by offering another option to the people and attracting them to their network. India's economic development and ability to implement a more inclusive growth may contribute to reducing the spread of extremism in the country.
- The institutionalized response to terrorism comprises different national intelligence agencies, security agencies, the army, police and paramilitary forces in charge of detecting, tracking and fighting terrorism. In addition to the leading role of the government, the private sector has a strong interest in developing new strategies, as private security is one of the larger economic sectors in India.
- The multilateral approach is recommended, especially with regards to sharing information and technologies, but should not overtake the domestic and regional dimensions. The specificities of terrorism in India reflect its history and geopolitical situation and have to be taken into account in trying to predict future targets, which are often strong national, cultural or religious symbols.

Societal Risk: Chronic Diseases

Chronic diseases (heart disease, stroke, cancer and diabetes) – traditionally associated with a Western lifestyle – have travelled and spread to the developing world.

- In a country where many suffer from malnutrition and extreme poverty, it may seem incongruent to stress the risk of chronic diseases. However, they are already an important cause of mortality in India and are likely to increase dramatically in the future (53% of deaths can be attributed to chronic diseases, especially in urban areas, a figure that has increased rapidly). The economic and social impact of chronic disease is expected to be high: the accumulated economic loss to India is estimated at US\$ 236 billion over the next 10 years. The weak or inexistent health insurance coverage in India will aggravate the economic impact on the people affected by these diseases and worsen poverty.
- India has the largest population of diabetics in the world, notably due to genetic predisposition.
- Hypertension remains inadequately detected and treated.
- Inequalities and education issues in India will make programmes more difficult to implement.
- A National Cancer Control Programme was implemented in India in 1975 and a law for tobacco control was enacted in 2003, but these initiatives should be linked to a comprehensive prevention programme to fight chronic diseases. The health system that has been working effectively in addressing other health issues like HIV/AIDS and TB needs to engage in the fight against chronic diseases.
- The government and corporate sector should work together in a national prevention programme to address the specific health risks linked to an unhealthy diet, lack of physical inactivity and tobacco use.
- WHO has identified an inexpensive and effective set of measures to mitigate this risk that includes salt reduction in processed foods, improved school meals and taxation of tobacco products.
- Adequate testing among the population needs to be generalized, together with better information about the risks of an unhealthy lifestyle. The example of the "heart camp" organized by the Escorts Heart Institute must be followed: it provides blood pressure and blood sugar checks, echocardiogram and prevention information, travelling to cities and villages throughout the country.

Recommended Resources

Economic Impact of Demographics

- Confederation of Indian Industry (www.ciionline.org)
- United Nations Development Programme (www.undp.org)
- Ministry of Human Resource Development (www.education.nic.in)
- Ministry of Panchayati Raj (www.panchayat.nic.in)

Loss of Freshwater (Quantity and Quality)

- Indian Business Alliance on water (www.ibaw-india.com)
- Central Water Commission (<http://cwc.nic.in>)
- National Water Policy 2002 (<http://wrmin.nic.in/policy/nwpolicy.htm>)
- Ministry of Urban Development and Poverty Alleviation (www.urbanindia.nic.in)
- Ministry of Rural Development (www.rural.nic.in)
- Ministry of Health and Family Welfare (www.mohfw.nic.in)

Economic Shocks and Oil Peaks

- Organisation for Economic Co-operation and Development (www.oecd.org)
- World Bank (www.worldbank.org)
- Lehman Brothers: India: Everything to Play for (www.lehman.com/who/intcapital)
- Ministry of Petroleum and Natural Gas (www.petroleum.nic.in)
- Ministry of Non-Conventional Energy Sources (www.mnes.nic.in)
- The Energy and Resources Institute (www.teriin.org)

Globalization vs Protectionism

- Indian Council for Research on International Economic Relations (www.icrier.org)
- India Economic Summit Insights report 2006 (<http://www.weforum.org/pdf/summitreports/india2006.pdf>)
- Ministry of Commerce and Industry, Government of India (<http://commerce.nic.in/>)
- "India's National Security Annual Review – 2007", Confederation of Indian Industry (CII)

The Environment and Challenges to India's Growth

- National CDM Authority (www.cdmindia.nic.in)
- Indian Renewable Energy Development Agency Ltd (www.ireda.in)
- Intergovernmental Panel on Climate Change (www.ipcc.ch)
- The Carbon Trust (www.thecarbontrust.co.uk)
- The Energy and Resources Institute (www.teriin.org)
- Confederation of Indian Industry (www.ciionline.org)

Infectious Diseases

- Confederation of Indian Industry (www.ciionline.org)
- UNAIDS in India (www.unaids.org.in/new/default.asp)
- Ministry of Health and Family Welfare (www.mohfw.nic.in), NACO (<http://www.nacoonline.org/>) and TBC India (www.tbcindia.org)
- World Health Organization (www.who.org)
- India Economic Summit Insights report 2006 (<http://www.weforum.org/pdf/summitreports/india2006.pdf>)

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