

India can best develop herself and serve humanity by being herself and following the law of her own nature. This does not mean, as some narrowly and blindly suppose, the rejection of everything new that comes to us in the stream of Time or happens to have been first developed or powerfully expressed by the West. Such an attitude would be intellectually absurd, physically impossible, and above all unspiritual; true spirituality rejects no new light, no added means or materials of our human self-development. It means simply to keep our centre, our essential way of being, our inborn nature and assimilate to it all we receive, and evolve out of it all we do and create.

Sri Aurobindo *The Renaissance in India* (1918)

transforming india

big ideas for a developed nation

atanu dey



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Transforming India: Big Ideas for a Developed Nation

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Dedication

With gratitude to all who toiled for but never got to see their dreams of a developed India fulfilled.

With hope that this generation has the courage to make that dream a reality.

Contents

Prologue	/ 9
Part 1: The Dream - Address to Class of 2040	/ 27
Chapter 1: The India Miracle	/ 28
Chapter 2: The Cycle of Poverty and Division Ended	/ 42
Chapter 3: A Set of Major Changes	/ 59
Chapter 4: End of Colonial Hangover and Socialism	/ 73
Part 2: The Means	/ 89
Chapter 5 : Interlinkages: A View of Economic Growth	/ 91
Chapter 6: Education	/ 95
Chapter 7 : Energy	/ 104
Chapter 8: Urbanization	/ 109
Chapter 9: Transportation	/ 114
Chapter 10: Rural Infrastructure & Services Commons	/ 122
Part 3: The Action	/ 129
Chapter 11: Democracy and Freedom	/ 130
Chapter 12: Pretty Good Principles	/ 140
Chapter 13: United Voters of India	/ 143
Epilogue	/ 151

Prologue

*Where the mind is without fear and the head is held
high;
Where knowledge is free;
Where the world has not been broken up into fragments
by narrow domestic walls;
Where words come out from the depth of truth;
Where tireless striving stretches its arms towards
perfection;
Where the clear stream of reason has not lost its way into
the dreary desert sand of dead habit;
Where the mind is led forward by thee into ever-widening
thought and action ...
Into that heaven of freedom, my father, let my country
awake.*

Gurudev Rabindranath Tagore
Gitanjali (1912)

India has the potential to be a developed, rich nation.

Unfortunately, India is a desperately poor country of around 1.2 billion people. Not just poor, India is an impoverished country. It has been made poor. Half of India's children below the age of five are malnourished. India has the largest number of illiterates in the world. The country does very poorly in most measures of human development.

Fortunately India has always had the potential to be a successful, developed nation. But it has never even remotely come close to attaining its potential. It is time that India became what it is capable of being. It is late but not too late. In a decade or so, if India does not change course, it will be too late.

India can become developed in all senses of the word. Development is not impossible. Many nations, big and small, have developed. Indians can do it simply because it can be done. Development is not impossible but neither is it inevitable. Dozens of countries have failed to develop, including India.

Development and Growth

Development is a multi-dimensional concept. It is not just economic growth, although that is a necessary correlate in the initial stages of development. Aggregate economic growth is possible without development. Development is also possible without further economic growth, but only beyond a certain threshold of economic success. The most general description of a developed society is one which guarantees freedom to all its members, and provides every individual the opportunity to realize his or her potential. It is state marked by the absence of material poverty, oppression and conflict.

Approaching Freedom

Perhaps Gurudev Rabindranath Tagore best described what development strives towards. He pleaded with the creator of

the universe to let India awake into a heaven of freedom. That was what he wrote in his Gitanjali nearly a hundred years ago in 1912.

We have to strive to get to that heaven even though by that measure, no country in the world today is developed. All are in various stages of development though some have approached closer than others. India lags far behind many others. At the present, not just development, even economic growth is a bitter struggle for India.

We Can Develop India

India is not at that level of economic prosperity where it is possible for India to develop without economic growth. It will take at least a generation of rapid economic growth for India to lift it out of poverty, and achieve a state where it can develop without economic growth. For India's development, economic growth is a necessary but not a sufficient prerequisite.

However, we have to bear in mind that economic growth is neither impossible nor inevitable. The outcome depends on policies, and in the final analysis, we the people determine what those policies are. Through our understanding and our actions, we signal to the policymakers what we want. We the people are responsible for the outcome.

The responsibility for India's development lies with us. To that extent, we are indeed fortunate. We have the skills, the capacity and the motivation to bring about change. We are fortunate to be educated. We can spare the time and effort for making a difference.

We have the capacity to envision a different future. We have the luxury of being able to plan for and work towards that better future. With that comes the special responsibility of actually doing what it takes to make India a developed nation.

You and I are not struggling like the vast majority of Indians. So why should we care? Why should we worry about India's failure to develop?

We should care deeply about India's economic growth and development because that is a prerequisite for relieving the misery of hundreds of millions of our fellow humans. But even if we are not altruistically inclined, we must act for pragmatic and selfish reasons: our position near the top of the economic pyramid is precarious because the base of the pyramid is so weak. We have to care because our fate is inextricably tied to the fate of the desperately poor of India.

A Precious Civilization

There is another reason why we must care: because if we did not, it could lead to the total collapse of India. India, one of the world's most ancient civilizations, cannot be allowed to disappear from the earth. India gave the world some of humanity's greatest ideas. India has to survive for the sake of the world. For that we need India to prosper and develop.

In the following pages, we will focus on economic growth only, not because it is the most important thing but because it is a necessary precondition for development. India needs economic growth urgently so that it will have a chance of becoming developed.

Why is India not Developed?

Some important questions need to be addressed first. Why is India not an economically developed nation? What have been the barriers and why? What can we do to remove those barriers?

Those questions matter. If we have any hope of solving a problem, we have to fully understand what the problem is. Good intentions are not enough. Meaning well but acting without

comprehending the basic nature of a system can lead to disaster. Like the monkey said to the fish, “Let me save you from drowning,” and put it up on the tree.

If we don’t know the why, we will never know the how. If we invest the effort to fully comprehend the problem, the solution becomes evident. To quote Albert Einstein, “If I had an hour to solve a problem and my life depended on the solution, I would spend the first 55 minutes determining the proper question to ask, for once I know the proper question, I could solve the problem in less than five minutes.”

We constantly keep hearing claims that India is going to a “super power” any day now, or that it will overtake this or that other nation, or that it is an “IT superpower.” They are incredible claims. They are not believable and don’t stand any degree of scrutiny.

Why is India Poor?

Writing books about India has become a cottage industry of sorts. Some paint a rosy picture of how it is going to be, some explore what needs to be done, some focus on what remains to be done, etc. But no book to my knowledge explores the question, “Why is India poor?”

The answer to the question, “Why is India poor?” is important because it is a matter of life and death for hundreds of millions. That question is predicated on two assumptions. First, that India’s poverty is not inevitable. It could have been rich and developed. Second, that there are reasons for why it is poor. If we understood the reasons, we could do something about it.

What’s the reason that they don’t ask that question? My conjecture is that it is not politically correct to ask that question. Or rather, it is not politically correct to answer that question honestly. The answer may not be very flattering to some of those that are held up as great visionary leaders. It may show that some people who steered the ship of state

were neither very wise nor very good. The answers to that question may reveal that we were mistaken in some of our cherished beliefs.

Poor Public Policy Choices

India is poor by choice. By that, I don't mean that the people of India choose to be poor. I mean that the leaders of India made poor public policy choices — either deliberately or mistakenly — that resulted in wide-spread, chronic and acute poverty. Economic policies strictly determine how an economy performs. Bad economic policies lead to dismal economic outcomes, while good policies lead to success. It is important to keep that truism in mind.

Inquiring into why India is poor will most certainly reveal that policy mistakes were made repeatedly and consistently by some of the most celebrated leaders of post-independence India. That will not sit very well with the powers that be. It is not safe to point out that those considered mighty were in fact weak, or some who are widely reputed to have been wise were instead very foolish.

Despite that danger, we have to answer that question “why is India poor” if we want to know what we have to do to transform India. We have to know the past to understand where we are in the present. If we know how we got to where we are, if we know our present coordinates, we can chart out a course to an imagined desired future.

Benevolent and Predatory Governments

It is hard not to assign the blame for India's failure to develop to the kind of government that India has had the misfortune to have.

One can assume that the government is comprised of enlightened politicians whose altruistic objective is to maximize social welfare. In other words, the government is benevolent. Or one can take the more realistic albeit extreme position that governments are run by self-interested people whose venality compels them to maximize their private gains at the cost of social welfare. In short, the government is predatory.

Still, depending on how long the time horizon of their predation is, predatory governments can be classified into “roving bandits” or “stationary bandits.” The former have a short-term outlook and do not “cultivate” the private economy to maximize their loot. Part of that strategy would be to steal the resources that would have provided public goods.

In contrast, the stationary bandit would attempt to maximize the total output of the economy all the better to extract the most over a longer time horizon by providing public goods that complement private goods and private effort.

One can reasonably conclude that India’s colonial British government was mostly predatory with a short planning horizon and was not benevolent. The interesting question is whether the governments after political independence were roving bandits or stationary bandits.

Because India is a democracy of sorts where governments get voted out of office, it imposes a severe endogenously determined short planning horizon, and therefore the governments are forced to play the roving bandit role. This could partly explain the lack of adequate supply of public goods. Any government could reason that there is no point in spending money on public goods instead of just stealing the resources if the rewards of using public resources to provide public goods end up enriching some successor bandit government.

A Kakistocracy rather than a Democracy

Though it may appear harsh, it is accurate to point out that we are generally ignorant of one basic economic truth: that there is no such thing as a free lunch. If we vote for politicians who promise us free power, or free TVs, or even free money, we are essentially complicit in the miserable outcome we suffer.

One does not have to be much of a cynic to realize that although India is generally described as a democracy, it is more accurately a kakistocracy – government by the most corrupt and the least principled. We are willing participants in the misgovernance and loot of India partly because we don't realize that alternate forms of governance and social order exist.

We the people of India are generally ignorant of the scope and extent to which the government is responsible for the present unacceptable state of India. Understandably, it is not in the interests of the kakistocratic government to inform and educate the citizens. This, incidentally, could explain the systematic neglect of universal basic education.

If we look at our present situation without turning away from what is ugly and hard to admit to, we may know what not to do and what to do differently from before. We have to dispassionately look at the present and without the aid of comforting illusions.

India has made advances since it stopped being a colony of the British. In the past two decades, India has made advances that appear spectacular. I use the word "appear" because it appears to be so only relative to its poor performance in previous decades.

For instance, getting electric power supply 10 hours a day is a remarkable advancement if previously power was available only two hours a day. But compared to 24x7 reliable power, getting only 10 hours of power a day is a definite sign of failure.

Comparing India's present condition to its much poorer past condition of decades ago may be comforting but the comparison should be between India's present and that of other countries.

China Has Raced Ahead

India has lost many opportunities of advancing. Other countries such as the East Asian economies have raced ahead. Even China charted a course to a powerful future. China used to be at par, if not behind, India as late as 1978. It has been growing at 9 percent for around three decades, and today its per capita GDP is around four times India's. Of course, GDP growth is far from being a complete measure of the well-being of a country but still it does indicate some things that matter.

Unfavorable comparisons with China are often countered with two seemingly plausible "yeah-buts." The first is, "Yeah but India is not an autocratic state like China. India is a democracy." That argument is not tenable since democracy has not been a hindrance to development for many nations, large and small.

The second feel-good objection is, "Yeah but, China's growth is not sustainable since it is a one-party system." It is not clear why that is a handicap. Multi-party mismanagement of the economy is as likely as in a one-party system. Finally, there's the hoped for misfortune. China, the assertion goes, will implode in the future. Perhaps it will but China imploding in the future is scant comfort to the hundreds of millions of impoverished Indians. Development is more like a game of golf than a game of chess. Your own performance matters, not how others are doing.

Outline of What's to Follow

In the following pages I present my thoughts on India's development. Everything is anchored at the central question, "Why is India poor?" Economics, more than any other discipline, informs that question. In fact, economics as a social science is motivated by the desire to understand how countries develop and what can be done to help the process of development.

I am a student of economics and therefore my point of view is different from that of a historian or a political scientist. With that disclaimer out of the way, here's what's in store in the rest of this work.

Looking Back at the India Miracle

In part 1, we take a look back from the future. It's a 2040 point of view. Imagine India has become a developed country. The "India Miracle" has happened. Poverty, illiteracy, social unrest, shoddy infrastructure, discrimination based on caste and religion, massive corruption, criminals as politicians, dysfunctional education system—all these are in the past and done with.

How did the India Miracle happen? Who made it happen? What were the changes? Why did the India Miracle not begin around 1950? Why did we have to wait 70 years after independence for the process to start? Those questions are explored in Part 1 in the form of an address to the college graduating class of 2040.

Stripped of all its details and reduced to its essentials, an economy can be seen as a collection of people interacting under a set of rules. Economic growth and development is predicated on a set of good rules.

The Rules Changed

India is a large country and like for all modern economies, its development is a complex matter. Yet that complexity does not mean that the solution to under-development is complex. It can be argued that the solution can be as simple as changing some basic rules.

Complexity is an emergent phenomenon which arises from the repeated application over time of a simple set of rules. The

quality of the complex system that arises depends on the rules that govern the system. Bad rules lead to bad complex systems. Conversely, good rules result in good systems. It is possible to change the outcome by changing the rules.

The India Miracle happened because of changes in the basic rules. The most important change was in the objective of the government. From an exploitative and extractive government, it changed to a development oriented government. The government was “British Raj 1.0” before 1947, the year India became politically independent. After independence, the rulers changed but the rules remained the same.

British Raj 2.0

Merely changing the people who ruled India without changing the rules is superficial change which does not change the objective of the government. The government continued to be extractive and exploitative. It was “British Raj 2.0”. It was the same play with the same stage, same script, same props—only the actors changed.

It was the same old imperial rule but with mostly brown rulers instead of white. During British Raj 1.0, the wealth extracted out of India would end up in Britain. During British Raj 2.0, the wealth extracted out of India ended up in Swiss and other off-shore banks. It is estimated that \$1,500 billion has been accumulated by Indian movers and shakers abroad since 1947.

End of Politics of Division

By 2010, some people had had enough of British Raj 2.0. They had become fed up with the politics of division, of entitlements, of unimaginable corruption and the consequent lack of development.

They could see that other economies had developed rapidly. They realized India's failure lay in its leadership. So they organized successfully to replace the entire corrupt gang of politicians and start anew.

So it happened that the 2014 general elections finally saw the end of the imperial rule. The "British Raj 2.0" came to an end, thankfully. New rules took over: limited government, equality before law, the end of discredited socialistic policies, economic liberalization, and so on. These led to economic and social policies that encouraged growth and development.

Economic Freedom

In 1947, Indians only achieved political freedom, not economic freedom. It was the same old license - control - quota - permit raj where the government dictated who was allowed to do what. Nor did they get India real personal freedom. Freedom of expression was heavily circumscribed, and the government restricted what people were allowed to read, watch and listen to.

That changed in 2014 with the election of new leaders. With competent leaders at the helm, India charted out a new course. Policies changed, which in turn led to a different set of choices. The Indian government's focus changed from being in business to being in governance. From an obsession with villages and development of rural areas, the focus changed to the development of rural populations and development of urban India.

India urbanized rapidly. Hundreds of millions of Indians moved from a large number of small villages to a small number of new cities. They moved because they found greater opportunities for education, employment, housing and services in cities. This move was helped by the population getting better educated, which made them employable in the manufacturing and services sectors.

Emancipation of Education

The government let go of its monopolistic stranglehold on the education sector. Education became available and affordable to all, not just for the rich. With a more educated population, manufacturing and services sector took off in a big way. Increased demand for labor in manufacturing and services reduced the surplus labor in the agricultural sector, thus pushing up farm incomes rapidly. Farm productivity improved with greater education and better technology — supplied by the services and manufacturing sectors.

Power and Transportation

The government got out of infrastructure businesses such as power and transportation. The railways were transformed beyond belief. India's railways became the world's largest and the most modern. The government got out of electric utility business. Lack of adequate power had been a major brake on India's progress. With that brake released, India's population was finally able to live comfortably and work efficiently.

All of part 1 of this monograph is a fantastic dream, of course. But we know that it can be a reality — if we make those few changes simultaneously. In part 2, we look at the specific sectors of change in some detail. These are education, energy, urbanization, transportation, and the development of rural populations.

Energy

For energy, India has to invest in R&D. For a long time, India has been a follower, not a leader, in the development of technology. India, for the first time, has the opportunity to be a leader. India

can be a leader in developing solar energy. China has taken a leadership role here as well but India still has a chance to overtake China in this case.

The investment required will be high but the returns on it will be phenomenal. Besides, India does not have an option not to move to alternative energy sources. The peak of oil is over and the future will be non-oil energy. India can either develop the technology itself and license it to the rest of the world, or it can do the usual thing of begging to buy technology that others develop (as it did in the matter of nuclear energy technology from the US, the US-India Civil Nuclear Agreement of 2008.)

Transportation

A large country geographically and population-wise, India needs an efficient transportation system for long-distance and for within cities, for goods and for people. That need can be most efficiently met through high speed railways since “steel wheels on steel rails” is more efficient than automobiles or airplanes. High speed rail transportation, unlike aviation, is energy source agnostic – it needs electricity which can come from any source of energy, including solar, nuclear, hydro, wind, natural gas, coal, and so on.

However, the government has to get out of its monopolistic control of railways, like it did for general aviation, for the railways to modernize. If it does, the India private sector will make sure that India gets the railways that it must have.

Rapid Urbanization

India has to build new cities. Cities are the engines of growth because they manufacture wealth. The reason is that economic development and urbanization are each a cause and consequence of the other. You cannot have economic growth without urbanization, and you cannot have urbanization without growth. By building

cities that are sustainable, India will provide a migration path to its rural population. The solution to the problem of rural underdevelopment lies in urban development because it alone provides what rural populations, like the rest of us, seek – a way to a better, more productive life.

Development of Rural Populations

India lives in its rural areas. But the goal of economic growth is incompatible with a large segment of the population living in villages, this fact has to change, and this transition has to be made at the least cost and disruption. The proposal here is to seed the growth of cities – by planting “mini cities” in rural areas. It is done by implementing a model for rural development called RISC – Rural Infrastructure & Services Commons.

Other Changes

There are other changes required. For example, labor laws have to be changed. Currently the laws make it hard to fire employees – but that has the effect of making employers wary of hiring employees. Those labor laws were supposed to help labor but instead end up hurting labor.

There have to be changes to laws that relate to starting a business. Currently it takes the effort equivalent to two years of work to get a business started. Bureaucratic red tape is killing Indian entrepreneurship.

To keep this bit reasonably short, we will not go into all required changes. The aim is to keep the list of suggested changes short while giving the general flavor of what would have to be done.

New Policies Need New Policy-makers

To change India’s destiny, policy changes are required. To get net policies requires new policy makers. New policy makers mean

new politicians. New politicians require voters to change their behavior. Change in behavior follows change in awareness. So at the base of it all, for India to change course, the people of India have to have a better understanding of how the system works.

Understanding is necessary but not sufficient for bringing about change. We have to act as well. One area in which Indians – especially the middle class – have to act is at the elections. The middle class does not get into voting very much. They think that their votes don't count, which is a self-fulfilling expectation: they don't vote because their votes don't count, and vice versa. It is a chicken-and-egg problem, with a bit of "multi-person prisoner's dilemma" thrown in.

United Voters of India

Informing voters about the issues and getting them to vote is a bit like herding cats. Economists call it a collective action problem. Thankfully there are ways to solve it. In part 3, I present the case for a group called the "United Voters of India" (UVI) which will get the urban middle class voters to stand up and be counted.

The urban educated middle class holds the key to India's future. The rich upper class has made it good in the present setup and therefore has little incentive to alter the status quo. The poor lower class would welcome change but are too busy struggling to meet their short-term needs to worry about the long-term.

The middle class has to organize and collectively act to bring about change. They have the power to alter the outcomes of elections by, first, making sure that they vote and second, that they vote strategically. If they express their demand for competent candidate by offering to vote en bloc, political parties will be forced to meet that demand – or else lose at least some of the elections. The middle class can make a difference at the margins, and within a few election cycles bring about change in the quality of the elected officials.

Though Hard, We Must Do It

In the ultimate analysis, we have to solve our own problems. No one else could, or even should, be expected to. John Kenneth Galbraith, economist and former US ambassador to India, called India a functioning anarchy. He explained what he meant by that in an August 2001 interview. He said,

“I wanted to emphasize the point, which would be widely accepted, that the success of India did not depend on the government. It depended on the energy, ingenuity and other qualifications of the Indian people. And the Indian quality to put ideas into practice. I was urging an obvious point that the progress of India did not depend on the government, as important as that might be, but was enormously dependent on the initiative - individual and group - of the Indian people. I feel the same way now (as I did some forty years ago) but I would even emphasize it more. We’ve seen many years of Indian progress, and that is attributable to the energy and genius of the Indian people and the Indian culture.”

What we have to do is going to be very hard. It is never easy to change a situation so terribly wrong. But we will succeed because we have the energy and genius we need, and we have a culture of winning against the odds.

Our parents and grandparents struggled for a decent living. We don’t want our children to face the hardships they faced. We have to be the ones to transform India and we have to do it now. Think of a time in the future when a youngster — perhaps your child — asks you, “You saw what dire straits the country was in. You knew what needed to be done. Did you do anything?” And you will be able to look that child in the eye and answer, “Yes, I did my best. I did it for you.”

Part 1

The Dream

Address to the Class of 2040

Remember that you are at an exceptional hour in a unique epoch, that you have this great happiness, this invaluable privilege, of being present at the birth of a new world.

Sri Aurobindo

Stand up, be bold, be strong. Take the whole responsibility on your own shoulders, and know that you are the creator of your own destiny. All the strength and succour you want is within yourself. Therefore make your own future.

Swami Vivekananda

Chapter 1

The India Miracle

Material things are not to be despised – without them there can be no manifestation in the material world.

Sri Aurobindo

DEAR GRADUATES OF 2040:

You have all come a long way since you entered college. You have matured in ways that you could not have imagined just a few years ago. In four years you have prepared for yourself a sound foundation upon which you will continue to build for a lifetime. You have a lot of building to do and this foundation will serve you well.

Like India, You've Come a Long Way

You have the ability and the opportunity to do such things that neither you nor I can foresee. The world has been changing at an ever accelerating pace and this will only increase as you go through life. You have to be prepared to meet that change enthusiastically with an attitude of courage, hope and dedication.

The major theme of our talk today is change and economic development. Let me begin by reminding us of the changes that we have seen.

When I stood in your shoes in 2010, thirty years ago, I lived in an India that was not the India you see around you today. India 2040 is totally and unrecognizably different from India 2010. India has changed in the last few decades much in the same way that you have changed: developed and become more able to meet the future.

As you can see around you, India is a developed country of 1.5 billion people. But back in 2010, it was an extremely poor, impoverished, underdeveloped country of 1.2 billion. We will talk about why and how that transformation happened. We will talk about how that change took place in a short time — in less than a generation. In our brief inquiry into that question, we will touch upon many ideas. We have exciting things to talk about.

Now India is free from poverty, malnutrition, illiteracy, underemployment, and civil strife. Most importantly, India is a country of free people. In 2010, Indians were really not free in all senses of the word. They had a degree of political freedom but economic and personal freedoms were denied to all in principle, and only the rich had economic freedom in practice.

India is Rich

In India today, material deprivation is a thing of the past. But in 2010, half the poor people of the world lived in India; half of India's children below the age of five were malnourished; illiteracy was 40 percent; around half of the working population was underemployed; agriculture related labor accounted for around 60 percent of the employment, and agricultural wages were so dismal that tens of thousands of farmers committed suicide. Organized labor was only 7 percent, as opposed to today's 70 percent.

India today has a highly urbanized population. Seventy percent of Indians live and work in cities and towns, and only 30 percent in rural areas. In 2010, those numbers were inverted. As a consequence, most Indians work in the manufacturing and services sectors. In 2010, sixty percent of the labor was in agriculture, as I mentioned before. Now only ten percent of labor is in agriculture, and their productivity so high that India is not only food sufficient but is a net exporter of food around the world.

India is an Economic Giant

India today is a manufacturing hub for sophisticated products – from high technology such as computers and spacecrafts, to hand crafted goods such as jewelry and high fashion clothes. India's labor is highly productive and therefore their income in real terms is over sixteen times what it was in 2010.

In simple arithmetic, with 10 percent annual growth rate, income doubles in seven years. So in 26 years, starting with a \$1,000 per capita annual income, Indian per capita annual income became \$15,000. The poorest people in India today have the standard of living that only the upper middle class could afford in 2010.

World-class Infrastructure

Today India's infrastructure is not just world-class, it is a class apart. We have the best public transportation system of any major country in the world. Our cities are not congested with pollution-spewing vehicles like before.

Our railways, which is the backbone of long distance transportation of goods and people today, leads the world in speed, efficiency, and safety. Our passenger trains average 250 kms an hour, and our express trains take you from Mumbai to Delhi, a distance of 1000 kms in four hours flat. I remember when

I graduated, the average speed of Indian trains used to be 40 kms an hour, and it used to take 16 hours by the fastest train between Mumbai and Delhi.

Abundant Power

I am certain that none of you have ever seen the lights fail due to a shortage of power. You may find it hard to believe that in 2010, power shortage was so severe that around 98 percent of Indians did not have uninterrupted 24x7 power supply.

The poor – which by our standards of today means 90 percent of the population of 2010 – had to just take what they could get and those of the rest who could afford it had diesel generator sets. Today electricity is universally available, abundant and the supply is totally reliable. Electric power in India is cheapest in the world and it powers our globally competitive manufacturing sector.

Our Cities are Green

Today every Indian takes clean drinking water and sanitation for granted. But did you know that in 2010, only five out of 100 Indians had indoor plumbing and 800 million Indians did not have access to reasonable toilets? Cities were choked with garbage, water was undrinkable, and the air was polluted with exhaust and the use of dirty fuel for cooking.

We created new cities. Indian cities today are clean, pollution free, and green. Our cities are healthy and so is our population. Life expectancy matches those of the richest nations. In our cities, parks and recreational areas are scattered around within walking distance. Our small towns and the few remaining villages are tranquil places for relaxed living. Crime is not an issue in the country.

Our Education System is Excellent

India's educational system has changed, to say the least. Every Indian — young and old — has equal opportunity to attend school and college today. Everyone has the opportunity to have life-long learning. Life-long learning is critical for two reasons: first, the world is changing so fast that there are always more things to learn. Second, life expectancy has increased so much that multiple careers are common.

When you entered college four years ago, you took an entrance test. That test was designed to help you assess your strengths and weaknesses. It helped you decide which discipline you should enter and which subjects you should study. It was a test to help you, not to keep you out of college.

But in 2010 and before, the test were “weed out” tests. The supply of college seats was so limited that only a small percentage of students could be accommodated. The tests were designed to keep people out of college. The Indian Institutes of Technology rejected 98 out of 100 who wanted to study in them.

Our Education System Was Hell

There used to be coaching classes to help students pass those “entrance exams.” What boggles the mind is this. The most successful coaching classes had their own entrance exams. So there were coaching classes to help students pass the exams of the coaching classes which helped students to pass the entrance exams of colleges.

Even getting into kindergarten was a problem. Only the rich and those who had influence could get into good pre-primary schools. People had to give “donations” to get their children into schools.

Peace and Tranquility

We live in a peaceful India today. There are no civil unrests. India's 30 states are more or less equally prosperous. It is unimaginable

today that any state would even think of leaving the union. But in 2010, it was a different story. The country was divided along many fault-lines that India had the misfortune to have: caste, religion, language, and so on. These were cynically used by vested interests in India and abroad to fracture the country.

A Country of Honest People

India's economy continues to be one of the most rapidly growing and modernizing today. It has maintained an average annual GDP per capita growth rate of around 10 percent for the last 26 years. India is today near the top of the Human Development Index but in 2010, it was stagnating in 124th position.

Transparency International rates India as one of the least corrupt countries today. It has come a long way since then when it was rated as one of the most corrupt. Around 2010, corruption was so rampant that it used to be measured in billions of dollars, and it was estimated that the around \$1,500 billion of black money was stashed away in Swiss and other off-shore banks.

Today India is financially secure. Its bank balance looks good. In terms of external trade, the figures are exciting. India's share of world trade today stands at an impressive 20 percent – that's up from 2 percent in 2010. India's foreign reserves are \$1 trillion dollars. India's public debt is among the smallest in the world.

Proud to be Indian

You and I are extremely proud to be Indians. You are lucky that you were born in India. Aside from the economic prosperity of today, you are the inheritors of one of the world's most enduring and deep civilizations. India's cultural treasures are second to none. It is all yours to enjoy, cherish and preserve for your children. India is a great place to live in today. What is more, India is one

of the favorite destinations of the world. More than 100 million people visit India annually for vacation and for understanding first hand our deep and ancient culture.

We will leave out the details of how much India has changed since the time I graduated from college 30 years ago. You know what India is today and some of you must have read the modern history of India. I have only touched briefly on just a few of the amazing positive changes that have happened in India over the past quarter century.

The Start: Quest for Freedom

Now let's briefly ask when the changes started and how. They began just a few years before most of you were born. Those changes are therefore just about as old as you are. We all appreciate that our material conditions have improved beyond the expectations of those who brought about the change. But that is not all.

The greater and the more important change is the freedom we enjoy now. Then people were not really free and what was worse, people thought that they were free when in fact they were not. As Ram Dass pointed out, "If you think you're free, there's no escape possible." The illusion of freedom is as good a prison as ever constructed.

In the past, Indians had to get permission from the government to do things. Free people do not have to seek permission from their government. People are not the servants of the government but rather the government is their servant. To put it in other words, the people are the principal and the government is their agent. The Indian government during the British Raj was of course the principal and the people its agents. It was a master-servant relationship. That relationship did not change after 1947 and the government continued to be the master. But after 2014, there was a revolution in the people's perception of their situation.

Realization of the Truth

The revolution began when people finally understood that they were in bondage. That's always the first step to freedom. While freedom is in itself an end, it is also a means to material prosperity. No country has ever prospered without its people being truly and comprehensively free.

Freedom allows change, and consequently growth and development. You are the children of freedom and change, and growing up free in a world of change is what makes you so wonderfully adapted to grow and prosper. So it is natural for you to ask this question. How was it possible that within just one generation, a country which had stagnated for so long, both before and after political independence, that India changed so radically?

Economic Policies Matter

Pause for a bit to consider the real import and meaning of that question. India is a very large country. It is larger than all the Western European countries combined. How could it change so fast? What happened? And why did it happen when it did rather than in the mid-20th century, closer to the time of its political independence from Britain? What was it that was keeping India chained?

What kept India chained for so long were bad economic policies. Milton Friedman said in a speech in 1963 — just a few years after the British left and into the “British Raj 2.0” — that “the correct explanation for India’s slow growth is in my view not to be found in its religious or social attitudes, or in the quality of its people, but rather in the economic policy that India has adopted; most especially in the extensive use of detailed physical controls by government.”

Policy Changes Led to the India Miracle

Therefore it was policy change that led to what is now called the India Miracle. It was a transformation the likes of which the world had never seen before. We will have to talk a little about history, and a little about economics, and a little about technology. But most of all we will have to talk about the transformational power of a handful of motivated people. People just like you and me but powered by a special drive for freedom. That's where we will find the answers to those questions. It is important for us to know this since our ability to succeed in a world of change depends on how well we learn the lessons from our past.

India has changed so much that you probably never heard the word "liberalization." The word has at its core the idea of freedom. Once upon a time just a generation ago, it was a much used word in the context of the Indian economy. There were people crying out for the liberalization of the economy. Strange thought it may seem to you today, they were opposed by many. You may marvel that there were people who opposed "freedom" – remember that is what liberalization means – and who were determined to keep people from economic freedom. The people who opposed freedom were the people who stood to gain by continuing to keep India in bondage.

Comprehensive Freedom

Free people like yourselves don't have to fight for freedom. Therefore you take all your freedoms for granted and don't have to cry out for freedom. The answer to the question about what changed that transformed India in one word is "Freedom."

There are different kinds of freedom. Broadly speaking, they can be classified as personal freedom, economic freedom, and

political freedom. A few sufficiently advanced societies enjoy all three. Their prosperity is both a consequence and a cause of these freedoms. Other countries deny some or all of these freedoms to their citizens, and usually the consequences are understandably negative.

Only Political Freedom in 1947

India gained political freedom from British rule in 1947, nearly one hundred years ago. But India continued to be chained and denied economic and personal freedoms even after independence. India had to wait till 2014 for them. The economic liberalization of India is a story that will be cited by historians for centuries to come.

India's political freedom after 1947 was real enough in principle but it was not real in the practical sense. When a very large segment of the population is denied economic freedom, they become materially impoverished. Materially poor people subsisting on public handouts are not free in any meaningful sense of the word. They had the political freedom to exercise their franchise but in truth, they were constrained by their material needs to be subservient to those who promised to give them hand-outs.

The relationship between human rights and economic freedom is inseparable. Economic freedom flows from human rights, such as the right to property, to enter into voluntary transactions, the right to economically compete and cooperate freely with others, and so on. Human rights are, of course, an end in themselves but additionally they lead to economic prosperity because they are consistent with economic freedom.

It is easy to understand why economic freedom was denied to Indians during the colonial period. What is remarkable is that even after independence economic freedom was not a reality.

Poverty Due to Policy Mistakes

India was poor because the governments made wrong policy choices. Policy mistakes are not mere academic abstractions. They have real world implications. Think for a moment about the immense suffering those mistakes caused. Hundreds of millions of people were born in India who did not have a chance to have a decent, humane existence.

Hundreds of millions of children were born under-weight, tens of millions of children died as infants. Think of the terrible anguish of the parents. Hundreds of millions of children grew up malnourished and stunted, hundreds of millions never saw the insides of a school, never had access to any of the wonders of the modern world, and passed away into the great beyond after leading Hobbesian lives: nasty, mean, brutish, and short.

In 2010, our estimate of the number of malnourished underweight uneducated children in India would be of the order of about 100 million. They did not grow up to be productive members of society, if they grew up at all. Think about it: 100 million. To put that number in perspective: that's more than the population of many large countries around the world today.

Political Freedom Follows Economic Freedom

In an economy which produces too little to provide adequately for the material needs of all its citizens, the desperate need to keep body and soul together trumps all other needs. Political freedom is merely an abstract notion for people who are hungry. It was economic development – which itself is a consequence of economic freedom – that made the political freedom of India real. India gained economic freedom in 2014 and only after that did political freedom become meaningful and a practical reality for the masses.

Personal Freedom

India's personal freedom followed soon after. Personal freedom is the freedom to live your life the way you want to. It encompasses such notions as the right to be left alone, the right to privacy, the right to determining who you wish to associate with, whom you marry, where you live and what you work at. It means you decide what you wish to read, what you wish to watch and listen to. It means that someone in the government does not decide what you are allowed to watch or read.

Personal freedom must include the freedom to express your own views and listen to others' views. India had freedom of press - meaning specifically the printed word - even during the British colonial rule, and it continued after independence. Curiously though, there was a prohibition on the use of radio for the dissemination of news and the government had a monopoly in that regard.

One explanation could be this. The majority of Indians, as late as in mid last century, were illiterate. Freedom of the press is an abstract concept with little real world meaning to people who cannot read or write. The government could rest easy that a free press really could not get the people stirred up. But even illiterate people can be persuaded by the spoken word broadcast over radio. Therefore they disallowed the use of radio for anything other than songs and loose chatter.

You all enjoy these personal rights but the generations before yours did not have them. They were treated by the government as if they were immature, irresponsible children. The government frequently banned books and movies clearly implying that the people lacked judgment.

People were denied the right to choose in many spheres of their personal lives. The laws were out-dated and irrational. Most of the laws were made during the British Raj 1.0 and continued to be in force during British Raj 2.0. The laws were such that the

balance of power was with the government and stacked against the people. More about the genesis of that in a bit.

Struggle to Get Government Handouts

Since the government held most of the power and the people were dependent on the government for handouts, there was a constant struggle by various groups to gain favors from the government. The groups competed for government handouts and the token of exchange was their votes.

It was the politics of divide and rule, a strategy that the British had employed with enormous success, and those who inherited the government from the British saw obvious benefits for themselves in continuing that tradition. Politicians cynically calculated which vote groups were most valuable to them and would favor certain groups over others — which inevitably led to two mutually reinforcing bad outcomes.

Engineered Social Divisions

The first unfortunate outcome was that the country was socially divided. The government routinely pitched groups based on caste or religion against one another. This led to frequent clashes and sometimes violent riots. The second outcome was economic division. The government would tax the productive segment of people — which was of course small — and give handouts to the unproductive segment of the people — which was large. This created a divide between those who worked hard to create wealth and those who did not.

The government kept the poor trapped in their poverty since it was an easy way to ensure their support at the elections. It takes very little material goods to bribe extremely poor people. Governments find poor people much more pliable than people who have the means to manage on their own. In a sense, the

government engineered poverty so that the ruling class — namely the politicians — could have control over the people. But the consequences of this scheme for the welfare of the country were dire and heartbreakingly tragic.

Planned Perpetual Poverty

You have no idea what it feels like to be chronically hungry. If you ever skipped a meal, you knew you will make up for it within a few hours. Hundreds of millions of Indians, especially tragically children, used to be chronically hungry. Hunger among children in their formative years meant that they grew up mentally and physically stunted, and consequently could not reach their productive potential. India's poverty was on an endless cycle of hunger and stunted growth.

The government planned perpetual poverty. We called it "PPP" in short. Poverty in the 21st century is not a natural state of any economy. It has to be engineered. This they did successfully, as evidenced by the fact that for around 70 years after independence, poverty was India's most enduring defining characteristic.

You may ask why did the government engineered poverty on such a large scale? Wouldn't it have been better for them to engineer prosperity? The answer is simple. Engineering prosperity is a long-term endeavor in the sense that the effort has to be in the present but the payoffs appear years, often decades, into the future. People who are elected into office for short terms don't have an incentive to look ahead when doing so would mean losses in the short term. Politicians have to make money in the short time that they have in office. Let us talk about that next.

Chapter 2

The Cycle of Poverty and Division Ended

The two malignant outcomes of the politics of divide and rule – economic and social divisions – were mutually reinforcing in that they were bound together in a downward spiral. The government fragmented the society into many segments and that led to general impoverishment; which increased the economic inequality between segments which then led to greater strife, and so on.

But all that changed in 2014 when Indians finally gained economic and personal freedom. It was a freedom movement and it finally gave meaning to political freedom, the freedom they had nominally had since 1947 but had never been empowered to enjoy. Today we can celebrate 2014 as the year of India's Real Freedom.

Let's briefly review what happened and why.

Breaking the Cycle of Corruption

Change is not generally welcomed by people. We like to maintain the status quo for as long as we can. But when things become totally unbearable, even the most lethargic people take action. Revolutions happen when the old ways of living become

absolutely intolerable. For India, change had been a long time coming but it was not until the people were staring down at the abyss from the edge of the precipice that things finally changed for the better.

If you review the situation around 2010, you will probably react with shocked disbelief. Consider the level of corruption. Every other day, yet another “scam” involving billions of dollars would come to light. It was not just your everyday petty corruption such as bribing a local official to overlook some minor matter. That petty thievery was so pervasive that it did not evoke any comment or surprise. It was as much a fact of life as air or water.

The mega-scams we are talking about were quite different. That was corruption of astronomical proportions that is hard for people to fully comprehend. They involved politicians, naturally. But politicians cannot act alone. They were joined in the looting of public resources by industrialists, by newspaper and TV journalists, by judges, by bureaucrats, and even celebrities.

These scams involved such diverse areas as animal feed, government tenders, grains such as rice and wheat, public distribution systems, radio spectrum, defense contracts, mining rights, real estate deals, major purchases of equipment from abroad, you name it. There was no segment of the economy that was untouched by massive corruption that involved people at the highest levels.

Government Engineered Scams

You may ask if there was a common thread that ran through all these cases of high corruption. Yes, indeed, there was. Regardless of which sector of the economy that a particular scam was in, the government was always involved.

If you think about it for a moment, this makes absolute sense: because the government was involved in practically every sector

of the economy. You probably have heard of the “license - control - permit - quota” raj. Let me remind you what that was all about.

License Control Permit Quota Raj

The Indian government was inextricably involved in the Indian economy. It controlled all aspects of the economy. It was into the production of such diverse goods and services as electronics, railways, telecommunications, radio and TV broadcasting, aviation, mining, heavy machinery, petroleum refining and retailing, education, housing, medical care – it was an unending list.

You could not avoid the government meddling in anything you did. Before you could do anything, you had to get permission from some government official, often half a dozen of them. The government told you who you could hire, what you could pay them, if you could fire them and the rest of it. In some cases, the government even forced private sector companies to hire people based on their caste and religion. It was an odious and pernicious government.

Government Control of Education

Just to give you an example that you would appreciate, let’s consider education. The government decided who was allowed to run educational institutions, what was to be the capacity, what was to be taught, who could be employed to teach and how much they were to be paid, how many students of particular segments of the population could attend, how much tuition fees could be charged, what was going to be in the examination, when the examinations would be held, what was considered appropriate passing grade for whom.

The outcome was a severe shortage of quality educational institutions. Remember that in a free system, shortages do not

persist. For persistent shortage of anything, you have to engineer the system. The shortage of educational opportunities was engineered because that allowed the government officials – the politicians and bureaucrats – to extract profits, and for handing out favors to specific groups in exchange for their support.

The government made getting an education a privilege that only it had the power to grant. Kids like yourself had to needlessly spend years during their high school years just preparing for entrance exams, which as we noted before did nothing but select a very small percentage from the applicants and reject even quite well-qualified and able students.

Government control of and interference in education was the reason that the supply was low, and resulted in poor quality education and unaffordably high costs. The same story can be repeated in every area where the government interfered. Fortunately for you and a hundred million others like you, the government was forced to relinquish its control on education.

Entrepreneurs in Education

How did all that change? With economic freedom, entrepreneurs entered the education sector and radically transformed education. From an “education deficit” state, India became an education surplus state. In the past, Indians students used to go abroad for higher education and very few foreign students came to India. Today while India still “exports” students, the “import” of students is in the tens of millions. India is a destination for higher education and the Indian economy gains hundreds of billions of dollars providing educational services for the world.

Freedom from Government Control

Let’s take another example of what happens with governmental withdrawal from being in business that it has no reason to be in in

the first place. Consider the railways which we mentioned a short while ago. Trains were overcrowded, the speeds were pathetic relative to the rest of the world, fatal accidents involving hundreds of lives every year were routine. That's not what we have now. Our trains now are safe, clean, affordable, and fast. In 2020, the railways gained freedom from the government.

You may ask, did the government let go of any sector of the economy before 2010 and what was the result of that "liberalization." Yes, indeed. I will mention two areas. First was civil aviation.

Freeing Civil Aviation

The government had a monopoly on commercial air travel until around 1990. Its two public sector airlines – Indian Airlines for domestic travel and Air India for international travel – were mismanaged, lost billions of dollars of tax payer money, service was shoddy and supply was limited to the extent that you had to sometimes get a recommendation from a high ranking politician or bureaucrat to get a ticket.

With liberalization of the aviation sector, private airlines took to the air. Some of them became known around the world for service quality, safety and comfort. Some of them are still around. The competition in the market even forced the public sector airlines to improve. The public sector Air India (created in 2008 by merging the international and domestic public sector airlines of India into one) continued to lose billions of dollars every year. What that meant was that the poor of India who never ever flew Air India were paying for its mismanagement. Fortunately, it was finally privatized in 2015 and it turned profitable soon after.

The Telecom Revolution

The other important example of sectoral liberalization prior to 2010 is the telecommunications sector. I don't have to tell you how

important mobile internet is to you today. Your mobile phones and always available internet access is a utility that you use nearly all your waking moments for education, entertainment, social interactions and so on. But it was not this way before the 1990s.

The government had a monopoly on telephone services. Waiting time for getting phone service was – wait for this – around 10 years. Some people applied for a telephone when a child was born, hoping that they will get a connection by the time the child became an adult.

The telecom sector was liberalized in the mid 1990s and in a few short years India was adding 10 million telephone subscribers per month. Today everyone has a mobile internet connection. To appreciate how dramatic that change was you have to know that the government telecom company had installed only 20 million telephone lines in the entire period before 1947 and 1990.

It used to be that the rates for phone calls in India were one of the highest in the world. By 2010, rates were the lowest in the world. The explanation for this reversal lies in market competition by the private sector telecom companies. This underlines one of the fundamental truths of economics: markets work.

The Broadband Revolution of 2015

The change in the Indian broadband access market appeared much later than in the telephony market. What used to be unaffordable high prices for internet access, dropped by orders of magnitude in 2015, and so the average citizen was finally able to get online. That increased efficiency in all sectors of the economy.

As you know, since 2014 the government has liberalized the economy fully. The government is no longer in the business of business. The private sector is the appropriate agency for business. Freedom, as I mentioned before, is critically important. Economic freedom was one missing critical bit and once that was attained, the Indian economy took off.

Prosperity as Freedom from the Government

You must remember this: The prosperity that you enjoy in 2040 — the prosperity that was denied to your forebears for generations by the government — is to a very large extent a result of freedom from government.

To be more precise, the government's withdrawal from interfering in the economy provided the space for the entrepreneurial talent of Indians to create the country that you live in today. Freedom from oppression is a deep drive in all humans, and Indians denied freedom for so long were especially charged to make immense leaps when they tasted complete liberty for the first time in modern history.

Government As Referee, not Player

The question naturally in your minds then is what is the role of the government. The answer is: look around you and you will see that the role of the government is to provide the things that it provides today.

You see that the government provides a number of very critical things, and it does so efficiently and effectively. It is into law enactment and law enforcement through its courts and its legislatures. It is into providing external security through the armed forces. It runs a central bank whose function is to regulate money supply, regulate banking and other financial institutions, and control inflation.

In other words, today the government acts as a referee, not as a player. It provides a level playing field for all, a platform for the big games of society. It does not, as it previously did, get into the game itself and make all the rules for it to win at the expense of us all. What we before is summed up in the old Hindi saying, “jab raja vyapari, toh praja bhikari” — which loosely translated means that the citizens are reduced to begging when the government gets into business.

Today we all know that the big problem we had was that the government meddled in all aspects of our lives, public and private. It was a jack of all trades and naturally it could not be master of any. Because it was into areas where it had no competitive or comparative advantage in, it was unable to provide those core functions that are so necessary for a country to function.

The Legal System

Let me illustrate the importance of the government actually doing its job. You know that as a citizen of India of 2040 you can approach the courts to settle any dispute. You know that if you do that, your case will be heard within a couple of months at the most and the judgment will be delivered shortly thereafter.

You would fall off your chairs to learn that previously the courts were so overloaded with cases that it often took decades for matters to be heard. Case backlog ran into millions and it was said that even if no new cases were filed, it would take 300 years before all cases were heard.

That one single fact – that India effectively did not have a functioning legal system – itself held back India's economy for decades. You have to appreciate that in any complex large economy, the courts are part of the invisible but vital infrastructure that support every conceivable interaction between individuals, corporations and the government. When courts don't function, or don't function efficiently, the economy stagnates.

The lesson for us is clear. If the government gets into areas that it has no competency in, it necessarily becomes incompetent even in those areas that it must be competent. If the government gets into the business of running hotels and airports – which as history tells us that it did and did very ineptly – then it should come as no surprise that it could not run the courts efficiently since it was stretched too thin.

History Matters, Stupid!

All this surely raises an interesting puzzle. Were people so ill informed or stupid that they did not realize for decades what the proper role of the government must be? What prevented them from getting themselves a government that actually did work for the benefit of the people, instead of a government which appears to have actively been antagonistic towards its people?

That puzzle becomes immediately clear when you consider that India had a colonial government which ruled India till 1947 and understand what happened after that. History matters in the affairs of all – individuals and governments included. India's colonial history explains why the post-colonial government of India did so much to sabotage India's emergence as a developed nation. The outlines of the story are simple, as we will see next.

India was a British Colony

The British, who had come as traders to India, were able to dominate India and turn it into their most valuable colony. India was the "Jewel in the Crown" and in 1857, the queen of England was the Empress of India. India was ruled by a foreign government and naturally the objective of that government was to enrich itself. This is totally understandable since colonial governments are not in the business for altruistic reasons; they are there for their own benefit, which they do by exploiting the economy and extracting from it whatever wealth possible.

Control to Extract and Exploit

If you wish to extract and exploit something, the first thing you must do is to control it. The entire enterprise that the British government undertook in India was therefore geared towards controlling every aspect of India. Indians had to get permission

for everything from government officials. The rules were made to keep the citizens in their place. All the power was vested in the rulers. The laws and regulations were bad for the people but good for the government. Once again, what else would you expect from a colonial power?

Following the end of the Second World War in 1945, the British Empire was running out of steam. The war had extracted its toll. On top of that, colonialism was going out of fashion. India had been mined for wealth for over a century and it was getting harder to extract much wealth out of India. The cost-benefit analysis of extraction just did not add up.

Besides, the Indians had been pleading for independence and it was time for the British to go anyway. So they handed over the keys to the building and they left. Just like that.

The British Left Their System Behind in 1947

The British left without a fight. There was no bloody revolution. No buildings were torn down. Everything stood just as before. The institutions that the British had created to extract and exploit the economy were still there, intact and in good working order. The rules were still the rules that the British had made. The deck was still stacked in favor of the rulers and against the people. What changed essentially was the color of the skin of the rulers. The chairs that the “white sahibs” had occupied were now taken over by the “brown sahibs.”

The changes were cosmetic. The names on the doors changed, not what was within the building. The names of institutions changed – such as from “Indian Civil Services” to “Indian Administrative Services” – but the objectives of those institutions remained the same. The objectives of the government remained the same: to control the economy so as to best extract and exploit it.

That is the genesis of the “license - permit - quota - control” raj we referred to earlier. In 1947 began “British Raj 2.0”, as the rules remained the same as before with only minor changes.

1947: Start of British Raj 2.0

It was good to be rulers when the rules were all in favor of the rulers. That is why the people who took over after the departure of the British found the system not worth changing. They were in power and they controlled the economy for their benefit.

To be sure, there was frequent talk about how the government was doing all it could to eradicate poverty and was for economic development. But for all intents and purposes, the government was no different from the British government in its baleful effects on the country.

From 1947 onwards to the start of the last century, India struggled on. Deepening poverty was the overall theme, even though there were little successful sideshows such as briefly becoming the back-office for the world around the turn of the present century. That was mainly due to labor arbitrage which soon enough ended with technological progress.

Objectives Matter

Let's talk for a moment about objectives and why they matter. If your objective is to become proficient in swimming, you do certain things that are consistent with that objective. Your "policy" is then to keep aerobically fit, engage a swimming coach, study the most effective methods known for increasing your efficiency in water, etc., and do outdoorsy things.

If instead you want to become a physicist, your policies are entirely different. You take college courses in physics and spend hours in learning stuff on the internet, get yourself a tutor or a guide for physics. You don't spend much time swimming at all. The outcome of your policies which were dictated by your objective is predictably different.

Objectives Determine Outcome

Objectives lead to policies, which then in turn dictate the outcome. In other words, the outcome is a function of the objective. Now here's the important bit. One can infer what the objective must have been from observing the policies and the outcome.

I don't need to hear you declare whether your objective is to be a swimmer or a physicist. All I have to do is to note whether you spend more time studying or swimming, and whether you get medals for swimming or for physics papers. If I see you develop a slim swimmers body, I can reasonably deduce that your objective must have been to become a swimmer.

Outcomes Reveal Goals

We care about development and expect the government to take such steps that result in welfare improvement. Therefore, regardless of what the stated goal of the government is, by observing the outcome we can deduce what the objective of the government must be.

To answer the question, "Is the government the type that enriches itself at the expense of the economy?" we have to observe what the outcome is. If the people in government are getting richer and the citizens are not, then it is entirely possible that the government's objective is to extract and exploit the citizens. Was that the case prior to 2014? Let's look at the evidence.

Pre-2014 Development Was Not the Objective

India's per capita annual GDP – which is another way of stating the average annual income of citizens – was \$1,200 in 2010. Relative to the developed countries, this was exceedingly low. Compare that to the United States which had a per capita annual GDP of \$48,000. India not only started out with a very low per

capita income, but instead of catching up with the developed countries or even keeping pace with other developing countries, it actually fell behind.

India could have developed like the other Asian economies did. Take South Korea, for example. In 1950, India and South Korea had nearly the same income per capita. As a percentage of the US per capita income, India was at 7.1 and South Korea was a slightly better 7.6. By 1980, India had shrunk to 6.5 while South Korea had moved up to 24.8. The gap continued to widen. By 1995, South Korea had speeded up to 42.4 while India slowed down to 5.2.

South Korea's story of development indicates that development is possible if the right economic policies are followed. India's story illustrates that development is not inevitable. India lost more than 70 years of economic growth due to bad policies that its leaders imposed on it.

Indians continued to live in poverty. India's leaders – the ones who were responsible for the poor policies that impoverished the nation – prospered beyond belief. By 2010, it was estimated that \$1,500 billion was salted away in off-shore banks by politicians and businessmen. The leaders became rich while the country did not.

What that demonstrates is that the objective of the Indian government was not development at all. Most of the politicians – with only a few notable exceptions – were corrupt to the core. Indeed, being in the government was the most exalted position one could be in. It allowed you almost unrestricted power.

Proximity to Government Determined Success

The government was so powerful that success in business frequently depended on how close you were to that powerful government. There was a nexus between the government and business. Government was in business, of course.

Powerful business leaders were powerful precisely because of their proximity to the government. This was understandably so because the government had the power to control the fortunes of businesses. It was also a two-way street: businesses supported the politicians and politicians supported business leaders as a quid pro quo.

Government Stopped Meddling in Business

There was a sea change in the relationship between the government and the private sector. That relationship started changing around 2015 and was nearly complete by 2025. What changed was that the government stopped meddling in business and business stopped meddling in government.

Remember the reason that business meddled in government was because there was no alternative. Industries that depended on government support had to make sure that they got such people in government that would give them support.

With full economic liberalization, business prospered not because of government patronization but because of the value they created for society. Business profits became a measure of how much wealth they created for society. Relieved of having to expend effort to get the government's support, businesses got down to business.

That was their comparative advantage and thus they were able to create the wealth we enjoy. Every entity has a comparative advantage in something, and doing what we are comparatively good at is the secret of success.

Government Objective Changed to Development

India's success is the result of substantive changes. The change begins at the top: India's success today is the result of a change in the objective of the government. From an exploitative and

extractive government, we changed to a development oriented government. From that change in objective followed a different set of policies. These policies changed the way that the economy worked.

We must explicitly note an important point here. When we use the word “government” we must remember that it is really a collection of people just like you and me. What distinguishes them from us is that they have a specific job, which is formulating and executing public policy.

Government Are People Too

If you get a different set of people in government, they will have a different set of objectives. From those will flow different policies which will lead to different outcomes.

Therefore, the outcome changed for India – it became a developed country from an impoverished country – because a different set of people were elected to become the government. How this change happened is part of our story. It is a story of a small group of people, which is always the case for all change.

People Bring About Change

That small group of people understood that collective action was needed. They started a public education campaign to make the people aware of what was wrong with the country and why. That led to political action by the educated middle class urban voters. That brought about a different set of political leaders to the front.

These new political leaders understood the basic principles – termed “Pretty Good Principles.” These were principles which redress the balance of power between the government and the people, reduce the size of the government, prohibit the

government from running businesses, restrict the government to its core functions, and give comprehensive freedom to people.

The Constitution of India had been amended in 1976 to add the word “socialist” to declare that India was a “socialist, secular, democratic republic.” Forty years later, in 2016, after immense suffering brought about by socialism, socialism was finally discarded and “socialist” removed from the Constitution. The government was no longer wedded to socialism.

Different People, Different Policies

That change is the root change and every other change is derivative from it. Policy changes followed from the change in the government objective. Policy changes severed the unholy nexus between the government and business. Business focused on creating wealth for society, and the government focused on providing good governance.

Policy changes gave people economic and personal freedom. Freed of government control, the natural entrepreneurial nature of people brought forth changes that resulted in our peaceful and prosperous society of today.

Corruption a Consequence of Control

What used to be seen as problems before disappeared without a trace. Fact is that they were not really problems but were actually symptoms of the deeper malaise of government control.

Corruption is an example. Corruption is a symptom, not the problem. The underlying problem is control. Remove the power to control, and you automatically remove the power to extract wealth through corruption. Remove the benefits of power and you remove the incentive for the corrupt to seek power.

Thus another problem which was actually a symptom was labeled the “criminalization of politics.” Criminals entered

politics because politics afforded them the opportunity to amass wealth. The opportunity to amass wealth is directly related to how much control the government has over the economy. When the rules changed and the government no longer had control over businesses, the ability of politicians in power to make money disappeared and with it the incentive for money-grubbing criminals to enter into politics.

Chapter 3

A Small Set of Major Changes

Now it is time for us to briefly review the specific changes on the ground that brought about the Indian Miracle. The first thing you must note is that this was not a very large set. Let's keep in mind that the apparent problems that India faced were myriad. I say "apparent" because as I mentioned before, they were really symptoms of a small set of deeper causes.

As it always is, a small set of causes can lead to a variety of unhealthy symptoms. All these symptoms may appear to be independent of each other, and therefore unrelated. But in reality they have a common genesis and therefore by addressing those small set of common causes, it becomes possible to remove all the symptoms simultaneously.

Solving Problems Simultaneously

The second thing we must note is that the causes had to be addressed simultaneously. It is similar to when you are cooking a meal. You have to, of course, sequence some actions but you also have to put many of the ingredients simultaneously in the pot and cook them together. If you are missing some essential elements, your dish will be a disaster. Similarly, to fix the economy, you have

to address many of the underlying causes of underdevelopment simultaneously.

Let's briefly talk about that here. Let's take education, and narrow the focus to engineering and scientific areas. In any functioning modern economy, there is a need for a large number of engineers and scientists. Suppose the education system is incapable of producing sufficient numbers of engineers and scientist. That is, a supply-side problem.

But even if you fix the supply side by increasing the number of graduates, you could still have a demand-side problem – not sufficient demand for scientist and engineers. How does one have a demand-side problem? It could be because of a shortage of manufacturing and research jobs.

So why would there be a shortage of those jobs? Maybe because of a lack of demand for manufactured goods. But demand for goods is a function of how much money people have to spend on goods. That itself is a function of how many people are working in producing goods and earning an income. If employment opportunities are limited, so will incomes be limited, and consequently the demand for goods will be limited, which in turn will reduce the demand for employment.

A Web of Interrelationships

Therefore if you merely increase the capacity to produce more engineers and scientists, without doing what it takes to increase the demand for them, you will get under-employment and unemployment among engineers and scientists. There is a circularity in this story. You can thus have either a virtuous cycle of increasing prosperity or a vicious downward spiral that leads to low production overall. That will in turn feed back into the education system.

What this underlines is that an economy is a web of interrelated activities, each of which depends on the others. If there is a

problem in any part of that web, that disturbance ripples through the entire web.

India Produced too Little

Let's come back to the small set of causes and what was done to change them. India was poor. What that means is that collectively India did not produce sufficient material goods to provide a decent standard of living to its population. Poverty is at a minimum the absence of material goods and associated services.

Goods and services are produced by people, and produced for the people. Agricultural goods lie at the foundation of all production since without food, no one can survive. If everyone is involved in growing food, then of course the best one can expect is that everyone's food needs are met. But people need other goods than just food and someone has to produce them. Therefore only if agriculture becomes sufficiently productive — that is, not everyone has to work in agriculture to produce food for everyone — only then will it release labor for producing other goods.

Manufacturing Matters

That is where the manufacturing sector comes in. It produces goods efficiently and with increasing technological advancement, these can be produced with very little labor. So now you can have some people producing services. These services range from house-keeping and cleaning, to hair dressing to novel writing, to doing scientific research to entertainment.

The economy can be broadly understood to consist of three sectors: agriculture, manufacturing, and services. Agriculture forms the base of the pyramid upon which the manufacturing and services sectors rest. Every large economy has to have a very productive agricultural sector for only then will it be able to afford the other sectors.

Manufacturing provides us with most of the non-food goods — clothes, cars, computers and a million other things — we need. Without a productive manufacturing sector, our standard of living would not be what it is today.

Productive Agricultural Sector

The big problem with India was that it did not have a very productive agricultural sector, which is why 60 percent of labor was engaged in producing food. Therefore it is not surprising that farmers used to be very poor since the income of the agricultural sector was bounded by the food expenditure of the rest of the population. Indian farmers became rich only when agricultural productivity increased to the extent that only 10 percent of the population produced the food required for the economy.

But what about those 50 percent of the labor that was previously in agriculture? Did they become unemployed? The answer is, of course, they did not.

Labor Released from Agriculture

The labor released from agriculture was employed in the more productive manufacturing and services sector. That shift of labor away from agriculture increased average incomes all through the economy. First, since fewer people were in agriculture producing all the food needed, the average incomes went up in agriculture. Second, the labor that moved to manufacturing had higher productivity than what they had in agriculture. So their incomes went up as well.

We are reviewing this to remind ourselves that any developed economy has a small agriculture sector (relative to the rest of the economy). Agriculture is generally done in rural areas. Therefore a largely agricultural economy will be largely rural. Vice versa, a highly productive modern economy is largely urban. The

urbanization of the population is a necessary consequence of development.

India's Urbanization

India's prosperity today in 2040 is to a large extent due to the urbanization of its population. A village-based rural economy cannot be very rich. There are various reasons why not but the single most important reason is that when you have 70 percent of the population living in 600,000 small villages – as was the case for India around 2000 – it is not possible to have a large manufacturing and services sector. These villages typically have a population of around 1,000. For the economies of scale required for manufacturing, you need much higher population densities than available in rural areas.

If you look around you, India is now an urban economy. Of India's population of 1.5 billion, around 1.2 billion are in cities and towns. In other words, India's current urban population is equal to the total population of India in 2010. This means that between 2010 and 2040, around 700 million became urbanized. How did that happen when Indian cities were already overcrowded even in 2010?

Designer Cities

Yes, the cities were overcrowded. The problem was that there were not enough cities in India to absorb the migration of people from rural areas to the existing urban areas. That is where the big idea came in: the creation of new cities.

Cities grow organically. But remember that organic growth does require seeding. The big breakthrough was when the new leadership of India in 2014 decided that India has to rapidly urbanize. So they "seeded" new cities. These became the engines of growth for India.

Before 2010, India had only 11 cities of population above 3 million. Now, you have 6 cities of average 20 million, 60 cities of average 10 million, and 400 cities of average 1 million. Since most of them are new, they are what we know as “designer cities” — cities that were designed to meet the needs of their inhabitants most efficiently and cheaply.

Structural Transformation

India had a structural transformation of enormous consequences, not just some superficial change. It was a change in the way people thought about their role in society.

The transformation of India was catalyzed by a small number of changes. You can separate them into “conceptual changes” and “material changes.” The conceptual changes are simple to understand and they form the basis of the material changes.

Rural Development

The first conceptual change relates to rural development. Rural development used to be thought of as the development of rural areas. The change was to think about rural development as the development of rural populations, and not rural areas.

The urbanization of the population was not just about migration from rural to urban areas. Before the change, the policies were “village-centric” and not “people-centric.” Because of this conceptual change, rural development became a matter of how to develop urban areas so that rural people would have the opportunity of becoming urbanized. The growth and development of new cities was then given the priority that it deserved.

In other words, the answer to rural development — which let’s emphasize is about the development of rural people — lay in urban planning and urban development. This is not at all

a counter-intuitive idea once you study the problems of rural populations.

Infrastructure and Services for Rural People

A quick review of what in part ailed the rural population is appropriate here. People need services regardless of where they live. Rural people are no different from other people in that they too need to trade, have access to education, entertainment, medical attention, government services, telecommunications, and a host of other services to live a full life.

Providing these services requires human capital, financial capital and infrastructure. Given resource constraints of all types, it is not possible to provide economically and efficiently in very small villages. We have to remember that India's rural population lived in 600,000 villages. Attempting to bring those services to all those villages was an impossible goal, and naturally they failed when they tried to do that. The alternative was to bring these services to a cluster of villages. The idea that worked was to create centers called RISCs – Rural Infrastructure & Services Commons – which provided all those services at locations which were accessible by the population of around 100 nearby villages.

Because the volume of services required by the aggregate population of those villages was significant, the supply was also large. This required infrastructure – the buildings, power, telecommunications, water, sanitation, security – for supporting those services could then be provided at a scale that made it economically viable. About 5,000 RISCs were built and they kick-started the rural economy by catalyzing economic growth.

Employment Only as Means, Not an End

The second conceptual change had to do with employment and income. Before 2014, there was an obsession with employment.

It was basically a confusion of ends and means. Employment is a means of getting an income, not an end in itself. All of us care about income, not wage employment. The end is income. And income basically is a share of the production. So the first concern of policies aimed at reducing poverty has to be the increase in production.

Production precedes its distribution. If the economy does not produce enough for everyone to have a decent share, it does not matter how equitably the distribution is done. The focus on employment caused production and productivity to suffer. With not much being produced by such a large number of people, poverty was inevitable.

Antiquated Labor Laws Discarded

The conceptual move from focusing on employment to focusing on production created the policy changes that were required to produce more. To begin with, antiquated labor laws which increased employment while reducing production were discarded. Economic liberalization was stepped up – specifically in the matter of allowing entrepreneurs to do what they do best.

Before 2000, it took enormous effort, time and money to legally start a business. You had to spend many months full time, get permissions from various government agencies and that required you to pay bribes. The consequence was naturally that very few people actually could start businesses.

Labor in the Organized Sector

The organized sector employed only seven percent of the work force, and much of it was in the public sector. The private sector employment was minuscule. Now you can start a legitimate business in less than a week and most of the work you can do online from the comfort of your own home. As a consequence,

today organized labor accounts for 70 percent of employment in India, pretty much the same as in any other developed country.

You will appreciate the importance of being able to start a business quickly if you understand that all businesses begin as small businesses started by entrepreneurs. Millions of small businesses give rise to a few thousand medium sized businesses since startups have a very high mortality rate: 99 out of 100 businesses fail. The infant mortality rate in business is just that in any competitive market. Then out of these thousands of medium sized enterprises, a small number eventually become big businesses after a number of years. Finally, an even smaller number become large multinational corporations.

Enabling Business Starts

The lesson here is that if you want a number of very successful large corporations, you have to start with a very large number of small businesses. To get that, you need to have millions of entrepreneurs. India had the numbers but it did not have the enabling ecosystem that would help them get started.

When conditions changed, when the government became an enabler of business and got out of the way of business, India naturally produced the mega corporations that produce all the wealth that we enjoy today. Indians freed of government intrusion into business have helped India become the economic giant it is today.

Investing in Research & Development

The third conceptual move related to emphasis on research and development. India used to be what is called “developing economies.” Ironically developing economies did not develop anything new. They just took what was handed down to them from the advanced economies.

While taking what was handed down may have been the only option for small economies which did not have the human resources to create their own solutions, for a large economy like India, this was not at all smart. It continued to keep India dependent on the advanced economies.

With the conceptual change, the emphasis shifted to the research and development in those areas that had the most “return on investment” or “bang for the buck.”

India Solved its Energy Problem

The concrete example of this change in thinking relates to how India addressed its energy problem. The prime minister of India in 2014 set a “moon-landing” goal: to make India the world leader in solar power technology research, development and use. The results were spectacular.

By 2030, India was on its way to near total energy independence and today India not only does not import any energy from abroad, but instead earns \$1 trillion every year in globally licensing the solar technology that it developed.

India’s total investment in research and development of solar technology was only \$500 billion over a period of 10 years. I will leave you to do the arithmetic on the return on investment on that. But let me recount the side-effect of that research and development investment.

Demand-pull Led to Greater Human Capital

Institutions were created in the private sector to do the research. That meant that the demand for highly trained scientists and engineers went up. That pulled in people from all over the world, many of whom were non-resident Indians. It also gave a boost to the newly formed universities in India.

The demand for human capital – highly skilled scientists and engineers – in turn pulled the colleges and universities to

excellence. In short, higher level educational institutions received a boost. The greater demand for skilled human resources led to greater return on investment in education. More highly paid jobs for highly trained people meant more people went on to higher studies. This in turn made schooling more attractive, and the trickle-down effect was that India today is 100 percent literate and highly educated.

Material Changes

The conceptual changes led to material changes. Now let us review those. The first material change had to do with energy. The universe runs on energy. All processes in the universe require energy. The story of civilization is the story of how humans have discovered more and efficient sources of energy.

The single most important material constraint for economic growth is energy. Without sufficient energy, development is impossible since energy is required for every economic activity – from producing and processing food, to transporting people and goods, to manufacturing and services. For a civilization to exist, not to mention prosper, large quantities of energy has to be available.

India Became a Solar Power Superpower

Around 2010, energy was getting very expensive. The age of petroleum had fueled the growth of the advanced industrial economies but that age was drawing to a close. Cheap fossil fuels were things of the past. Large reserves of coal were still available but coal was not a clean source of energy.

Around three billion people needed alternative sources of clean energy for their economic development. A third of that population was in India. India did what was the most sensible thing. India developed the most efficient and clean source of energy: solar power. It became a solar power superpower.

Rail-based Transportation System

The second material change was that India decided that its needed transportation system will be based on rail. India is a large country, geographically as well as population wise. Unlike the US or Australia, however, it has a very high population density. For moving large number of people and materials between cities, air transport is not suitable.

Besides, as noted earlier, air transportation depends on the use of liquid fossil fuel. Rail transport has two major advantages: it is efficient and it can use electricity for its energy source.

India developed a modern transportation system based on rail, for both for intra-city and inter-city travel. As we noted earlier, today we have extremely fast rail connections between cities. India also has the lowest per capita car ownership in the developed world. That's quite a change since earlier owning a car was as much a necessity as a status symbol. These days it is a status symbol to not own a car.

Building the Rail Infrastructure

Developing the rail transport system was itself a great boost for the economy. Building 10,000 kms of high-speed track cost \$100 billion. But remember that building infrastructure is like putting money in the bank at a very high interest rate. Besides, the other side of spending is income.

The income in building the rail infrastructure accrues to labor, and to industries that produce the inputs to the railways. Building the railways gave millions of people a very good income. India's manufacturing sector got a boost because the demand for locomotives, steel rails and coaches went up.

The modern high-speed railways were the great infrastructure project that made the whole economy grow at a furious pace. There are many forward and backward linkages from such a massive undertaking. It absorbed the skilled human resources

that the country was producing. It powered the scientific research institutions, and it helped develop India's project management and execution skills. As India became a leader in the technology, India was able to export its technology.

Education and Productivity Increases

Now let us quickly see how those pieces fit together. The changes mentioned above were few but they were large and game-changing. They provided the foundation for the India Miracle. All of them had forward and backward linkages that allowed them to pull the economy forward. Let us consider the big picture for a bit.

For a long time, India was stagnating. It had the population numbers but they were not productive and hence India was a poor country. Productivity in the modern world depends on the educational attainment of the population.

In other words, because India lacked skilled human resources, it was backward. This was primarily due to its failed education system. When India's education system gained its "freedom from government", Indians got the education that they had been missing for decades. Rich in human resources, India surged ahead.

Transition from Agriculture

Highly skilled and educated people need suitable jobs. That came around because of India's transition from an agricultural economy to a manufacturing and services economy. The mega-projects — urbanization and a modern rail-based transportation system — absorbed the human resources India produced.

Building new cities from scratch employed directly and indirectly a hundred million people. It takes all types of people to build cities: from architects and urban planners to construction workers. The railway project put another million people to work.

With the increased demand for labor, agriculture became more efficient and productive. That raised income levels of farm workers. With better education levels of agricultural workers, they became better farmers. With better infrastructure – such as rapid rail transportation – wastage was nearly totally eliminated. Before 2010, the situation was dire as around 40 percent of all fresh fruit and vegetable production was lost to spoilage and transportation delays.

Chapter 4

Colonial Hangover & Socialism

The questions that naturally are these: what took India so long? Why did the Indian policymakers not do all these things, say, 50 years earlier? These are very important questions and they are worth addressing.

There are a number of factors which delayed the India Miracle. First was the colonial hangover. India was a British colony for nearly one hundred years. As mentioned previously, the government objective did not change with political independence. Note the qualifier “political.” India’s independence gave people a degree of political freedom but they still did not have economic freedom or complete personal freedom.

Furthermore, post 1947, India’s leadership was seriously misguided and took the wrong turn into socialist thinking. The people who got control over India were people who were good at one thing mainly: to take over power from the British. For the most part they were not accomplished in the kinds of areas that are critical for nation building.

Poor Leadership

They were politicians who were good at getting crowds worked up but did not know how to get the crowds to work coherently towards building a nation. Nation building takes a different skill set, which in their case they did not have. What's worse, these politicians did not even know that they lacked the necessary expertise.

Some were motivated by good intentions, no doubt. But that is not sufficient, especially when the task at hand was so complex since India was a large country. Poor leadership explains quite a bit of why India did not really prosper immediately after independence. They made poor choices which hindered India's progress.

Around the same time, other nations were rapidly developing. All that the Indian leaders had to do was to see how others were progressing on their development agenda and learn from them. This they refused to do. Hubris and ignorance among the powerful is a potentially destructive mix and a sure recipe for disaster.

What's really sad is that these Indian leaders closed India off to foreign trade. India's autarkic regime (a regime not open to foreign trade) was in sharp contrast to the open economies of the East such as Taiwan, South Korea, and Singapore.

Paternalistic Government

The people of India did not understand the mistakes that their leadership was making because the people were largely illiterate and generally uninformed. The people had immense faith in their political leaders and the leaders basked in that faith. The people generally assumed that the government was benevolent and in charge of their welfare. The relationship between the government and the people was that of the ruler and the ruled.

The government was all-powerful and was the giver of grants. It was a paternalistic government. Even the vocabulary

used reveals that relationship. The people called the government “*mai-baap*” (parents) and powerful leaders had nicknames such as “*chacha*” (uncle) and “*bapu*” (father.)

The government treated the citizens as if they were irresponsible, immature children who needed to be told what to do and when to do it. In turn, the citizens expected handouts from the government. To get the most from the government, groups based on religion and caste competed with each other for entitlements.

Votes for Entitlements

That relationship was mediated by the only coin of the realm of democracy: votes. Depending on how large and vocal a voting group was, the government gave it importance. The power of a voting group was directly related to how unified it was in voting, and how diligently they exercised their franchise. The most unified voting group got the most entitlements from the government.

Government Does not Create Wealth

The government was all powerful but it was a parasite. It did not produce wealth; it merely consumed part of taxes it collected, spent some on public goods, and redistributed some bits. It also borrowed heavily and went into massive debt that had to be eventually repaid by the taxpayers.

Part of the taxes the government collected was distributed to various religious and caste groups based on the calculus of what it expected at the voting booth. The tragedy that followed this scheme is easy to understand. As the old saying goes, the government that robs Peter to pay Paul will always have the support of Paul. So if there are more Pauls and few Peters in the economy, the re-distributive government will always be favored at elections.

In general, the government does have a re-distribute role in an economy to help ease any major inequalities. But if all that the government does is redistribution and neglects to help the creation of wealth, then with time people would figure out that working is not all that rewarding since the government takes a major part of the income anyway to give to people who don't work. The incentive is then to spend more effort in getting things from the government and less time actually working to create wealth.

The Creators of Wealth

Not everyone depends on government handouts, of course. The middle class does the heavy lifting. It is also the middle class in any economy which is the prime driver of change and growth. It's the middle class because the really wealthy are doing quite well as things stand and therefore have little incentive to bring about change since they cannot be sure that after the change they will be actually better off than before. They therefore sensibly choose not to mess with a good thing.

At the other end of the wealth spectrum, the poor would definitely like change but are too busy scratching out a living to be able to bring about the change that would be good for them in the long run. The struggle for existence puts a premium on short-term thinking.

It is the middle-class that has the education and the means to bring about change. They are squeezed the most and they feel the pressure of a dysfunctional government most acutely. Positive change is often effected by an educated middle-class that is able and willing to step out and make a difference.

Growth of the Middle Class

India had a very small middle class till near the end of the last century. It was too small to make a difference at the voting booth.

Knowing that their numbers did not stack up very well, they kept away from voting. That was a type of self-disenfranchisement, and a self-fulfilling expectation. Their votes did not matter because they did not vote; and they did not vote because their votes did not matter.

With time, however, two demographic changes occurred. First, the middle-class grew as a percentage of the total population. Second, the middle-class became more educated. But that was not all. There was one more fortuitous development in the world: the dawning of the Age of the Internet.

The middle class grows in any growing economy. During the early decades following India's independence, the middle class grew slowly because the economy was growing very slowly. Then near the end of the last century, the middle class started growing at a reasonable pace because the economy was growing. This was mainly due to the limited liberalization of the economy that India was forced into around 1991. This led to a positive feedback cycle. The growth of the middle class helped the economy grow faster, and that faster growth itself helped the middle class grow even more.

However, just the growth of the middle class was not enough. The middle class was large but was not conscious of its own strength. It was not aware that it had the power to bring about change. It did have a strong feeling that things were not going as well as they should. It knew that things were going from bad to worse in many respects but did not know that it alone had to act to fix things, and that it alone had the capacity to solve the problems of the country. The knowledge of what to do and how to go about doing it was missing.

The ICT Revolution

That's where the internet and the world wide web enter the picture. The information and communications technologies

(ICT) revolution was well under way in the start of this century. Instead of passive consumers of whatever information that the government deigned to give to the citizens, the middle class was now empowered to learn about the world and about their power to effect change.

In the past, information was controlled by the government. India had a degree of freedom of the press – but only in print and television but not on radio. Furthermore, with widespread illiteracy, a free press does not have much meaning. Besides, the government spent huge sums for advertising in newspapers. That was a very handy lever for the government to control the newspapers. Media could not afford to get on the wrong side of the government for fear that it would hurt them financially and make their lives uncomfortable.

The Information Revolution

The mainstream media – the radio, TV channels, and newspapers – was therefore either directly or indirectly controlled by the government. The people largely heard or read what the government wanted. The people were told that they had freedom of press. Education, as we noted previously, was government controlled and therefore what people learned at schools and colleges was what the government wanted the citizens to know. Since what you know determines how you act, the citizens were trapped into a mental prison that was as invisible as it was pervasive.

The internet changed all that. Information became free of the channels that the government controlled. Moreover, the cost of creating, storing, retrieving, transmitting and sharing information dropped precipitously in the early part of this century. Everyone had nearly all the information they needed at their fingertips. All that was needed was a way of transforming the information into knowledge, and then using that knowledge to propel action.

The internet gave birth to the new leaders and empowered them to help the citizens bring about the change that we see around us today. People got control of information and that shifted the balance of power away from the government and in the hands of the people where it rightfully belonged.

Enlightened Leaders

Every age has its own leaders. The nature of the leaders and the source of their power are molded by the age. In the agricultural age, leaders had control over land. In the industrial age, the heads of vast industries had the power to shape the destinies of countries. In the post-industrial age, leaders had an understanding of information and communications technologies.

India's new leaders in the first quarter of this century were children of the post-industrial information technology age. They understood the transformative power of information, and knew how information properly conveyed can change what people know and thus affect behavior. The India Miracle is the most impressive example of a massive economic revolution made possible by the ICT revolution.

Public Education & Awareness

It is important for us to note how ICT was a very critical enabling tool in the India Miracle. First, it was instrumental in a massive public education campaign. Purposeful action is always a function of what we know.

When presented with new information, especially the kind that makes people realize the importance of action, people are motivated to make a difference. You may be quite content to spend the afternoon at the park until a neighbor calls to say that your house is on fire. That new information gives you a reason to act.

The government had persuaded the middle class — through the complicit and compliant media — that India was not doing too badly. There had been improvements in the standard of living of some people following that bit of economic liberalization of 1991.

The people did not know that it was really marginal compared to what was actually possible. On top of that, people did not know why it was that India had stagnated for so long. They had always known that India was a poor country and accepted it as an unalterable fact of nature like the seasons, and that was that.

Better Understanding

Public awareness and education changed all that. People understood that India's poverty and general lack of economic growth and development were the consequence of poor public choices that their esteemed leaders had made. They began to understand that there was a way out of the deep hole that India was stuck in. A new leadership arose which was able to send out the call that India was ready to do what it takes to make India a developed country. The call to action was made and like in the case of a house on fire, people were moved to act immediately.

The process that gave India new leaders began slowly around 2010 but gained momentum rapidly. By 2012, what began as a small group of around a dozen dedicated people grew to thousands of people with a variety of skills and from diverse backgrounds across India. The group was called "Indians for Comprehensive Freedom" or ICF. They mobilized the middle class.

Indians for Comprehensive Freedom

ICF was an advocacy group. Its objective was political change but it was not a political party itself. They deliberately chose to not be a political party. Political parties take a long time to grow. The major political parties had sufficient "market shares"

that start-up political parties did not have any chance of making a significant difference. What ICF did was to work within the system to force change in the existing major parties.

Let's remember that there is a link between the elected politicians and the performance of an economy. People elect politicians. Politicians dictate policies. Policies matter in determining the success or failure of any economy. Indians — even the educated urban people — did not fully appreciate that connection. They voted without fully understanding that what India needed most was good policies, and therefore it was up to them to elect good politicians.

Truth to the People

The first challenge the ICF group undertook was to make the people aware of the truth. They put together the most relevant information for a great public education campaign, and used all available channels to broadcast the content.

Remember that the mainstream media was at that time controlled, although indirectly, by the government. But by 2010 India had a very robust mobile phone system, and the internet was making its presence felt. Thanks to that, ICF was able to circumvent the barrier that the mainstream media posed.

Not just the internet, the entire range of communications media was available for the distribution of text, audio and video: books, pamphlets, CDs, DVDs. The information that the government had managed to suppress for many decades was finally set free and the people understood the reality like never before.

Informed Voting

Because of the public education campaign, people became more informed and appropriately modified their behavior. The most significant change was at elections, and that gave meaning to the

claim that India was the largest democracy. Democracy is not just about voting but rather it is informed voting. Indians finally knew what and whom they were voting for and why.

We must note that it was not as if 100 percent of the population changed their minds. That is not only not possible but also not necessary to bring about change. The aim of the ICF group was to get on board the urban population, and this they did effectively. By 2014, they had signed up about 10 percent of the urban population, or around 30 million people. That number was sufficient to swing elections.

De-criminalization of Politics

In the general elections of 2014, ICF helped around 50 honest, competent, committed people become members of parliament, the Lok Sabha. With a little help from others, this new breed of MPs started the India Miracle.

The economy got liberalized to such an extent that the government was no longer in the business of business. That reduced the incentive for criminals to enter politics since being in the government no longer afforded the opportunity to make huge fortunes. The de-criminalization of politics was the most important side-effect of the liberalization of the economy.

That was to be expected. It was a virtuous cycle arising out of a positive feedback loop: as power shifted away from government, fewer criminals entered politics, and that created the space for good people to enter, which led to more liberalization of the economy, and so on.

The 2019 elections saw the numbers of good MPs increase to 300. You have to understand how radical this was. Before 2010, around half of the MPs had criminal backgrounds. The 2019 elections reduced the numbers of criminals in parliament to about 10 percent and by 2024, the parliament was totally de-criminalized.

India, the Mother Civilization

You may wonder about the speed with which the change occurred. It took only two general election cycles for the replacement of criminals with real leaders. Yet the situation looked rather hopeless around 2010.

What made the complete turnaround possible was the innate decency and competency of Indians, which in any case was never in doubt. India is an ancient civilization with deep cultural roots. Let me quote the American historian and philosopher, Will Durant. He wrote,

“India was the mother of our race and Sanskrit the mother of Europe's languages. She was the mother of our philosophy, mother through the Arabs, of much of our mathematics, mother through Buddha, of the ideals embodied in Christianity, mother through village communities of self-government and democracy. Mother India is in many ways the mother of us all.”

There's really nothing surprising that India is a great nation today. In a sense you can say that it was taken ill temporarily, but its DNA did not change. Its dismal economic performance in the 20th century relative to the rest of the world was just an aberration. It was a slumbering giant and when it awakened, it moved with surprising speed.

Principles Based Governance

When you know where you are headed and why, and have a good road map, only then can you move confidently and fast. India developed rapidly because the compass which guided India's progress was simple, and because of its simplicity and accuracy. Those were called the “Pretty Good Principles.” They called for a limited government, and a just society based on equity, fairness and equal treatment of all citizens.

The Indian government had not been based on those kinds of principles, the foundation upon which development rests. Indians had not seen good governance for so long that they had convinced themselves that such a thing did not exist. Human behavior is broadly predictable. If we believe something is impossible to get – however immensely desirable it may be – we simply don’t even ask for it. We are risk averse and especially don’t want to risk disappointment. But if we see a good thing demonstrated, we immediately understand that it is possible, and so we demand it and eventually get it.

Luckily, by 2010 a couple of states of India had had reasonably good governance (going by the standards of the day.) That expanded the possibility frontier and people were ready to demand good governance. And ICF was ready to show the people how to go about getting good governments at every level.

United Voters of India

What ICF did was create a voluntary association of urban voters, called “United Voters of India” or UVI. Their motto was “Good Governance Through Participation.” People who joined UVI understood the need for the government to concentrate on those areas which only a government is capable of – such as national defense, law and order, central banking – and not be in areas which a competitive private sector can serve efficiently such as telecommunications, transportation, energy, education, and so on. In other words, they agreed that society should be based on something like the Pretty Good Principles mentioned before.

UVI became an urban “vote bank” with the specific objective of forcing political parties to put up competent candidates and therefore reform governance. To become a member of UVI, you had to take a solemn oath to vote in all elections, and to vote for the candidate or the party that the association had selected. The

selection was done through elections internal to the local UVI chapter.

UVI helped bring about the India Miracle. It was an idea whose time had come.

Primarily and in the ultimate analysis, it is all about ideas. Economic advancement itself is a consequence of a set of good ideas that work in harmony to produce what's desirable. Let's talk about ideas for a bit.

Ideas Transform

Everything that you see around you started off as an idea in someone's mind. Take everything that you see around yourself, all the stuff you use, from food to houses to electronics to clothes, *ad infinitum*. None of them existed just a few thousand years ago. The raw materials existed but it took human labor, energy and technology to create all the stuff we use out of it.

Technology is itself "embodied ideas." Every bit of technology is the result of ideas painstakingly discovered by brilliant people. People combine previous ideas to create new ideas. Ideas, through technology, help us transform the world by providing us with all the material goods we use. But ideas differ from material goods in an important sense.

Ideas are Public Goods

Ideas are what economists call "public goods," as opposed to "private goods" which are things that you can grab with hands. Private goods are "rival in consumption," meaning if you consume it, the total stock goes down. If you eat an apple, or trade an apple for something else, your stock of apples goes down.

Ideas are public goods and when used, the stock of ideas does not go down. The stock of ideas keeps growing. If you have an idea and I have an idea, we can share the ideas and both of us

have two ideas. The stocks of both ideas and material goods have been increasing in the world. The thing is that once a good idea is created, it persists and is available for anyone to adopt and use it.

India Leapfrogged

India was running behind in the race to become developed. Being late is never a good thing but if one is smart enough, one has the possibility of catching up quickly by taking advantage of the ideas that have already been discovered and used by others.

Among other things, being late on the scene allows one to learn from others' experiences and avoid the mistakes they had made. It allows the late comers to "leapfrog" certain intermediate steps.

An example of such a leap-frog move is India's telecom story. Developed countries went through the stage of having an extensive and expensive copper-wire telecom infrastructure. India leapfrogged nearly all of the copper wire telephony stage and went directly to a wireless communications system.

There are many other areas where India leapfrogged. Instead of going through the stage of "everyone having a personal car," it went directly to having good public transportation in all its new cities. Indeed, it went directly to building modern efficient 21st century smart cities instead of going through the intermediate state of building 20th century dumb cities and then upgrading.

India Adopted Good Ideas

Over the 20th century, good policy ideas were discovered at considerable expense by those countries that were pioneers of development. India had the benefit of those ideas. In other words, it not only did not have to re-invent the wheel, but had available the state of the art technology in wheel-making. It did not matter

where an idea originated; what mattered is that it was right for the job.

As we noted earlier, the revolution in ICT made the free flow of information possible. That is another way of saying that ideas were available for India to adopt. Fortunately, after 2014, India got good leaders who understood the power of ideas. That is why India could make squeeze within one generation the kind of progress some economies which had gone before had taken a hundred years to achieve.

Now that India is a developed country, it is now leading the pack in adding to the stock of human knowledge and ideas.

Educated People are the Ultimate Resource

At one time, India's great burden was its immense population. People need material goods to survive. But since even those who don't produce still have to consume, India's poverty was a consequence of too many people and not enough production. When India finally got the education system that it needed, its population became net producers – and that transformed India's great burden of unproductive people into its greatest asset since educated people are the ultimate resource.

Educated people are the greatest natural resource that any country has. You are the beneficiaries of our amazing education system. What you are capable of giving back to society is unparalleled in human history since you are more educated than any previous generation.

For many of you, your formal studies have come to an end. But for all of you, life is one continuous learning-by-doing. So keep learning lessons and doing what needs to be done. Remember that your parents worked hard at making India what it is today. You owe it to them and to your children that you work hard at making what you have been given even better.

Be well, do good work and good luck.

Part 2

The Means

The story of development follows a very predictable pattern. It is always about a powerful set of characters which are closely inter-related and which develop in step. The set is small: an urbanized and educated population, an efficient agricultural sector, a robust manufacturing sector, an efficient transportation system, abundant energy, good governance, and a stable and equitable civil society.

The manufacturing sector requires human capital. This means that the population has to be educated appropriately. It also requires energy. Manufacturing also requires specialization and benefits from economies of scale. To move intermediate goods required for achieving scale economies, an efficient transportation system is necessary.

Nobel prize-winning economist Douglass North observed that “economic history is overwhelmingly a story of economies that failed to produce a set of economic rules of the game (with enforcement) that induce sustained economic growth.” The need for India therefore is implement a set of economic policies in those

specific areas. New policies require new policy makers with new objectives. That matter we will visit in section three.

In any segment of the economy, producing a set of rational rules is a political process. Frequently basic economic truths are willfully disregarded in a myopic but cynically calculated process of short-term electoral gains. In the long run, however, the persistent practice of politically motivated economically unsound policies has the unsurprising and unfortunate effect of impoverishing the economy.

Chapter 5

Interlinkages: A View of Economic Growth

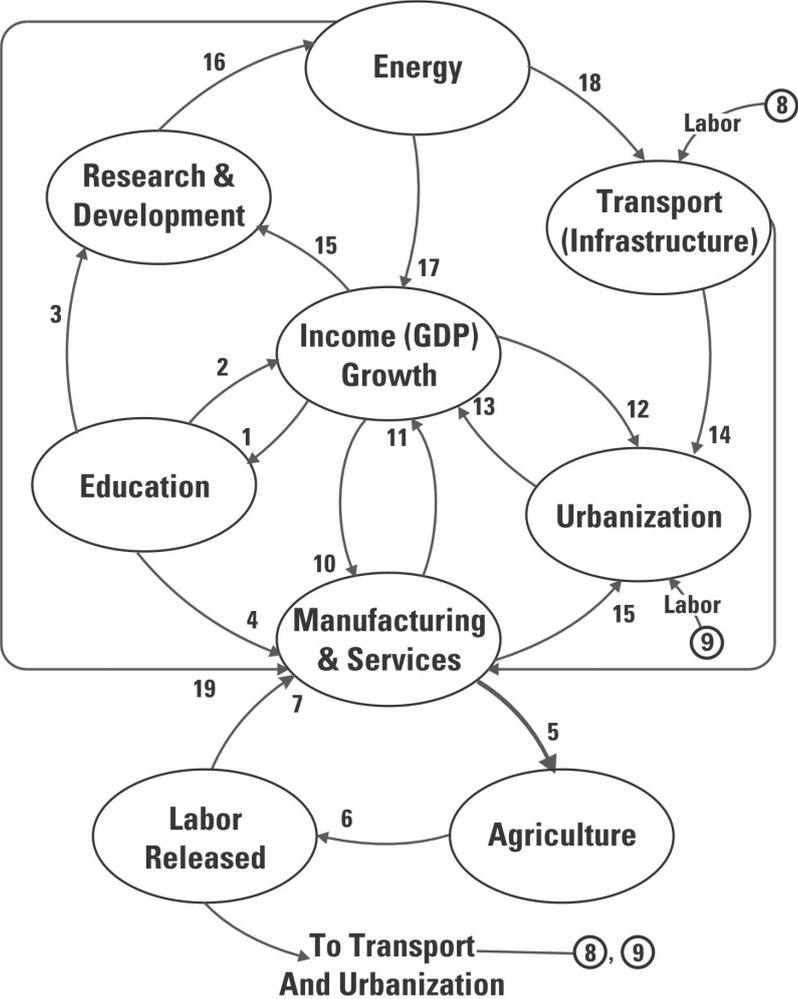
The diagram on the next page illustrates some of the linkages among the various sectors of the economy. Since the linkages are dynamic, representing them in a static diagram has its challenges. Compounding that is the problem that everything is connected to everything else. Therefore the diagram is a gross simplification of what actually happens in a modern complex economy. The diagram is a model which points out some salient high-level features while ignoring the fine grain details, and is meant to be suggestive of the reality rather than an exact representation.

We can understand the model starting at any arbitrary point. Let's begin with "Income (GDP) Growth" and note how it is connected to the various sectors.

The numbers enclosed in curly brackets, {n}, below indicate link labels.

{1, 2}: "Income (GDP) growth" and "Education"

Income growth is a consequence of an educated population, and higher incomes translate into higher demand for education.



{4}: “Education” and “Manufacturing & Services”

The education sector provides educated and high-skilled labor to the manufacturing and services sectors, which increases the productivity of those sectors.

{5, 6, 7}: “Manufacturing & Services” and “Agriculture”

M & S provide inputs to agriculture, which increases agricultural productivity. Increased productivity releases labor from agriculture which is absorbed into the growing M&S sectors. (Link between education and the “Labor Released” exists – but is not shown.)

{8, 9}: “Labor Released”, “Transport” and “Urbanization”

Part of the labor released is absorbed in “Transport” – which is a catch-all for infrastructure – and it includes such things as railways, roads, ports, airports, and other large civil works. Part of the labor released is also engaged in “Urbanization,” which is a catch-all for the building of cities.

{10, 11}: “Manufacturing & Services” and “Income (GDP) Growth”

M&S sectors have higher productivity and therefore higher incomes. With the growth of those sectors (relative to the agricultural sector), the GDP of the economy increases. Growth in incomes, in turn, increases the demand for the output of the M&S sectors.

{12, 13}: “Income (GDP) Growth” and “Urbanization”

Urbanization of the population is a cause as well as a consequence of economic growth. People living in cities are more productive than people living in villages, and consequently their incomes are higher. With increasing incomes, people prefer to live in cities because cities provide greater opportunities to them.

{3, 15}: “R&D”, “Education” and “Income (GDP) Growth”

The education sector supplies the human capital for research and development. Higher GDP means that there is more funding available for investing in R&D.

{16}: “R&D” and “Energy”

The output of R&D is inputs to various sectors. For simplicity, we focus on energy alone as the sector that absorbs the output of R&D. The energy sector becomes more efficient as a result.

{17}: “Energy” and “Income (GDP) Growth”

With more energy available, incomes go up. For simplicity, the linkage between energy and the manufacturing & services sectors is not shown. The growth of manufacturing requires energy, and income growth is related manufacturing by {11} as mentioned before.

{18}: “Energy” and “Transportation”

An efficient transportation is an absolute for an economy. Energy is required for building and operating that and other infrastructure of the economy.

{14}: “Transportation” and “Urbanization”

Urbanization means that people live and work in cities, which of course implies that they have to move within and between cities. The transportation (and other infrastructure components) have to keep pace with the urbanization of the population.

We will now explore some of these topics in the next few chapters.

Chapter 6

Education

The art of education is never easy. To surmount its difficulties, especially those of elementary education, is a task worthy of the highest genius ... [But] when one considers ... the importance of this question of the education of a nation's young, the broken lives, the defeated hopes, the national failures, which result from the frivolous inertia with which it is treated, it is difficult to restrain within oneself a savage rage. In the conditions of modern life the rule is absolute, ... [a country] that does not value trained intelligence is doomed.

Alfred North Whitehead (1861-1947)
British mathematician and philosopher

India's Costliest Failure

India's position in the emerging world of globally interconnected economies will doubtlessly be dictated by how successful it is

in overcoming the severe limitation of its education system. A sound education system is the foundation of sustained growth. Yet, nowhere is the failure to produce a set of economic rules more evident than in the Indian education system. India's literacy rate of around 60 percent places it in the company of countries such as Uganda, Rwanda, Malawi, Sudan, Burundi and Ghana.

With an estimated 360 million of its citizens in the school-going age—a third of its entire population—it has an unmatched potential of becoming a major economic powerhouse. It has an opportunity to shape not only its own future but the future of the world at large. The challenges it faces in realizing that potential are many but the most formidable of them are those that are in a sense “self-inflicted.”

The greatest hurdle in India's path to the future is the near-monopoly government control of the education system.

The Numbers

A quick review of the numbers illuminates the challenges and opportunities. Of the total 360 million who should be in the K-12 system, around 140 million children are not in school. It is not just a private loss—they will never have the opportunity to participate fully in the global economy—it is a loss to society because they will never be able to fully contribute to it.

Yet the spending for education is large. The Indian government has allocated around US\$ 8.6 billion for FY2009 for education; private spending annually on K-12 tuition is an additional US\$ 20 billion; tutoring adds another US\$ 5 billion a year; private professional education is another US\$ 7 billion. From a total of around \$40 billion in FY2009, the education sector is expected to grow to around US\$ 70 billion by 2012. Compare that to the US\$ 45 billion spending for power, telecom, and transportation infrastructure in the 11th Plan.

A Nation of Illiterates

Broadly speaking, India accounts for 50 percent of the world's illiterates even though India accounts for around 17 percent of the world's population. The failure of India's primary education is predictably reflected in the higher education level: gross enrollment ratio is a mere six percent. Furthermore, the quality of Indian college graduates is poor to the extent that only about a quarter of them are employable.

Regulations allow only non-profit trusts to run educational institutions. The results are disappointing and point to a failed public education system. The private sector schools do deliver much more than the public sector schools and do so comparatively more efficiently. Private schools account for only 7 percent of around 1 million K-12 schools and yet they accommodate 40 percent of the total enrolled. Studies show that public sector schools are plagued by teacher absenteeism, lack of basic infrastructure, and poor performance. India urgently needs to remedy the shortage of quality private schools.

The situation in tertiary education is not very good either. Published figures show India graduates 350,000 engineers and IT professionals a year, compared to China's 600,000, and the United States' 130,000. The quantity appears reasonable until one recalls that only about one out of four engineers is employable. This creates the paradoxical situation of vast numbers of unemployed engineers on the one hand, and on the other employers desperately seeking skilled engineers.

Compared to China

Comparison with another comparably large developing country — namely China — is instructive. By 2005, China was graduating around 12,000 PhDs a year, about seven times what it did in 1995; India maintained an average of 700 PhDs every year during the same period.

The education system is supply-constrained. Around 400,000 compete in the IIT-Joint Entrance Examination for 10,000 seats in the few Indian Institutes of Technology, for instance. Another 240,000 took the common admissions test for the Indian Institutes of Management. On aggregate, over 2 million students take entrance tests for seats in the 1,200 private and 400 public professional schools. Test preparation is a huge market but ultimately the spending is directly unproductive and only serves as a means of rationing the limited quantity of supply relative to demand.

Profiting from Education

Unable to find the opportunity domestically, Indians spend an estimated US\$ 10 billion every year for higher education abroad. This lends support to the claim that if the education sector were to be liberalized – that is, if for-profit domestic and foreign private sector entities were allowed entry – then the capacity constraint will be released. Furthermore, market competition would ensure that the quality of the education would also improve.

The private sector is essentially denied the opportunity to fully participate in the education sector. Resistance against commercialization of education is held with what approaches religious conviction. Profit from education is anathema to Indian policy-makers. The Supreme Court of India in a 1993 decision wrote:

“Imparting of education has never been treated as a trade or business in this country since time immemorial. It has been treated as a religious duty. It has been treated as a charitable activity. But never as a trade or business... The Unni Krishnan Decision does not imply that private schools cannot exist but states that they should not ‘commercialise education’ and impart education with the motivation to profit from it.”

It is impressive that tradition holds that education should not be commercialized. But if that hallowed tradition which served the

different needs of a different age were to lead us to a dead end today, would it still be wise to adhere to it? Time and circumstances have changed.

Education in India is heavily controlled by the government both at the state and federal levels. Government agencies and regulations dictate every aspect of education, sometimes to the smallest details: who can run educational systems (generally only non-for-profit trusts can), who teaches, what is taught, who learns, what the fees and salaries should be, and so on. Most unfortunately, the entry barriers that the government imposes on the sector lead to such effects as high costs, low quality, and rampant corruption.

Entry Barriers

The market for educational services is like any other market. By putting barriers to entry to the market, it increases competition for the market which leads to decreased competition within the market. This has two unfortunate effects.

First, corruption is made endemic in the system. Persons in charge of government agencies with discretionary powers to grant entry into the market are susceptible to bribes. Education providers compete for the market by paying immense bribes to obtain licenses. Later these amounts have to be recovered from the students in the form of huge capitation fees and other coercive measures.

All this is possible because the entry barriers reduce supply so that economic rents can be extracted. In effect, this is a process that transfers wealth from those wishing to get an education to those who have control of the entire sector, with the education providers acting as intermediaries in the process.

The second effect is that the quantity supplied cannot meet the demand and the quality of the education service is poor. The entry barriers prevent normal supply response and limit

the necessary competition within the market to improve quality. The incumbents continue to remain in business despite shoddy service.

Necessary Reforms

The argument for liberalizing the education system is simple enough to state. Globalization, which is essentially the free movement of capital in pursuit of profits, is an established fact. It means that global capital will continue to move differentially to those parts of the world where it most profitably complements the human capital available.

Even though motivated by profit, global capital has the capacity to contribute directly to rapid economic growth, as evidenced by the growth stories of the East Asian economies in the past and of China more recently. Only those economies that have the human capital to absorb global capital will benefit from globalization.

Manufacturing Needs

Modern manufacturing is the basis for any large modern economy. It requires skilled manpower and therefore the emphasis on education and training. Currently India does have a small but significant position in the skilled services sector of business process outsourcing and information technology enabled services. But the news there is that shortage of skilled manpower is becoming a reality.

The education sector urgently demands reform. What follows is a short list of needed reforms. For the purposes of this discussion, the sector can be partitioned into the primary (K-4), middle (5-7), secondary (8-12) and tertiary segments (post secondary). The tertiary segment can be further subdivided into professional, vocational and liberal education segments.

Liberalization

First and foremost is the liberalization of the system. The market has to be allowed to function by allowing for-profit firms to serve the sector. This will expand the supply. Market competition will ensure quality. Most of the entry will be in the tertiary segment (especially in the professional and vocational areas) because the returns on investment for a student is significant and short-term compared to primary and secondary education.

Second, the public spending on primary education has to be channeled properly. Public support of primary education – around 2 percent of GDP – is ineffectively and inefficiently spent on funding schools which don't function. The problem is systemic and requires a radical rethinking of how to get the incentives right. This can be achieved by, instead of funding schools, funding the students. Primary education providers, whether public or private, will have to compete for students. The market, in effect, will bring about accountability by aligning incentives with performance.

Independent Regulatory Authority

Third, an independent “Education Regulatory Authority of India,” (ERAI) has to be created. Some markets – especially ones in which there are significant externalities and/or have monopoly characteristics – have to be regulated to ensure socially optimal outcomes. The ERAI would have the mandate to not merely allow, but to actually encourage, competition.

The ERAI should be sufficiently empowered to resist political interference and regulatory capture. One of the most important mandates of the ERAI will be to guarantee a level playing field for all entrants – private, public, foreign, domestic – and prevent any special interest group from capturing the market.

A critically important function of the ERAI will be the rating of all providers of education. This will help consumers make informed decisions and thus provide feedback to the market.

Credit Markets

Fourth, creation of a complete funding and credit market for education. Investment in primary education characteristically has long payback periods and high positive externalities. Publicly funding primary and secondary education – through grants – for those who cannot afford it is justified. Tertiary education, in contrast, has short payback periods and sufficient private return to investment that it can be funded by loans instead of grants. Mechanisms can be figured out which will ensure equality of opportunity at all levels and that no one is denied merely because of an inability to pay.

Widening Options

Fifth, policies that enlarge the set of options for post-secondary education. India's growing economy needs a large number of people with a wide range of skills. To attain a proper mix of skilled people, vocational education has to be accorded appropriate attention. The number of vocational institutions has to go up. This can be achieved by the combined force of previously mentioned items: allowing free entry into the segment and creating credit markets where necessary.

Sixth, a commitment to achieving 90 percent literacy rate in three years. The main reason that India has failed to achieve this over the decades is not a lack of opportunity or resources; it is a failure of will, flawed execution and resources leaked through corruption. It is an end-to-end failure of objective and direction.

Reforms are Hard . . .

India's future depends on an educated citizenry. Despite heavy expenditure in education over the decades, the rules of the game have been a significant barrier to Indians gaining an education. The persistence of a dysfunctional system can only be explained by the fact that it works for the benefits of those who control the system and not for the larger social good. Reforms will therefore be immensely difficult because powerful vested interests will block them. To counter this, the already educated public has to take up the cause on behalf of those who desperately need a functioning education system.

We have a problem to solve. The solution has to begin with the recognition that our past policies – however well-meaning they may have been – have failed to produce the stated results. Evaluating what has not worked and why is a necessary first step in the most critically urgent task of reforming the educational system.

...But Must Be Done

The consequences of not solving this problem of education are too horrifying to contemplate. It is impossible for a significant portion of humanity to face the 21st century without education in a globalized hyper-competitive world. The choice is stark: either solve this problem or be forever relegated to being a Third World economy. There are no other options.

Chapter 7

Energy

All processes in our universe, from the sub-atomic to the supergalactic, involve the use of energy. The fundamental laws of thermodynamics attest to that. So it should come as no surprise that energy rests at the core of all human advancement and economic growth. The story of human civilization is principally that of an increasing ability to find and exploit energy sources.

Until relatively recently in human history, animals and humans were the principle sources of energy. Slavery was an unfortunate consequence of that need for energy. Coal later powered the industrial revolution. The discovery of petroleum oil about 150 years ago literally fueled such phenomenal growth that it increased human population six-fold to its present over 6 billion.

Fossil Fuel Age Ends

But oil is an exhaustible resource and the supplies are diminishing even as the demand for energy is increasing. This leads to not just a steadily rising price but also an increase in global conflict induced by the fierce competition for the increasingly scarce

resource. The advanced industrialized countries advanced and industrialized precisely because they developed the science and technology required to transform potential sources of energy into usable energy. Unfortunately, their legacy investment in what is now called conventional energy sources forces them into continued dependence primarily on oil and to some extent on nuclear fission power. They are prisoners of their own ingenuity in being the first to exploit non-renewable fossil fuels.

The greatest constraint that developing countries face is that of energy availability. Energy is the primary resource in the sense that all other resources – land, water – can be substituted to a considerable degree by energy. Yet billions of people cannot hope to satisfy their energy needs by emulating the developed countries simply because they are late in the game. Their only hope lies in exploiting energy sources that are secure and renewable. One such source is as clear as broad daylight – solar. The annual solar energy incident on every square mile is approximately equivalent to 4 million barrels of oil.

To put that number in perspective, consider India's total energy consumption. Per day, India consumes the energy equivalent of 12 million barrels of oil, or the total solar energy incident on just 3 square miles. By 2025, India will need around five times the energy that it is currently using.

Assuming an energy conversion efficiency of just 10 percent, India's current total energy needs can be met by tapping the solar energy incident on just 30 square miles. To capture that efficiently enough to make it commercially viable requires technologies that do not exist today.

India Must Develop Solar Energy Technology

India imports about 70 percent of its current oil needs. For 2009-10, it spent \$80 billion for oil imports. It can barely afford that, to say nothing of what it will be like when oil prices continue to

hit higher peaks and its needs increase in pace with its growing economy. It lacks nuclear technology and nuclear fuels, and has to debase itself begging to be given access to them.

India cannot continue to ignore reality: its continued economic growth and development is predicated on it developing the technology to exploit solar energy, and base its industrial, transportation, commercial, and household energy needs to be met through the derived electrical energy. Every bit of modern technology India uses has been developed elsewhere. It would be a welcome change if it developed the technology that would be its lifeblood. Developing technology is a matter of will, vision, and sometimes dire necessity. The Manhattan project and manned missions to the moon are examples of what can be achieved within a short time if the will exists.

Benefits of Developing Technology

India cannot afford not to develop solar energy technology for these reasons. First, eventually someone will, and then once again India will have to perhaps grovel for access to it. Second, and conversely, if India develops the technology, not only will it have it for its own use, it would be able to sell that technology to other nations. Third, India does not have a very large legacy infrastructure system built on oil. It therefore has the opportunity to build its infrastructure that is electricity oriented. For instance, India's transportation needs can be met more rationally primarily by a rail network backbone instead of roads, cars, airports, and airplanes.

Developing solar technology is not going to be cheap. But the alternative is going to be immeasurably more expensive. Here's the scenario using ball-park figures. India somehow acquires the vision and the will to invest US\$100 billion and within the next five years develops efficient solar energy technology. That investment reduces its dependence on foreign

energy imports on average by US\$100 billion every year for the foreseeable future. The returns on investment will be immense. Furthermore, if India were to be the leader of solar energy technology, licensing that technology to other economies would be an immense source of income.

The Constraints

The question naturally arises: why aren't others doing it if it is such a great idea. First, the private sector cannot match the funding ability of a large government. Second, other large governments do not face the immediate necessity that India faces and besides they are invested in their legacy systems. Another question relates to why the market cannot be depended upon to create the solution. It is well known that markets fail when there are very high fixed costs. Only a government has the ability to fund the high fixed costs and thus correct for the market failure. Later the fixed costs can be recovered through taxing the inevitable increase in the national income.

How to Get it Done

With the will to invest US\$100 billion, India can acquire the best brains in the world to work on the problem. That spending will have important forward and backward linkages that will have multiplier effects throughout the economy. Research and development capacity will be built in the private sector and in educational institutions. Millions of productive jobs will be created by the need to develop the infrastructure required for the new industries that result from such a massive project.

India today is a large economy with a GDP of around US\$ 1.5 trillion. The majority of its 1.2 billion people is stuck at a subsistence level and faces an energy constraint. India's economy cannot grow to US\$ 10 trillion – what it minimally has to be if

it is to become a developed economy – without it having a secure, renewable, non-polluting, affordable source of energy. Investing US\$100 billion may appear large but in the context of the Indian economy of the near future, it is small change. Per capita that investment works out around US\$100, an amount that is well worth the thousands of dollars of returns it can generate every year.

Vision

The biggest challenge India faces is not a lack of ability to create the energy technology which will ensure a prosperous future. It is rather the lack of vision to foresee the future and then muster up the will to – for once – being the leader. India has to ask itself: isn't it time for it to create, innovate, transform and lead instead of being a large country of followers in the field of science and technology?

Chapter 8

Urbanization and Development

The bidirectional link between industrialization and economic development is urbanization. Like conjoined twins, urbanization and development are never observed alone. The story of economic growth and human development is the story of civilization, the growth of cities.

All human achievements are the result of ideas, and the city as an idea must rank among the greatest and the most ancient of ideas.

It is an analytically and empirically verifiable fact that cities are the engines of growth that power all economic development. Therefore it is argued that for catalysing economic development, a policy of assisting the inevitable (and indeed desirable) urbanization through the creation of livable deliberately designed cities is effective and efficient.

Services and Cities

The development of economies largely follows a predictable trajectory where the majority of the labor is first employed in agriculture, then in industry, and finally in services. With rising

productivity, agriculture releases labor to industry, which in turn through the use of technology becomes more efficient and releases labor to the services sector.

The services sector is of particular importance because it's where research in the sciences and development of technologies occur; it's where ideas are generated. Those ideas are critical for greater productivity and production in the two older sectors – agriculture and manufacturing – which consequently release more labor for the services sector. The production, delivery and consumption of services happen more efficiently in cities.

The Urbanized World

Humanity is getting rapidly urbanized. About 27 million people – about three percent of 900 million – lived in cities in 1800; by 1900, 10 percent of 1.6 billion were urban; now over half of the world's 6 billion live in cities. It is estimated that over 70 percent of the world's 9 billion people of 2050 will be urban.

Despite all the negatives such as crime, pollution and overcrowding associated with them, cities are disproportionately productive. Today around 1.2 billion people living in 40 mega regions of the world produce two-thirds of the world's output of goods and services. They also produce more than 85 percent of all global innovation. A person living in a mega-region compared to a person not living in a mega-region is eight times as productive in terms of goods and services, and in terms of innovations is about 24 times as productive.

The Urbanization Imperative

Cities “manufacture” wealth. This is literally true as most manufacturing occurs in urban locations. That is why rich economies are predominantly urban, and those economies that are largely rural are relatively poor. The transition from a poor

economy to a rich one depends on the transition of the majority of the population from being rural to urban.

The central concern of economic growth is the development of people. The development of rural populations must not be conflated with the development of rural areas and the rural population cannot be – and must not be – confined to villages. The rural population has as much right and aspirations to live and work in cities as we who are reading this essay do. Rural populations will get urbanized, whether one likes it or not. There’s an instinctive drive which motivates people to seek greater opportunities in places where there are greater choices. As the great scholar of urban areas Jane Jacobs put it, “The point of cities is multiplicity of choice.”

Building from Scratch

India’s urbanization cannot be accomplished with the stock of existing cities. They are already bursting at the seams and cannot conceivably accommodate the 300 million estimated to be added to the urban areas by 2030. There is an urgent need to create new urban centers that are designed to be efficient, human centric, and livable.

That is the greatest opportunity India has – of building from scratch to take advantage of all the knowledge of how to build cities and specifically to avoid the mistakes of the previous generation of cities – which is not available to any developed economy such as the US. American cities are notoriously inefficient in terms of resource use and sustainability. Their legacy urban centers will burden the transition to living in more sustainable cities.

Just like India leapfrogged the expensive landline era and became a leader in the use of cheaper, modern and more flexible wireless telecommunications, India can urbanize more efficiently and faster by building new cities instead of the costly exercise of giving old cities and towns an expensive face-lift.

Designer Cities

India needs new “designer cities”: cities that are deliberately designed and that have a distinct character to them. Complex artifacts such as computers and commercial jetliners are the product of deliberate design learned over generations of hard work. Cities are some of the most complex creations of humans and must be designed to be good.

The distinctive characters of cities arise from the major function that cities serve such as commercial, financial, educational, recreational, pilgrimage, art, manufacturing, and a hundred other activities. A city, for example, could be designed with the primary purpose of hosting a set of great universities, and so would need all associated supporting services such as theatre, art, museum, sports, etc. A city whose core function is manufacturing would have different needs such as access to ports, vocational institutions, etc.

There are many interesting ideas on how to enable urbanization. Economist Paul Romer, Stanford University, has been promoting the idea of “charter cities” which Harvard Business Review included in its “10 Breakthrough Ideas for 2010.”

A charter city is a green-field project that starts off with a constitution or a set of rules. People and organizations which like the charter come together to build the city. Romer says, “...[P]roposing some new rules [in a charter city] and then asking who would like to opt in – who would like to live under these new rules – could give us a mechanism to reform the rules under which we live, to change them, to improve them much more rapidly.”

Charter cities for India would be excellent for India.

Policy Matters

India is at that stage of its development where bold policy decisions have the potential to accelerate its economy and thus

lead hundreds of millions out of poverty and into prosperity. The time is ripe for a national policy that allows new cities to develop and permits the market mechanism to fund them. India needs to adopt big ideas because the idea of India is too big to be paired with little ideas.

Chapter 9

Transportation

India is a large country with over 1.2 billion people. India is also extremely poor. When we say India is poor, what we mean is that compared to the number of people, the amount of goods and services produced is very low. In other words, India produces too little and that little amount of production has to be divided among a very large number of people. Tragically, many millions in India don't get sufficient to eat – half of India's children below the age of five are malnourished.

For this to change, India has to either increase its production, or reduce its population, or both. Increasing production can be done by using more productive resources (more land, more labor, more energy), or by using resources more efficiently, or both. To achieve higher production and greater production efficiency, an efficient transportation system is absolutely necessary. Without it, the economy cannot progress.

Rail System as the Backbone

The backbone of a transportation system of an economy as geographically large, as densely populated, and as resource

constrained as India's has to be rail-based. Airways cannot be the long haul mass transportation system, nor can it be the road system. There is nothing as efficient as steel wheels on steel rails for transporting hundreds of millions of people over distances that are of the order of hundreds of kilometers.

Roads transportation is not an option for India for a number of obvious reasons. Cars and fossil fuels are expensive. Efficient alternative fuel cars are even more expensive. With 17 percent of the world's population and two percent of the world's land area, India cannot afford the luxury of high speed expressways the way that the US can.

Roads Inadequate

India has to have a more efficient transportation system than the US because it is not even theoretically possible to emulate the US with its automobile/airlines system. The US uses approximately a quarter of the world's total energy use with only about five percent of the world's population. To reach US standards of energy use per capita, India total energy consumption would have to increase approximately 25-fold.

To put it another way, to try to match the US with its car- and airplane-based system, India would have to use four times the total amount of energy currently consumed by the entire world. At present, India has to import over half of its fossil fuel needs and pays an unaffordable amount for it. India's economy cannot be sustained on imported fuel.

Air Transport

The same argument as above applies with even greater force when air transport is considered as the backbone of a national transportation system. Only a very insignificant percentage of Indians can afford to fly. By afford I do not merely mean

individual capacity to pay. The system itself cannot accommodate it. You cannot have 120,000 daily flights serving India's 1.2 billion people, which is what you would need to match the US's air transportation system around daily 30,000 flights serving around 300 million Americans.

A bit of arithmetic is all that is needed to expose the underlying reality that India does not have the option of having road or air as the backbone of India's transportation system. We not only cannot afford the fuel (source constraint), but we cannot also afford the pollution (sink constraint) of 700 million cars and 20,000 airliners spewing exhaust – as would be required to match the US on a per capita basis.

India needs what can be termed an “integrated rail transportation system.”

Integrated Rail Transportation System (IRTS)

Steel wheel over steel rails is the most efficient method of transporting goods and people, especially when both volumes and distances are large. It is super efficient and clean because of a number of reasons. First, steel wheels over steel rails have very low friction and with aerodynamically designed trains, trains achieve the lowest per mile cost.

Second, trains are not constrained to use fossil fuels. To power trains, electricity can be used which can be generated using whatever technology is most efficient – nuclear, solar, biomass, wind, natural gas, etc. Third, you can use the same system – the tracks and the signalling and switching system – for both passengers as well as goods.

Fourth, trains can be very fast compared to roads and can be compared favorably to planes over short and intermediate distances. For short distances, planes are clearly out of the running. Consider the journey between Mumbai and Pune, a distance of around 170 kms. By the fastest road and rail connections, it

currently takes three hours. By air, it takes four hours – drive to the airport, waiting at the airport, a short flight which is shorter than the time spent taxiing and waiting to land, and then a drive from the airport to the city center.

Over long distances such as between Delhi and Bangalore, planes have an evident advantage for people but not for goods. But that advantage is restricted to only the very rich in India. The average person cannot afford the round-trip fare which is around half the per capita annual income of Indians. Imagine how many people would fly between NY and SF if the price was about \$24,000 instead of the \$600 it is.

The Topography

The core of the IRTS is a very fast rail network connecting the major population centers. The trunk routes of the system are high speed trains that move between metros such as Mumbai and Kolkata (via Nagpur), between Delhi and Bangalore/Chennai (again via Nagpur and Hyderabad.) These are the “Cross Links” which are different from the “Diagonal Links” which go between Mumbai and Delhi (via Ahmedabad), Delhi and Kolkata (via Kanpur), Kolkata and Bangalore/Chennai (via Vishakhapatnam), and Chennai and Mumbai (via Bangalore.)

Super-fast Trains Between the Hubs

The backbone of the system is the diagonal and cross links. Trains travel at an average of 250 kms an hour and make limited stops.

Mumbai-Delhi, a distance of around 1400 kms, is done in 5.5 hours (instead of the 16 hours currently by the fastest train.) Mumbai-Kolkata, around 2000 kms, is done in 8 hours. If you want to go from a town close to Mumbai to a town close to Delhi, you do the journey in three bits: two short distance segments (relatively

slow) and one high speed long distance train. The short distance segments will be covered by road or by rail and they serve as the “integrated” part of IRTS.

For short distances, the road system and the existing rail system would suffice. For instance, a journey from Pune to Chandigarh would involve a bus or train from Pune to Mumbai, a high-speed train from Mumbai to Delhi, and then a train from Delhi to Chandigarh.

This is a hub-and-spoke model with multiple hubs (Mumbai, Nagpur, Delhi, Kolkata, Hyderabad, Chennai, Bangalore), each connected to a bunch of spokes that terminate in towns close to the hub.

Costs

The most obvious point is that it is massively expensive to build a rail system. Current per mile of infrastructure for high speed rail is around \$10 million per km. To build the backbone links outlined above would require 10,000 kms of high speed rail. So the cost will be around \$100 billion.

It looks like a very large sum but it is not actually. First, it is a capital investment, not expenditure. What the IRTS will do is to increase the efficiency of the economy, which means that it will produce more stuff than it takes to build it. Second, building it will give a boost to the economy. The question is where does one get \$100 billion to do this.

Public Private Partnership

One way out would be to involve the public sector in partnership with the government, or “private public partnership.” The government owns the land on which the existing rail system operates. So that could be the contribution of the public sector. The rails can be farmed out to the private sector on a “build and

operate" scheme. And the rolling stock can be owned by private sector firms. These private sector firms can operate trains just as they operate airlines today. They can import the best available train technology from Japan and France just as airlines import planes from Airbus and Boeing.

The involvement of the private sector will not only free up public resources, but the increased efficiencies will propel economic growth which will increase government tax revenues.

The world is awash with liquidity these days. India needs to come up with projects which will attract these savings. Building modern railways for India is one such project.

Economic Linkages

The IRTS will have to be built from scratch. Doing so will involve the labor of millions. Just like the interstate highway system did for the US, it will give a permanent boost to the growth of the economy. Spending \$100 billion will generate direct employment.

Then there are secondary effects which arise from backward and forward linkages. Forward linkages occur when the product or services from an industry are used by other industries. The agricultural and manufacturing sectors will gain from forward linkages. A significant portion of agricultural production is wasted because of poor transportation. This wastage will be reduced by having an efficient rail network.

Backward linkages are those that connect an industry with other industries that supply inputs to it. For building a rail network, the backward linkages are to the industries that supply inputs such as steel and other manufactured goods. Railways also have forward linkages to manufacturing since industries use rail services for moving their intermediate and finished goods.

Technology

India does not have state of the art railroad technology which has been developed by countries such as France and Japan. To begin with, India will have to import these and build up domestic manufacturing capacity. Since the requirements for India will be large, India has the bargaining power to insist on technology transfer. Then given that engineering and design talent is not lacking in India, it is possible that India can improve on the technology and be a leader in the field.

Comparison with China

It is fair to compare India with China with regards to railways. China has around 76,000 kms of railways, which is only behind that of US and Russia. By 2020, it is expected to reach 100,000. China also has the world's fastest train. Defined as speeds exceeding an average speed of 200 km/hr, China has the world's longest high-speed network of around 8,400 kms, and has 2,200 kms of routes exceeding 350 km/hr.

The railway network in India has a total route length of the network was 64,000 kms, about a third of which has electric traction. It does not have any high-speed network. The most prestigious trains in India, the Rajdhani, average less than 100 kms per hour. The Rajdhani between Mumbai and Delhi averages 86 kms per hour.

We have to keep in mind that as late as the early 1990s, India was ahead of China in route kilometer per capita and total route kilometer. In the decade starting 1992, China invested US\$85 billion and jumped so far ahead of India that it is unlikely that India will ever catch up with China. India invested only US\$17.3 billion in the same period. India's route kilometer grew by only one percent and China's grew by 24 percent.

Vision

What we have in India is a creaky dilapidated outmoded transportation system. More than roads and airports, India needs a great rail transportation system which will form the foundation upon which a modern Indian economy can move and grow. It is a great challenge and if articulated well, it can galvanize the economy. It will not be easy but then easy things are not worth doing and are rarely transformational in their impact. The movers and shakers of India should look for projects that transform, hard though they may be.

Chapter 10

Rural Infrastructure & Services Commons (RISC)¹

India's economic growth and development to a large extent is predicated upon the development of its rural population. Currently, the majority of India's population – around 700 million – lives in about 600,000 small villages and are engaged primarily in agriculture and related activities. Since a very large labor force in agriculture necessarily implies very low per capita incomes, a substantial portion of India's current agricultural labour force has to move to non-agriculture sectors for incomes in all sectors to go up.

The challenge is to manage the transition of a large segment – perhaps even 80 percent – of the rural population from a village-centric agricultural-based economy to a city-centric non-agricultural economy, and do so in a reasonable period

1. As a Reuters Digital Vision Fellow at Stanford University in 2001-02, Vinod Khosla, then at KPCB, and I developed the RISC model, and co-authored the concept paper in 2002. This is a short version introducing the why, what, and how of RISC.

Urbanization and Development

It is both empirically true and analytically supported that economic growth is both a cause and consequence of urbanization.

By urbanization is meant the dense aggregation of people into economically interacting units (cities and towns) of anywhere between 100,000 people and several million people. Cities are engines of economic growth because they give rise to economies of scale, scope, and aggregation. This is so because infrastructure – buildings, roads, power, telecommunications, water, sanitation, security, maintenance – can be provided economically to larger aggregations of people.

Availability of low cost infrastructure in turn makes the availability of a wide range of services possible in cities as opposed to very small villages. It is the aggregation of supply and demand for economic goods and services (and therefore indirectly for infrastructural goods) which account for the success of cities.

Constraints

A set of basic facts define the constraints within which the economic growth and development of India's rural population must be addressed. Fundamentally these relate to resource constraints, the nature of infrastructure, and the future trajectory of the geographical distribution of the population.

First, people need access to a wide range of services which allow them to engage in economically productive activities. These services include, at a minimum, market access, educational, health, financial, entertainment, transportation, and communications. It is primarily these services which enhance life and livelihood, and with which any population is concerned with.

Second, the provision of services depends on the availability of infrastructure. Without the foundation of affordable infrastructure, affordable services cannot be provided.

Third, infrastructure investment is 'lumpy' – the average cost of provision of infrastructure is inversely related to the scale of the operation. A large power plant, for example, typically produces electricity at a lower per unit cost than a small power plant.

Fourth, if there were no limitations on the financial and other resources available for providing infrastructure, it would be possible to provide infrastructure at every village. Resource limitations preclude this option.

Fifth, even if the full set of infrastructure were provided at every village, they will not be commercially sustainable as the aggregate derived demand for the infrastructure will be insufficient to make them commercially viable. Clearly, subsidy of infrastructure for 600,000 villages is not an option considering resource constraints.

Finally, the rural population is currently distributed over a large number – over half a million – of small villages, the future distribution will be a much smaller number of much larger aggregations of people. This has to occur if the desired future is one where the agriculture sector's share of GDP is to be significantly smaller relative to manufacturing and services sectors, and if the majority of the labor has to be engaged in non-agricultural activities. The basic geographical structure of population distribution will eventually undergo a change, whether one likes it or not.

Not Village-centric

The fact is that 'village-centric' development is not feasible because of resource limitations and because people naturally tend to migrate out of villages to cities. Furthermore, forcing people to stay in villages is not desirable since a vibrant economy depends on the aggregation of the population into units much larger than a small village. In short, investing scarce resources into villages is short-sighted and uneconomical.

Based on the above considerations, we present a model for catalyzing rural economic growth: RISC – Rural Infrastructure and Services Commons.

The RISC Paradigm

The RISC idea is to bring to the rural population the full set of services that are normally available only in urban locations. It works within the constraints of limited resources by focusing attention to and concentrating investments at specific locations to obtain economies of scale, scope, and agglomeration.

RISC follows the logical trend of moving away from vertical integration to one of horizontal segmentation and specialization.

Conceptually and operationally, a RISC has two levels: the lower one is the infrastructure level (I-level) which provides a reliable, standardized, competitively-priced infrastructure platform consisting of power, broadband telecommunications, and the physical plant (building, water, air-conditioning, sanitation, security). The I-level is achieved by the coordinated and cooperative investment of firms that specialize in the component activities.

The user services level (S-level) is above the I-level. Co-located at the S-level are firms that provide user services such as market making, financial intermediation, education, health, social services, governmental services, entertainment, logistics, etc. The presence of the I-level reduces the cost of the services and therefore the prices that the users face. Economies of scope and agglomeration are obtained by the presence of the variety of different service providers.

Given that rural populations are very poor, it is reasonable to expect that the aggregate demand of a single village for any single service will be very low. However, the aggregate demand from the population of 100 villages for a single service could be

significant. Aggregating the demand for many different kinds of services of the same 100 villages would translate into lot of services. These services would require infrastructural inputs which can be commercially and sustainably supplied. Thus, a RISC would supply to the needs of about 100 surrounding villages because the demand would be substantial.

The total rural population of India can be covered by about 6,000 RISCs each servicing the needs of approximately 100,000 people. Further external economies of scale can be obtained by implementing a few thousand RISC locations across the rural landscape. Access to a RISC for any rural person would be only a 'bicycle commute' away.

Operationalizing RISC

The distinction between the I-level and the S-level becomes apparent at the operational level. The I-level is provided by a small number of firms which specialize in the provision of infrastructure. The essential requirement is that the investments from these various firms are coordinated. This resolves the 'coordination failure' generally associated with investments that are large, lumpy, which have large lead times in implementation, and have long pay-back periods. These can be private sector or public sector firms.

There is an element of planning in the creation of the I-level. But it is not a top-down, bureaucratic, government imposed centralized planning. It is coordinated investment in various components of the infrastructure so that they all make each other mutually viable. The role of the government is highest at this level.

The government has to facilitate the process of the creation of the I-level first through light-handed regulation. Second, it has to give required tax incentives to the firms. Third, the government may be required to facilitate investment through loan guarantees. Finally, it has to help with the acquisition of land required for the

projects. The model does not require the government to directly fund any of the infrastructure.

The firms providing the infrastructure will be basing their investment decisions on adequate return on investment, of course. The infrastructure will be used by, and paid for, the firms which are at the S-level and which provide the services that the users demand.

The composition of firms at the S-level will be almost entirely market-driven. There will be two basic categories of services. First, services which the users are willing and able to pay for. This means that the benefits to the users of the services will be greater than the costs. These are the 'income-enhancing services' such as greater market access. Second, services which are not fully priced such as government services and those provided by NGO and charitable entities.

What RISC Does

RISC provides a signal to coordinate the activities of a host of entities: commercial, governmental, NGO's. It synchronizes investment decisions so as to reduce risk. It essentially acts as a catalyst that starts off a virtuous cycle of introducing efficient modern technology to improve productivity that increases incomes and thus the ability of users to pay for the services, and so on. It creates a mechanism that reduces transaction costs and therefore improves the functions of markets.

Therefore, RISC

- serves as a focal point for the bi-directional flow of information and materials within the rural areas
- clusters economic activities in specific rural locations by facilitating firms' businesses
- seeds urbanization and urbanize the rural population without socially costly rural to urban migration

- integrates the rural economy with the national and international economy and remove inefficiencies

By providing a full complement of services, RISC creates a 'mini-city' which seeds the formation of a city by drawing to it the population from the surrounding villages. Initially, those who need the services will commute to the RISC location but as time goes by, the area around a RISC will naturally evolve into a small city. RISC is the grain of sand around which the pearl of a city can develop.

Development of People, Not Villages

The economic development of the rural population, rather than the development of villages, is the goal. This requires that the population have access to services, which in turn requires the availability of infrastructure. Infrastructure investment is lumpy and cannot be economically provided at the scale appropriate to small villages which are the norm in rural India.

Furthermore, looking to the future, the economy of present day rural India cannot continue to be dispersed into 600,000 villages. The population will have to migrate to a much smaller number of larger aggregations. The formation of these aggregations can be catalyzed by the coordinated investment of infrastructure, either in green-field ventures or in existing locations where there is road or rail connectivity.

RISC is not an attempt at social engineering through centralized planning. It aims to solve a problem by appealing to the profit motives of all participants, be they private sector, NGOs, or the public sector. The good that will surely come out of it can only be attributed to Adam Smith's invisible hand.

Part 3

The Action

We are responsible for what we are, and whatever we wish ourselves to be, we have the power to make ourselves. If what we are now has been the result of our own past actions, it certainly follows that whatever we wish to be in future can be produced by our present actions; so we have to know how to act.

Swami Vivekananda

Those who are too smart to engage in politics are punished by being governed by those who are dumber.

Plato

In preparing for battle I have always found that plans are useless, but planning is indispensable.

Dwight D. Eisenhower

Chapter 11

Democracy and Freedom

India is an extremely poor country even among developing nations. It ranks only 137th in terms of per capita income (International Monetary Fund 2010 data). India's annual per capita income is only around US\$ 1,200. Compare that to China, which ranks 95th, with an income of US\$ 4,300. Note that around 1978, when China started liberalizing its economy, India was actually richer than China.

The world is constantly reminded that India is the largest democracy. That it is a democracy appears to be the highest accolade India has any claim to. Paradoxically, this same badge is used as a shield for deflecting all criticism directed against India for its failure to develop.

Democracy and Development

The question whether democracy is a help or a hindrance to development is important. Economic development and growth is not dependent on democracy. It is quite possible to have one without the other. There are sufficient examples of that around the world. Absence of freedom, however, pretty much guarantees

a failure to develop and grow economically. Empirical evidence abounds in this case as well.

Lee Kuan Yew, prime minister of Singapore from 1959 to 1990, pointed out in a speech in 2006 that,

“... democracy should not be made an alibi for inertia. There are many examples of authoritarian governments whose economies have failed. There are as many examples of democratic governments who have achieved superior economic performance. The real issue is whether any country’s political system, irrespective of whether it is democratic or authoritarian, can forge a consensus on the policies needed for the economy to grow and create jobs for all, and can ensure that these basic policies are implemented consistently without large leakage. India’s elite in politics, the media, the academia and think tanks can re-define the issues and recast the political debate. They should, for instance, insist on the provision of a much higher standard of municipal services.”

License Control Permit Quota Raj

Indian leaders and policymakers have a seemingly schizophrenic attitude towards the people. The people are assumed sophisticated enough to figure out who should rule the nation, but they are not smart enough to make simple day to day decisions; for the latter, they have to have a patronizing government official in charge. They set up the “license control permit quota raj” which dictates nearly every aspect of economic lives of citizens.

That command and control system prevents people from productive activities and forces them to seek favors from the government. India is poor because Indians lack economic freedom. Government control retards economic growth.

Control of the economy does two things. First, it reduces economic activity and consequently growth. Second, it gives rise to rents (profits made from being able to manipulate regulations), which then attracts the most criminally corrupt to gain control of the government. Rent-seeking, rather than good governance, becomes the sole aim of those in government.

Rising Corruption

Mid last century, the degree of corruption in Indian politics was high but compared to what is the norm today, it was as if the politicians of the past were selfless social workers.

It's a downward spiral. Reports of corruption in the tune of billions of dollars have lost their power to shock and surprise. At the highest levels of the government there are criminals, and the general public just takes it as business as usual. Fact is that most people are totally unaware that those billion-dollar corruption deals affect their well-being, and theft of public money is coming right out of their pockets.

The criminally corrupt are not competent to make good policy given that it was not their public policy brilliance that brought them to power. Besides, good policy generally entails a reduction in government power and control of the economy. So why would they do it even if they were advised by others who know better.

Liberty and Democracy

Find out just what people will submit to, and you have found out the exact amount of injustice and wrong which will be imposed upon them The limits of tyrants are prescribed by the endurance of those whom they oppress.

American abolitionist **Frederick Douglass (d. 1895)**

A large country like India cannot be ruled without some degree of popular consent. That the population gives that consent despite the enormous harm the tyrannical government does to them

would be inexplicable but for the fact that the rulers make sure that the population does not ever become informed enough to know that they are living under a tyranny.

India has been a democracy for a long time. But India has not been free since very long. Alexis de Tocqueville pointed out over two centuries ago that liberty and democracy are not the same thing. Indeed, there is sufficient evidence over the centuries that democracy has existed to show that democracy can be the enemy of liberty. We must keep in mind that a despotic dictator like Adolf Hitler was democratically elected.

Tyranny and Democracy

India's government is elected by the people. But being popularly elected as a democratic government does not mean that it cannot also be a tyranny and deny the people freedom. The subjugation of the population can be as real in a democracy as in a despotic rule. As Murray Rothbart wrote,

“... every tyranny must necessarily be grounded upon general popular acceptance. In short, the bulk of the people themselves, for whatever reason, acquiesce in their own subjection. If this were not the case, no tyranny, indeed no governmental rule, could long endure. Hence, a government does not have to be popularly elected to enjoy general public support; for general public support is in the very nature of all governments that endure, including the most oppressive of tyrannies. The tyrant is but one person, and could scarcely command the obedience of another person, much less of an entire country, if most of the subjects did not grant their obedience by their own consent.”
 [From the introduction to the book by Étienne de La Boétie “The Discourse of Voluntary Servitude” (1576)]

Given a choice between freedom and democracy, freedom wins. It wins because freedom allows the individual to grow and flourish. Democracy is about governing people while freedom is about living. Freedom to live and work as you choose is better than having the right to choose from whom you will take orders but without economic and personal freedoms.

The Flawed Implementation of Democracy

Democracy is a form of government, only a means to an end. As a system of governance, it is an abstraction. How that abstract system is implemented on the ground depends on the people involved, the specific circumstances and contingencies of history. Democracy is an idea and translating it into a workable system can be subject to failures.

One kind of failure is tied to expectations of voters. The voters' rational expectations about the usefulness of their vote on the aggregate can lead to either a good or a bad outcome.

Democracy is not just about voting but rather about informed choice. It is costly for voters to inform themselves about political parties. Besides there's time and effort required to vote. If the expectation is that others will not be making the personally costly effort of making informed choices, then the individual voter will rationally conclude that it is not worth the cost of informing himself about which party best deserves his vote and then voting – because his vote would not count in the outcome he desires.

Democracy Failures

Democracy as an ideal works flawlessly in an ideal or first-best world. But like markets and their failures, in the real world democracy failures lead to seriously flawed results that have awful consequences for hundreds of millions in a country like India. It is

time that we honestly confront the reality of democracy failures and figure out a way to address them urgently and seriously.

The observation that countries get the government they deserve is trivially true. The argument is simple. The people who constitute the government of a democratic state are chosen by the people since people elect their leaders. Very poor governance of a state is a reflection of the people, in a very direct sense.

Making India Prosper

Our goal is to see that India reaches its full potential as a nation. We don't have to precisely know what that potential is. What we do know is that it is performing far below its potential and expectations. We can be reasonably sure that its political leadership is responsible for its dismal performance. Therefore the most urgent change needed for India to reach its potential is that the quality of its governance has to improve. That means we have to have better leaders. Therefore, it is up to us to choose wisely and elect competent, visionary, and dedicated people to leadership positions.

It can be validly argued that what we really need is a structural change in the governance in India. Meaning, the system needs change, since without the change in the system, the same old kind of people will continue to be elected. The reason criminals enter politics is because the system rewards crooks and penalizes honest people.

Awareness Precedes Action

What we know has a bearing on what we do. Therefore we have to first know what the situation is. Like all journeys, we have to begin where we are. Wishing that we were somewhere else — nearer to the goal — would be of no use. Our starting point is that we have a dysfunctional system of governance.

The people in charge are evidently incompetent. They must be, since otherwise we would not be in the sorry state that we are in. Incompetence is not a crime, though it should be when the stakes are so high. What is definitely a crime is being a criminal and being in charge of making policy. There are too many criminals in Indian politics. That's our starting point.

Our Ignorance

There is a significant middle-class educated population which is capable of actually comprehending the connection between the corruption and government control. But having the capacity to comprehend is not the same as actually comprehending. Trouble is that they have not had this connection actually explained to them. The education system has not prepared them to think critically. Then of course they are too distracted by bread and circuses (or pizza and cricket, if you please) to figure it out. But even if some of them have figured it out, they are a minority and worse still, a minority that does not bother to express its outrage.

The story becomes even more dismal when you consider what the criminals do to remain in power. They tax the productive sector of the economy and hand out largess to the unproductive sector in exchange for their votes. As the saying goes, robbing from Peter to pay Paul will always ensure Paul's support.

We Need Structural Change

We can easily imagine reforms in the way democracy is implemented which will make a tremendous difference in how India is governed. Consider these changes:

1. Have a high barrier to entry on who can contest elections. Make the minimum requirement so stringent that only highly qualified people, who have demonstrated professional excellence, personal integrity, deep

- commitment to the overall development of India, etc., can be candidates for political posts.
2. Have a high barrier to qualify as a voter. Make it a requirement that only those who are high-school graduates, have at least a basic understanding of the political process, the challenges the country faces, the need for public honesty and integrity, etc., can vote.
 3. Have high barriers to who can contest elections and who can vote. That is, implement points (1) and (2) above.

These reforms will strengthen democracy by shifting the power away from politicians and towards the people – which is precisely why the political parties will not allow these changes.

Caught in a Bind

It would be good to have structural changes but we are trapped in a Catch-22 situation. The people who have the power to bring about structural change in the system are the current set of politicians. Since they have clearly achieved that position within the current system, they have no reason to alter the system in such a way that it will prevent them from reaching the position. Therefore seeking a structural change, while good, is pointless at this point.

We have to work with what we have. What we have is a democratic setup in which everyone has a vote. That is the only card we hold and it is up to us to make the best of it if we are to win at this game. We owe it to ourselves. We owe it to the next generation.

Urban Voter Apathy

Let's consider this in the context of Indian educated urban voters. It is generally known that they largely choose to not vote, believing that their votes don't count. With sufficient numbers of them

holding this view, the expectation is rational since it amounts to a self-fulfilling prophesy.

The reason for the powerlessness of educated urban people is to some extent due to their being a minority. Only around 30 percent of the population is urban. Compounding this problem is the fact that individuals in this segment are a disheartened lot and have resigned themselves to the idea that there is little they can do to affect the outcome of elections.

They are disenfranchised and to a large extent this disenfranchisement is caused by their perception that their vote cannot matter. The political parties know this and quite understandably neglect the interests of the urban middle-class educated voters. This further alienates the urban voters. In essence this is voluntary disenfranchisement of the urban voter which partially accounts for the election of undesirable people to political office.

Political Parties Respond to Voters

Political parties, in their turn, noting that voters are not bothering to inform themselves, and/or are disinclined to vote, will rationally not put in any effort in differentiating themselves – which is costly for the political parties – to appeal to voters.

The outcome will be disastrous: political parties that don't have to put in any effort in attracting informed voters and a set of political parties that are hard to differentiate. The parties then don't bother to address the concerns of voters and thus misgovern without fear of consequences. The desirable outcome would occur only if voters expended effort required for informed voting, and political parties responded appropriately to the voters' efforts.

Change Voters' Minds

One mechanism to nudge democracy from the bad equilibrium to the good equilibrium readily comes to mind. That is, somehow

change the expectation of the voter from one that says that his vote does not matter (which would be rational if he believes that others will not be voting) to one that says his vote matters (because others will also be voting.)

A voter will vote if he or she is confident that sufficient numbers of like-minded voters will also vote. This can be achieved by creating a coalition of voters who *ex ante* commit to voting, and this coalition choosing the party or the candidate to vote for based on a set of values shared by the members of the coalition.

In the next chapter we explore the “Pretty Good Principles” and later how we — each one of us — can make a difference.

Chapter 12

Pretty Good Principles

I have only two rules which I regard as principles of conduct. The first is: Have no rules. The second is: Be independent of the opinion of others.

Albert Einstein

That government is best which governs least.

Henry David Thoreau Civil Disobedience

India, like every successful entity, must have a set of principles at its core from which all governance and policies are derived. These principles must be understood by its citizens and therefore must be comprehensive, comprehensible, and minimal.

These principles have to be an expression of fundamental and foundational values which are acceptable to a large number of people who have different secondary value systems. We call them “Pretty Good Principles,” or PGP for short. They are:

Minimal Government

- Based on the precept “that government is best which governs the least.”

- Government should be involved only in the basic duties of a government such as providing public goods that cannot be efficiently provided by the private sector.
- Removal of government monopolies.
- Independent regulators must be created for all sectors that require regulation – such as public utilities, education, transportation, monetary policy, etc.
- Government should be a referee and not a player in the economic game.
- Focus on increasing income instead of being obsessed with employment.
- Ensure equality of opportunity and not force equality of outcome.

Individual Rights

- Analogous to the First Amendment of the US Constitution which protects the citizens from government abridgment of their rights.
- Full freedom of speech and expression.
- Non-discrimination against anyone regardless of their group identity. No special status for any individual based on their religious, caste, or linguistic background.

The Relationship Between the Individual and the Government

- Liberal society with the individual as the principal and the government as the agent.
- Economic assistance based on the merits of individual needs, not group based economic assistance.
- Government should provide a level playing field for all people and institutions to be free to do whatever they wish to do and make sure that no person or institution encroaches on the rights of individuals.

- People must be treated equally and without reference to any groups that they belong to.

Those principles are fundamentally at odds with the principles that the Indian government currently follows. The intrusion of the government into areas where it does not belong harms the national interest. It is a “maximal government.”

Maximal Government

- The government is involved in airlines, railways, power generation, oil and natural gas, heavy machinery, telecommunications, education, and so on. These can be more efficiently and effectively provided by the private sector.
- No protection for the individual. The government is too powerful and the individual has severely limited or no recourse against the government.
- Very limited freedom of expression. The print media is somewhat free but not totally free. The government still prohibits the publication of certain books and the expression of certain views. Private television is allowed current events programming but private radio is prohibited from news and current affairs programming.
- People are treated unequally. People get privileges based on their group affiliations – religious, caste, etc. Certain groups are taxed and the proceeds are used for buying the affiliation of other groups.
- Groups are privileged over individuals. People face discrimination in jobs and public assistance because of their group membership.

For India to prosper, India has to move away from maximal government to minimal government.

Chapter 13

United Voters of India

He that will not apply new remedies must expect new evils for time is the greatest innovator.

Francis Bacon

We must do what we conceive to be the right thing and not bother our heads or burden our souls with whether we will be successful. Because if we don't do the right thing, we will be doing the wrong thing and we will just be a part of the disease and not a part of the cure.

E. F. Schumacher

The challenge is clear: we have to bring about a positive change in our governance. The major constraint is also very clear: we have to work within the democratic setup. That makes our task harder but not impossible. We have to bring about good governance through participation in the democratic system.

The central idea is to use the current system to fix the system. We know that there are powerful vested interests and interest

groups. We know that political parties use these groups as “vote banks” and pander to them because it helps the politicians to remain in power and continue to amass wealth at the cost of the larger interests of the nation.

Good Governance Through Participation

We know that the politicians cynically divide the country along religion, caste, and linguistic lines. This fractures the population into very small groups and allows the political parties to win seats with only a small minority of votes in their favor.

To counter this, we have to create an artificial vote bank of people who have the capacity to think long-term, desire economic and personal freedoms (not just political freedom), and are willing to work together to bring about change for the public good. Urban educated people will form the core constituency of this vote bank. We call this association of voters the “United Voters of India” or UVI. It’s motto: Good governance through participation.

It is likely that a significant percentage of India’s urban educated population are motivated people who have the capacity to understand what good policies are, know the importance of electing capable policymakers, and whose interests are aligned with the broader long-term national interest of India.

It is possible that the around 175 urban parliamentary constituencies of India have an aggregate of 30 million or so people who are really interested in good governance. If they can be consolidated into a “vote bank” and persuaded to vote *en bloc*, it is possible that they can swing elections and be a force to contend with.

A Voluntary Association

UVI is a voluntary association. People are invited to join and do so freely and without any coercion. Anyone can join provided

they understand the basic principles of the association, and freely agree to abide by the code of conduct of the association.

The basic principles are the Pretty Good Principles, mentioned previously. If the government were to make policies consistent with those principles, it would help India's development.

To become a member of UVI, a person first has to understand the PGP's and be persuaded that a system based on them is good. The association will help people understand the importance of the PGP's. Next, the person has to agree to vote in all elections at the local, state, and national levels. Finally, the person has to vote with the association in the sense that the person has to vote for those candidates that the association selects.

What will UVI Achieve

UVI, as mentioned previously, is a vote bank of urban educated voters. We need this vote bank to counter the baleful effects of other existing vote banks that are based on demographic characteristics such as caste and religion. Like other vote banks, UVI aggregates the preferences of a group of people and thereby it amplifies the demand of the group.

In the case of UVI, the demand is better governance. This demand aggregation will therefore force political parties and politicians to supply good governance. For example, if UVI is a sufficiently large vote bank, then it will improve the quality of our elected officials since UVI demands competent and honest politicians.

Structure of UVI

UVI is a national institution but it is implemented at the local level. Every municipal or state assembly and parliamentary constituency will have a chapter. A person is a member the local chapter of UVI.

Selection of Candidates

As mentioned before, members of UVI will be required to vote for candidates who are selected by the association. The members of a local chapter collectively decide which candidate to support at the elections. The process is simple. All members of the local chapter are eligible to vote (but may choose to abstain) in an internal election to select which of the candidates running for political office the chapter will vote for in the actual elections.

Once the selection of candidates by the local chapter is done, the member of that chapter are honor bound to vote for the selected candidates, regardless of whether they agree or disagree with the choices the chapter has made.

What this will do is, first, they will make a difference at the margin. A competent candidate who would otherwise have lost because he or she does not belong to the correct politically powerful group may win if he or she got the support of the local UVI chapter. Of course not all candidates supported by the UVI voters will necessarily win. They will be effective only in cases the win/lose margin is smaller than the number of UVI voters.

Second, UVI will be like a “stamp of approval” which others can use to decide which candidates to support. Essentially what UVI does is provide additional information which improves the functioning of the election marketplace – where the sellers are the political parties and the buyers are voters. UVI serves not just voters but also those political parties that are sincere about development.

Frequently Asked Questions About UVI

Is UVI a political party?

It is not a political party. It is an association of voters. You can think of it as a cooperative. Coops gain bargaining power by aggregating their demand. This is also similar to labor unions in

which individuals achieve bargaining power by being part of a larger body.

Is it apolitical?

No, it is not apolitical. It cannot be apolitical since it is involved in a political process to change the politics of India

Will UVI be putting up its own candidates?

No, it is just a voluntary association of voters. UVI will merely be choosing among the candidates running for office. By aggregating their votes, members of UVI will be forcing political parties to put up better candidates. Our goal is therefore to become the group that all political parties want to get the support of. And with time, if we are successful, then the politicians running the country will not be of the type that can only remain in power by playing the current vote bank politics. Political parties will not be able to ignore UVI voters if the group is significant in size.

How much impact can a small number of people have on the outcome of elections?

India has 542 parliamentary constituencies with an average of around 1.5 million voters. Of these, there are about 175 urban constituencies. Within each urban parliamentary constituency typically there are seven state assembly constituencies. In each of those there are around seven municipal corporation seats.

Voter turnout in 2009 for the Parliamentary elections was about 60%. The average margin of victory in 2009 was about 70,000. To target 30 million voters for the 2014, we need to focus on getting 150,000 members registered for UVI in each of the urban parliamentary constituencies. These UVI members, around 10 percent of the voting population, will be able to swing the elections.

Does UVI favor any particular political party?

No, UVI is free of political affiliations and therefore it can choose any party that most closely meets its standards that are outlined by the “pretty good principles.”

Can people who belong to political parties become members of UVI?

Anyone can join UVI but they have to agree to the code of conduct that mandates that the member has to vote in accord with selection that the local chapter of UVI has made. Therefore, a member who belongs to a political party may have a conflict of interest.

How will UVI ensure that its members actually vote for the chosen candidate or party?

To join UVI, a member has to take a solemn oath to vote with the association. UVI is a voluntary association of people. Therefore, the oath they take is voluntary. So it does not make sense for a person to voluntarily join an association, take an oath, and then betray himself.

Why would anyone want to join UVI and thus lose their ability to exercise free choice? That makes UVI non-democratic.

UVI actually uses a democratic method of deciding whom to support in any election. The members of the UVI have a “primary” election in which every member can choose to vote. The winner of this primary is naturally a candidate who most closely fits the PGP bill. Only after that is the entire UVI group required to vote for the candidate.

This is no different than what happens in the actual election. We all agree to be governed by the government which wins an election – even if we did not vote or we did vote but for the opposition.

How will you get your members?

There are two avenues for that. First, we will use phones, internet and social networking tools. Second, we will have volunteers who will do door-to-door membership campaigns.

Are there any membership dues?

Yes, there is a small one-time association membership fee of around Rs 100. This will be used for maintaining the association, for informing the public about what UVI is doing, and for membership drives.

So how will they coordinate their activities - regular meetings?

Meetings will be up to the local chapters to have or not. Mostly mobile phones and websites will be used. Members' mobile numbers will be on record.

Not everyone in India has a mobile phone and access to the web. How will this work?

Our target population is urban and educated. That population does have mobile phones and has access to the web.

Will there be positive externalities from the activities of the UVI?

Yes, indeed. We are all busy people. Some of us, however, spend more time than others in informing ourselves. These people will help the local chapter select the candidates to support. This information will be easily available to both members and non-members of UVI. Therefore people will be able to "free-ride" on the work of others who do due diligence on which candidates to support. Candidates who get the "UVI stamp of approval" will get the votes of people who are interested in good governance but are too busy to work it out themselves.

What makes you think that this will work? If it's such a great idea, why has it not been tried before?

We don't really know what will work until we try. It is worth a try since our future, and the future of our next generations, depends on what we do. It has not been tried before but then if there was nothing new under the sun, it would be a pretty dismal world.

The world is a dangerous place, not because of those who do evil, but because of those who look on and do nothing.

Albert Einstein

Epilogue

Make no little plans. They have no magic to stir men's blood and probably themselves will not be realized. Make big plans; aim high in hope and work, remembering that a noble, logical diagram once recorded will never die, but long after we are gone will be a living thing, asserting itself with ever-growing insistency. Remember that our sons and grandsons are going to do things that would stagger us. Let your watchword be order and your beacon beauty. Think big.

Daniel Burnham (1846 - 1912)

American architect and urban planner

Until one is committed, there is hesitancy, the chance to draw back, always ineffectiveness. Concerning all acts of initiative (and creation), there is one elementary truth, the ignorance of which kills countless ideas and splendid plans: that the moment one definitely commits oneself, then Providence moves too. All sorts of things occur to help one that would never otherwise have occurred. A whole stream of events issues from the decision, raising in one's favor all manner of unforeseen incidents and meetings and material assistance, which no man could have dreamt would have come his way.

I have learned a deep respect for one of Goethe's concepts:

Whatever you do, or dream you can, begin it.

Boldness has genius, power, and magic in it.

The Scottish Himalayan Expedition by W.H.Murray

Government Failure

India is not a developed country. It should have been but it is not. India is not destined to be a poor, underdeveloped, so-called “Third World” nation. There is no divine compulsion about it. All the necessary ingredients for India to be a prosperous nation exist.

India has adequate natural resources. Granted that it does not have an over abundance of them but neither has nature been exceptionally unkind to India. India has human resources – indeed it has a super abundance of raw human resources. Indians are not particularly stupid as a collective, either. By all measures, they are fairly close to average in intelligence and motivation, and in their desire to live and let live. India does not suffer from periodic widespread natural disasters which destroy any accumulated capital, leaving death and destruction in their wake.

So what accounts for the singular failure of India to develop? My contention is that India’s failure can be adequately explained as a failure of the governments India has had the misfortune to have. I am convinced that bad governance lies at the root of India’s troubles. Put simply, the government has not been doing its job.

Indians Do Well

Consider this fact. Indians do quite well outside India. In the US and other developed countries, they are extraordinarily successful. Their ability to prosper outside India is in sharp contrast to the inability of their counterparts within India to prosper. That means that it is not nature but rather something in the Indian environment which accounts for Indians not prospering in India. And that environment, we must remember, is created by the government.

I should acknowledge a simple point at this juncture. The government of a country, especially one which is a democracy, is a creation of the people and therefore has to be a reflection of the collective character and will of the people. Therefore the blame for India's unspeakable governments must belong to Indians as a whole. As they say, a country deserves the government it gets. But let's set aside that point for now and move on.

The sole objective of a government has to be to provide governance. Its primary role is the creation of social capital, to be a guarantor of civil rights, to maintain law and order, to correct for externalities, and to create an environment where individuals and corporations have the freedom to create wealth. The government has to be an enabler in the process of wealth generation, not an inhibitor that it has been for so long.

Economic Rules of the Game

The role of the government is to set the rules, not play in the great economic game. We have noted it before but it is worth repeating what Douglas North observed, that "economic history is overwhelmingly a story of economies that failed to produce a set of economic rules of the game (with enforcement) that induce sustained economic growth." It is a cautionary observation and clearly underlines what lies at the root of India's failure to develop: the government has abdicated its primary function of designing the rules and enforcing them fairly but instead entered the game as a player.

The results of the government's involvement in, and stifling control of, the production of goods and services rather than rule-making and law enforcement are plain to see. Just to take a very critical example, consider the generation, transmission, and distribution of electrical power—the life-blood of a healthy economy. Public sector power corporations have let us down.

Power shortage is a crisis for consumers, but even more for industries, the producers of wealth. It raises production costs and our manufacturers are handicapped in the competitive global marketplace. In an era of globalization and international competition, Indian corporations face challenges that are mainly derived from government interference and control.

Indian industry also faces an acute shortage of trained human resources. It is regrettable that only about a quarter of Indian college graduates are employable—a sure sign of a failed education system. Once again, this is a direct consequence of needless government prohibition of the private sector investing in education. The government's near-monopoly control of education has crippled it. The results are as expected: poor quality, extreme shortages, and high costs. India cannot afford the handicap of a massive uneducated population.

Private Sector Produces

The production of goods and services – including education – is not the job of the government; that is the job of the private sector. By getting into production – too often as a monopolist – the government has demonstrated its abject failure. This failure is expected and cannot be otherwise because governments are not capable of inventiveness, entrepreneurship and innovation. Those are qualities that it cannot have and thus cannot compete in the marketplace.

By wasting its energies on activities that it has no comparative or competitive advantages in, the government has neglected what it is required to do: design the rules and enforce them, and create the environment where contracts can be made and enforced. That failure is as costly – if not more – than the failed attempts by the government to produce goods and services efficiently and in sufficient quantities. Consider the functioning of our legal system, as an example.

Among the institutions of governance are the legislature, the executive (including the bureaucracy) and most importantly the judiciary. The statistics of the inadequacy of the judicial system are staggering. There is an estimated over 20,000 cases pending in the Supreme Court, around 3 million in the high courts, and a mind-numbing 22 million cases in the rest of the legal system. There are cases in the high courts which date back to the 1950s.

Aside from the deep concern that justice delayed is tantamount to justice denied, the backlog of cases has serious detrimental effects on the business sector in India. When contracts cannot be enforced, the economy loses from potential trades that do not take place.

The limited liberalization of the economy from some of the shackles of socialistic control has given us an economy growing at a respectable rate of 7 to 9 percent annually. But unless the governance of the economy is improved, even further liberalization – which is sorely needed – will be insufficient to sustain growth. And if growth is not sustained, the hundreds of millions of people trapped for so long in poverty will not have a reasonable shot at economic emancipation.

In this book, I have attempted to address these questions: why India is poor, why it is not developed, what should we do to make India developed, what *can* we do to bring about the transformation of India. I am reminded of what Robert Lucas, Nobel prize-winning economist, said: "The consequences for human welfare involved in questions like these are simply staggering: Once one starts to think about them it is hard to think of anything else."

Not Just an Economic Problem

If the argument that the government lies at the root of India's problems is correct, then to solve India's problems requires that we change the government's objectives and thereby change the outcome. The current objective of the government – extract and

exploit – was inherited from the British. Until that changes, India will suffer from poverty and underdevelopment.

India's problem is not just economic, it is political. Robert Solow, another Nobel prize-winning economist has written,

“If poverty were simply an economic problem, we would be closer to a solution by now. But underdevelopment is a web of economic, political, institutional, ethnic, and class-related connections with persistent historical roots.”

The best available avenue open to us is political. We have to use our collective power to elect good people to positions of responsibility.

Tolerance as an Economic Virtue

Indians are not easily stirred to action and are too willing to tolerate the intolerable. But the innate tolerance of Indians can be turned to India's advantage. Paul Johnson writing in *Forbes* in June 2004 put it nicely in an article titled “Want to Prosper? Then be Tolerant.”

In economic activities the greatest of virtues is religion to be tolerant and, in its own curious way, permissive. Under the socialist regime of Jawaharlal Nehru and his family successors the state was intolerant, restrictive and grotesquely bureaucratic. That has largely changed (though much bureaucracy remains), and the natural tolerance of the Hindu mind-set has replaced quasi-Marxist rigidity.

When left to themselves, Indians (like the Chinese) always prosper as a community. Take the case of Uganda's Indian population, which was expelled by the horrific dictator Idi Amin and received into the tolerant society of Britain. There are now more

millionaires in this group than in any other recent immigrant community in Britain. They are a striking example of how far hard work, strong family bonds and a devotion to education can carry a people who have been stripped of all their worldly assets.

I have always marvelled at how India's disastrous economic growth under Nehru's (who took pains to distance himself from anything Hindu) insane socialism is tagged as the "Hindu rate of growth." It should be termed the "Nehru rate of growth."

What Do We Do?

The transformation of India is not going to be easy but it is not going to be impossible either. India needs that transformation urgently. A couple of generations of people – our parents and grandparents – have suffered India's disastrous descent into Nehruvian socialism. We stand at a possible inflection point. Our actions will determine if our children will suffer the same fate as our parents.

A time may come when someone asks us, "So you knew that the nation was sliding deeper into poverty and corruption. What did you do?" You must be able to look that person – perhaps a son or a daughter – in the eye and say, "I did something. I did my best and tried to make a difference."

India's transformation into a truly free country is the challenge. If we don't take up that task, then who? And if not now, then when?

“Transforming India” Website

Please visit <http://atanudey.com/TransformingIndia> for providing feedback, and joining the discussions. This book is available in both hard and soft copy formats, and through various channels. Details are at the website.

