TeamLease™

INDIA LABOUR REPORT 2007

The
Youth Unemployability
Crisis

A
Report
By
TeamLease Services

www.teamlease.com

Summary

Youth unemployability is a bigger crisis than unemployment

- 53% of employed youth suffer some degree of skill deprivation while only 8% of youth are unemployed
- 57% of India's youth suffer some degree of unemployability
- The 82.5 million unemployable youth fall in three skill repair buckets:

Last mile repair	(< 0.5 yrs)	5.3 million
Interventional repair	(0.5-1 yr)	21.9 million
Structural repair	(1-2 yrs)	55.4 million

- Repairing this skill deficit needs Rs 490,000 crore over two years. Current budgets cover 25% of this but only allocating more money won't solve the problem

The poor HRD regime

- Demand / Supply mismatch; 90% of employment opportunities require vocational skills but 90% of our college / school output has bookish knowledge
- High drop out rates (57% by Grade 8) are incentivized by the low returns of education; 75% of school finishers make less than Rs 50,000 per year
- Poor quality of skills / education show up in low incomes rather than unemployment; 58% of graduates makes less than Rs 75,000 per year

The Urgency

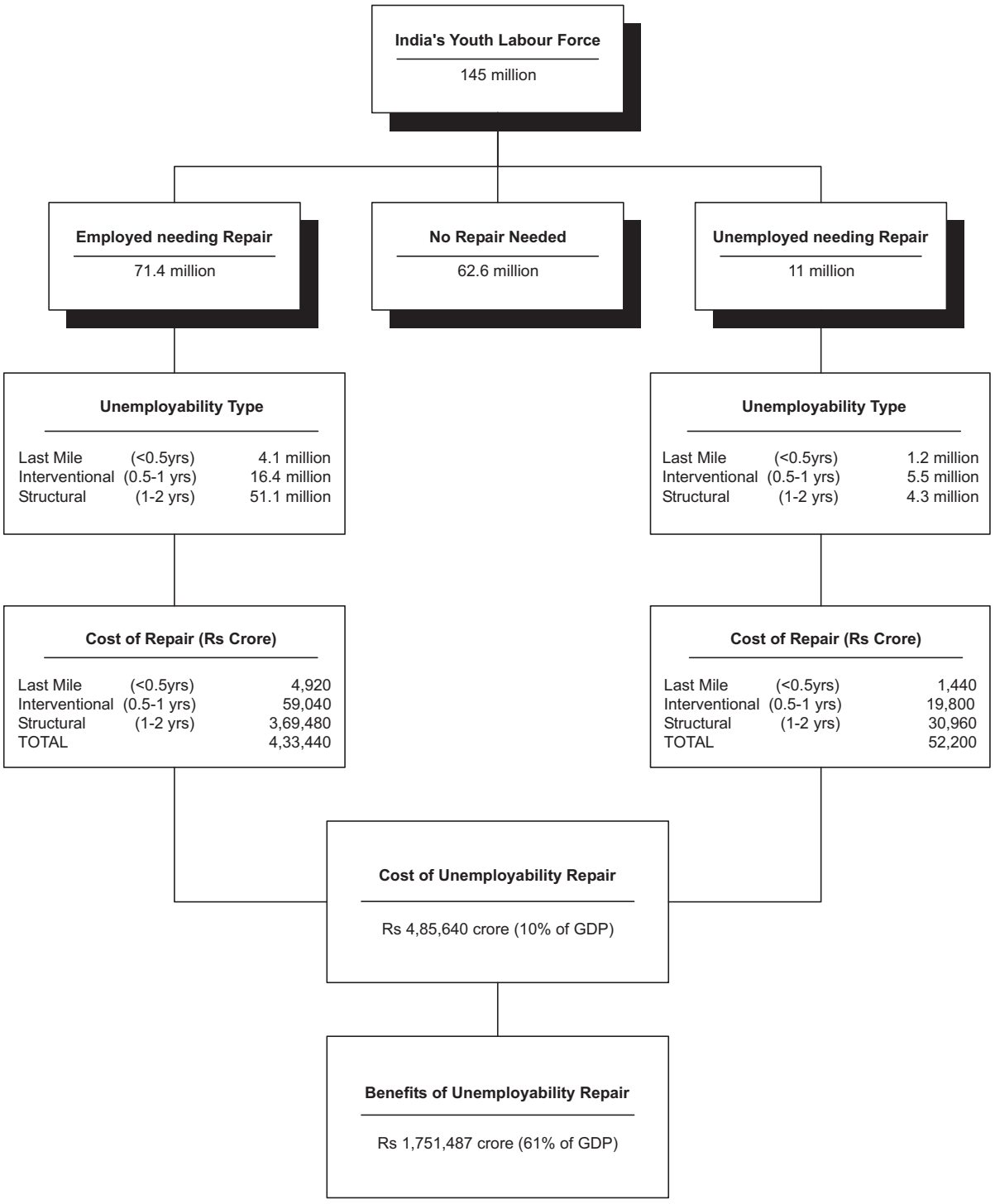
- Unviable Agriculture; 96% of farm households have less than 2 hectares. 70% of our population and 56% of our workforce produce 18% of GDP
- Demographics; 300 million youth will enter the labour force by 2025. 25% of the world's workers in the next four years will be Indian
- Our 50% self-employment does not reflect entrepreneurship but our failure to create non-farm jobs and skills
- The skill deficit hurts more than the infrastructure deficit because it sabotages equality of opportunity and amplifies inequality while poor infrastructure maintains inequality (it hits rich and poor equally)
- The increasing returns to skills and skill deficit are reflected in the 10% increase in inequality (Gini coefficient) since 1994

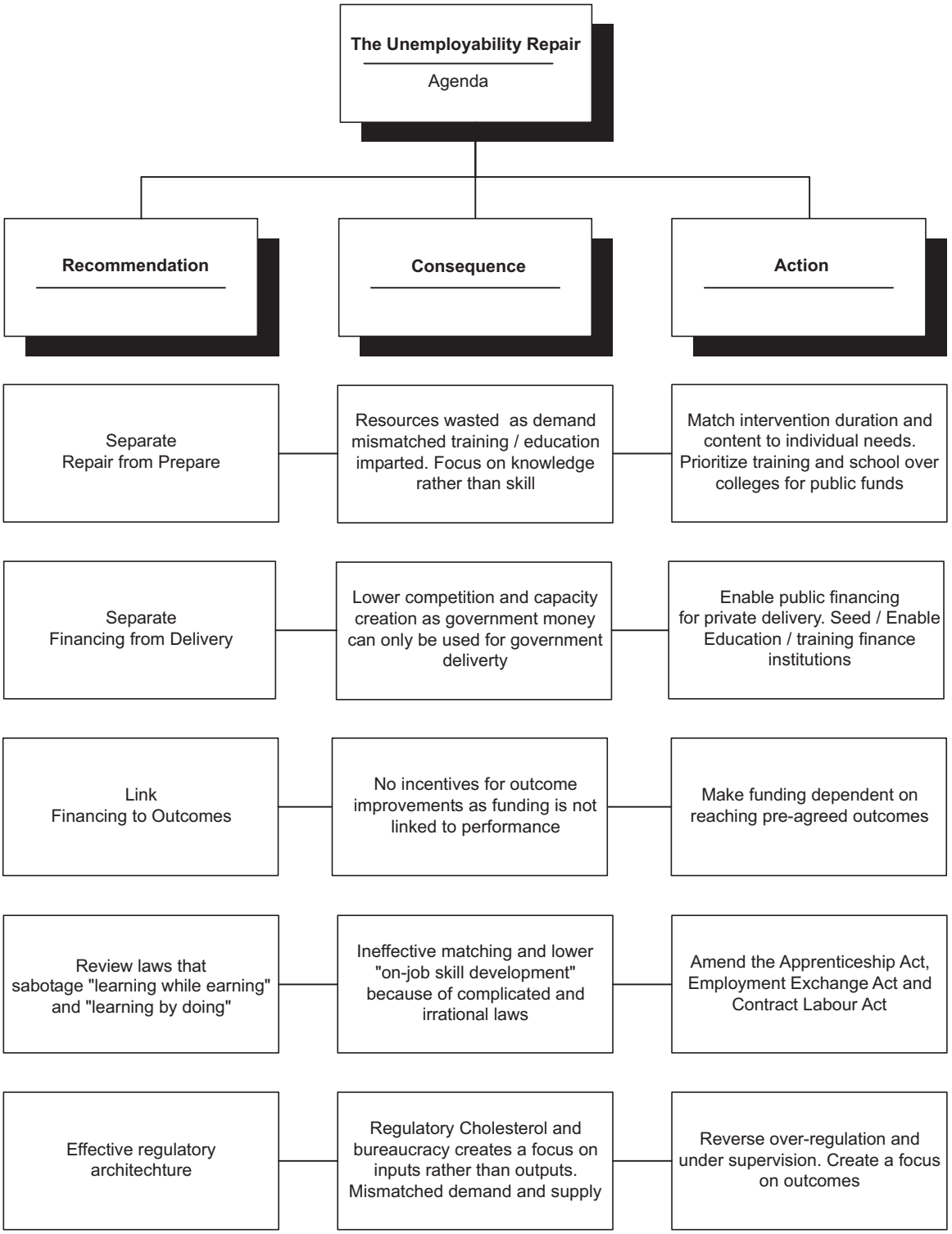
The skill repair agenda

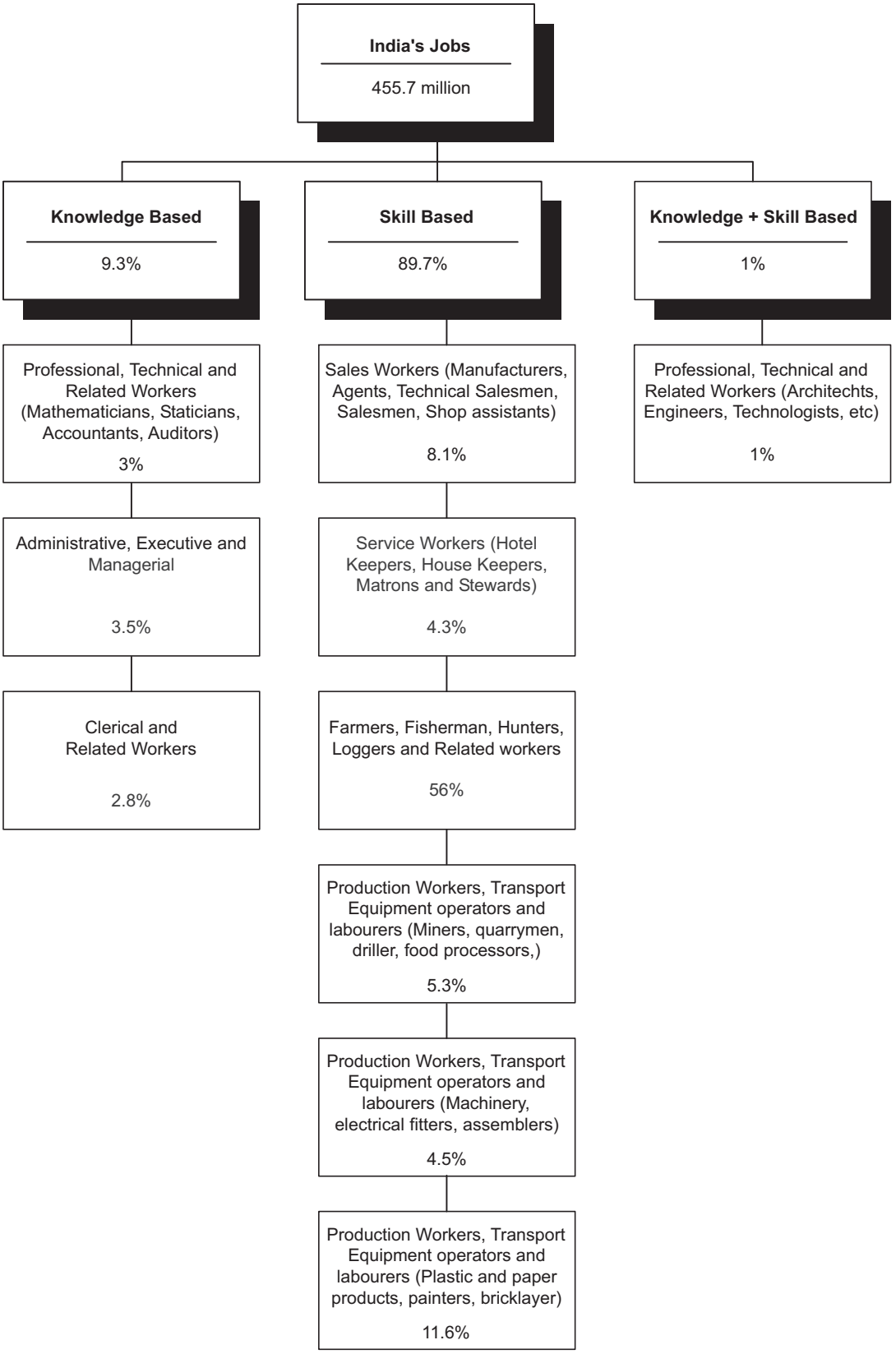
- Separate repair from prepare
- Separate financing from delivery
- Link financing to outcomes
- Review laws that sabotage “learning while earning” and “learning while doing”
- Effective regulatory architecture

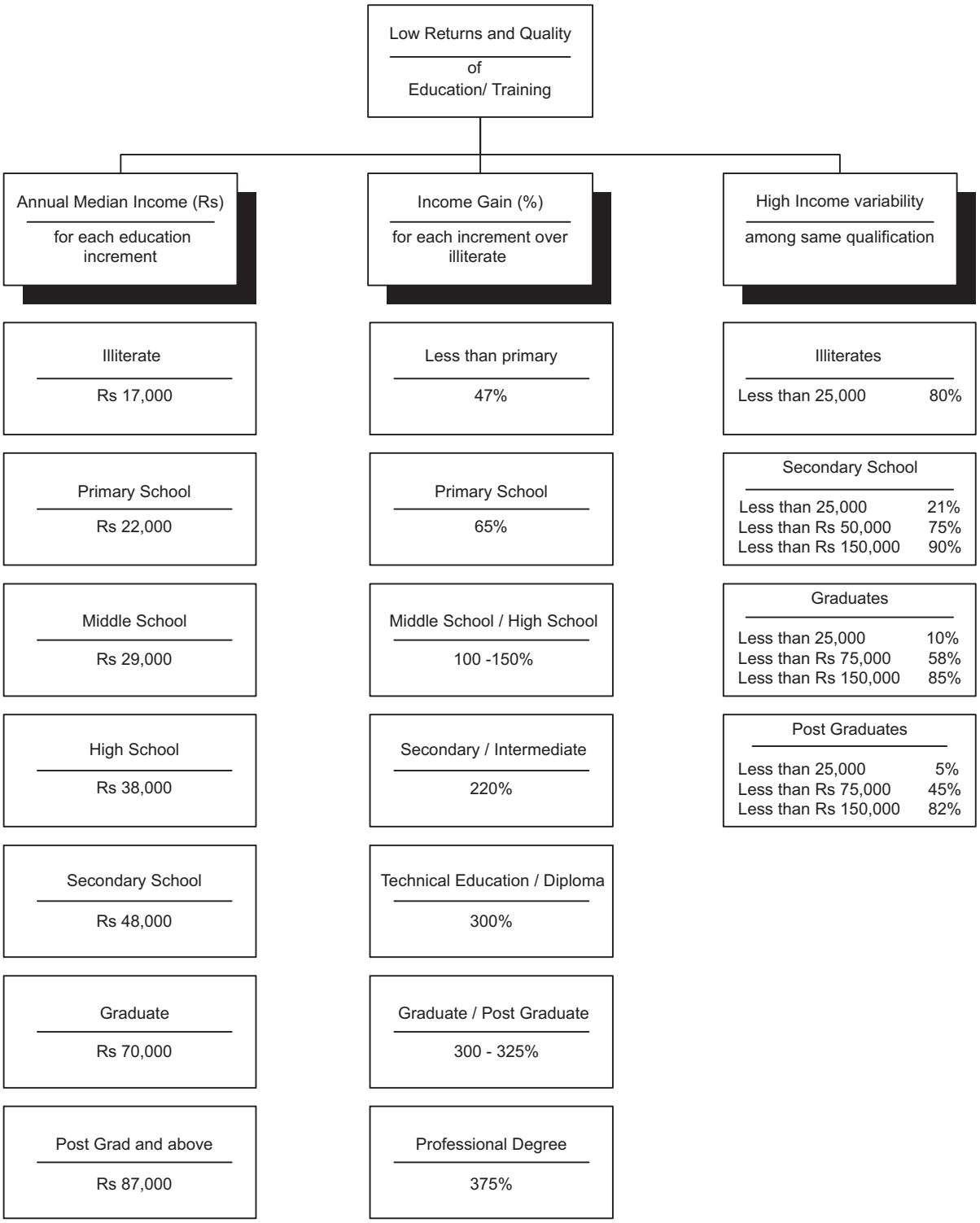
The skill repair outcome

- Spending 10% of GDP (Rs 4,90,000 crore) on skill repair will generate extra income of 61% of GDP (Rs 1,751,487 crore) for current unemployable youth. This is more than a 600% return on investment
- More importantly, it leads to lower inequality, inclusive growth, and lower poverty


India's Youth Labour Force
145 million
Employed needing Repair
71.4 million
No Repair Needed
62.6 million
Unemployed needing Repair
11 million
Unemployability Type
Last Mile (<0.5yrs) 4.1 million
Interventional (0.5-1 yrs) 16.4 million
Structural (1-2 yrs) 51.1 million
Unemployability Type
Last Mile (<0.5yrs) 1.2 million
Interventional (0.5-1 yrs) 5.5 million
Structural (1-2 yrs) 4.3 million
Cost of Repair (Rs Crore)
Last Mile (<0.5yrs) 4,920
Interventional (0.5-1 yrs) 59,040
Structural (1-2 yrs) 3,69,480
TOTAL 4,33,440
Cost of Repair (Rs Crore)
Last Mile (<0.5yrs) 1,440
Interventional (0.5-1 yrs) 19,800
Structural (1-2 yrs) 30,960
TOTAL 52,200
Cost of Unemployability Repair
Rs 4,85,640 crore (10% of GDP)
Benefits of Unemployability Repair
Rs 1,751,487 crore (61% of GDP)


The Unemployability Repair
Agenda
Recommendation
Consequence
Action
Separate
Repair from Prepare
Resources wasted as demand mismatched training / education imparted. Focus on knowledge rather than skill
Match intervention duration and content to individual needs. Prioritize training and school over colleges for public funds
Separate
Financing from Delivery
Lower competition and capacity creation as government money can only be used for government deliverty
Enable public financing for private delivery. Seed / Enable Education / training finance institutions
Link
Financing to Outcomes
No incentives for outcome improvements as funding is not linked to performance
Make funding dependent on reaching pre-agreed outcomes
Review laws that sabotage "learning while earning" and "learning by doing"
Ineffective matching and lower "on-job skill development" because of complicated and irrational laws
Amend the Apprenticeship Act, Employment Exchange Act and Contract Labour Act
Effective regulatory architechture
Regulatory Cholesterol and bureaucracy creates a focus on inputs rather than outputs. Mismatched demand and supply
Reverse over-regulation and under supervision. Create a focus on outcomes


India's Jobs
455.7 million
Knowledge Based
9.3%
Skill Based
89.7%
Knowledge + Skill Based
1%
Professional, Technical and Related Workers (Mathematicians, Staticians, Accountants, Auditors)
3%
Administrative, Executive and Managerial
3.5%
Clerical and Related Workers
2.8%
Sales Workers (Manufacturers, Agents, Technical Salesmen, Salesmen, Shop assistants)
8.1%
Service Workers (Hotel Keepers, House Keepers, Matrons and Stewards)
4.3%
Farmers, Fisherman, Hunters, Loggers and Related workers
56%
Production Workers, Transport Equipment operators and labourers (Miners, quarrymen, driller, food processors,)
5.3%
Production Workers, Transport Equipment operators and labourers (Machinery, electrical fitters, assemblers)
4.5%
Production Workers, Transport Equipment operators and labourers (Plastic and paper products, painters, bricklayer)
11.6%
Professional, Technical and Related Workers (Architechts, Engineers, Technologists, etc)
1%


Low Returns and Quality of Education/ Training
Annual Median Income (Rs) for each education increment
Income Gain (%) for each increment over illiterate
High Income variability among same qualification
Illiterate
Rs 17,000
Primary School
Rs 22,000
Middle School
Rs 29,000
High School
Rs 38,000
Secondary School
Rs 48,000
Graduate
Rs 70,000
Post Grad and above
Rs 87,000
Less than primary
47%
Primary School
65%
Middle School / High School
100 -150%
Secondary / Intermediate
220%
Technical Education / Diploma
300%
Graduate / Post Graduate
300 - 325%
Professional Degree
375%
Illiterates
Less than 25,000 80%
Secondary School
Less than 25,000 21%
Less than Rs 50,000 75%
Less than Rs 150,000 90%
Graduates
Less than 25,000 10%
Less than Rs 75,000 58%
Less than Rs 150,000 85%
Post Graduates
Less than 25,000 5%
Less than Rs 75,000 45%
Less than Rs 150,000 82%

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Preface

It is a unique time to be Indian. We are a people and country in the right place at the right time. What is happening in India is not once in a decade or once in a millennium but once in the lifetime of a country.

But despite the headlines, there are many Indians that need help. Poverty is declining but inequality is rising sharply. 300 million Indians will not read the newspaper they deliver, sit in the car they clean or live in the house they build. 57% of India's youth suffer from some form of skill deprivation. The young and poor are the biggest victims of India's infrastructure and skill deficit.

We believe that the skill deficit is more dangerous than the infrastructure deficit because it not only reinforces inequality but amplifies it. But the financing or delivery of education and training has not seen the innovations or progress that infrastructure has made in the last fifteen years. Our failure in quality education and skills represents a man-made policy blunder that is perpetuated by a regulatory regime that not only ignores but does not measure outcomes.

The agony and ecstasy of labour market is well known. Corporate India cannot find skilled employees and many people cannot find jobs. Much of our labour force is “working poor” i.e. makes enough money to live but not enough to pull out of poverty. The bottom 20% of our people produce 4% of our income. Agriculture is unviable and keeping people on farms condemns them to lives of poverty and unfulfilled potential.

It's time to act. It's also past the stage where incremental solutions will work. We need a radical overhaul of our education and training regime. We need to align the manufacture of labour supply with labour demand. Repairing youth unemployability needs a lot of money (10% of GDP) but there is a big upside (61% of GDP). But only money is not enough; we need structural change. Not only more cooks in the kitchen but a different recipe.

The skill crisis is very personal and existential for Teamlease; we are a people supply chain company that is running out of inventory. This report is part of our campaign to raise awareness on the unintended and dangerous consequences of our current labour and HRD regime. More research/ reports are available at www.teamlease.com.

Teamlease is fighting a battle of right against might and, as Keynes said, ideas matter. Laveesh and his team at Indicus are an exceptional fountainhead of ideas, inspiration and knowledge. We can never thank them enough

The Teamlease Team

About This Report

India launching itself on a higher growth trajectory has brought accolades as well as apprehensions to the fore. The issue of employment and employability of the Indian labour force assumes significance in this light. Despite an advantage of large manpower availability in the country, employability of India's labour force remains a key challenge ahead. Pressures on the employment space arising due to multiple factors that include a shift in the demographics of the population, inability of an ailing agricultural sector to support the prevailing labour force participation and an educational regime out-of-sync with the industry, can no longer be neglected.

This report attempts to unravel the issue of employability in its overall hues and colours. Employability of an individual is seen to depend on the knowledge and skills possessed; the attitude towards employment, and the economic context within which employment is availed. These are inter-linked factors and an effort has been made to substantiate the argument using empirical analysis throughout the report.

The report maintains that employability is inextricably linked to the prevailing human resource regime. Upon further analysis, it is brought out that the impact of an inefficient HRD regime in the country manifests itself not only in the form of higher wage differentials among the working individuals but even goes as far as consequently sustaining inequalities arising out of lost opportunities for individuals. Absence of an academia-industry interface, lack of focus on skill development of individuals and an almost non-existent quality assurance framework underlie the poor outcomes of the current educational regime. The decision of an individual to continue in the educational regime is contingent on his gaining adequate returns for the efforts made and the current regime does not prove to be an enabler in this sense as well. As a result individuals drop-out, are under-trained and thus under-skilled, providing less than expected returns to them.

The nature of the demographic composition of the country's population presently and the scenario in future compels the analysis to conclude that only with a suitably-directed and implemented human resource regime would this socio-economic burden prove to be a demographic dividend. Included in this challenge is an ailing agricultural sector that is no longer able to support the high labour force absorbed under it. Continuously increasing pressure on land, an eroding sustainability and dependence on agriculture for a large section of the population underlie the assertion made in this report.

The report treats the challenge of employability as being not just limited to the persons unemployed but takes a comprehensive approach to include the persons sub-optimally employed as well. The latter essentially include individuals who receive less than adequate returns for their education and skill levels. The extent of this challenge is captured by an empirical analysis of the employability scenario vis-a-vis the youth. The present work treats it much more pertinent to focus on the youth since it is with the youth that a solution vis-à-vis employability challenge is most desired and relevant. The scenario that is brought out is the key to understanding not only the extent of the problem but also its solution including the magnitude of efforts required to be put to overcome the challenge.

Before turning to solutions specific to the Indian challenge in employability of its vast labour force, the present work turns to take a stock of the global experience in the field. Globally, two broad approaches have been followed towards achieving enhanced employability. The first one dealing with reforms in the education system accompanied with a second approach of creating an enhanced focus on ensuring lifelong learning opportunities for the nation's working group. The report proceeds to discuss the systems that various countries have experimented with and found suitable for their own socio-cultural milieus. In particular, we consider the German and South Korean education systems which when compared to the other two case studies of Australia

and USA stand as the less flexible approaches. In case of the strategy towards life long learning, cases of France and South Korea find special mention in the report. It is observed that with these twin strategies the progress towards employability objective becomes a continuous and a seamless one.

Through the means of global experience on employability India can indeed appreciate the scope available and can fast pace its progress towards the evolution of an 'Indian Solution'. The report maintains that unless basic principles are integrated into the systems and specific strategies set out to raise the employability of the growing workforce, the mirage of 'a large pool of skilled labor' in India will continue to place brakes on growth. The Indian human resource pyramid has to be based on a strong and vibrant school education system. Any changes made to higher education establishments will not bear the desired outcome if schools across the country fail to throw up a large base of well-trained youth. As a natural growth pattern, this strong base then needs to be given adequate options towards vocational training. The critical pillar in the strategy to tackle the employability challenge is thus the school education system. The next is vocational training. Vocational training is important not just to be able to get a job (as the term 'employability' is sometimes confused with) - it is also required to improve productivity levels for the self-employed and those employed in family businesses. Higher education though critical in India's entry into the economically powerful club, is of least importance in the larger scheme of inclusive growth- since employability by its very definition is about each individual.

This study would not have been possible without the support, expertise and guidance of many colleagues. The Indicus project team included Laveesh Bhandari (*Project Direction*), Saurabh Thakur (*Project Coordination*), Mridusmita Bordoloi, Komal Tannan (*Quantitative Analysis*) and Sumita Kale, Silvi Kurian (*Reporting*). Indicus takes this opportunity to acknowledge those who have provided their critical inputs. We also wish to thank Abhilasha Maheshwari for providing critical inputs on the issue.

Chapter 1 : Introduction

" For our people to benefit from new employment opportunities, we must ensure that every Indian is skilled and educated. Education alone is the foundation on which a prosperous and progressive society is built. I wish to see a revolution in education and skill development in the next five years.

We will make India a nation of educated people, of skilled people, of creative people "

Manmohan Singh, Prime Minister of India
Red Fort, Aug 15th, 2007

With growth surging ahead in India, the consequences of past policy omissions come to roost as constraints in skilled manpower grip the manufacturing and services sectors in India. The famed demographic dividend and huge human resource potential fail to live up to their expectations, simply due to the lack of comprehensive planning, that should have matched the availability and requirement of manpower, sector by sector, and integrated the education system with the demands from economic growth. Traditionally employment has been seen as an offshoot of meeting the goal of poverty alleviation. As a result, the employment programmes have formed an alphabet soup over the years, with no link to generating growth opportunities. At the same time, the education system has developed independently, following the Macaulay pattern, with little connection to employability concerns. The Taskforce on Employment Opportunities headed by Dr. Montek Singh Ahluwalia in 2001 stressed the need to improve the quality of employment, and not just to create more jobs that in fact have done little to reduce poverty[1].

The main issue to address today is not just providing employment but of increasing the employability of the labor force in India. The World Employment Report 1998-99 called for better data that will cover the demand and supply of education and training, the participation and progress in education, the learning environment as well as outcomes and performance data. The report fills in this lacuna by looking at the education-employability link through quantitative and qualitative indicators in the current situation and forecasting ahead. With 300 million new entrants to the workforce by 2025[2], the issues at stake for the society and the economy are large. India has joined the big league of a trillion-dollar economy, despite a high level of unemployment and illiteracy and now, the XIth Plan has made a first attempt at creating a holistic approach with the CII Employment Report setting out growth and employment projections for 36 sectors. While the latter addresses issues relating to growth prospects for each sector, it stops short of providing a wide-angle snapshot of jobs at a macro level and the present study takes this initiative forward by linking education and employment at a macro level.

Though India has an advantage in large manpower availability, turning this quantum into a productive resource is a challenge that the nation has still to confront. There are various dimensions, which cause concern. To begin with, there are strong pressures emanating from the agricultural

1 The Report pointed to the fact that unemployment under the CDS category in 1999-00 was 7%, while % of population under the poverty line was 26%, implying that employment did not translate into poverty reduction.

2 CII Employment Report, 2006, p ii

sector, which needs large-scale absorption of the surplus labor. The high rates of drop out from each level of the schooling system due to socio-economic reasons leads to the vast majority of the working force without the benefit of education. For those who stay in, there is the question of an outdated system that still revolves around rote learning rather than teaching skills of organizing, understanding information and solving practical problems. Students resort to private institutes to pick up additional capabilities in the field of languages, computers etc. which gives them a step up in the job market.

While these problems are not new, the urgency to deal with them rises from the constraints that are being set on growth, as double digit growth continues to elude India. There are thus two levels of reform that are important if employability is to be raised in India. The first is an overhaul of the current educational system. The lack of vocational training in the country is a major reason for the lack of competitiveness and productivity of the workforce in India. The report will explore the practices in other countries, which can yield valuable insights for reforming the Indian education system. So far, progress on adding value to the education system has been led by demand in various spheres. Initiatives for training and creating employability skills have come primarily from the private sector, which has high ambitions of growth and is faced with a compelling need to match global standards, but there has been no effort at integrating the initiatives into a comprehensive transformation.

While the debate on education invariably centers on the provision and ownership pattern, it is vital to recognize the role of the government in setting up a national framework for quality assurance of training providers. One of the main problems of rapid growth and structural change is that the burden of retraining falls on the labor force, which raises pressures from the lobbies that abhor the restructuring within companies. Such a situation is not healthy from both the economic and social angles. A system that rewards firms that arrange for new skills for workers would be preferable to one where labor is retained but remains unproductive. In a fast changing world, the development of life long learning capability should also be an objective while planning for employability enhancement in the economy.

India Labor Report 2007 begins by analyzing all the facets of the poor HRD regime in the country. The reasons behind the high drop out rates and the resultant loss of income opportunities are highlighted, even as it explores the unsatisfactory output from the current education system. Next, it examines the concept of 'employability' in detail- education, skills, experience and their impact on income earning capacity. Having investigated the current situation, the report goes on to emphasize the pressures that are building up on the demographic front and addresses the issue of converting the socio-economic burden into a demographic dividend through career oriented education. After presenting the various options that are available for India to reform, the report puts together a set of recommendations that will raise employability levels in the country and prepare the base for more sustainable growth.

Chapter 2 : The Poor HRD Regime

"A large proportion of the educated unemployed are first time work-seekers. It appears that the aspirations of the educated are not being met and there could be a number of reasons for this. On the one hand, there is higher unemployment amongst the educated and on the other, employers are complaining of lack of skilled manpower. Clearly, to some extent the responsibility of the mismatch must fall on the type of education that is being provided."

Business Standard, 21 February, 2007

Given that employability, and consequently the growth of a nation, is dependent on the HRD regime, there exists a need to ensure that the outcome of such a regime aids higher employability and growth. The Indian case is all the more pertinent given the inflexion point Indian economy is at. The capitalization on limitless opportunities that the country is witnessing- having crossed the 'Hindu rate of growth'- is contingent on the availability of a vast and qualified human resource base. An inefficient HRD Regime is surely going to turn into India's Achilles' heel. Studying this linkage would help reach the root cause and probable reasons for India's lower than expected capitalization of available opportunities.

The lower than expected capitalization of the available opportunities amplifies the hurdles in the way of development and a sustained growth. Youth, the most resourceful part of the nation, particularly face the brunt. The inherent weakness in the system leads to a situation where a large pool of youth, though willing to work, is unemployable due to various reasons of which skills is one. India has been experiencing this and reports suggest that this situation will worsen in the future. Correction of the loopholes existing in the HRD Regime has thus become a necessity, without which the situation will get out of hand.

The issue is finding a proper definition of a poor HRD regime, or rather what constitutes a poor HRD regime. The answer could suitably be found by looking at the impacts of an inefficient HRD regime. The immediate and deepest impact of an inefficient HRD regime can be listed as 'Higher Wage Differentials among the working group', 'Sustained Inequalities among the backward sections which is the result of the higher drop out rates', and 'Lost opportunities which is a spillover effect of the high drop out rates'. The current chapter deals with these impacts and in the process also answers what constitutes a poor HRD regime.

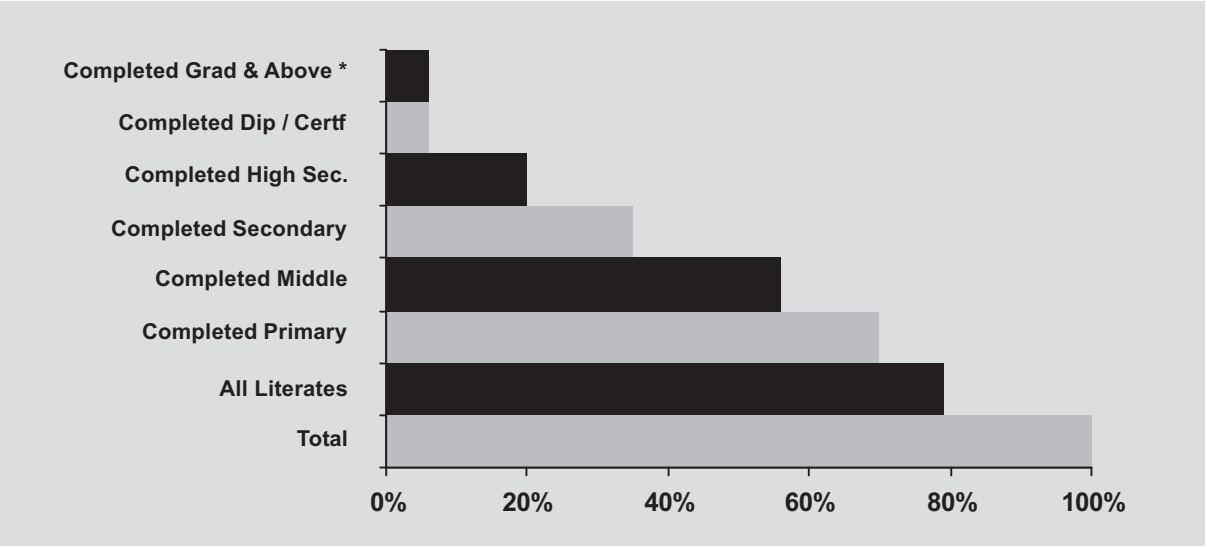
2.1 Lower penetration levels for higher education

One of the most negative impacts of a poor HRD regime is the 'quantum' loss of potential skilled labor force. The inherent deficiencies of an inefficient HRD Regime, of which imparting adequate skills is one, affect the smooth functioning of the economy. Lack of adequate measures to ensure continuation of education would lead to fewer numbers of students going to next levels of education with a spiraling impact of higher losses in higher grades. The inadequate skill levels (treating education as a proxy for skill levels) of the labor force at large thus lags behind in meeting the needs of the job market, which in turn leads to lower employability.

This inverse relation between education levels and the numbers achieving them has been quite widespread in the Indian case. Analysis of the NSSO 61st Round for the 18-22 age group population substantiates this. Of all individuals in this age group, 79% are literates- indicating that as a

proportion this age group has higher literacy rates compared to the overall literacy rate for India which is 64.8% (Census 2001 figures). It is observed that a lower and lower percentage of population complete higher levels of education. The figure given below shows that where on one hand, percentage population that completed primary was 70%, only 6% in this age group completed a diploma course. Quite clearly, higher levels of education see a lower penetration level, the least penetration is observed in case of graduates and above. Thus, the decision of cross over to higher levels of education is taken by fewer and fewer number of individuals.

Figure 1: Penetration Levels of Education



Source: Indicus Estimates based on NSSO 61st Round 2004-05. All individuals in 18-22 age group * Figure for individuals (Graduates and above) are based on analysis of 15-60 age group.

This decision of discontinuation leads to the accumulation of job seekers in the bottom of the education pyramid. Considering the 15-60 age group, the working population age group, from the NSS 61st Round Employment Data shows that almost 40% of the population in this age group is not literate (heavy concentration at the bottom of the pyramid). The percentage educated falls progressively with higher level of education. Graduates and above constitutes only 7% of the 15-60 age group population (see figure A24 given in Appendix).

- *The present scenario sees a lack of academic focus, and latest product knowledge*
- *Managers in general lack exposure to visualize the broad picture, being restricted to micro issues*

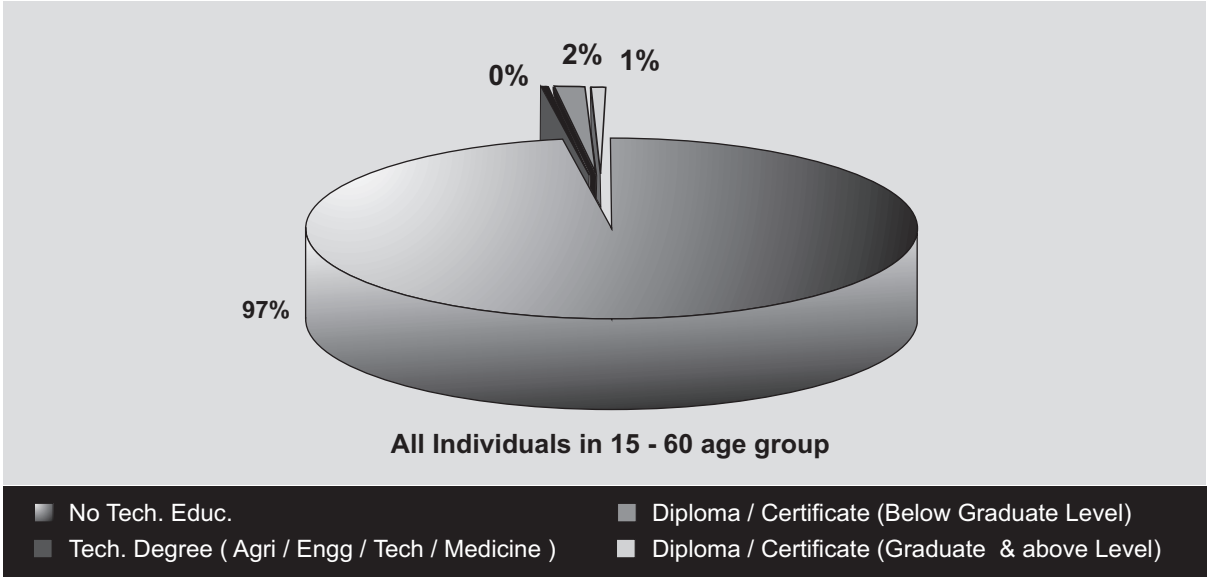
Dinkar Devgun, HR Manager, HSBC Bank

2.2 Technical and Vocational Education - A necessity

Immediate fallout of the accumulation of individuals at the bottom of the pyramid is the low skill levels among the working population. These can be measured using two indicators- one, incidence of technical education and second, incidence of vocational training among individuals.

The incidence of technical education is defined in terms of individuals having either a technical degree in agriculture/engineering/technology/medicine etc or, a diploma/certificate below graduate level or, a diploma/certificate for graduate and above in the fields of Agriculture / Engineering / Technology / Medicine / Crafts etc[3]. Considering the working population age group from NSS 61st Round on Employment and Unemployment, one observes that 97% of the labor force (age group 15-60 years), has no technical education. Of all the 15-60 year olds, a meager 0.3% has a technical degree. See figure given below.

Figure 2: Distribution of working age population - Technical Education

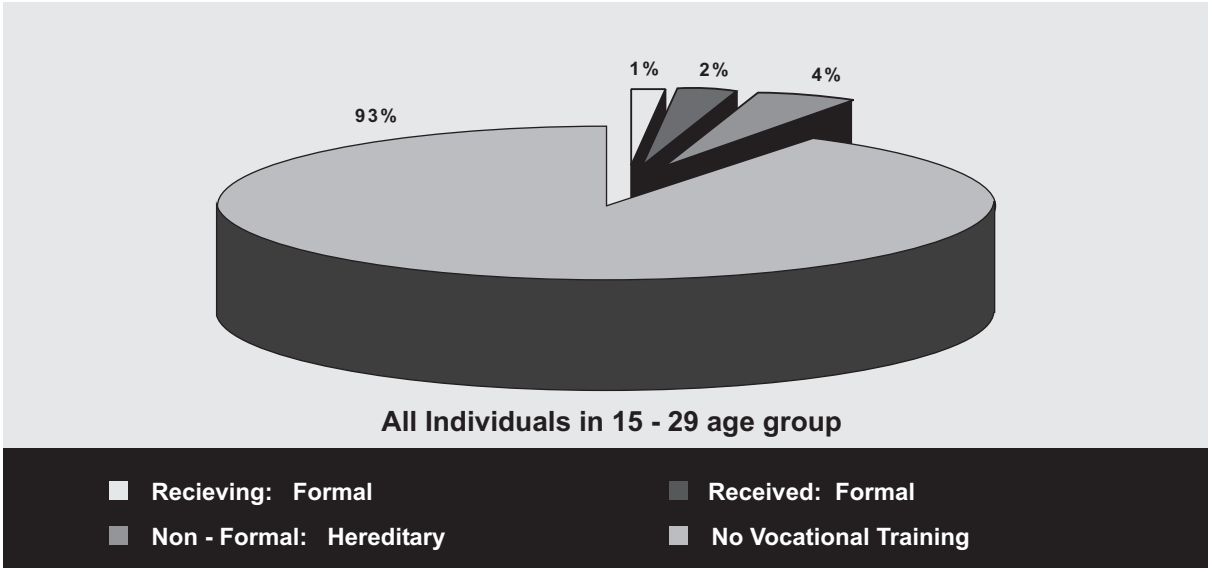


Source: Indicus Estimates based on NSSO 61st Round 2004 -05. All individuals in the working age group 15 - 60 years.

A vocational training has been broadly defined as a training, which prepares an individual for a specific vocation or occupation. It aims at imparting training to persons in very specific fields through providing significant 'hands-on' experience in acquiring necessary skills in specific vocation or trade, which make them employable or create for them opportunities of self-employment. Vocational training is viewed as an important source of imparting skills, which essentially consists of two categories, namely, formal and non-formal training[4]. The bleak performance on this front is highlighted by the fact that hardly 7% of the population in the 15-29 age group receives any vocational training. Even more glaring is the breakup of this 7%. This 7% consists of only 2% receiving a formal vocational training, 1% still receiving, and the majority (4%) with non formal training[5]. In a country like India where labor power (especially unskilled) is abundant the aim should be best tapping this available resource. This can be enhanced by imparting necessary skills to the labor force for their entry as well as sustainability in the job market. However, the HRD regime in our country has failed to do so, which has led to a whopping 93% population in the labor force with no access to any kind of formal/informal vocational training (see figure given below).

[3] This definition of technical education has been used in the NSSO rounds and employed in the present study
[4] NSS 61st Round (2004-05)
[5] Non formal vocational training implies training outside formally established institutes

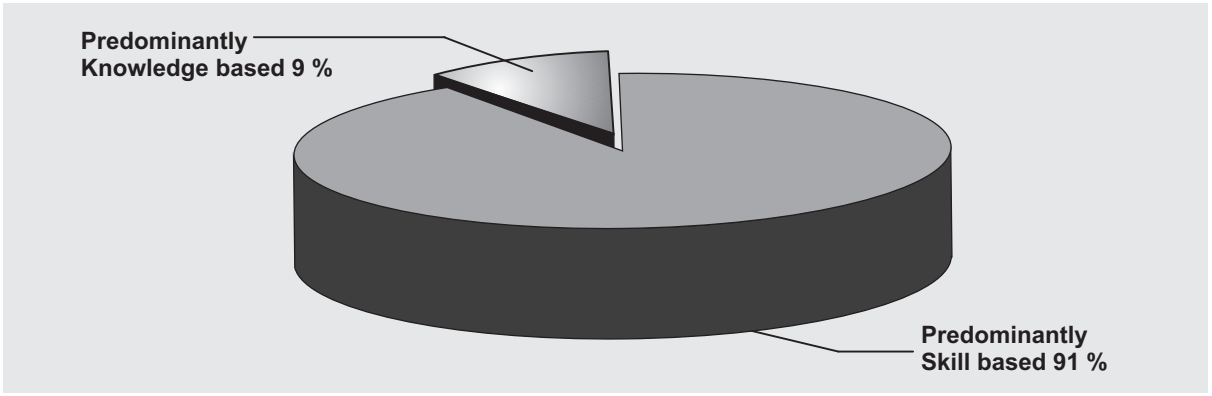
Figure 3: Incidence of Vocational Training among youth



Looking at the occupational structure it is observed that there exist job specific requirements, with varying degrees of physical skills and knowledge involved in each type. All jobs can be broadly classified into two groups, namely, 'Skill-based' jobs involving physical activity and 'Knowledge-based' work which involves application of knowledge. For instance, farmers, fishermen, sales workers, service workers, production workers, transport equipment operators, etc apply more of physical activity in their work. On the other hand, professionals, technical and related workers are categorized as those involved in 'Knowledge-based' work. Engineers, technologists and surveyors etc are an exception to this as they are involved in both 'Skill-based' as well as 'Knowledge-based' work.

An important insight drawn by analyzing these job requirements shows the disparity in terms of skill levels and actual work existing. This has been shown with the aid of data from NSS 61st round. It is observed that of those working according to the principal activity status, more than 90% are employed in 'Skill-based' jobs (see figure given below). This is in contrast with the figures that show that more than 90% population receives no vocational training.

Figure 4: Distribution of 'Skill-based' versus 'Knowledge-based' occupations



Source: Indicus Estimates based on NSSO 61st Round 2004-05. National Classification of Occupation (NCO) 1968 used. All individuals currently working by their principal activity.

The mismatch between skill levels and occupation structure in India is quite stark. Where on one hand, 93% population (15-29 age group) receive no vocational training, a huge 91% employed according to principal activity status are employed in 'Skill-based' jobs. Table given below represents this information in a tabular form.

Table 1: Details of 'Skill-based' versus 'Knowledge-based' occupations

NIC-1 Digit	Type of work	Occupation Title	Number of Workers (in millions)	Percentage share
0	Knowledge-based + Skill based	Professional, Technical and Related Workers (Architects, Engineers, Technologists & Surveyors)	4.5	1.0
1	Knowledge-based	Professional, Technical and Related Workers (Mathematicians, Auditor, Statisticians, Accountants)	13.5	3.0
2	Knowledge-based	Administrative, Executive and Managerial Workers	15.9	3.5
3	Knowledge-based	Clerical and Related Workers	12.9	2.8
4	Skill-based	Sales Workers (Manufacturers, Agents, Technical Salesmen, Salesmen, Shop Assistants)	37.0	8.1
5	Skill-based	Service Workers (Hotel Keepers, House Keepers, Matron and Stewards (Domestic and Institutional)	19.4	4.3
6	Skill-based	Farmers, Fishermen, Hunter, Loggers and Related Workers	255.1	56.0
7	Skill-based	Production Workers, Transport Equipment Operators and Laborers (Miners, Quarrymen, Well Drillers, Food and Beverage Processors)	24.3	5.3
8	Skill-based	Production Workers, Transport Equipment Operators and Laborers (Machinery and Electrical Fitters & Assemblers, Carpenters)	20.3	4.5
9	Skill-based	Production Workers, Transport Equipment Operators and Laborers (Plastic product, paper makers, painters, bricklayers)	52.9	11.6
10	-	Workers not classified by Occupations	0.1	0.0
Total for Knowledge-based / Total for Skill-based Total			46.8 / 408.9 455.7	10.3 / 89.7 100.0

Source: Indicus Estimates based on NSSO 61st Round 2004-05. National Classification of Occupation (NCO) 1968 used. All individuals currently working by their principal activity.

NSSO figures providing Work-force Participation Rate (WFPR) have been converted to absolute number of workers using Census 2001 population projections for the year 2004.

The table below shows the distribution of occupations with the category involving farmers, fishermen, hunters, loggers and related workers (accounting for 55.98% of the total) removed. Since this category involves an overwhelming majority of workers under it who are predominantly skill-based, it would be instructive to interpret the occupational distribution without including it. It is seen that the occupational distribution with this change still indicates that a majority of workers currently are occupied in skill-based work constituting more than 75% of the total workers treated in this table. Thus, even after discounting for the farmers, fishermen, hunter, loggers, etc the country's occupational structure remains one tilted towards a predominance of skill-based work.

Table 2: Details of 'Skill-based' versus 'Knowledge-based' occupations (Without the contribution of Farmers, Fishermen, Hunters, Loggers and Related Workers [Group 6])

NIC-1 Digit	Type of work	Occupation Title	Number of Workers (in millions)	Percentage share
0	Knowledge-based + Skill based	Professional, Technical and Related Workers (Architects, Engineers, Technologists & Surveyors)	4.5	2.2
1	Knowledge-based	Professional, Technical and Related Workers (Mathematicians, Statisticians, Accountants, Auditors)	13.5	6.7
2	Knowledge-based	Administrative, Executive and Managerial Workers	15.9	7.9
3	Knowledge-based	Clerical and Related Workers	12.9	6.5
4	Skill-based	Sales Workers (Manufacturers, Agents, Technical Salesmen, Salesmen, Shop Assistants)	37.0	18.4
5	Skill-based	Service Workers (Hotel Keepers, House Keepers, Matron and Stewards (Domestic and Institutional)	19.4	9.7
6	Skill-based	Production Workers, Transport Equipment Operators and Laborers (Miners, Quarrymen, Well Drillers, Food and Beverage Processors)	24.3	12.1
7	Skill-based	Production Workers, Transport Equipment Operators and Laborers (Machinery and Electrical Fitters & Assemblers, Carpenters)	20.3	10.1

8	Skill-based	Production Workers, Transport Equipment Operators and Laborers (Plastic product, paper makers, painters, bricklayers)	52.9	26.4
9	-	Workers not classified by Occupations	0.1	0.0
Total for Knowledge-based / Total for Skill-based			46.8 / 153.8	23.3 / 76.7
Total			200.6	100.0

Source: Indicus Estimates based on NSSO 61st Round 2004-05. National Classification of Occupation (NCO) 1968 used. All individuals currently working by their principal activity. NSSO figures providing Work-force Participation Rate (WFPR) have been converted to absolute number of workers using Census 2001 population projections for the year 2004.

Very clearly, there is a mismatch between demand and supply in the job market (particularly in terms of the skill levels required). Where on one hand, there is potential to tap the available manpower resource, the resource itself lacks the minimum qualification required to enter any industry- a case of bookish school education versus technical education.

- *The current education system does not educate students to apply skills. Basic attitudes / skills like punctuality, maintaining logbooks, project management, discipline, customer interface, clear communication, etc are never taught. So even if basic skills are there, the lack of professional skills often mean that the individual cannot create value for themselves or their organization*

Bimal Rath, HR Head, Nokia Asia Pacific

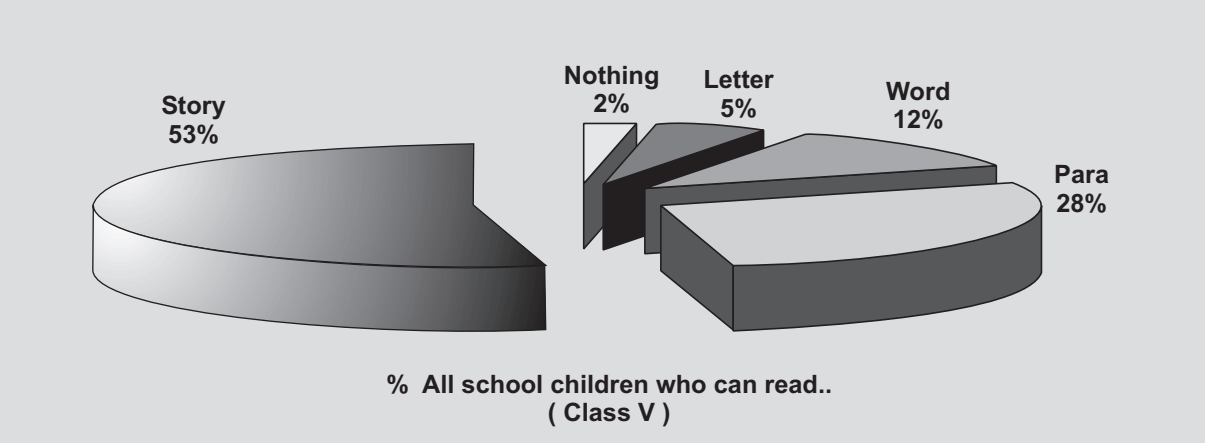
The inefficient system of HRD regime in our country has led to adverse consequences not just limited to individuals who fail to get desired returns to education but on the economy as well by creating 'shortfalls' in specific sectors. The lack of adequate skill sets is one of the qualitative impacts of a poor HRD regime. The immediate impact of this is the unsuitability of the labor force (the skilled/educated one) for any direct employment. This unsuitability clearly substantiates the low standards of the education system in our country (mismatch between theoretical and practical knowledge), which brings into the front HRD regime's sub-optimal impact on the needs of the employment sector. The quality of the HR output can be deliberated in terms of language (ability to read a simple sentence etc.), math (ability to do simple calculations like addition, subtraction, etc.).

- *The current education system is more theoretical than practical. The applied aspect of training needs developing the "earn while you learn" model*
- *The current workforce is increasingly aware of "what to do"; what they lack is "how to do" and sometimes "willingness to do". What we need is more finishing schools where more people are trained in attitudes and how to*

Bijay Sahoo, Chief People Officer, Reliance Retail

The emphasis on laying the foundation for individuals who form the future stream of flow into the employment sector in the country, which is also found to be inadequate. PRATHAM, a leading NGO working in the area of education and development has come up with many insights into the state of affairs vis-à-vis rural school education in their report titled Annual Status of Education Report (Rural) 2006. The report highlights many shortcomings in the current schooling system. For instance, as much as 20% children in Class V cannot read a simple paragraph. Even worse is the case when the performance in terms of ability to read a story is considered. Almost 50% children studying in Class V can not read a simple story. This information is graphed below.

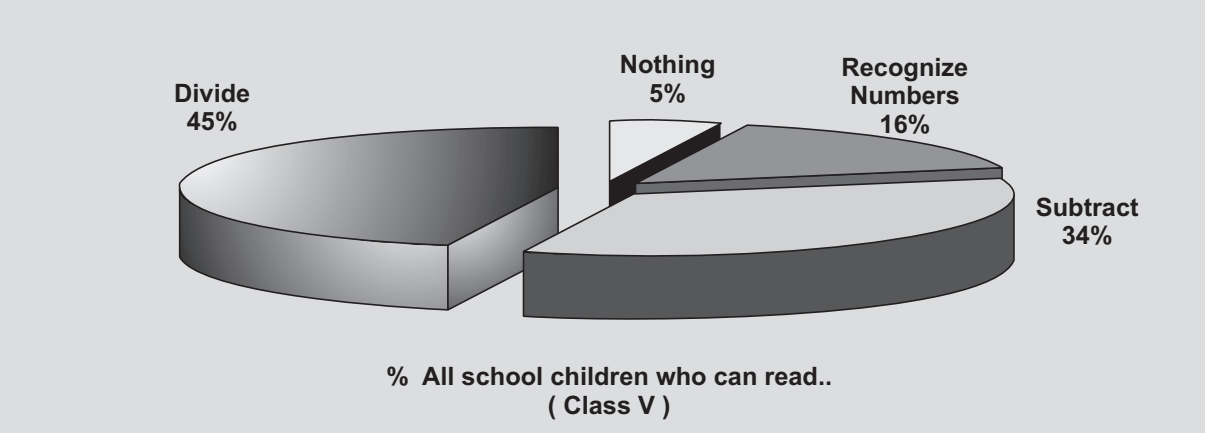
Figure 5: Quality of Education - I



Source: PRATHAM's Annual Status of Education Report (Rural) 2006

The situation is even more discouraging when considered in terms of performing operation in basic mathematics. Of all the children studying in Class V, 21% cannot perform simple operations like subtraction and division in math.

Figure 6: Quality of Education II



Source: PRATHAM's Annual Status of Education Report (Rural) 2006

An overall analysis shows that only 16.5% children (in Class I to VIII) have the ability to read a word- reflecting the dismal performance of the HRD regime. Also glaring is the low numbers in terms of recognizing numbers, which is 25.75% of all the children in Class I to VIII.

It is in order at this point to identify the reasons behind such a performance. Quality is what ultimately explains the essence of an attempt to build more number of institutions. According to University Grants Commission (UGC), between 1947 and 2006, the number of universities in the country has risen from 20 to 378. Colleges in the country have also gone up from 500 to 18,064 in the same time period. But as stated above, the issue percolates to a deeper level- the inability of such institutions to impart career oriented knowledge and training- a case of lack of quality rather than quantity.

- *Colleges lack infrastructure to generate 'ready to deploy' candidates.*
- *Syllabuses are out dated.*
- *Outdated syllabus doesn't meet business requirements*
- *Limited Interaction between Industry and campus*

Sunil Khattar, Sr. Manager, Human Resources,
T-Systems India Pvt. Ltd.

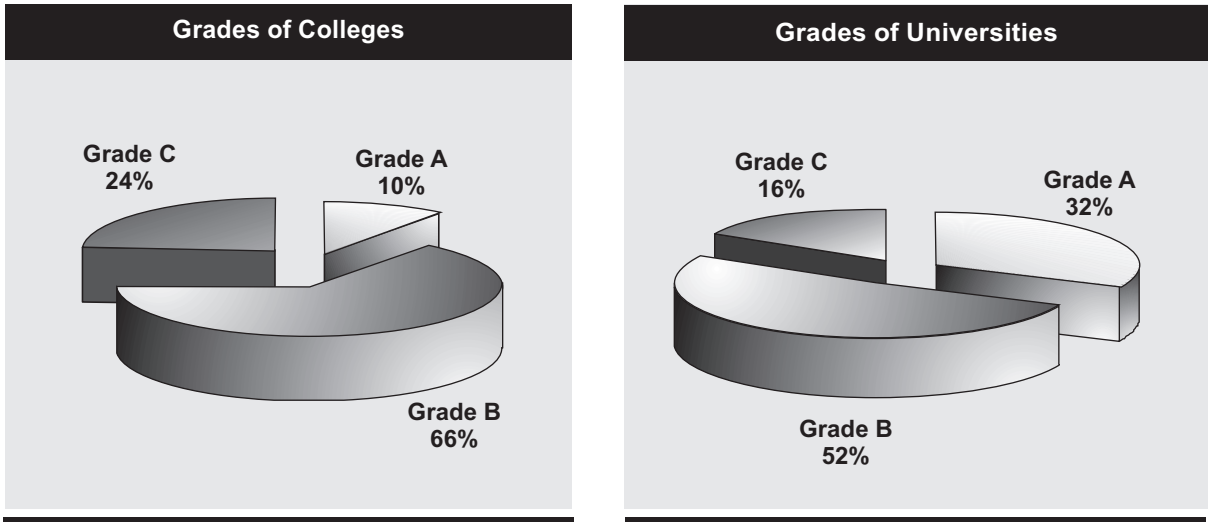
An assessment of higher education system, conducted by UGC's Bangalore based National Assessment and Accreditation Council (NAAC), 2007 shows that of the 2956 colleges assessed across India only 10% fall under Grade 'A' category, with the bulk falling under Grade 'B' (66%). [6]The analysis has also been done with respect to universities in India. Of the 123 universities assessed, it is observed that the majority (52%) fall under Grade 'B', as in case of colleges.

- *Skills required are different from academic qualifications.*
- *All academic institution should be dynamic to change to the demands and need of the hour of new businesses.*

K Subramani, CFO, Magus Customer Dialog Pvt. Ltd.

[6] The assessment was conducted on 123 universities and 2,956 colleges across India an estimated 60% of these institutions were private, the rest government-run. Institutions participated on a voluntary basis. It was based on seven broad parameters: curriculum, teaching, research and consultancy, infrastructure, student support, management and innovative practices. This included a self-appraisal, a peer review and an independent monitoring. So far, no IIM, IIT or NIT (formerly RECs) have been assessed by the council. The Grades A, B, C are assigned on the basis of cut-off values of the weighted criterion score for each institute.

Figure 7: Higher Education: Gradation of Institutes



Source: Assessment of higher education system, conducted by UGC's Bangalore-based National Assessment and Accreditation Council (NAAC) 2007

Thus one observes that the issue is one of quality, with as much as 90% colleges across the country falling under middle or low grade (see figure 7). This performance is slightly better in case of universities in the country (68% falling under Grade 'B' and 'C' category). Thus shortfall in terms of quality leads to either low levels of income earned by the students passing out of these institutions or hurdles for entering the required industry. The 'quality-gap' in both colleges and universities is startling; 25% positions in universities remain vacant, 57% teachers in colleges do not have either an M-Phil or PhD. The infrastructural bottlenecks are even more glaring, with only one computer for 229 students, lack of libraries, labs, instruments, journals, etc[7].

- *India's relatively inflexible and time consuming educational system has not changed since it was designed to provide civil servants for a colonial power*
- *Our institutions are misaligned with demand. We need a modular framework of courses (covering a mix of knowledge, skill and work-attitude modules) that fit people to high volume vocations and incentivise "edupreneurs"*

Visty Banaji, Executive Director, Godrej Industries

[7] National Assessment and Accreditation Council (NAAC), 2007.

2.3 Decision to continue

The low employability levels due to low quality of education, is accentuated by the fact that fewer students opt for higher levels of education. UGC reports that currently only 52.62% of those who passed Higher Secondary get into colleges and universities, implying an enormous (almost half) drop out rate. This has been observed in the figure showing completion rates across different education levels (Chapter 2, Figure 1).

This is a well known phenomenon that has to do with the effort-return trade-off. The effort or cost of education includes the hours spent by the child in studying the foregone benefits to the household had he/she participated in household chores/profession, the expenditure incurred etc. The returns include expected income, and increases over the lifetime, the ease with which employment is found. If infrastructure is poor or not accessible, the cost of effort is higher. If quality of education is poor then expected returns are lower. In both cases likelihood of dropping out is higher.

- *We ran five Hindi medium schools with 4000 students for forty years but did not realize how we were handicapping our students without English fluency.*
- *We did it out of patriotic ideology but we were wrong. Getting a job pulls you out of poverty and we have moved four of five schools to English medium*

Pushpa Khanna, Co-Founder, Kanpur Education Society

Benefits accruing to education need no specific mention, which includes higher lifetime income, greater stability of income, and low search costs for job. Better qualified individuals have an obvious choice of opting for jobs that are outside the purview of those not adequately qualified. These jobs are always the ones that are both better paying and more permanent in nature. However, the associated costs of education can be enumerated as fees and other out of pocket costs of education, loss of current income to household, and loss of other non-income benefits[8].

The decision to pursue and achieve higher levels of educational attainment is governed by many factors. These factors span the entire spectrum of an individual's living space- his household characteristics, family background, and social status among many others. However, the two factors that can be singled out as being common to all these diverse perspectives relate broadly to the timeline of accrual of returns and the quantum of returns. We have a decision matrix having two parameters.

[8] Non income benefits include a child's contribution to household work.

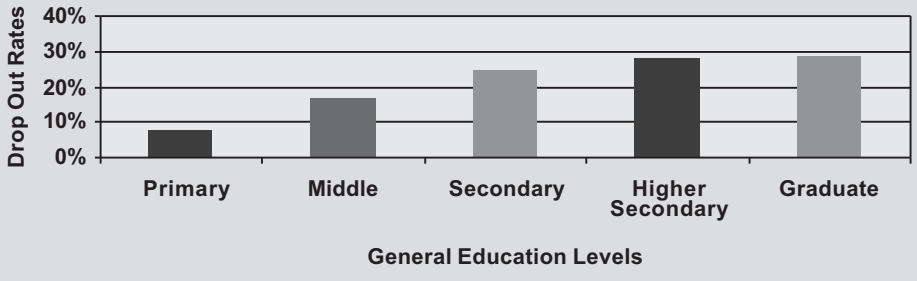
The Decision Matrix: What makes an individual aim higher (education)?

1. *Ability to afford delays in returns on investment made in education (since in the current scenario education is more or less divorced from immediate returns/deliverables).*
2. *Whether the quantum of return (even if delayed) is worth the effort.*

The choice of continuing to higher levels of education is an obvious choice between these benefits and cost. The decision would vary from individual to individual depending on household income status, importance accorded to education etc. The opportunity cost attached with continuing to higher levels of education is foregoing current income (which would be low) for higher levels of income in the future. However, the trade-off works against those who are in greater need of current income and for those not getting employable education.

More pertinent is the fact that the poor HRD Regime further adds to this trade-off due to which an individual or his household decides in favor of discontinuation. The Indian system also engrains a large number of households that are willingly/unwillingly not able to adequately support a child's higher education. The factors range from lack of either economic or education support. A significant observation made on the state of affairs vis-à-vis current HRD regime is related to the fact that pursuit of higher education is more or less divorced from immediate returns/deliverables. The very nature of this dichotomy makes any attempt to pursue higher levels of education a meaningless exercise for many. The figure below brings out the steep increases in student drop-out rates across higher educational levels[9]. These drop-out rates are indicative. What it essentially means is as time and educational achievements increase- since there is not a concomitant increase in returns - dropping out remains the preferred choice for the individual.

Figure 8: Drop outs across education levels



Source: Indicus Estimates based on NSSO 61st Round 2004-05. State specific age groups considered for each level of completion.

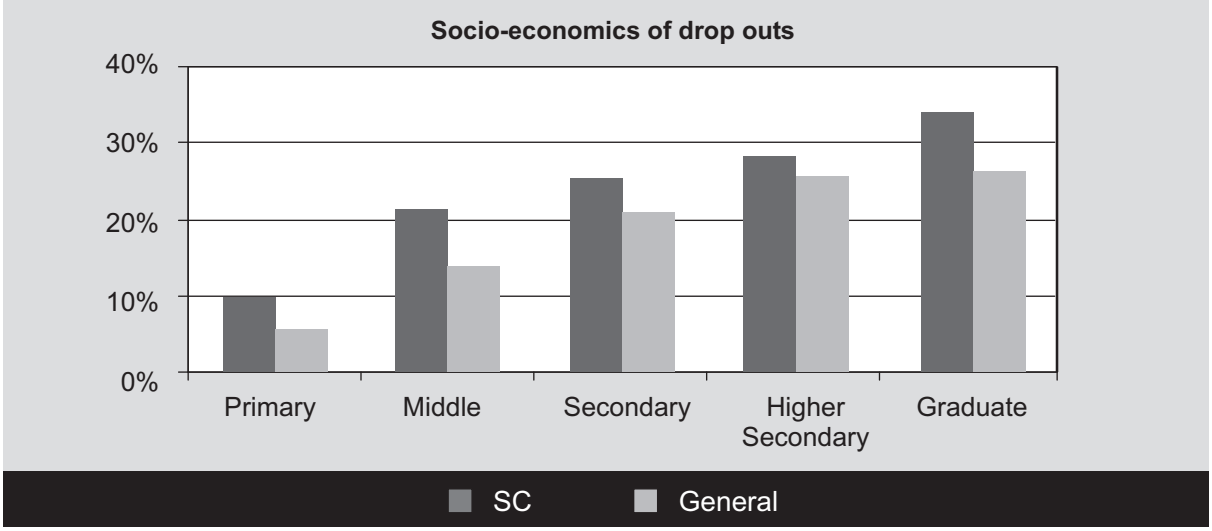
[9] For the present analysis, drop-out rate has been taken grade-wise and age-group wise. For instance, primary drop-out rate indicated above is the percentage children in the middle-school going age group who have completed primary & have (ever) attended but currently not attending school to the total children in the middle-school going age group who have completed primary. State specific age-for-grade has been considered.

Additional insights for the current available data (2004-05) also show that by the Vth standard, 34.21% of students had dropped out of the schooling system and by the VIIIth standard the drop out rate was still higher at 57.26%[10].

2.4 Inefficient HRD- Disproportionate Impact on the Under Privileged

The effects of decision matrix thus clearly imply that individuals either do not have the ability to afford delays in returns on investment made in education or, the quantum of return expected (at given levels of return) is not believed to be worth the effort. Thus, those who cannot depend on their familial associations (socio-economic status being a part of it) are the first to drop out simply because there is an underlying issue of supporting the family in the immediate future- the question of delayed returns simply does not arise. And in terms of the decision matrix, factor 1 in the decision matrix, works against the decision to pursue higher levels of education. The figure below delineates a comparison between the drop out rates of deprived sections (SC households taken as an indicator of the same) and the corresponding rates for the so called 'General' category.

Figure 9: Drop outs across social groups



Source: Indicus Estimates based on NSSO 61st Round 2004-05

The consistently higher drop out rates for the individuals belonging to deprived sections highlights the issue of sustainability of pursuing higher levels of education. Since there exist fewer opportunities to rely on family support, at least economically speaking, individuals belonging to these groups are the first to drop out- thus creating a vicious cycle for the underprivileged households.

At this stage, it is also instructive to draw upon the results (treated in later sections of this report) involving income profiling of individuals where social group is taken as one of the determinants of income of individuals. It is empirically brought out by this analysis that the income levels among individuals belonging to underprivileged sections of the national community are lower as compared to corresponding levels for their 'privileged' counterparts. Thus, factor 2 of the decision matrix, the one where quantum of returns is judged, also acts as a re-enforcer to discontinue in the educational stream.

[10] MHRD, Annual Report 06-07.

The private sector cannot sort out the skill crisis alone. We should not attempt to substitute for the state but complement it and work in partnership

B Sudhakar, HR Head, Tata Chemicals

A comparative analysis of individual profiles obtained from subsequent surveys dealing with the issue of education and employment is in order. Based on NSSO 50th Round survey, it is estimated that in 1994-95, around 23 million children in the age group 9-13 (due to primary completion age varying from state to state) had completed primary. Out of these 23 million children, slightly more than 3 million belonged to Scheduled caste households and 18 million to the general category. In a gap of around 10 years these children should have completed their graduation had they continued into the educational stream (at least till the graduation level). However, a comparison of the number of individuals who completed their graduation (age 21-24) from NSSO 61st Round conducted in 2004-05 shows that only around 10% of the original numbers graduated from college corresponding to the Scheduled Castes while for the general category, the figure was much higher at around 15%. Thus, only 1 out of 10 who finished primary graduated from the Scheduled castes group while every sixth individual completed graduation from the general category. Though, there is a limitation to the exactness of this data due to unavailability of a longitudinal dataset, the numbers do bring out the disparity prevalent.

Given this scenario, where social inequality remains one of the key issues to be addressed for the nation as a whole, the criticality of an enabling human resource regime cannot be overemphasized. The point remains that inducing changes in prevailing social biases is a gradual process. It would not be incorrect to say that some progress on this issue has indeed been taking place in the previous years. But the rate of change has been far from satisfactory. Primarily, the issue is one of providing an enabling environment for the underprivileged. A natural mechanism where individuals find themselves in a position to continue their efforts towards higher educational achievements is only possible when the (promising) returns are worth the effort. It does not take much effort to visualize that an enabling education-cum-training regime is the most apt mechanism to contribute towards this objective. Such a mechanism provides support to an individual's effort towards greater achievements and greater equality of opportunity. A skill development paradigm for the underprivileged thus seems to be the most suitable mechanism to address the issue of prevailing social inequality. And such a skill development exercise can never be an effective one, let alone being complete, without far-reaching and appropriately-directed changes in the present educational and vocational training regime.

Thus, we conclude that a human resource regime acts as an enabler providing opportunities of growth and development. In fact such a regime provides the bridging (and much required) connection between education sphere and the workplace. Ultimately, skills learned during this pre-work learning phase come to matter and an HR regime should facilitate development of these skills. The entire exercise of going through a long drawn out process of 'full schooling' must at the end provide growth opportunities to an individual. Thus, continuation in educational or training stream is contingent on expected returns and the current HR regime seems out-of-sync with the 'socio-economic' reality.

2.5 Increasing Inequality and the Skill Deficit

Inequality and inclusive growth remain critical aspects of post-reform growth in the country. Numerous studies have established that despite impressive 'growth rate', India has witnessed a sharp rise in inequality over the years. A recent study (Debroy and Bhandari, 2007) investigated the parallel issues of growth, poverty and inequality[11]. Has the high growth benefitted everyone? And if so, has it benefitted the poor more than the rich? Investigating these issues the authors find that indeed, growth has benefitted all segments, including the underprivileged. As a consequence poverty has fallen in all parts of India. However, the study also finds that the rich have benefitted more than the poor in most parts of India, and as a consequence inequality has increased in almost all states of the country. Investigating this further, the study finds that there is a distinct and strong correlation between education and inequality.

The study measures the single most widely used measure of inequality The Gini coefficient. The coefficient varies between 0 (which reflects complete equality) and 1, which indicates complete inequality. Using data from the National Human Development Report and NSSO the authors show how inequality in India (as measured by the Gini coefficient) is changing. This is shown in the table below.

Table 3: Gini Ratios based on per capita consumption expenditure

States/UTs	1983 Rural	1983 Urban	1993-94 Rural*	1993-94 Urban*	2004-05 Rural*	2004-05 Urban*
Andhra Pradesh	0.294	0.327	0.290	0.323	0.294	0.375
Arunachal Pradesh	-	-	0.306	0.279	0.280	0.248
Assam	0.192	0.276	0.179	0.290	0.199	0.320
Bihar/Jharkhand	0.256	0.301	0.225	0.309	0.213	0.355
Goa	0.287	0.297	0.313	0.278	0.322	0.419
Gujarat	0.256	0.172	0.239	0.291	0.273	0.310
Haryana	0.272	0.313	0.311	0.284	0.339	0.366
Himachal Pradesh	0.264	0.312	0.284	0.462	0.310	0.326
Jammu & Kashmir	0.222	0.238	0.241	0.286	0.247	0.249
Karnataka	0.303	0.334	0.269	0.319	0.266	0.369
Kerala	0.33	0.374	0.301	0.343	0.381	0.410
Madhya Pradesh/Chhattisgarh	0.295	0.306	0.281	0.331	0.277	0.407
Maharashtra	0.285	0.337	0.307	0.358	0.312	0.378

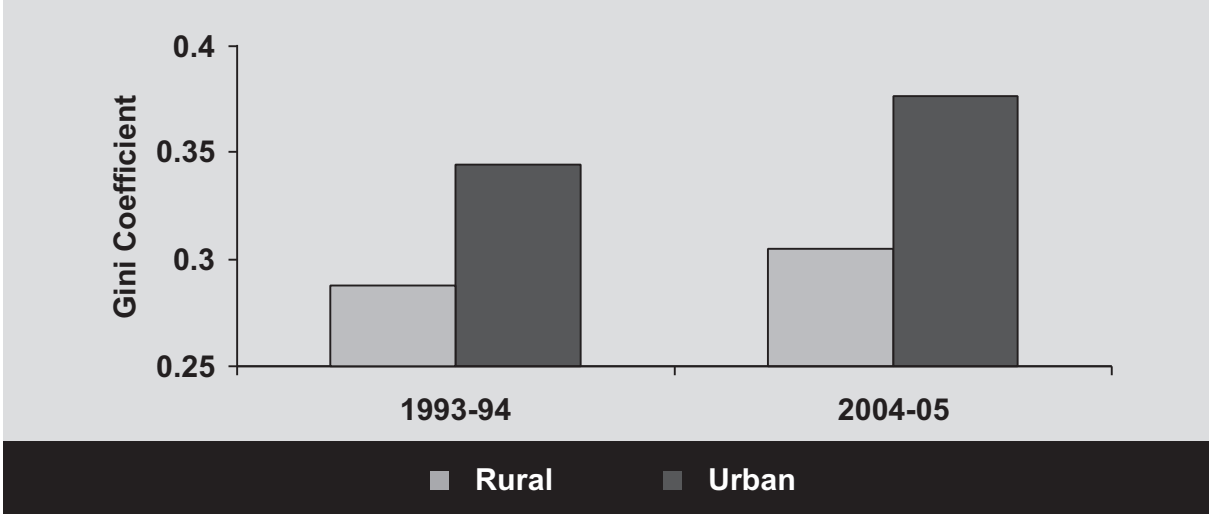
[11] For the present analysis, drop-out rate has been taken grade-wise and age-group wise. For instance, primary dropThis work is presented as a research paper titled 'Exclusive Growth-Inclusive Inequality' under the Working Paper Series, Federation of Indian Micro and Small & Medium Enterprises (FISME.)

States/UTs	1983 Rural	1983 Urban	1993-94 Rural*	1993-94 Urban*	2004-05 Rural*	2004-05 Urban*
Manipur	0.269	0.169	0.154	0.157	0.160	0.177
Meghalaya	-	-	0.281	0.245	0.162	0.263
Mizoram	0.141	0.187	0.173	0.182	0.201	0.249
Nagaland	-	-	0.165	0.201	0.229	0.242
Orissa	0.267	0.296	0.246	0.307	0.285	0.353
Punjab	0.279	0.319	0.282	0.281	0.294	0.402
Rajasthan	0.343	0.304	0.265	0.293	0.250	0.371
Sikkim	-	0.332	0.212	0.255	0.273	0.257
Tamil Nadu	0.325	0.348	0.312	0.348	0.322	0.361
Tripura	-	-	0.243	0.28	0.219	0.342
Uttar Pradesh/Uttarakhand	0.29	0.319	0.282	0.326	0.291	0.367
West Bengal	0.286	0.327	0.254	0.339	0.274	0.383
Andaman & Nicobar Islands	0.303	-	0.254	0.404	0.336	0.376
Chandigarh	0.254	-	0.246	0.468	0.253	0.360
Dadra & Nagar Haveli	0.244	-	0.259	0.325	0.355	0.301
Daman & Diu	0.287	0.297	0.261	0.212	0.264	0.261
Delhi	0.314	0.332	0.277	0.406	0.282	0.336
Lakshadweep	-	-	0.257	0.306	0.317	0.394
Pondicherry	0.275	0.383	0.304	0.301	0.348	0.316
All India	**0.298**	**0.33**	**0.286**	**0.344**	**0.305**	**0.376**

Source: * - Debroy and Bhandari, 2007. Estimates from NSS 1993-94 & 2004-05 Consumption Expenditure Rounds.

The figure below shows the rise in inequality in the country as a whole across time periods separately for rural and urban India.

Figure 10: Rise in Inequality in India across time



Source: Debroy and Bhandari, 2007. Estimates from NSS 1993-94 & 2004-05 Consumption Expenditure Rounds

Rising inequality has been the characteristic across rural and urban sectors. In general, rural inequality in India tends to be lower than urban inequality, although there are a few exceptions to this general principle. Thus, while inequality is much starker (and increasing) in the urban sector, rural sector continues to suffer as well- facing its own special developmental challenges. Overall, the situation is one where the benefits of economic growth have not been distributed equally across sections and among individuals. In simpler terms, while there is no doubt that the country as a whole has been growing rapidly, and most have benefitted from this growth; the better off segments have benefitted more.

Table 4: Average annual per capita income for wage and salary earners (In constant 2004-05 prices)

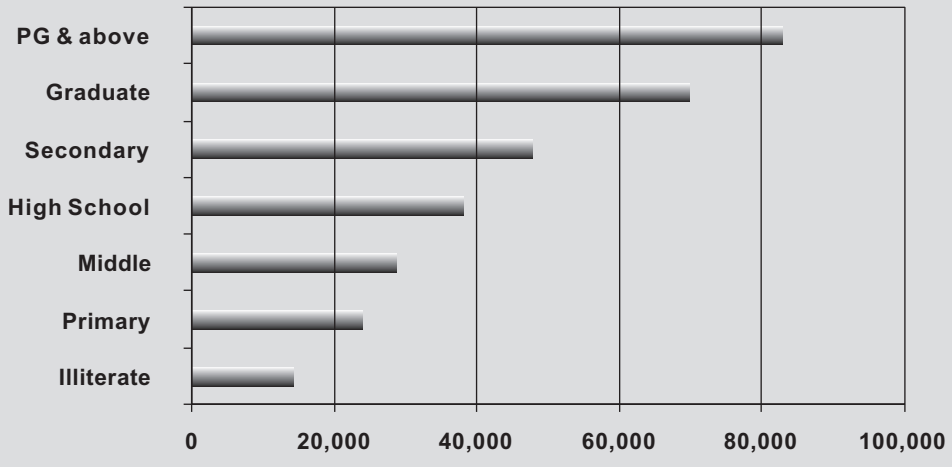
Quintiles	1993-94	2004-05	Annualized growth b/w 1993 94 2004 05
	Rural Income Quintiles		
RQ1	4,226	11,808	9.8%
RQ2	8,347	21,562	9.0%
RQ3	12,262	31,032	8.8%
RQ4	17,203	44,496	9.0%
RQ5	43,827	129,945	10.4%
Total	17,172	47,767	9.7%
	Urban Income Quintiles		
UQ1	7,889	23,285	10.3%
UQ2	18,854	47,771	8.8%
UQ3	32,258	75,890	8.1%
UQ4	55,041	145,628	9.2%
UQ5	109,979	378,040	11.9%
Total	44,802	134,113	10.5%

Source: Debroy and Bhandari, 2007. Estimates from NSS 1993-94 & 2004-05 Consumption Expenditure Rounds.

Notes: RQ1 (UQ1) stands for the lowest rural (urban) quintile. Groups progressively increase to RQ5 (UQ5) representing the highest quintile.

As seen in the following figures (that are treated in detail in the next chapter), the link between education and inequality is strong and quite apparent. These figures represent the findings of NDSSPI 2004-05[12]. The better off have benefited more simply because they have greater human capital. The better educated and skilled have been rewarded much more in the new globally competitive economy.

Figure 11: Annual median income (Rs.) and education level of worker



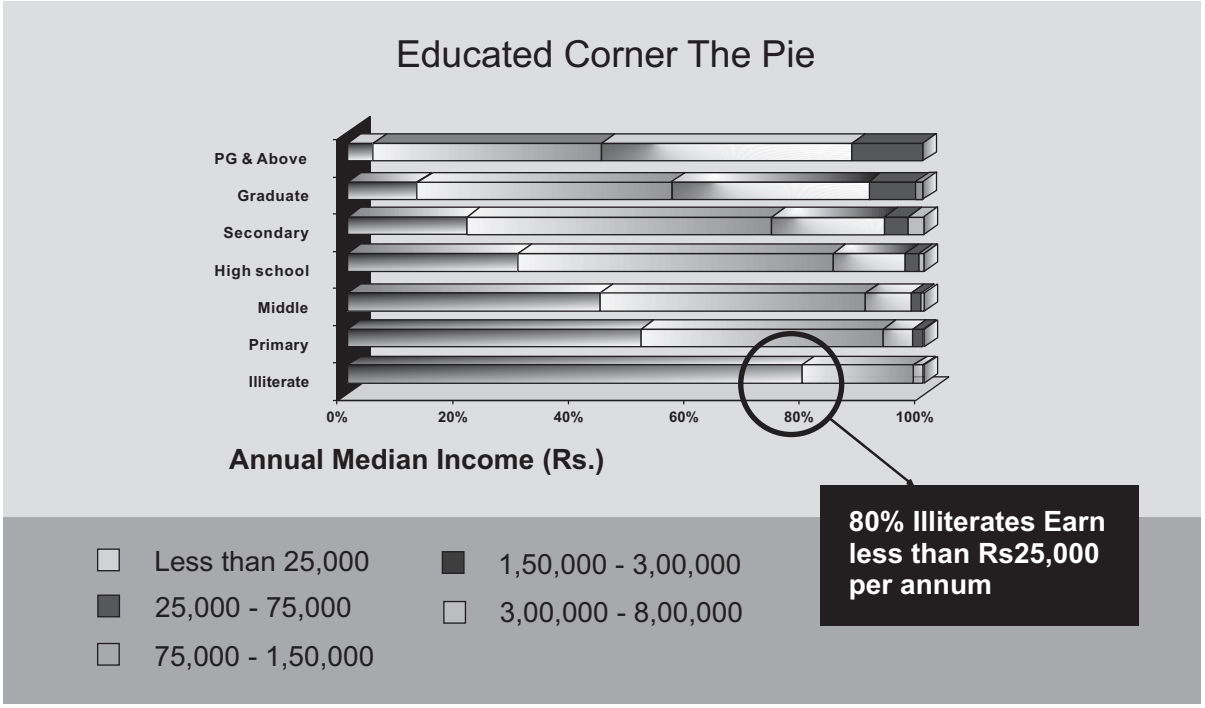
Notes: Mid-career (age group 38-42) annual income levels for the year 2004-05 of all working individuals irrespective of occupation. It includes the incomes of both the self employed and those employed in salaried/wage based occupations.

- *The vocational training system treats student as machines to be programmed. It does not equip people with what is needed for modern industry particularly soft skills like self-confidence, listening, goal orientation, time management, group work, etc*
- *Other problems include relevance (mismatch with demand), duration (too long), prior experience required (too high) and lack of scalability*

B Santhanam, MD, Saint Gobain Glass India
Chairman, CII HR Committee

[12] The Ministry of Finance, Government of India, sponsored a survey on pensions and savings habits of Indians, overseen by the Invest India Economic Foundation and conducted by AC Nielson in 2004-2005. The dataset from this survey called the National Data Survey on Savings Patterns of Indians (NDSSPI) has been used for the analysis. The sample size included over 40,000 households from 26 states and Union Territories. One earning member was randomly chosen from each household as the eligible respondent to collect various information on their income, saving and investment patterns.

Figure 12: Income distribution across education levels



Source: NDSSPI 2004 - 05: All individuals irrespective of occupation in 38-42 age group
Mid career scenario

Notes: NDSSPI 2004-05. Mid-career (age group 38-42) annual income levels for the year 2004-05 of all working individuals irrespective of occupation. It includes the incomes of both the self employed and those employed in salaried/wage based occupations.

In other words, there are numerous underlying issues (including institutional issues like structural skewness in an economy) in this regard, there exists a significant contribution of the skill deficit to this scenario. Skill deficit among the labour force essentially drives a large number towards low income levels (figure 12 essentially brings out this point). At the same time a very small proportion ends up getting a significant part of the income pie. No doubt, in an economy as complex and large as India's, this is only one part of a much larger story. Nevertheless it does bring forth the point - the strong link between inequality and skill deficit.

Our vocational training system needs to give interpersonal and teamwork skills. A focus on Communication, Leadership and basic IT skills would also be useful.

Poonam Sharma, Director HR, Carrier Aircon India

Chapter 3 : Employability: Concept, Issues and Impact

The previous sections have illustrated that many Indians are unable to meet their true potential due to a range of factors. They drop out, are under-trained and as a result under-skilled. This naturally impacts their employability. The term employability does not have a single universally accepted definition. Some use it in the context of having the ability to *cope with a* job. Others use it as having the ability to obtain a job. A relatively more precise definition is 'having the potential for obtaining and keeping fulfilling work through the development of skills that are transferable from one employer to another.

All of the above are based on the premise that employability is affected by market demand for a particular set of skills. And therefore it also is affected by the capability to move (vertically) into the labor market and (horizontally) within the labor markets. An even broader definition would also include the ability to realize full economic potential through sustainable employment.

Employability therefore depends on: the knowledge and skills possessed; the attitude towards employment; and the economic context within which employment is availed. The following four elements can be considered to be the critical characteristics of employability[13]. The first two are analogous to the concepts of production, marketing and sales, and the fourth the market place in which they operate.

- Productivity: These comprise an individual's knowledge, skills and attitudes. We distinguish between:
  - Knowledge and skills, be they in terms of basic skills (e.g. numeracy, literacy etc.) or subject and occupation-specific knowledge at different levels (e.g. from book-keeping skills through to senior accountancy roles), and
  - Personal attributes and attitudes, ranging from basic levels of reliability, common sense, attitude to work and integrity; through to those such as problem solving, initiative, self-management and commercial awareness.
- People also need the capability to exploit their skills, to market them and sell them. Thus they also need:
  - Marketing and deployment skills: These inter-related skills include career management, job search skills, and approach (i.e. being adaptable to labor market developments, realistic about labor market opportunities, and willing to be occupationally and locationally mobile).
  - Presentation: Another key aspect is being able to get a particular job, and centers around the ability to demonstrate assets. This includes: the presentation of CVs etc.; the qualifications individuals possess; interview technique; and work experience/track record.
- The personal and labor market context: the ability to realize or actualize employability assets depends on external factors, the individual's personal circumstances and the inter-relationship between the two.

High productivity can be achieved when knowledge and skill levels are combined with the right work attitude. We assume that in a poor and high growth economy such as India, the work attitude is not

[13] This part borrows from Tamkin P, Hillage J. “Employability and Employers: The missing piece of the jigsaw,” Institute for Employment Studies, IES Report 361, November 1999.

the critical issue rather it is the inculcation of knowledge and skills. The past chapters have shown that there is a knowledge and skill gap. Later sections will show how that translates to not only high unemployment but also low incomes.

In a largely free economy such as India's, low incomes of those employed are a result of low productivity which in turn is a result of low human capital (namely knowledge and skill base). The issue of ability to 'market' oneself, albeit important, is generally not as important at the macro-level as the ability to find the right match between the personal human capital base and that required by the economy. The concluding chapter focuses on that issue.

Figures reveal that only 30% of Indian IT graduates are actually employable in the IT sector[14], the spiraling impact of which has been predicted as the shortfall of 500,000 professionals for the sector by 2010[15]. With the boom of foreign companies into India, there has been an ever increasing demand for professionals by these entrants with specialization in various fields. However, India's capability to meet these specific demand requirements are doubtful because of the alarming figures that reveal that only 25% of the engineering graduates, 15% of finance and accounting professionals and 10% of professionals with any kind of degree are suitable to be employed in multinational companies[16]. A further extension to these figures is that India also lacks management talent, with a mere 23% employable talent existing in the country[17].

At the current juncture, the critical issue for India is to ensure that employability levels are improved by improving the skill and knowledge base. This section shows the great differences in incomes that arise between individuals who have varying training and education levels.

- *The Indian education system needs to focus on building breadth rather than depth of knowledge for our people to be innovative and truly globally competitive.*
- *Fresher's lack teamwork, communication and collaboration skills*

Hemant Sharma, HR Head, Sun Microsystems India

- *Currently there are not many courses that focus on telecom or retail.*
- *Also the country has a lack of courses that focus on selling techniques and soft skills*

Ravi Shukla, Retail HR Ops VPE, Tata Teleservices

[14] Economist intelligence Unit (EIU), Commissioned by the Business Software Alliance.
[15] Kiran Karnik, President, NASSCOM
[16] McKinsey Global Institute Report "The Emerging Global Labour Market: Part II - The Supply of Offshore Talent in Services", Diana Farrell, Martha Laboissiere, Jaeson Rosenfield, Sascha Strize, Fusayo Umezawa; 2005
[17] MeritTrac Services, India's Largest Skills Assessment Company

3.1 Does education pay?

In attempting to zero-in on the elements constituting employability we start with an assumption - the assumption that employability of an individual can be well captured through his earning potential (the income). This is a practical assumption in light of the fact that the 'price discovery' (the suitable remuneration) for a set of skills possessed by such an individual is possible.

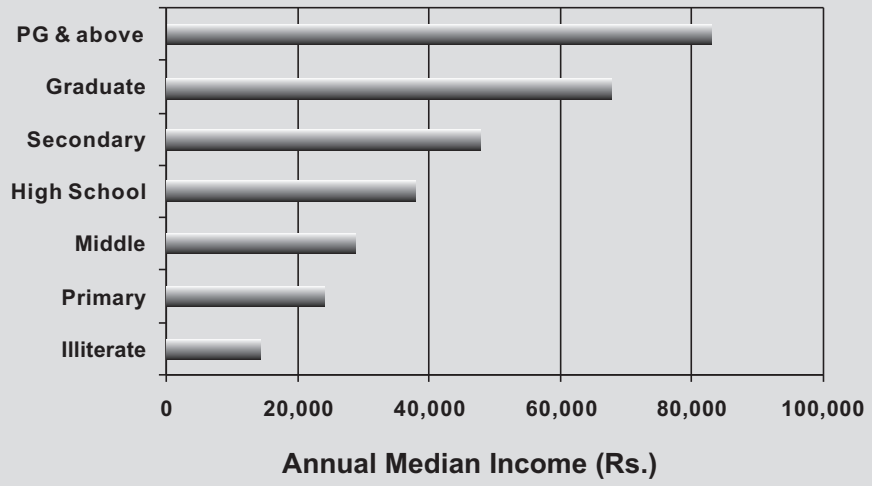
- *Given that individuals have multiple intelligences; students should be encouraged to discover their own potential rather than mindlessly competing in a strait jacketed way. There is an over reliance on developing analytical skills*
- *The method of grading should be reexamined. Teacher training and salaries should be relooked*
- *If you have a year, grow flowers. If you have ten years, grow fruits. If you want to build a nation, grow the people.*

Steve Correa, HR Director, Vodafone India

Figure 1 below graphs the mid-career annual income levels for the year 2004-05 of all working individuals irrespective of occupation. Thus it includes the incomes of both the self employed and those employed in salaried/wage based occupations.

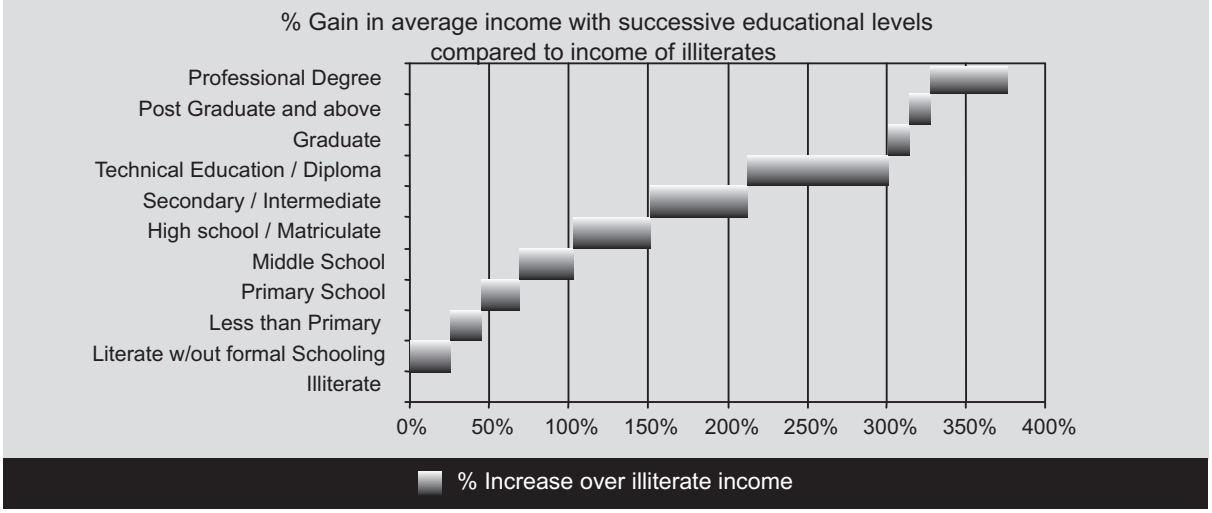
Note that the annual median income of the individuals who are more educated is found to be many times higher than those who are placed lower down the education ladder. No wonder that the illiterates- the bottom most rung- earn the least on an average. With an increment in education level (here measured in terms of number of years of education), the average prevailing income level shifts up. This is illustrated in figure 2 below. The numbers are average values of income (and thus are indicative) for the salaried as well as the self-employed individuals in the working age group.

Figure 1: Returns to Education



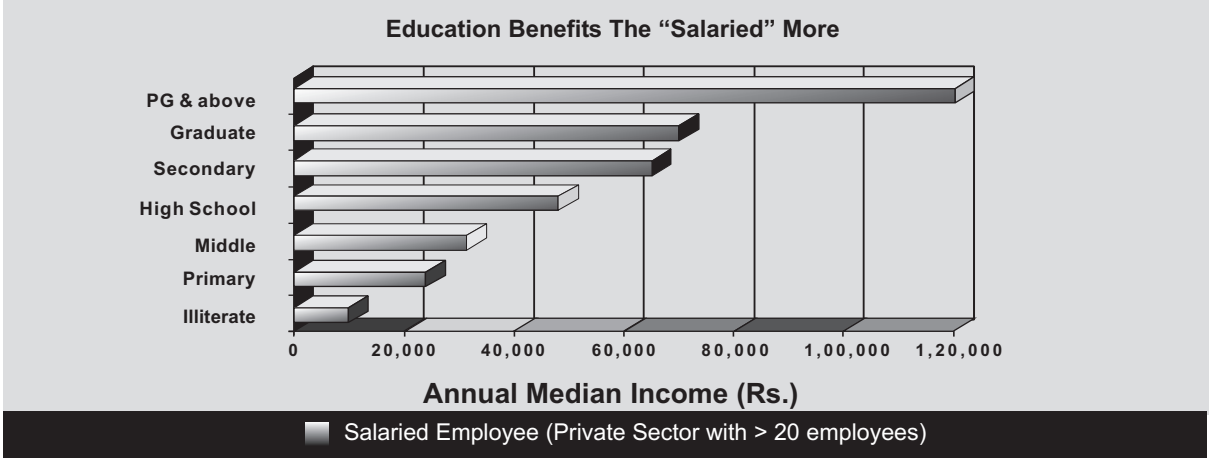
Source : NDSSPI 2004 - 05

Figure 2: Gain in Income corresponding to Education Levels (Illiterates as baseline)



Source: NDSSPI 2004 - 05

Figure 3: 'Salaried' Benefits



Source: NDSSPI 2004 - 05 Salaried individuals in 38 - 42 age group. Mid career scenario

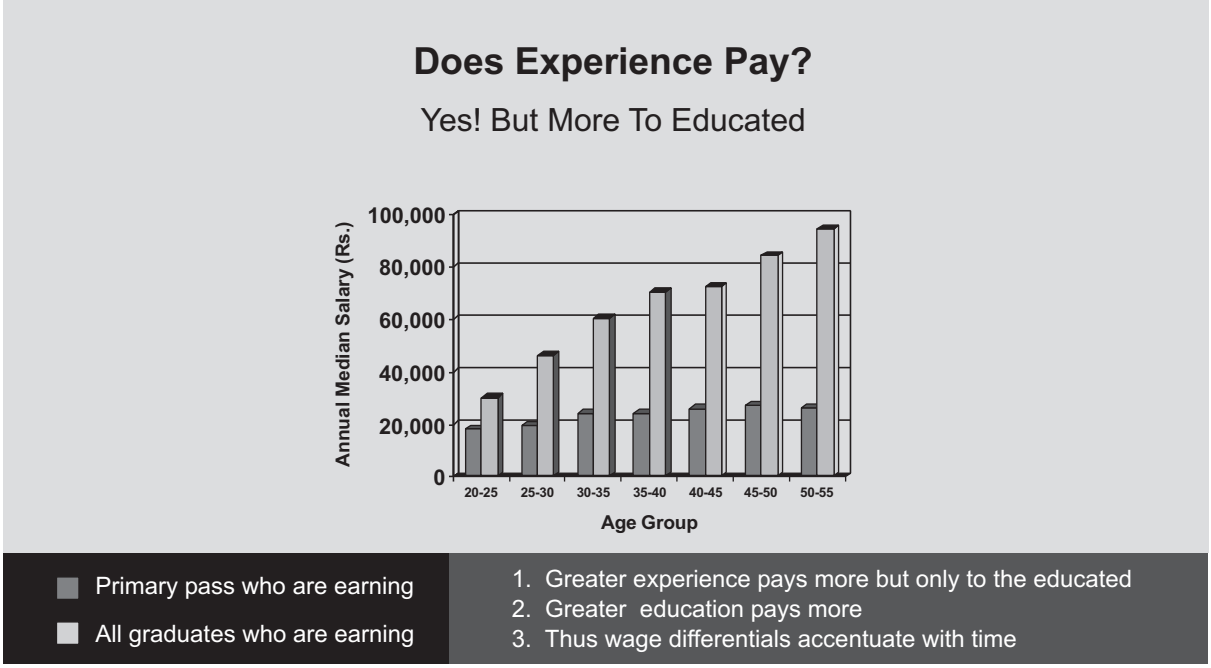
It may also be stated that differences in earning potential across occupation groups for the same level of education are bound to exist. Analysis of data from NDSSPI[18] 2004-05 indicates that the salaried individuals are observed to be enjoying greater benefits of education as compared to the self employed. Figure 3 shows that the salaried move up the income ladder faster than the self employed with higher levels of education. Salaried individuals with the highest level of degree, post graduate and above are observed to have a marked rise in their income levels compared to salaried individuals with lower education levels. Clearly, for the salaried at least, the trade-off between high future income (after acquiring higher levels of education) and average 'low' income (with low levels of education) should be an easier one. A rational choice would be one of foregoing current 'low' income for higher future income but, as things stand, such a 'rational' choice seldom gets chosen.

[18] The Ministry of Finance, Government of India, sponsored a survey on pensions and savings habits of Indians, overseen by the Invest India Economic Foundation and conducted by AC Nielson in 2004-2005. The dataset from this survey called the National Data Survey on Savings Patterns of Indians (NDSSPI) has been used for the analysis. The sample size included over 40,000 households from 26 states and Union Territories. One earning member was randomly chosen from each household as the eligible respondent to collect various information on their income, saving and investment patterns

The present scenario in the country where illiteracy and low education achievement is much too prevalent aggravates the problem of income inequality. The fact that an overwhelming majority complete lower education levels and receives low emoluments impedes the growth process of individuals as well. Picking up from the above discussion, education achievement happens to be a significant determinant of earning potential and thus forms an essential component of employability of an individual.

3.2 Why is experience important?

Figure 4: Returns to the Experienced



Source: NDSSPI 2004-05

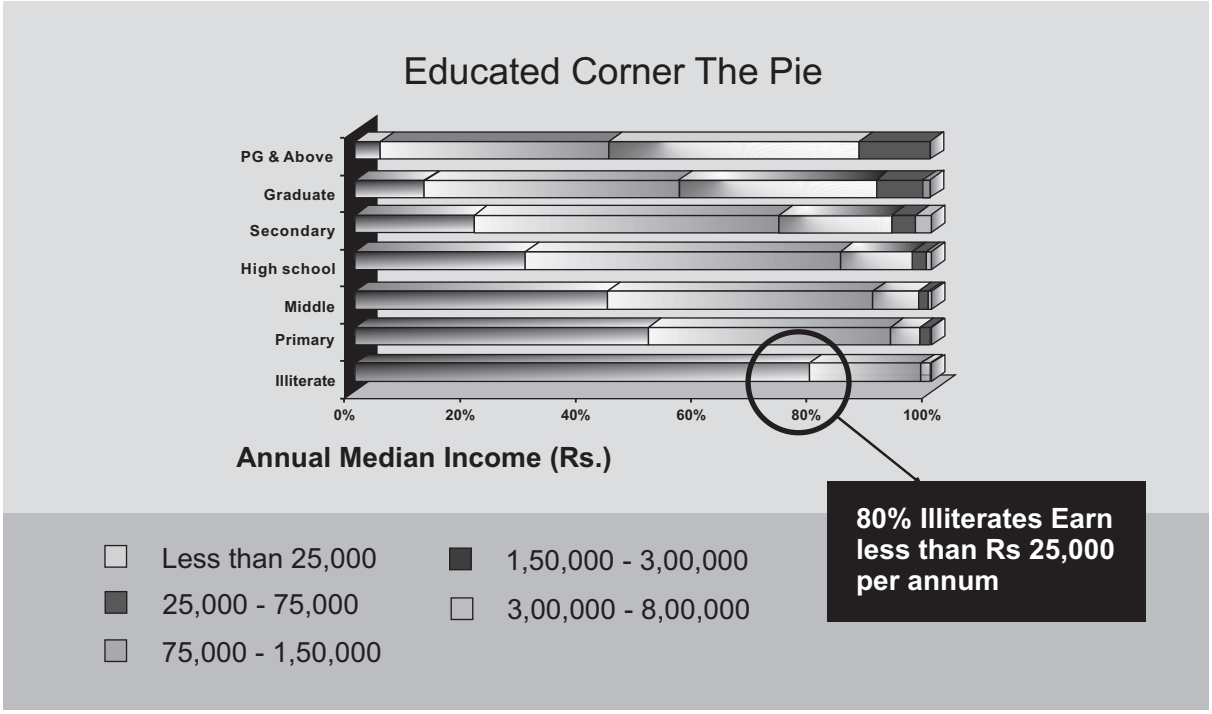
The previous section threw light on the benefits in terms of income accruing to individuals having higher levels of education. One needs to also examine the factors that further enhance the earning potential, given an education level. A major factor is years of experience earned. Evidently, greater years of experience leads to fine tuning of the skill levels (already existing) plus addition of new skills that comes as a result of exposure to new technology- a classic case of 'learning-while-doing'. The resultant effect apparently shows up as higher income levels. A comparison of average income levels of primary pass and graduates have been done to substantiate this (see figure above). Significant is the observation that with age (a proxy for years of experience), this income increases significantly for those who have accomplished greater education levels. However, wage levels stagnate for those less educated even before they reach the mid-point of their working period.

The mechanism through which greater experience leads to higher earning is closely linked to skill development. The continuous learning of an individual that occurs on the job is the growth factor here. A new entrant to the work space may not have the relevant skills for the particular job. Indeed the divergence between the country's educational regime and industry requirements creates such a situation more often than not. While on the job, an opportunity is available to an individual to improve

his or her skill levels thus increasing the income earning potential. In this sense, experience gathered on the job can be equated to an efficient vocational training regime. Both provide skill development opportunities. In conclusion, such an advantage in terms of opportunities for skill development should essentially be a part of an individual's educational process much before he or she enters the work space.

3.3 Are skills important?

Figure 5: The Educated Benefit: But Skills matter the most



Source: NDSSPI 2004 - 05: All individuals irrespective of occupation in 38-42 age group
Mid career scenario

One also needs to consider whether work experience and education level together account for the existing differentials in the income levels and thus employability of individuals. To answer, we turn to the insights thrown up by the figure shown above.

First, the educated are indeed successful in cornering a large part of the income pie. An analysis of the NDSSPI 2004-05 data shows that all individuals, irrespective of the occupation, in the age group 38-42 years (mid-career scenario) manage to do well only when they have high education levels. Those with lower levels of education have to be content with lower incomes. In case of illiterates, as many as 80% earn less than Rs. 25,000 per annum. This share falls as one moves up the education ladder showing a positive impact of education on earnings. Individuals holding post graduate degrees and above have the least number of individuals earning the minimum income range. As expected, the percentage individuals in the highest income bracket (annual income between Rs. 3,00,000 and Rs. 8,00,000) is the highest in case of post graduates and above. This is a significant observation in itself but its real relevance to the issue of employability is much more fundamental.

Though on the average incomes tend to be higher for higher levels of education, there is still a lot of variation in incomes not wholly accounted for by education and experience level. This points to a key

determinant of income level- in fact the most critical one. This wide range of income divergence within the same education and experience is linked to the quality of skills with higher returns associated with better quality. The quality of skills possessed is the most imperative part of an individual's employability. Though high education levels would help an individual reach the desired industry, the sustainability would depend on how well the skills required for the industry have been adapted, along with a demonstrable improvement in this skill base with time.

It is for the same reason that many with high levels of education continue to earn low. Listed below are some of the most important reasons that underlie the huge income differentials existing even within the same educational level. It is seen that with the overall perspective on the issue, it is the quality of institute (that imparts education and (or) training) which acts as the single most important determinant of income earning potentials of the individuals attending them.

To substantiate, we compare the placements offered by various management institutes in India as a case. Institutes like IIMs, XLRI, IMT and many others are known for the good placements they offer. We turn to show that this outcome in terms of placements is an outcome of the quality of education (and the skill levels imparted implicitly) by these institutes. This notwithstanding the fact that the large number of students vying for an entry into these premier institutes in itself is an indication of the importance accorded to these institutes when it comes to employability.

A GHRDC-Competition Success Review Survey 2006 done to analyze the best institutes in India allows insights on this aspect. There are approximately 1100 Business-Schools in India (2006). Of these about 400 schools met the minimum eligibility criteria of: (i) number of years of functioning; (ii) duration of MBA or equivalent course (only 2 year courses were considered); (iii) recognition of the course(s) offered, and (iv) placement and other records. Out of the 400 Schools contacted, 130 Business-Schools responded and participated in the survey. The table below lists the parameters used under the survey to rank these schools. The list is a comprehensive one including many aspects of quality of management education.

- *Management schools need to add market place and customer understanding to their theory and conceptual inputs. The lack of Indian cases and cataloguing of practical situations should be addressed*
- *Vocational training institutes need to update their curriculum and focus on employability i.e. soft skills. They also need to offer vocational and career guidance that could improve the quality of student choices and fit at leaving school / college*
- *Academia and industry need to come together to redesign courses, reach out to institutes not in cities and overall expand input capacity substantially*

Vineet Kaul, Executive Director, Philips India

[19] GHRDC, a premier center for management education and research, has been involved with B-School surveys for the last many years as a key associate of the Hyderabad-based COSMODE.

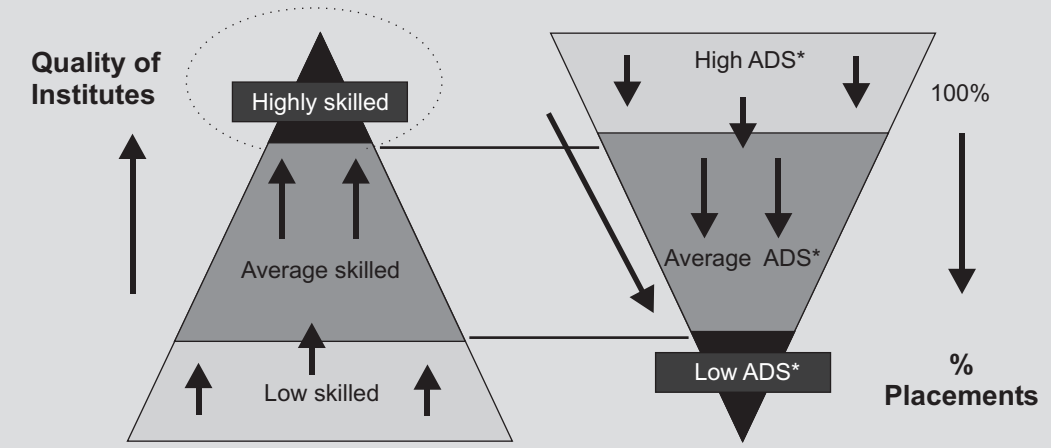
Table 1: Parameters used for Analysis of Management Institutes

Parameters	Data / supporting evidence	Weight (in %)
Infrastructure		
Physical Infrastructure	Built up area, hostel, layout plan, physical verification, etc	11
Academic Infrastructure		
Knowledge Center	Library records, no. of books added, national & international journals, publications, etc	
Teaching Aids	No. of LCDs, extent of computing facilities in classrooms, etc	
Education Process		
Faculty, Research, Consultancy, Publications and MDP	Full time & visiting faculty, research & consultancy, MDP & other programs, industry experience of faculty, no. of publications/ research papers (books, cases, working papers, etc) and conferences/ seminars, etc	28
Academic Programs		
Admission, Curriculum, Delivery Systems	Entrance test, average admission percentile, students profile, percent of curriculum devoted to core/ elective/ project work, course timetable, school records, competency building and soft skills, programs other than MBA, etc	27
Placement		
Placement and Industry Interface	Offer letters, recruiter details, percent placement, average domestic/ international salary, cost of education, income and expenditure pattern of institute, alumni, etc	26
Networking		
Networking	Joint programs, student/ faculty exchange programs, membership of professional bodies, MOUs/ agreements with other professional bodies/institutions, etc	8

Source: GHRDC in association with Hyderabad-based COSMODE, 2006

Shown below are the results of this survey. It is found that the quality of management education when objectified in form of a scale and institutes placed on this scale forms a pyramid. There is a concentration of average performers, with above-average performers being very few.

Figure 6: Quality Pyramid: Input Outcome Correspondence



Source: GHRDC in association with Hyderabad-based COSMODE, 2006

The 'width' of this quality-pyramid is inversely proportional to the quality of the institute indicating that as one moves up the quality scale, fewer institutes satisfy the criterion. The same trend holds true when it comes to percentage placements in the institutes and average domestic salaries offered to the students. The observed variation is wide given that while the top institutes usually register 100% placements, the bottom ones barely manage 25% placements. According to the GHRDC-CSR survey, bulk of the space for management education is filled in by lower rung institutes, offering remunerations much lower than the top ranking management institutes.

The high correspondence between ranking of these institutes in terms of quality and their corresponding outcome rankings (based on placement percentage and average domestic salary) points to a strong positive link between skills, earnings and employability.

- *Major gap exists in implementing the concepts that the freshers come geared, the knowledge is too bookish, with no clear cut practical implementation knowledge*
- *Technology at work place outpaces academics*
- *Course content out of sync/context with requirements at work*

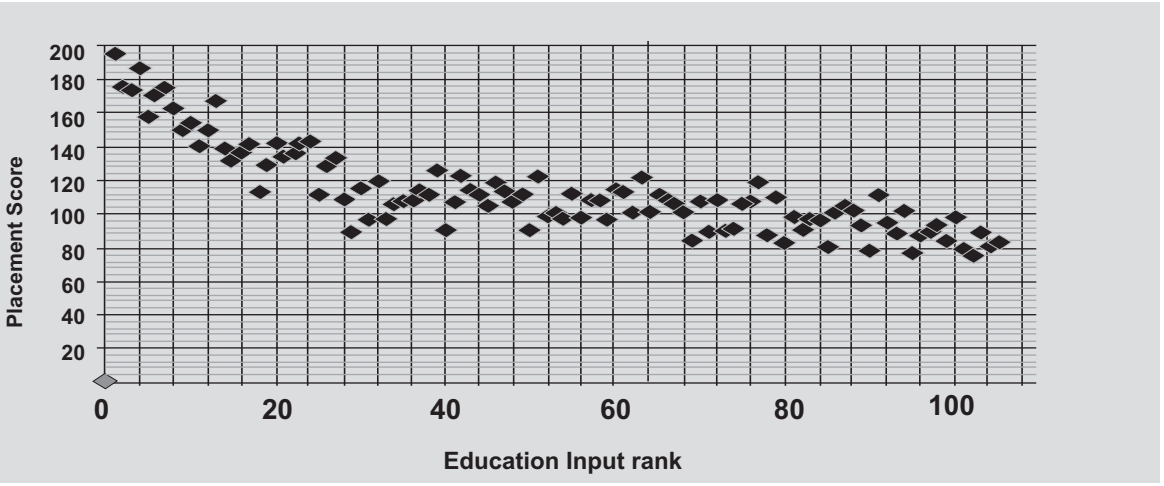
Amandeep Kaur Aulakh, Regional Resource Manager, Centurion Bank of Punjab

Management education is just a case in point. This trend is actually true across educational and training providers in the country. As a result we find a consistent negligence on quality even as institutes of various hues and colors proliferate. As discussed above, the demarcation between 'good' and 'bad' remains the quality of skills imparted. The underlying infrastructure, instruction and other inputs including policy are means to ensure high standards of educational outcome- be it liberal or vocational.

Why do certain B-Schools attract better placements?

The survey also analyses the reasons for better placements in terms of salaries offered by select few B-Schools. The results of the same have been given in the box below.

Placement Score Vs Education Input rank



The figure indicates that there is a high level of correspondence between an institute's placement score (and thus rank) and its score on the education input. The education input score is a combination of a number of underlying factors like infrastructure, faculty, research, consultancy services, curriculum and delivery system. Thus institutes providing a higher education input perform better when it comes to the outcome of such an input- the placement.

Source: GHRDC in association with Hyderabad-based COSMODE, 2006

To sum up, the table below lists the quality parameters that hold true across a broad range of educational and training institutes

Table 2: Determinants of Quality- parameters and their relevance

Parameters	Linkages pointing to 'quality'
Physical Infrastructure	Provision of essential services to students, built up area, hostels / accommodation conducive to learning, infrastructural facilities including internet access, etc
Access to Knowledge and latest know-how in the field	Up-to-date Library material, latest books, national & international journals, publications, etc
Teaching Aids	Availability of relevant teaching aids for better and effective instruction. Could include things like LCDs, projectors, extent of computing facilities in classrooms, and even types of machines in the workshop for training in mechanical trades etc
Faculty, Research, Consultancy, Publications	Full time & visiting faculty, research & consultancy, industry experience of faculty, no. of publications / research papers (books, cases, working papers, etc) and conferences / seminars, etc

Parameters	Linkages pointing to 'quality'
Admission, Curriculum, Delivery Systems	An effective entrance test (or some other objective parameter) to benchmark the aptitude of incoming students, profiling of students for better targeted training to them, percent of curriculum devoted to core/ elective/ project work, competency building and soft skills, etc
Focus on developing an Industry Interface	Showing the emphasis on quality absorption of the trainees in the industry. Providing an effective interface with industry.
Networking for Growth Opportunities	Joint programs, student/ faculty exchange programs, membership of professional bodies, MOUs/ agreements with other professional bodies/institutions, etc including alumni-led-networks

Insights on skills and employability link derived from an analysis of management institutes may be criticized for its 'elitist bent' and not being a case involving the masses. While this argument is unlikely to hold true, an analysis, this time taking an educational stream involving the masses is in order. Using the data from NSSO 61st round on employment, we compare the likelihood of getting employment for individuals who have received vocational training against those who have not. Vocational training is closely linked to skill building as separate from bookish school and college education. Thus an impact, if it were, of skill development training should show up for the argument to hold true.

The table below compares the unemployment rates across education level for individuals who have received any form of vocational training against those who have not. Since impact of vocational training is more likely to show up in the early part of an individual's career, working population in the age group 15-20 has been considered.

Table 3: Unemployment Rates (Usual Status) among 15-20 year age group across training status

Education Level	Unemployment Rates (Usual Status) 15-20 year age group		
	No Vocational Training	Vocational Training	% Point Difference
Not literate	3%	1%	2%
Literate - below primary	5%	5%	0%
Primary	7%	3%	4%
Middle	10%	5%	4%
Secondary	20%	9%	11%
Higher secondary	31%	25%	5%
Diploma/Certificate Course	44%	40%	3%
Total	**9%**	**7%**	**2%**

Source: NSSO 61st Round, 2004-05

Consistently across all educational levels, the group that has received vocational training registers lower unemployment rates as compared to the group that has not received any form of vocational training. As a corollary, individuals with vocational training are less likely to be unemployed. The skills imparted during the course of such training enhance the employability.

Note that higher levels of education are typically associated with higher unemployment rates as well. This clearly indicates that conventional education in India is not generating 'employable' individuals and greater skill based education is required to ameliorate this problem. There is also an issue of the quality of vocational training currently available in the country, but that is an issue that is discussed in later sections.

In conclusion, it is the educational achievement, its quality and experience earned during work that drives the employability status of an individual. Without these underlying factors working in tandem, the returns to education for an individual are unlikely to offset the investment (including the issue of opportunity cost of continuing into the training and education regime) made on the same. Till the current human resource development environment is conducive to enhancing employability doubts would continue to remain on its efficacy.

- *There is complete mismatch between skills for which ITI's train people and the requirements of Industry.*
- *Vocational Training is only for basic manufacturing while the service economy is where jobs are being created. Where are the ITI's for telecom, financial services, retail?*

Arvind Agrawal, President HR, RPG Enterprises

Chapter 4: Youth Unemployability and Repair

As population growth slows to replacement levels over the next two decades, India's greatest challenge will be to provide employment opportunities for all job-seekers. The working age population will expand by about 45 per cent, spurring rapid growth of the labour force and the number of job-seekers. Major changes in economic policy and strategy will be needed to eliminate the current backlog of more than 34 million unemployed job-seekers and assure employment opportunities for all additions to the labour force. India needs to generate around 200 million additional employment opportunities over the next 20 years. At the same time, the total proportion of the workforce involved in agriculture is likely to decline from 56 per cent to 40 per cent or even lower, thus increasing the pressure for rapid multiplication of non-farm employment opportunities.

-'India Vision 2020', Planning Commission

4.1 Challenge from the Agriculture Crisis to Employment

In the preceding sections the impact of a poor HRD regime vis-à-vis employability of the labour force in the country has been brought out across a wide spectrum of parameters. Thus it was found that quantum loss of potential skilled work force along with a poor quality of the current outcome which is highly out-of-sync with industry requirements (all leading to low employability) are among the major bottlenecks visible today to a sustained growth for our rapidly accelerating economy.

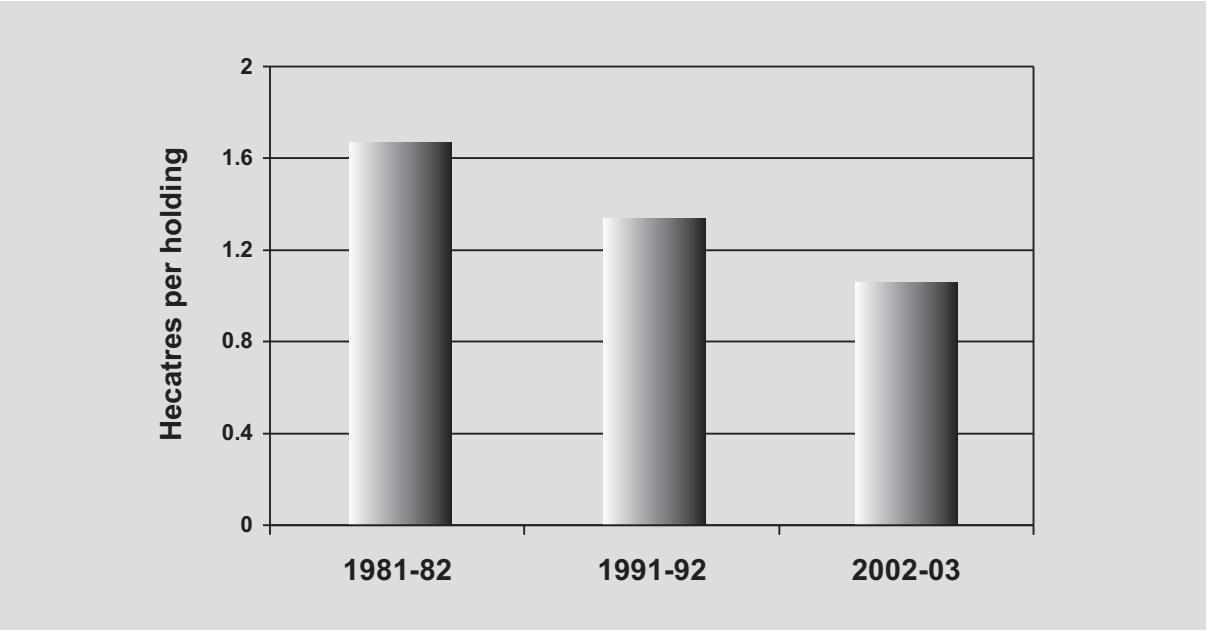
The grimness of the situation becomes even more apparent when the sector employing the largest proportion of our work force is considered. This sectoral focus is immensely crucial since agriculture- the mainstay of the Indian population providing 56% of employment- contributes just around 18% of the GDP with the percentage contribution to country's GDP continuously on a decline. It is becoming more and more apparent to all stakeholders, including policy makers, that Indian agriculture is going through a rough phase, and as a consequence of many interrelated factors, is soon going to witness a large scale out-migration of the work force currently (under)employed in this sector.

The Approach Paper to the 11th Five Year Plan (2007-12) pays special attention to the problems faced by the sector employing the largest proportion of country's labour force. In its introductory Chapter, the Approach Paper states, "One of the major challenges of the 11th Plan will be to reverse the deceleration in agricultural growth from 3.2% observed between 1980 and 1996-97 to a trend average of around 2.0% subsequently. This deceleration is the root cause of the problem of rural distress that has surfaced in many parts of the country and reached crisis levels in some. Low farm incomes due to inadequate productivity growth have often combined with low prices of output and with lack of credit at reasonable rates, to push many farmers into crippling debt. Even otherwise, uncertainties seem to have increased (regarding prices, quality of inputs, and also weather and pests) which, coupled with unavailability of proper extension and risk insurance have led farmers to despair. This has also led to widespread distress migration, a rise in the number of female headed households in rural areas and a general increase in women's work burden and vulnerability. In 2004-05, women accounted for 34% of principal and 89% of subsidiary

workers in agriculture, higher than in any previous round of the National Sample Survey. The crisis of agriculture is not a purely distributional one that arises out of the special problems of small and marginal farmers and landless labour. In fact, agricultural deceleration is affecting farms of all sizes. To reverse this trend, corrective policies must not only focus on the small and marginal farmers who continue to deserve special attention, but on middle and large farmers too who suffer from productivity stagnation arising from a variety of constraints. It is vital to increase agricultural incomes as this sector still employs nearly 60% of our labour force. A measure of self-sufficiency is also critical for ensuring food security. A second green revolution is urgently needed to raise the growth rate of agricultural GDP to around 4%. This is not an easy task since actual growth of agricultural GDP, including forestry and fishing, is likely to be below 2% during the 10th Plan period. The challenge therefore is to at least double the rate of agricultural growth and to do so recognize demographic realities particularly the increasing role of women." **It then goes on to add that the policy challenge is one of pulling people out of agricultural employment through creating off-farm employment opportunities.**

The distress captured in the document quoted above is indeed real. The fragmentation of land holdings with the average size going down has made this sector unviable for most farmers. The economies of scale- the very basis of higher productivity among developed nations- is eroding at a faster rate than ever before. The sustainability of 56% of the work force employed in this sector is constantly facing challenges with each passing year. The graph below captures the essence of this compounding problem.

Figure 1: Squeezing Farm Size



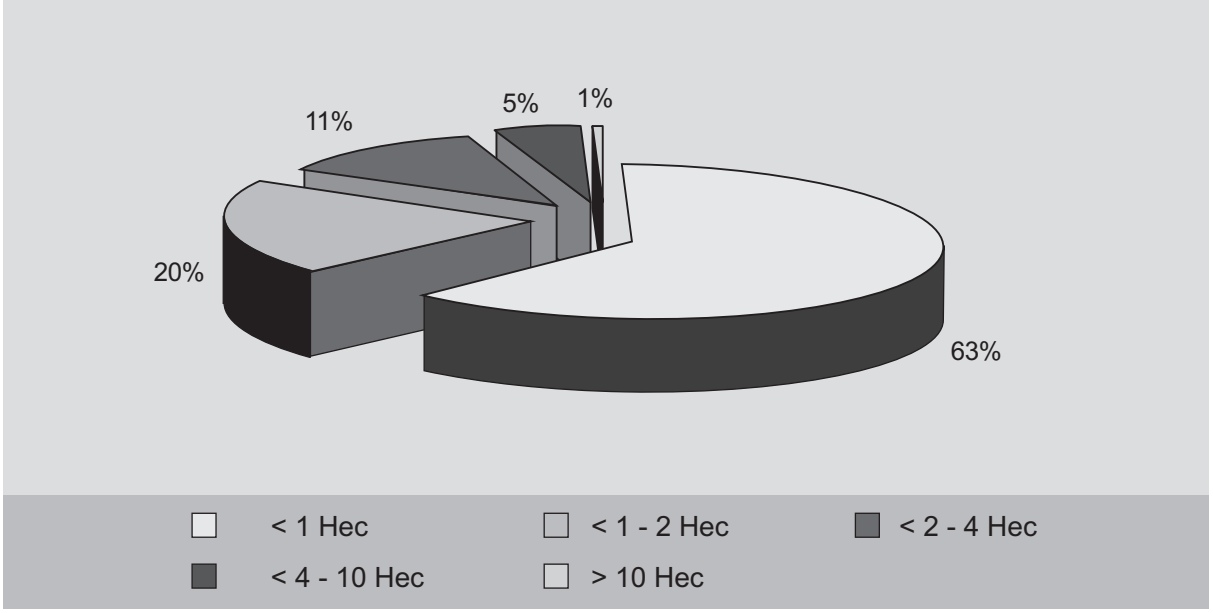
Source: NSS0 Report on "Some Aspects of Operational Land Holdings in India, 2002-03"

The report titled "Some Aspects of Operational Land Holdings in India, 2002-03" based on the sixth nationwide Land and Livestock Holdings Survey, carried out in the 59th round (January to December, 2003) by the National Sample Survey Organization (NSSO) in the Ministry of Statistics and Programme Implementation, Government of India, mentions the issue of consistently reducing land holding sizes. Average area operated per holding in 2002-03 was 1.06 hectares compared to 1.34 hectares during 1991-92 and 1.67 hectares in 1981-82. The figure above shows the

consistently falling average land holding size in the country- just another measure of increasing pressures on Indian agricultural sector.

Further pressures and the consequent un-viability of Indian agriculture are brought out by an analysis of the distribution of holdings by size shown below.

Figure 2: Distribution of Rural Farm Sizes



Source: Indicus Estimates based on NSSO 61st Round, 2004-05

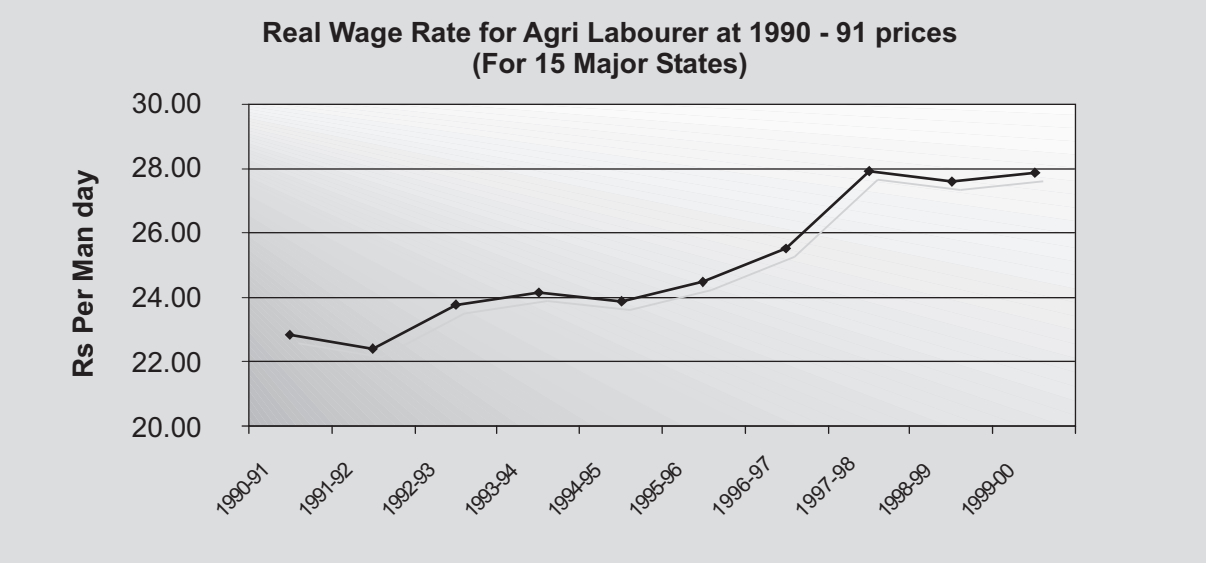
This essentially indicates that more than 80% of the rural farm lands in the country are less than 2 hectares in size. Hardly 1% of the land holdings of the total are bigger than 10 hectares. No surprises that productivity and economies of scale in the agricultural sector are a distant dream as things stand right now.

The crisis does not end here- indeed there is much more to it than just productivity and scale issues. There is a significant proportion of work force employed as agricultural wage earners who are feeling the heat of an ailing agriculture sector. A look at the 'creeping' rate of increase of real wage rates in the country (computed for 15 major states over the period 1990-91 to 1999-00 at 1990-91 prices) makes the picture clear.

- *Less than 1% of freshers are ready to hit the ground running because of the lack of practical knowledge; most mechanical engineers can't recognize a turbine!*
- *Diploma and ITI graduates need one year of training before they are ready; we are often teaching them what they should have learnt in their course*

Dr. Gobind Baghasingh, Vice President, Tata Power

Figure 3: Real Wage Rate for Agricultural Labourers



Source: Reports of Commission for Agricultural Costs and Prices. Ministry of Agriculture

The reasons for the phenomenon are manifold. Demography and accumulation of low skilled labour in agriculture happen to be major contributors along with many other factors both on the supply as well as the demand side. As a result, a lower than desired real earning improvements of labourers has been witnessed. However, in all likelihood, conditions for the unskilled employed in agricultural sector will only deteriorate because none of the underlying factors seems to be on an upswing.

4.2 Pressure on the bottom most strata

As a result of this skewed pattern of ownership and earnings in the agriculture sector, the bottom most strata, including the landless, is reeling under great pressures of sustenance. A large majority of the rural population survives on a paltry size or no land at all. The average monthly per capita expenditure shows a continuously decreasing trend indicating among other things a decreasing access to goods and services for a vast majority. Even as expenditure incurred is a proxy for income earned, it highlights the low sustainability of the heavy dependence on earnings from agriculture sector. The table below indicates the situation in a nutshell.

Table 1: Dependence on Agriculture

Indicator	Land-owning Rural Households						Landless Rural Households
	All Land-owners	> 10 Hec	4-10 Hecs	2-4 Hec	1-2 Hec	< 1 Hec	Land-less
Avg Land Cultivated (Hec)	1.2	14.8	5.7	2.7	1.4	0.4	-
Avg Household Size	5.3	8.3	6.8	6.0	5.6	5.0	4.1
Avg Monthly Per Cap. Expenditure (Rs per Person)	2,958	6,821	4,681	3,678	3,106	2,622	2,244
Households (as % of Total Rural Households)	57.2	0.3	2.6	6.5	11.3	36.4	42.8

Source: Rural Households, Indicus Estimates based on NSSO 61st Round (2004-05).

As a result, it is not far fetched to foresee a large scale out migration towards off-farm activities. If this trend is to be reversed, the XIth Plan envisages a decline in agricultural workforce by 10 million and growth of 5% per annum in the non-agricultural sector[20].

The pertinent question that faces us at this juncture is: if such large intensity out-migration happens any time in the near future- and signs of it already happening are aplenty- where is the additional incoming force from this sector going to be absorbed. The grimness of the situation would have been less severe had the policy makers considered the following issue- even if the spiraling growth witnessed in the recent past makes available jobs in non-agricultural sectors, will the incoming seekers come with the desired fit? Without timely intervention, hopes for such a miraculous fit seem dim.

4.3 Demographic shift of next 20 years (2025-26)

This section is dedicated to how the demographic shift will play out in the next 20 years and the challenges arising out of this shift vis-à-vis the employability perspective. We cover the overall perspective at the start to begin with and then find out how this shift would determine the skill-set availability in the country 20 years hence.

The table below shows the figures for the age group wise population distribution in percentage terms for the years 2006 and 2026. The figures for the year 2006 and 2026 are based on projections.

Table 2: Population age-wise, gender-wise for India for year 2006 and 2026 (All figures in %)

	2006			2026		
Age-group	**Persons**	**Males**	**Females**	**Persons**	**Males**	**Females**
0-4	10.4	10.6	10.1	7.5	7.6	7.3
5-9	10.7	10.7	10.7	7.9	8.1	7.7
10-14	11.0	11.1	10.9	8.0	8.2	7.8
15-19	10.7	10.9	10.5	8.0	8.2	7.8
20-24	9.3	9.5	9.0	8.0	8.2	7.8
25-29	8.1	8.1	8.1	8.3	8.3	8.3
30-34	7.4	7.2	7.6	8.5	8.5	8.4
35-39	6.7	6.5	6.9	8.2	8.3	8.0
40-44	6.0	5.9	6.1	7.0	7.2	6.9
45-49	5.0	5.1	5.0	6.1	6.0	6.1
50-54	4.1	4.1	4.0	5.4	5.2	5.7
55-59	3.1	3.2	3.1	4.8	4.5	5.1
60-64	2.5	2.4	2.6	4.1	3.9	4.2
65-69	2.0	1.9	2.2	3.2	3.1	3.3
70-74	1.5	1.4	1.6	2.3	2.2	2.3
75-79	1.1	1.0	1.2	1.5	1.4	1.6
80+	0.4	0.4	0.4	1.4	1.2	1.7
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

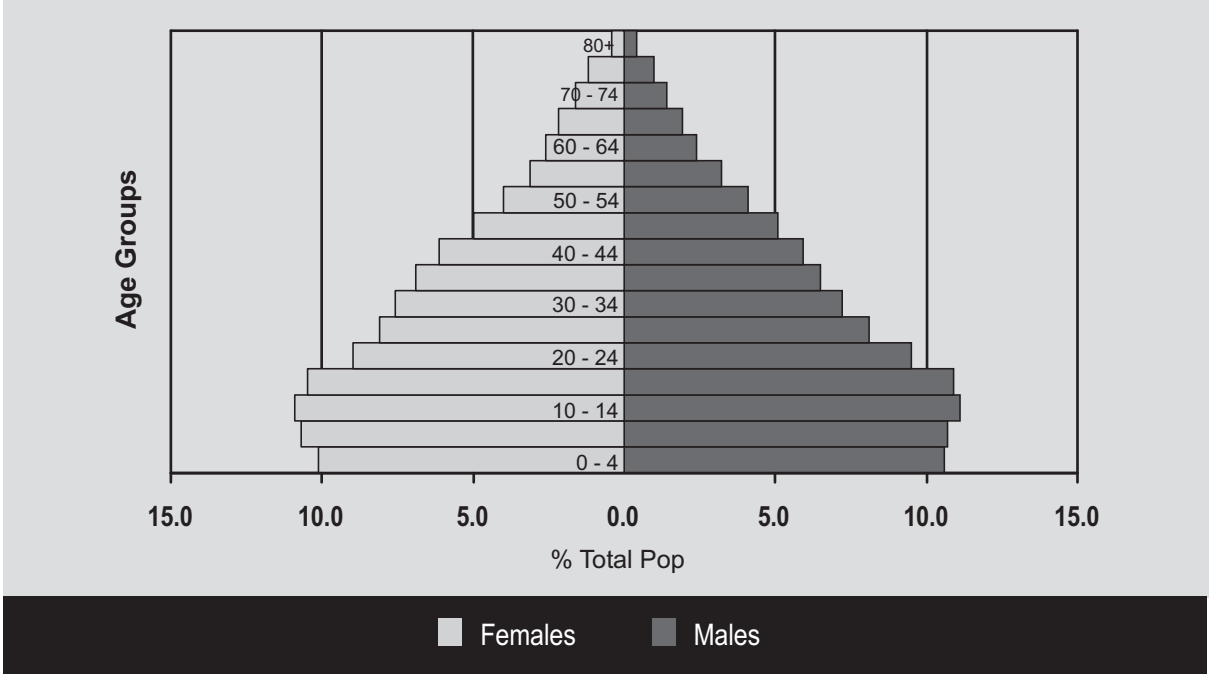
Source: Report of the Technical group on population projections constituted by the National Commission on Population, May 2006

[20] CII Report (2006).

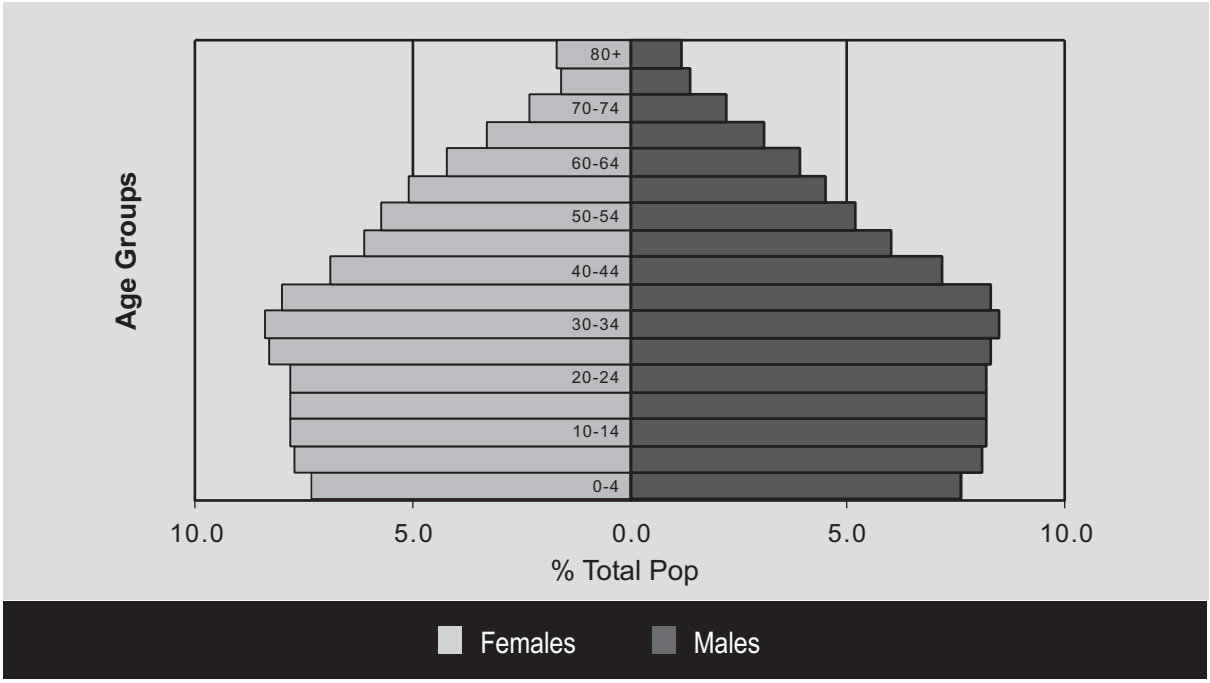
4.4 The Challenge is now

The population pyramid given below presents the above information in form of a graph for the years 2006 and 2026.

Population Pyramid 2006



Population Pyramid 2026

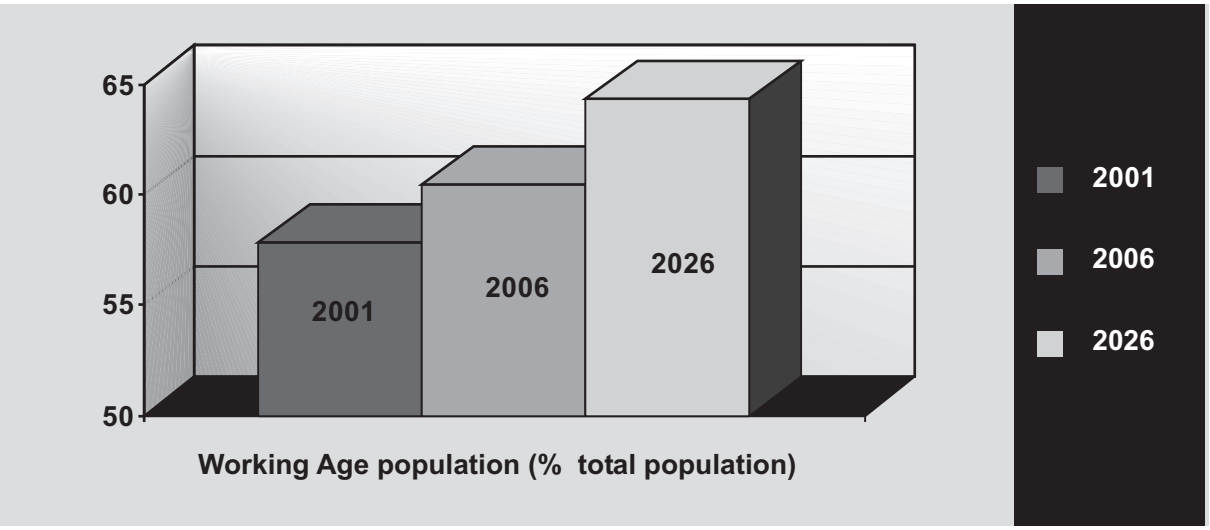


Source: Report of the Technical group on population projections constituted by the National Commission on Population, May 2006

A comparison between the two highlights the “peaking” presence of individuals in the working age population, specially the midcareer ones, in the year 2026 compared to 2006. The point regarding high percentage of individuals in the year 2026 being in the midcareer scenario is critical. Essentially what this translates to is that by 2026 the challenges of providing gainful employment to a vast majority of (new) additions of youth entering the working age population beginning 2006 would have been over. Thus, the challenge is now!

It is also instructive to look at the working age population as a proportion of total population across the years 2001, 2006 and 2026. Treating 15-60 age group as the working age population, the following graph shows that the working age population expressed as a percentage of the total is going to go up to 64.3% by 2025 as compared to 57.8% in 2001.

Figure 5: Working Age population across years as a percentage of total population



Source: Report of the Technical group on population projections constituted by the National Commission on Population, May 2006

The above discussion brings out the following points worth noting. The present challenge is big because of the demographic shift the nation is going to witness. The next 20 years are very crucial given that the large proportion of population currently below working age is going to enter the working age group and is going to demand gainful employment. Essentially by the year 2026, the major 'input shocks' on the employment front (vis-à-vis large scale additions to working age population between today and 2026) would have to be absorbed and tackled suitably. In conclusion, the challenge for the country is now. This is the time when the country can plan and act towards converting its 'potential' demographic burden into enhanced opportunities of growth.

4.5 Un-employability

The issue of employability covers two categories of individuals. The first category includes the unemployed in the labour force. Many consider employability to be concerned only with entry into the work force. However, there is another set of individuals who suffer from poor employability. This category includes those individuals who earn lower than expected incomes given their educational qualifications.

Previous chapters showed that employability is ultimately a matter of knowledge and skills developed through quality education and training. Thus, any solution to the (un)employability problem facing the country lies in a well designed education and training regime that sets to meet these objectives. The precise form and design of such a training regime is beyond the

scope of this work, however a broad structure and characteristics of such a system is discussed in the concluding chapter of this report.

We argue that training is much more effective for the youth who are either going to begin their career or required to enhance their skill base in early parts of their career. As will be discussed shortly using quantitative data, the problem of employability is essentially a problem of the youth. Adding to this the observation that flexibility and willingness to learn are essential for any such training to become effective (for which the early part of an individual's career is the best period), it is more pertinent to view the entire issue as an issue facing the youth. In light of this, the following analysis has been conducted using the relevant characteristics of the early working age population which has been taken as the 15 to 29 year age group. The data is sourced from the large scale survey on employment and unemployment status conducted by the National Sample Survey Organization in 2004-05 (61st Round).

We begin our discussion with the unemployed set of individuals. The following table shows the unemployment rates of youth in the country. The figures for unemployment rates use the Usual Principal Activity Status (US)[21]. Another related measure of unemployment rate measurement is the one based on the Current Daily Activity Status (CDS). This measure takes into account the time disposition during each day of the reference week chosen. Both measures continue to be used to measure unemployment rates. For the analysis below, as mentioned, usual principal activity status has been chosen. These usual activity status estimates are significantly lower than the current daily status. As a heuristic measure of unemployment rates based on CDS turn out to be anywhere between 1.5 to 3 times the rates based on usual principal activity status.

Table 3: Unemployment rates for various age groups using Usual Principal Activity Status

	Age Group		
Educational Level Completed	**15-20 Yr**	**21-25 Yr**	**26-30 Yr**
Not literate	3.1%	1.3%	0.5%
Literate w/o formal school	6.0%	1.6%	1.6%
TLC	4.5%	1.8%	1.6%
Others	7.6%	4.0%	2.4%
Literate- below primary	4.7%	2.5%	1.2%
Primary	6.5%	2.2%	1.2%
Middle	9.0%	5.6%	2.6%
Secondary	18.9%	11.2%	5.1%
Higher secondary	30.8%	17.3%	6.2%
Diploma/Certificate course	36.6%	27.5%	16.1%
Graduate	·	31.7%	12.4%
Postgraduate & above	·	35.8%	15.4%
Total	**8.7%**	**8.1%**	**3.5%**

Source: Indicus Estimates based on NSSO 61st Round, 2004-05

[21] The Usual Principle Activity Status relates to the activity status of a person during the reference period of 365 days preceding the date of survey. The survey here is the NSSO 61st 2004-05 round on employment and unemployment.

First, unemployment rates- overall as well as for any given education level- continue to decrease as one looks at higher age groups. This in fact highlights a pertinent point. The decreasing rate of unemployment observed arises due to the tendency of an individual to take up 'a' job once he has spent sufficient time (unsuccessfully) searching for a job he evaluates is suitable for his given qualification. The high search cost is a compulsion strong enough to push him towards taking up a job even if it is not remunerative in accordance with his expectations. With this we unavoidably face the other category of individuals who are sub-optimally employed (because of the reasons cited above). However, a detailed treatment of this phenomenon forms part of the next section.

The above trend also substantiates one of the starting assumptions for this analysis- the one that employability is more of a problem of the youth. The observation that across all categories unemployment rates quickly fall as we progress to higher age groups is a qualification to that assumption. As a comparison, the table below shows the unemployment rates for still higher age groups indicating that across all age groups these rates fall to sub-3 percent values.

Table 4: Unemployment rates for various age groups using Usual Principal Activity Status

	Age Group	
Educational Level Completed	**41-45 Yr**	**46-50 Yr**
Not literate	0.3%	0.3%
Literate w/o formal school	0.1%	2.1%
TLC	0.0%	1.4%
Others	0.0%	0.7%
Literate- below primary	0.3%	0.3%
Primary	0.7%	0.4%
Middle	0.9%	0.4%
Secondary	0.9%	1.3%
Higher secondary	1.5%	0.9%
Diploma/Certificate course	2.7%	2.7%
Graduate	1.3%	0.4%
Postgraduate & above	0.1%	0.6%
Total	**0.6%**	**0.5%**

Source: Indicus Estimates based on NSSO 61st Round, 2004-05

It may be recalled at this point that the unemployment rates indicated above indeed depict the scenario less severely than it could get. Given that current daily activity status based rates could in fact be higher than usual principal activity status based ones, the scenario is indeed not optimistic.

Given below are the figures for the unemployed individuals (in thousands) across educational achievement and age groups. These figures take into account the total available labour force in the country corresponding to these age groups and thus present the picture in absolute terms.

Activity Status

Educational Level Completed	15-20 Yr	21-25 Yr	26-30 Yr	Total
Not literate	403	168	91	662
Literate w/o formal school	8	4	4	16
TLC	19	7	6	32
Others	41	23	15	80
Literate- below primary	259	113	54	427
Primary	707	186	97	990
Middle	1,149	683	275	2,106
Secondary	896	772	342	2,010
Higher secondary	560	714	240	1,514
Diploma/Certificate course	150	376	220	745
Graduate	203	1,173	537	1,913
Postgraduate & above	2	303	222	527
Total	**4,398**	**4,522**	**2,104**	**11,024**

Source: Indicus Estimates based on NSSO 61st Round, 2004-05. Appropriate multipliers have been used to convert NSSO based figures in percentage terms to absolute numbers consistent with Census population projections for the corresponding years.

In absolute terms India currently has close to 11 million unemployed individuals for the age groups considered above, who despite seeking work are unable to find work[22]. Moreover many individuals are employed in sub-optimal conditions a group not covered in the above estimates. In other words, the unemployed reflect un-employability in its extreme form.

4.6 Training for the unemployed youth

Based on discussions with stakeholders during the course of the study, it was found that any training aimed at enhancing the employability of the unemployed needs to be based on the type of work individuals of a particular qualification are likely to take up. Thus, training need of a primary pass individual differs from those of a graduate not just in terms of quality but quantity (i.e. the duration of the training) as well. Based on these discussions and also from the analysis of training needs for the sub-optimally employed (discussed in the next section) the following is the training matrix for the unemployed expected for the most effective impact.

The training matrix has been reached on the basis that the unemployed who are either illiterate or literate below primary need to be able to learn the basic tasks (mostly 'Skill-based' tasks) that enable them an elementary skill base quickly. Since it is not expected of these individuals to invest resources (time being the most critical) beyond the minimum required, a training program should be limited to deliver outcomes within a span of 6 months. In the 6-12 months duration, the group has been bifurcated on the basis of educational achievement of the underlying individuals. Type I includes those who have passed primary and middle while Type II includes individuals having graduate, post graduate or higher degrees. The bifurcation is necessitated in light of a significant qualitative difference in the occupation likely to be taken up by these two sets of individuals and hence the training requirements would also differ significantly. A 12-24 months' training is however found to be suitable for the individuals who are holding secondary, higher secondary or diploma qualifications. These individuals can be expected to benefit most from a relatively more.

[22] This estimate is based on Usual Principal Activity Status of individuals considered. This number could be higher ranging between 1.5 to 3 times the current value based on the other measure Current Daily Activity Status.

intensive training regime which would offset the increased time investment made by them. This is in line with the requirement of many training schools (such as ITIs) that have courses for 1 to 2 years and have secondary schooling as minimum entry criteria.

At this juncture we also bring in another set of nomenclature to the issue of employability- one that 'identifies' the nature of groups based on their training requirements. The link is more or less natural. We identify individuals requiring up to 6 months training as 'Last mile' unemployables- where not much effort is required (compared to others in the unemployable category) to significantly improve employability levels; those requiring between 6 to 12 months training as 'Interventional' unemployables and those beyond 1 year as 'Structural' unemployables- indicative of the basic structural adjustments needed for these individuals to improve their employability. Benefiting from the intuitive and hence easily established link between the nomenclature and the training effort, we turn to the view the situation with regard to training for the three sets of youth. The table below shows the number of individuals (in thousands) with differing needs in terms of the duration of training required.

Table 6: Training Needs for the Unemployed Youth (Number of individuals in '000)

Un-employability Type	Training Needs for the Unemployed Youth	15-20 Yr	21-25 Yr	26-30 Yr	Total
Last Mile	Less than 6 months	732	315	171	1,218
Interventional	6-12 months (Type I)	1,856	869	372	3,096
	6-12 months (Type II)	205	1,476	759	2,440
Structural	12-24 months	1,606	1,862	802	4,270
Total		4,398	4,522	2,104	11,024

Source: Indicus Estimates based on NSSO 61st Round, 2004-05. Appropriate multipliers have been used to convert NSSO based figures in percentage terms to absolute numbers consistent with Census population projections for the corresponding years.

4.7 Training for the employed youth

As discussed before, of the 287 million individuals in the 15-29 age group 145 million are in the labour force and almost 11 million are unemployed by the usual principal activity status (the figure would roughly double if we use the current weekly status).[23] The rest are employed though many of those are earning less than what they should given their personal characteristics as well as education and training levels. We define these individuals as those that are sub-optimally employed in that their incomes are lower than expected. As expected many earn lower than one would expect given their education levels. This is due to many factors but greater training could significantly improve their productivity levels and therefore incomes.

The first issue has to do with 'expected income'. It is well known that incomes (Y) are most affected by education (E), formal training (F), informal training (N), location (rural or urban) (L), socio-economic background (S), gender (G), state (T), and experience (X). Some also consider occupation to be a determinant, however, better education and a wider set of skills also allow

[23] Percentage figures from NSSO 61st round survey 2004-05 have been used to convert to absolute numbers using Census 2001 population projections for corresponding years employing appropriate multipliers.

individuals to choose their occupations and therefore this aspect need not be considered. The model Y(E,F,N,L,S,G,T,X) where all the determinants of income are represented as 0-1 variables and experience is in years. The appendix shows the detailed results of this econometric exercise where Heckman's procedure was used to determine the sensitivity of income levels to these variables. The data used is available from the NSSO 61st round that queried all individuals in households as to their employment status as well as income levels if they were in a wage earning occupation. This set does not include those who are self employed or employed in household enterprises however, it can safely be assumed that value addition is determined in a similar manner for the self employed as well and therefore results from this exercise can be transposed to the overall 15-29 population.

The broad results of the exercise are as follows:

- Those belonging to underprivileged segments have lower incomes but somewhat greater likelihood of being employed this reflects the social biases and is a well known result[24]
- Females have significantly lower incomes as well as lower likelihood of being employed than their male counterparts
- Urban residents have greater incomes but are not significantly different in terms of likelihood of being employed than their rural counterparts.
- Greater education levels lead to greater income but lower probability of being employed
  Work experience leads to significantly higher incomes, for every year of experience, incomes increase by about 4 percent
- Formal vocational training has no impact on incomes; neither does it have any impact on likelihood of being employed. This only reflects the poor quality of existing formal vocational infrastructure (e.g. ITIs)
- Informal vocational training (that includes training in household occupation settings, as well as other types of training not associated with any formal certification, has a positive impact on likelihood of being employed. It however does not affect income levels significantly.

The last two points illustrate the importance of vocational training but also point to the poor quality currently available. Inasmuch as informal training improves basic employability in the sense of obtaining a job, it does not improve productivity significantly enough and as a consequence its ability to improve incomes is insignificant. In other words, formal, well designed vocational training is essential.

What are the training needs for those who are already employed? This is a difficult question as assessing training requirements requires us to understand what we should compare current levels of skills and knowledge with optimum levels. If HR managers' interviews are any indication, almost everyone requires training before they can contribute significantly enough. If the matching of occupation with education and vocational training is concerned, then roughly nine tenths require training. (Earlier chapters showed that more than 90% of those employed were in 'skill-based' employment combine this with our result that conventional formal vocational training in India has had no impact on employability).

We however take a more conservative approach, we assume that those earning less than the expected (given their personal and educational characteristics) will benefit the most from training. In other words, roughly half the employed youth in the 15-29 age groups would require some form of training. The next obvious question is whether training needs (length of time) would differ and how? The answer is in two parts. First, depending upon the chosen occupation or class of occupations, the training needs would differ. It is beyond the scope of this work to be able to delve into occupation-wise training requirements. However we can better illuminate the extent or length of training in the aggregate. Those earning significantly lower than their expected incomes would require greater

[24] See Bhandari and Bordoloi, 2006 published in Economic and Political Weekly.

levels of training. Given this reasoning and assuming that training should not exceed two years we can scale the training requirements as per the gap between expected and actual incomes. For this purpose we use ratio of actual to expected incomes of those employed. This ratio is divided equally in four parts which is then mapped into four periods of training requirements less than 6 months, 6 to 12 months, 12-18 months, and 18 to 24 months.

In other words the following steps were conducted:

Step 1: The expected income for each employee was derived based on his/her gender, highest education level achieved, type of location (rural or urban), socio-economic background, work experience, state of residence, and whether he/she has received any form of vocational training (including formal as well as informal). This was done econometrically (appropriate dummies used) taking state level variations into consideration as well. The results are indicated in the Appendix in detail.

Step 2: The ratio of the actual income to expected income (as predicted by the econometric model) was calculated for each individual. Individuals for whom the actual income fell below the expected income, this ratio termed the 'Employability measure', was less than 1. The overall distribution obtained is shown in table 7 below.

Step 3: This ratio of actual and expected income was then divided into four equal parts for the whole set of individuals. It was assumed that those whose actual income was farthest (on the downside) from the expected required the maximum amount of training.

Step 4: The maximum amount of training was taken to be 2 years after consultation with HR managers of manufacturing and service sector firms. As a corollary, those for whom the ratio corresponded with the first quarter on this ratio scale, training requirement was taken to be less than 6 months.

Step 5: The number of individuals in each category corresponding to the four (less than 6 months, 6 to 12 months, 12-18 months, and 18 to 24 months) were then estimated from the data, these are reported in the table 8.

Step 6: The number of individuals in Step 5 were those who are employed but sub-optimally so and therefore earn less than expected incomes. These require training ranging between less than 6 months to 2 years depending on the ratio of the actual and expected income for these individuals.

Step 7: To these numbers thus obtained for the employed, we also add the unemployed. These cumulative figures are reported in table 9.

Table 7: Distribution of individuals in the labour force (15 - 29 age-group) as per Employability Measure

Employability Measure	Percent individuals	Cumulative percentage
Below Expected Employability	53.3	53.3
Above Expected Employability	46.7	100

Source: Indicus Estimates based on NSSO 61st Round, 2004 - 05 data

Table 8: Training requirement for all employed individuals in labour force 1 5-29 age group

Un-employability Type	Training Requirement per individual	Percent individuals (%)	Numbers in millions (Total Labour force)	Numbers in millions (Employed, Requiring training)
Last Mile	<=0.5 Years	5.7	145	4.1
Interventional	0.5-1.0 Years	22.9		16.4
Structural	1.0-1.5 Years	34.8		24.9
	1.5-2.0 Years	36.7		26.2
Total		**100**		**71.4**

Source: Indicus Estimates based on NSSO 61st Round, 2004-05. Appropriate multipliers have been used to convert NSSO based figures in percentage terms to absolute numbers consistent with Census population projections for the corresponding years.

4.8 Total training requirement of youth

By adding the training of those not employed and those sub-optimally employed (defined as those receiving less than expected incomes) in the 15-29 year age group we find that overall about 82.5 million Indians need vocational education currently.

Table 9: Numbers in the current youth cohort that need to be trained (15-29 age group) in millions

Un-employability Type	Training Requirement per individual	Employed requiring training	Unemployed requiring training	Total Training Requirement
Last Mile	<=0.5 Years	4.1	1.2	5.3
Interventional	0.5-1.0 Years	16.4	5.5	21.9
Structural	1.0-1.5 Years	24.9	4.3	55.4
	1.5-2.0 Years	26.2		
Total		**71.4**	**11.0**	**82.5**

Source: Indicus Estimates based on NSSO 61st Round, 2004-05. Figures may not sum up exactly to the total because of rounding off.

The figure below shows a pictorial representation of the age-group wise distribution of labour force, employed and unemployed individuals within the labour force and training needs for the youth (15-29 age group).

Figure 6: Age-group wise distribution of labour force
(Figures in brackets show number of individuals in million)

<table>
<tr><td>Above 60 years</td><td colspan="9">Total Individuals above 60 years of age (61.8)</td></tr>
<tr><td>30-60 years</td><td colspan="5">Employed in age group 30-60 (250.3)</td><td colspan="3">Unemployed in age group 30-60 (2.5)</td><td>Not Seeking / Domestic Duties (114.1)</td></tr>
<tr><td>15-29 years</td><td>No Training Required (62.6)</td><td><=0.5 Years (4.1)</td><td>0.5-1.0 Years (16.4)</td><td>1.0-1.5 Years (24.9)</td><td>1.5-2.0 Years (26.2)</td><td><=0.5 Years (1.2)</td><td>0.5-1.0 Years (5.5)</td><td>1.0-2.0 Years (4.3)</td><td>Not Seeking / Domestic Duties (141.4)</td></tr>
<tr><td>Below 15 years</td><td colspan="9">Total Individuals below 15 years of age (365.9)</td></tr>
</table>

This includes those who are currently in the labor force. Back of the envelope calculations using Census 2001 projections (for population figures in the future) reveal that at least another 400 odd million individuals in the country will be crossing the 15 year age barrier in the next 20 years. Assuming that only about half would be seeking employment (the current level)- and taking un-employability and sub-optimal employability levels of about 60% (as is currently at around 63%) it translates to training requirements of additional 120 million in the next 20 years. Overall between now (i.e. the current backlog) and 2026 therefore we estimate about 200 million youth would require additional skill based training - or about 10 million per year as an aggregate. These are extremely conservative estimates, and should be seen as the bare minimum that vocational training mechanism in India should seek to cover.

Access to gainful employment is an essential condition for citizens to exercise their economic rights in a market democracy. The capacity to pay is the economic equivalent of the right to vote.

-'India Vision 2020', Planning Commission

Every individual who is sub-optimally placed between the natural economic forces of demand and supply is bound to suffer due to lack of adequate remuneration. This stems from the fact that only skills get paid and without a training regime dedicated at systematically building these skills, the gap would only increase with time as advancements in technology at the workplace are only going to become faster paced.

4.9 Total cost of training of youth

This section attempts to quantify the costs associated with the training estimates (duration) for the youth. As seen above, the training duration for individuals either unemployed or sub-optimally

employed is for a period of maximum up to 2 years. For low infrastructure requirement based training programs the costs can indeed be as low as Rs. 1,000 per
person per month while for highly infrastructure intensive training modules the costs could go up significantly. Though the exact amount of expenditure on training varies from trade to trade, an average figure of Rs. 4,000 per person per month is a realistic assumption being taken for the present analysis. The table below shows the total cost of training for the youth in the age cohort 15-29 years.

Table 10: Training Cost for the youth

Un-employability Type	Training Requirement per individual	Average Training Cost Per Person (Rs/Person) @Rs 4,000 Per Month	Employed-Training Cost in Rs. Million	Un-Employed Training Cost in Rs. Million	Total Training Cost in Rs. Million
Last Mile	<=0.5 Years	12,000	49,200	14,400	63,600
Interventional	0.5-1.0 Years	36,000	590,400	198,000	788,400
Structural	1.0-1.5 Years	60,000	1,494,000	309,600	4,004,400
	1.5-2.0 Years	84,000	2,200,800		
Total	**Total**	-	**4,334,400**	**522,000**	**4,856,400**

Thus presently, the total cost of training for the youth comes close to Rs 4,90,000 crore over a period of two years to train those that are unemployable or sub-optimally employable. What about the new entrants?

As already discussed in the preceding section, every year around 10 million plus individuals are entering the labour-force. Of these roughly half, at 5 million, are sub-optimally employed (based on the ratio of the currently sub-optimally employed 53% of all). An additional 7-8% is likely to be unemployed in initial years measured as a percentage of labour force which translates to another 1 million new entrants requiring training. Totally therefore we require about 6 million who would benefit from skill and vocational training (each year, after the current backlog of 82.5 million is trained). Therefore assuming similar employability profiles of the new entrants each year as the current cohort, the country's training bill would stand at approximately Rs 36,000 crore per annum.[25] The cost of training the new entrants each year is significant- though lower after the current backlog is dealt with.

4.10 Returns on investments in training

The training bill is substantial yet it must be argued that under the present circumstances training is a necessity rather than an 'optional' exercise in human resource improvisation. While the cost may be considered high in some quarters, the outcomes of the exercise are likely to fetch adequate and ample returns- not just from the purely economic 'return-on-investment' view but more importantly in the broader perspective.

Spending the Rs 4,90,000 crore (about 10% of GDP) on the repair of the various degree of youth unemployability will yield an extra income of Rs 136,000 crore annually, everything else remaining the same. Assuming a discount rate of 8%, this translates to Rs 1,751,487 crores of additional income (about 61% of GDP) generated over the the lifetime of the current cohort of the three buckets of youth unemployability. This is a return of more than 600% on the investment. It is important to remember that these are all under estimates

[25] Since 82.5 million of the current employed or unemployed (see table 9) require Rs 4,90,000 crore for training and skill improvement, 6 million new entrants are likely to require Rs 36,000 crore.

because India will become more productive in the future and this will further increase returns thought the costs are one time and front ended.

Although these estimates are indicative but they nevertheless point to the benefits of such an investment. This additional income would come from higher skill sets being converted into equivalent value additions in the economy. Consequent to an efficient and productive training process, individuals who are currently sub-optimally employed would be able to convert this added value through training to enhanced earnings. This benefit estimate is infact towards the lower side as it simply considers one-time income addition. The real scenario, however, is more beneficial given that the skills developed during the training process will only get better with experience and in all likelihood have a positive impact on life-long earning potential of the individual. The table below shows the percentage distribution of individuals who require training in terms of their highest education level. Clearly, the bulk of the benefits of the proposed training are going to accrue to the lesser educated- who currently form an overwhelming proportion of individuals requiring training.

Table 11: Distribution of individuals requiring training across educational levels

Education Level Completed	Percent Individuals (of those requiring training)	Cumulative %
Not Literate	21.6	21.6
Literate without formal schooling & others	2.0	23.6
Literate - below primary	8.4	32.0
Primary	15.5	47.5
Middle	21.1	68.6
Secondary	11.5	80.1
Higher secondary	7.1	87.2
Diploma / Certificate course	3.3	90.5
Graduate	7.3	97.8
Postgraduate & above	2.2	100.0
Total	100.0	

Source: Indicus Estimates based on NSSO 61st Round, 2004-05.

An earlier section of this report where linkage between skill deficit and inequality was explored fits this 'broader' cost-benefit perspective to training succinctly at this juncture. In short, returns are had only when an investment is made- it is the urgency and priority that aids in deciding when these investments are made- and in this sense training of youth indeed is one such urgent need.

- *Our current educational system encourages rote learning. There is no bias towards application of principles/ encouraging exploration and creativity. Focus is on grades/marks rather than real learning and skill-building.*
- *Vocational system has not been able to turn out industry-ready candidates. The issue is both qualitative and quantitative.*

J.N. Amrolia, Executive Director, Ashok Leyland

Chapter 5: Global Experience with Developing Employability

From the late 1970s, governments, employers and trade unions became ever more preoccupied with policies concerned with productivity, the viability of companies large and small, employability for those in work and their job security, and employability and how best to develop it for the unemployed.

- Norman Evans in "Experiential Learning around the World: Employability and the Global Economy"

World over, two broad approaches have been followed towards achieving enhanced employability. The first one dealing with reforms in the education system along with the second approach of creating an enhanced focus on ensuring lifelong learning opportunities for the nation's working group. This way the progress towards the employability objective becomes a continuous and a seamless one.

5.1 Enhancing Employability: Reforms in education system

Though the first approach aiming at reforming the education system has multiple interconnected elements under its fold the ultimate objective of all such attempts remains universal basic education accessible to all children below a certain age usually 14 to 16 years of age. 'Universality' is essential given that certain basic skills imparted during these early developmental stages of an individual remain indispensable- despite a future specialization or no specialization.

Broadly these experiments have led to two approaches that differ in the degree of flexibility available in the education system of the particular country. We proceed to discuss these systems that various countries have experimented with and found suitable for their own socio-cultural milieus. In particular, we consider the German and South Korean education systems which when compared to the other two case studies of Australia and USA stand as the less flexible approaches.

The rest of this section first discusses various (largely successful) models that are being followed in selected countries. The objective is to better understand the range of possibilities that are available for India. We find that some countries follow a system that provides a high degree of flexibility to the youth in choosing their education and vocational training requirements. On the other hand there also exist many successful models where the system does not allow great levels of flexibility but has a built in mechanism in allocating individuals between various education and vocational training/skill building options. In parallel different countries have taken different paths related to private education provision. The learning's for India are then discussed.

We put forth the argument that due to the inherent characteristics and conditions prevalent in India a successful model should be highly decentralized, allow greater choice to each person for his or her training needs, provide a range of options to chose from, and also ensure accessibility for the underprivileged.

5.1.1 The German Approach to Education

PARAMETER	STATUS IN GERMANY
Universal Basic Education	• **All children attend Grundschule from age 6 for four years**
Teaching Methodology/ Formal Education	• **Abilities and interests of children tracked** • **Teachers recommend next level** • **Depending on academic achievement & potential**
Flexibility in Learning	• **Low Flexibility** • **From age 10, children sorted into three types of schools: *Hauptschule, Realschule, Gymnasium***
Vocational Training	• **An integral part of education** • **Degree of imparting vocational skills depends on type of school** • **Partnership with Industry**

At the very outset, it may be mentioned that there are regional differences in the German education system. However, the basic elements of the education system as has been mentioned in the table above remain more or less similar across the country. The German system works towards ensuring universal basic education to all children which starts through Grundschule from age 6 for four years (four grades in most states of Germany). Thus students of all abilities remain together as a group till the age of 10. However, the system provides for different paths depending on children's ability from age 10 onwards. Following Grundschule, when most students are around 10 years old, the German school system tracks students of differing abilities and interests into different school forms. Grundschule teachers recommend students to a particular school from amongst the three broad forms available based on criteria such as academic achievement, potential and even personality characteristics, such as ability to work independently. Based on this, the children attend either of the three school types:

1. **Hauptschule:**
   - Recommended for the lowest-achievers
   - High vocational orientation is present in this type of school
   - The Hauptschule (grades 5-9 in most states) leads to receipt of the Hauptschule certificate and then to part-time enrollment in a vocational school combined with apprenticeship training until the age of 18 for individuals.

2. **Realschule:**
   - This school is recommended for middle-level achievers
   - School has a medium level vocational orientation
   - The Realschule (grades 5-10 in most states) leads to receipt of the Realschule certificate and then to part-time vocational schools, higher vocational schools or continuation of study at a Gymnasium.

3. **Gymnasium:**
   - Recommended for high-level achievers
   - This stream of schools represents the 'Higher Education' Track in the country
   - Essentially, prepares students for university study or for a dual academic and vocational credential

As seen above, a noteworthy point in the German Educational system happens to be the child's ability tracking right from the formative years and recommendation based on the same. Focus on vocational training is also a significant point in this system along with the provision that the intensity of the imparting of vocational training depends on the type of school and thus ultimately to the individual's ability. As mentioned, German system remains one of the more inflexible ones. The reason has to do with the fact that despite far-reaching changes in the past Germany's traditional three-tiered system of education at the secondary level remains intact. In no small way, support for this system among teachers, students, and parents of differing educational and social class backgrounds is also a reason this system has remained more or less intact. The inflexibility of the German system springs from the fact that switch to a higher-level school even with improved performance by an individual is an infrequent occurrence. In turn, more prevalent are cases where students move to less rigorous schools if they cannot meet performance standards of the ones they have joined as a result of recommendations.

As a country attempting to transform itself into a better suited HRD regime, India can learn from the German experience in terms of universalization of basic education, incorporation of individual abilities in deciding future stream of education and enhanced focus on vocational training as key elements. At the cost of repetition, all such learning from others' experience would require to be suitable adapted in line with the Indian socio-cultural milieu.

5.1.2 The South Korean Experience in Education Sector Reforms

We next turn to the recent developments in the education sector of South Korea. The cultural traditions of this small yet emerging nation are deep and strong. Traditionally, the education ideal of the national conscience has been aptly termed 'Hong-ik In-gan' which translates to “Broadly benefiting all human being”. The education sector reforms in the recent past in this nation can in fact be said to fall in line with this principle of the South Korean Society. The table below captures the essential elements of the Korean education system.

PARAMETER	STATUS IN S. KOREA
Universal Basic Education	• **Basic education provided to all children till the age of 14 years**
Teaching Methodology/ Formal Education	• **Primary (6 yr)Middle (3 yr)High Schools (3 yr) Colleges & Universities (2~4 yr)** • **Curriculum reform to continuously respond to new challenges (English from 3rd grade)** • **Deregulation and school governance reform (Incentives oriented)**
Flexibility in Learning	• **Low Flexibility** • **Top-down reform, “school failure”** • **High-stake college entrance exam prevalent in the country**
Vocational Training	• **Partnerships between private and public sector** • **Public/private job training institutions; In-plant training institutions**

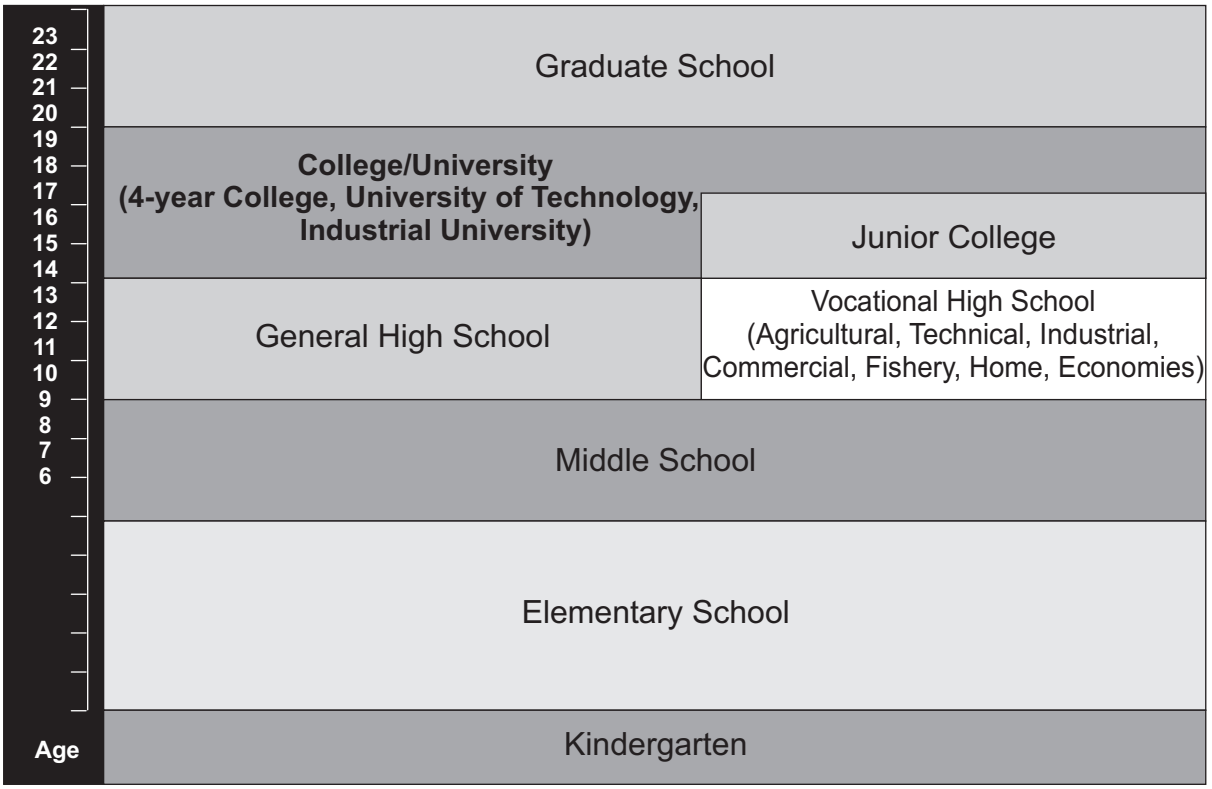
South Korea is an apt case of transformations in the HRD regime that have been necessitated by a structural shift in the economy and society. Beginning mid-1990s, Korea has been increasingly transforming itself into a knowledge economy. As of 2002, 71.5% of the employment was in the Services sector. The new demands due to this structural shift necessitated far reaching changes in the educational regime of the country- which should create knowledge, human capital and social capital.

South Korea: New jobs require more educated workforce

- Basic skills
  - reading, writing, computation
- Core skills
  - analytical, problem-solving skills, Creative thinking, self-management
- Technical skills
  - computer skills

The South Korean allows a system where after middle school, students have a choice to either attend general high school or a vocational high school. The broad structure of the Korean education system is indicated in the diagram below.

Figure 1: Korean Education System



Courtesy: Ministry of Education & Human Resources Development, Republic of Korea

The reforms in the Korean system have been largely based on the demands put up by a structural shift in the economy towards a promising services sector. India, indeed, has a lot to learn from the Korean example. It would not be too farfetched to image an India where services play a dominant role not just in terms of contribution to GDP (as it currently is the case) but also in terms of share of employment. In fact the GDP contribution of Services Sector in India (55.1% of GDP in 2006-2007[26]) and South Korea[27] are comparable. The linkages can very well be utilized for setting India's view on how to best proceed towards the objective of improving employability scenario.

[26] Economic Survey 2006-07
[27] As per the figures available Services contributed 58.7% to GDP of S. Korea in 2002)

5.1.3 The Australian Approach to Education

PARAMETER	STATUS IN AUSTRALIA
Universal Basic Education	Schooling compulsory till the age of 15-16 years
Teaching Methodology/ Formal Education	• A 'National Curriculum Framework' ensures **high academic standards** • **Post-compulsory education is regulated** within the Australian Qualifications Framework
Flexibility in Learning	• High • **Multiple pathways** connecting schools, postsecondary institutions, the workplace • Students move easily from one level to the next and receive credit for previous study • Distance education, online learning, self-directed learning
Vocational Training	• 9 out of 10 secondary schools offer vocational courses, which are **career oriented** • 'National Training System' is **industry-led, competency-based**, quality assured • The major providers are state-administered but highly autonomous Institutes of Technical And Further Education (TAFE)

The Australian Education system deserves mention on the strength of its flexibility. There is an emphasis on flexibility for the learner, and training is delivered through a range of choices, including distance education, online learning and self-directed learning. Generally, schooling in Australia is for 13 years. The preschool year is not compulsory, but is generally undertaken, with children starting at about five years of age. Primary schooling is six or seven years and secondary schooling is five (or six) years. School education is compulsory until age 15 or 16.

Focus on vocational training is inbuilt into the Australian Education system. Australian vocational and technical education is offered by registered training organizations, including public Technical and Further Education (TAFE) colleges, private providers and community providers. Vocational institutions are aligned with industry needs to ensure that learning is practical and skills-based.

Australian Skills Vouchers Programme

One of the recent initiatives towards enhanced employability in Australia is the Skills Vouchers Programme. Through the Skills Vouchers Programme, eligible Australians may apply for a voucher which helps them cover the cost of specific types of training. This training is available through approved training providers across Australia. There are two different vouchers on offer: a Business Skills Voucher and a Work Skills Voucher. A prospective trainee has to find out if he or she fits the eligibility criteria for either a Business Skills Voucher or a Work Skills Voucher. To apply for the applicable voucher, the person can search for an eligible course as well as for the training organizations approved to deliver it. The system is integrated through the internet for universal access and ease of operations.

- Http://www.skillsvouchers.dest.gov.au/

5.1.4 The Case of the United States of America

PARAMETER	STATUS IN USA
Universal Basic Education	• Schooling is compulsory for all children in the United States (till16-18 age)
Teaching Methodology/ Formal Education	• The United States does not have a national school system • Most education policy is decided at the state and local levels
Flexibility in Learning	• High • Students choose major fields designed to prepare them for specific jobs • An extensive system of student grants and loans for enabling access
Vocational Training	• Vocational training is made possible within the framework of basic education • PERKINS MODEL: Scheme of federal funding for local schools to offer career education programs in secondary and post secondary levels

The United States does not have a national school system. Instead, most part of the education policy is decided at the state and local levels. Around 90 percent of American students below the college level attend public elementary and secondary schools, which do not charge tuition but rely on local and state taxes for funding. Thus there is a predominant presence of public sector till the secondary level in the country. Hence, unlike public elementary and secondary schools, public colleges and universities (catering to higher education) usually charge tuition. A significant point here is that many students attend college, whether public or private, with the benefit of federal loans that must be repaid after graduation.

The Perkins Model [28]

One of the most outstanding features worth studying with regard to the US educational sector (in particular the vocational regime) is the Perkins Model. The Carl D. Perkins Vocational and Applied Technology Education Act is a Federal legislation which provides funds for vocational-technical education programs, constituting approximately 10% of the funding at the secondary and post secondary level. The Perkins funds generally promote programs/initiatives that are funded from other sources as well thus acting as a supplement from the Federal government to state authorities. The funds are aimed at providing academic and occupational skills to individuals.

The Perkins Act defines vocational-technical education as *"organized educational programs offering sequences of courses directly related to preparing individuals for paid or unpaid employment in current or emerging occupations requiring other than a baccalaureate or advanced degree"*.

[28] This section is largely based on information sourced from US Department of Education documents

Such programs include competency-based applied learning which contributes to an individual's academic knowledge, higher-order reasoning, problem solving skills, and the occupational-specific skills necessary for economic independence as a productive and contributing member of society. For a program to be funded under the Perkins Act, the following mandates need to be satisfied:

- The program should be of a specific scope, size and quality
- Program should be aimed at providing equitable participation
- The program should be one integrating academic and vocational education.

The Act has been designed in order to equip the population to meet the specific skill requirements required to compete in a technologically advanced society. The most frequent uses of funds include occupationally-relevant equipment, vocational curriculum material, material for learning labs, curriculum development, staff development, career counseling and guidance activities, efforts for academic-vocational integration, supplemental services for special populations, hiring vocational staff, remedial classes, and expansion of tech prep programs.

The key differentiator in this model, which if adapted is likely to benefit India as well, is the ability of this model to enable students opt for careers that do no require a doctoral, masters or bachelors degree with the help of skill sets imparted under the training program.

5.2 The Other Approach to Enhancing Employability: Life Long Learning (LLL)

Having seen broad approaches that have been experimented with across the globe in terms of reforms of the educational regime, we turn to the other approach employed largely to enhance employability. To start off, the essential elements under this approach are:

- System of Flexibility with Security
  - Not to mention, 'flexibility' for the employer and 'security' for the employee
- Facilitates transition in structural shifts of the economy
  - Due to a continuous updation of skills under this framework, any demand shifts in the economy, or a sector in particular, are set to be met
- Firms can hire and fire, but workers are given benefits
  - This is subject to them learning new skills and retraining for other jobs. This waythe firms find it economically viable to run their operations as well as provide incentives to workers to retrain

This approach has been gaining wider acceptance on account of a few key transformations across the global economy today. Increasing competition and major shifts in the way business is conducted in the globalized economy of today are major drivers towards countries adopting the LLL approach. Adjusting to increasing dynamism in the industry, continuous innovation in skill-upgrading, deteriorating job security at 'constant' skill levels remain the other drivers.

5.2.1 The Bilan de compétences in France

France has developed an advanced system for identifying, assessing and recognizing skills of its workforce. The objective is to be able to identify and provide for a lifelong learning opportunity for all individuals. The country has in fact developed a system to validate & reward professional competences acquired outside the formal educational system. France recognizes a legal equality between competences acquired inside and outside formal education system which is an outstanding feature of France's approach to employability enhancement. The LLL approach in France incorporates linking recognized skills acquired through work experience with national certificates. Thus there is no 'trapping' of an individual within just the formal education system.

The box below highlights the essentials elements of the flagship programme Bilan de competences. The aim of the Bilan de competence is to permit the employee to understand his or her professional and personal competences as well motivation and aptitude in order to facilitate professional as well as educational plan and career.

Bilan de competences of France

- **Focused:** An instrument to assess workers' and job seekers' skills, and aptitudes, for preparing a career development plan
- **Flexible:** Initiative to undertake a bilan may come from worker or enterprise
- **Need Based:** Assessment based on identified labour market and enterprises' training needs

5.2.2 South Korea: From Education to Life Long Learning (LLL)

South Korea is one of the very few countries that have given a legal status to its endeavour towards the life long learning objective. The Lifelong Education Act gives the definition of LLL: “All organized learning activities excluding school education”. This in itself sums up the comprehensive view the country has adapted towards LLL.

The key strategies being employed in South Korea towards achieving life long learning can be summarized as follows:

- Refocusing on 'incentives' away from 'regulation'
- Promoting creativity in learning skills through self-direction
- Outcome based as against process based
- Demand Side Financing: Financing learners rather than providers of skills

South Korea's case is similar to France's discussed above in that Korea's approach also includes all stakeholders namely the government, the private sector as well as the learner. Learning is provided through multiple channels which include university-based programs, corporate colleges, on-line/distance programs, in-plant training institutes and 'cyber' colleges. The governance of LLL function is done at the national as well as the local level primarily through a local LLL consortium. For sustainability of this initiative a cost sharing formula has been worked out between the central and the local governments.

5.3 Concluding Note

Through the means of these case studies it becomes apparent that demand based and culture-specific solutions to handling the employability challenges have indeed been successful. Through such and numerous other cases, India can appreciate the 'bandwidth' available and can fast pace its progress towards the evolution of an 'Indian Solution'. This and related issues form the topic of discussion in the following chapter.

Looking forward, improving employability necessitates radical changes not just at every level of the education system, but also going beyond to strengthen employability by enhancing the life long learning capability of labor. The next concluding section of the report covers the basic principles that need to be integrated into the systems and set out specific strategies that can be implemented in the country, to raise the employability of the growing workforce. Unless these strategies are put in place, the mirage of 'a large pool of skilled labor' in India will continue to place brakes on growth.

Chapter 6: The Agenda

Dear Mr. Prime Minister,

The National Knowledge Commission has been examining a range of issues related to school education, including access, quality and other issues. We believe that providing universal access to quality school education is a cornerstone of development and a minimum necessary condition for any progress towards making India a knowledge society…

Sam Pitroda
Chairman, National Knowledge Commission
In its recommendations to the Prime Minister of India

Clearly there is a critical human resource challenge facing the country. Unemployment is only one manifestation of this. Large salary increases for those with rare skills is another. The great queue's for government jobs is one more, and so is the lobbying to declare certain groups as underprivileged. The problems are apparent and so are the solutions. The human resource pyramid has to be based on a strong and vibrant school education system. Whatever changes we make to our higher education establishments will come to naught if our schools are not able to throw up a large base of well-trained youth. This strong base then needs to be given adequate options towards vocational training as well as higher (tertiary) education. Unlike in some other countries, however, a good democratic and inclusive educational system requires that *students* have the flexibility to choose their further training or educational needs. This has three aspects. First we need to ensure the availability of such options, second, they need to be accessible to the large masses, and third, they need to be adequately benchmarked to ensure that their human resource output is easily matched with the requirements.

- *The least progress in infrastructure is in Education. The government is getting more and more entrenched in its management. The myopic policies have shut out formal private enterprise. The burgeoning demand is being met by a mushrooming cottage industry backed by an unholy nexus of political and petty commercial interests.*
- *For a country that aspires to be a global leader in knowledge, the darkness that surrounds education is both appalling and unnerving*

R Ravimohan, CEO Standard and Poors India,
BS Oct 21, 2007

The following sections deal with each of these issues, but first a brief picture of a new human capital regime is presented.

6.1 Adherence to Basic Principles A Snapshot

It goes without saying that unless India provides ***compulsory basic education***, till Class 10, to all in the country, fast and inclusive growth will remain a dream. Schooling should enable competence in the three Rs as the first level. This should have been the first goal of our education system from the

outset. However, in the present world, there is a much ***longer list of basic skills*** essential to compete in the job market. One of the most important requirements these days is a good grasp over English, which provides upward mobility for the workers. Communication skills, organization and comprehension of information are also proving to be essential in the modern world, where time and efficiency are of paramount importance.

With the growing use of technology, learning the use of a computer is becoming practically mandatory for most job seekers. Already, with the present school system failing to provide these vital skills, there has been a boom of private institutes that cater to the demand. Almost all the students who can afford such extra training take up various ***courses in languages, computers, etc***. to improve upon their marketability.

The present education system focuses on knowledge and rote based learning, rather than on developing broad abilities of application. While there have been numerous government committees set up that have recommended changes in the course content and examination pattern, little has been done to transform the system. There should be a ***'hands on' approach*** that is geared more towards problem solving rather than on 'memorizing without understanding'. Professional courses have adopted separate entrance examination that test the ability of the student to connect theory with practice. Here again, there has been a mushrooming of ***private training institutes*** or coaching centers to fill the gap left by conventional schools.

This gap has led to the growth of demand-led higher education system in India. Private engineering and medical colleges that began in Karnataka, Andhra Pradesh and Maharashtra provided the bulk of the skilled pool in the country. With the boom in economic growth, firms soon realized that they need to step in themselves to raise the quality of their employees. As a result, ***employer and educator partnerships*** have been initiated in many places in the country. However, since this growth has been piecemeal, led by specific demand in various sectors and spheres, there has been no attempt at providing a comprehensive framework to link all the parts together in a coherent fashion, that will set the base for raising employability across the board. It is here that the spotlight must be trained upon now, to put into place ***national standards and benchmarks*** for making the Indian labor force a truly competitive one.

While much of the debate in India continues to revolve around the 'public or private' theme, the role of government is crucial as a ***facilitator***, rather than a provider of education. Regulation of quality is vital for generating output from the education system that is aligned to the needs of the economy. Whether it is at the school level or in higher education, all providers, private or public, should adhere to a ***national quality assurance framework.*** The government should work towards developing a nationally recognized and benchmarked certification system that gives more credibility to the providers than the present one.

With fast growth, the demand for specific types of workforce keep changing and it is not possible for the government to predict or react fast enough to the evolving environment. Thus, it is important to work in tandem with ***industry associations*** to identify emerging needs, pre-empt structural demand changes and adjust accordingly the training provided to the labor. Local associations or specialized guilds can assist in facilitating the investment in training and work in alliance with firms, who can train and hire apprentices. There is a need therefore of bringing together all stakeholders in a bid to work together to raise the employability of the labor.

In a country like India, where socio-economic reasons often prevent students from completing full education, ***flexibility*** becomes an important requirement of the system. The current system does not allow movement between alternative courses very easily, which makes it more difficult for labor to adapt to a changing environment. To begin with students should be permitted to go in and out of post-secondary schooling, without losing out on learning. This can be made possible by making

vocational training an essential component of all learning and allowing for credit for skills learnt outside formal education sector. The national system of benchmarking and quality assurance recommended earlier becomes a vital cog in the whole education structure.

In general, the country can let the market forces create incentives for different training models, as long as the structure and framework as outlined above is put into place.

Private Initiative serving industry and social cause Boys Town.

Boys Town, a unique Institution situated in Hyderabad has been serving the most deprived and marginalized communities for the last five decades. Thousands of young people who are option-less due to their life situation are supported here to start a new life with a sense of purpose and direction. This Institution, which started, as a small orphanage in the year 1955 today is a premier Institution for education and vocational training. What cuts Boys Town apart from other Institutions is its financial self-sufficiency. This unique feat has been achieved with the factory-school model of training, which makes production cum-training as an integral part of industrial training. Training, after preliminary exercises in the trade, is imparted through job works executed for industrial clients.

www.boystown.co.in

A 'Private' Paradigm

Private schools are not exclusively an urban phenomenon; in fact, the majority of private schools are located in rural areas. DISE data shows that while more than 90% of all government schools are in rural areas, the share of rural private aided schools in their total is 67.87% and for private unaided schools, the share is 58.52%. According to the ASER-PRATHAM survey, conducted in more than 9521 villages, 77.8% of children in the age group 6-10 go to government schools, the remaining are in private schools. This shows a significant presence of private schools in rural India.

Even in urban areas, private schools cater to the poor as has been shown by James Tooley and Pauline Dixon of University of Newcastle upon Tyne. Indicus Analytics assisted in the research carried out in the slums of Shahdara in Delhi ("Private Schools Serving the Poor", Tooley and Dixon, Working Paper, 2005). The census of primary and secondary schools revealed that out of the 256 schools in these slums, two thirds were private unaided schools. Around 10% of the students came to school free or paid concessionary fees, even as the fees averaged around Rs.125 per month. During unannounced visits by the researchers, 38% of the government school teachers were teaching compared to more than 70% in private unaided schools and tests of children showed that while private aided schools scored the highest, children from private unaided schools did better than the government school children.

Excerpted from "Free to choose', Sumita Kale, *Business Standard*,12th December 2006.

There are critical gaps in India's educational regime. These range from poor performance in terms of educational achievements at the elementary levels, lack of exposure to vocational and skill learning options at the secondary and higher secondary levels, the lack of good quality higher educational institutions as well as professional courses.

How many graduates does India need? Or, how many persons with adequate vocational training would India require? These are the wrong questions to ask. For it is impossible to predict the technologies under operation a few years from now, or the structure of the Indian economy. Since such in-determinables are an important component in predicting human resource requirements, any estimates would be based on assumptions, would tend to present an inappropriate picture. And if India's HR policy were based on such estimates, the potential for failure would be quite high.

Instead what we require is to ensure that the output of the human resource establishment has a set of abilities that they can then build upon if the opportunity so arises. To put it another way, we should not attempt to estimate the requirement of number of graduates, number of carpenters, number of literates, etc., that a fast growing economy would require. Instead we need to build in a very basic foundation in each person, such that in case a particular opportunity opens up in a specific sphere, an individual can quickly add occupation specific skills on to his set of basic skills.

The critical foundation for this therefore is school education. The next is vocational training. Higher education though critical in India's entry into the economically powerful club, is of least importance in the larger scheme of inclusive growth.

Elementary education (Class 1 to 8)

Objective: The current focus on elementary education notwithstanding, it is well known that there is a serious issue of delivery of quality education. Universal access to education that ensures the 3 R's is a must. Educational institutions that do not adequately provide these need to be overhauled whether they are in the private or public domain. Teachers and school administration needs to be made responsible for outcomes in basic reading, writing and arithmetic at this level. There are of course many other requirements for a good elementary education system. Since elementary education is a state subject these requirements can be left for each state and/or local government to decide. But that should be over and above a national consensus on the 3 R's for all.

Regime: Encouraging competition in elementary education is one method of ensuring greater responsibility. It should also be recognized that the objective is to ensure greater choice for the consumer. In that context improving the public education administration would be critical at the state and local level. The following would become critical.

- *Outcome* based approach towards education: move away from monitoring successes and failure from enrollments to *timely completion of elementary education.* By 15 years of age all children should have completed the eighth grade.
  Completion itself should be judged on the basis of a bare minimum and universal accomplishments in the *3 Rs reading, writing, and arithmetic* at the primary level (grade 1 to 5). Beyond these grades, at the middle level *very basic social and physical sciences* need to be introduced.
- *Incentivise* teachers, head-teachers, and administrations through a system of rewards and punishments. Teachers and administrations that achieve completion benchmarks need to be rewarded. Teachers and administrations found wanting in their inputs need to be punished. These punishments need to be made explicit and carried out without political or administrative meddling.
- *Decentralize* to the maximum possible. The public school system already has some overseeing by local bodies, parents, and community. However, effectiveness has been

limited as local bodies and parents have little powers over teachers or the administration. This requires a restructuring of administrative mechanisms, and would reduce the state governments influence and increase those of the community and the local government.

Public sector delivery of education cannot completely be supplanted by private delivery. Hence the quickest method of improving delivery is to improve the public education system. In other words, private education can and should be another option, but improving publicly provided education delivery is not. This would necessarily require not just a reform of the educational establishments, but also the administration.

Access: Already access to elementary schools has improved dramatically. This is reflected in the rapid increase in enrollment rates in primary schools (grade 1 to 5). However middle school (grade 6 to 8) enrollment has not improved as much.[29] There are many reasons for this. Broadly accessibility to middle schools can be thought of as having three components.

- *Geographical accessibility* requires that the school be close enough so that the child does not need to spend hours traveling to the school. Primary schools are already highly accessible geographically. Middle schools are less so. We therefore require expanding *facilities in primary schools so that they can also include middle schools.*
  Intellectual accessibility requires the child to be taught well enough at the primary level so that she can handle the greater requirements of higher grades. This of course requires improving quality of basic 3Rs delivery at the primary level.
- *Economic accessibility* requires the household to believe that the costs incurred in education should be outweighed by the benefits. This in turn requires that the expected benefits due to increased incomes or better employment opportunities are large enough, or costs are small enough. The issue of advancement (into higher grades, or into income occupations) becomes more and more important as the child gets older. Low fees, scholarships do improve economic accessibility, but they are only two components of overall economic accessibility.
- *Private schools* should be allowed across the country. However, state or local governments can decide whether they would like to provide the poor with the option of entering these schools. This would require the setting up of an educational voucher system. Briefly this would imply that the amount a state spends on a child in a public school could be given to the parents of each child, who can then decide whether they want to send their child to a public or private school of their choice.

Advancement: The success of the new educational regime would depend upon how students advance after they have completed the minimum level. Ideally a child should have completed elementary schooling by the time she is 15 years of age. This is also the times when outside (non-educational) options become more and more attractive. This, as previous sections have shown, is more so for the underprivileged. What should a child do when he has completed elementary schooling? Should she contribute to her household's income and non-income requirement, or should she study further?

This is not a decision for the state. A liberal state needs to provide the child and her household options and leave the decision to them. The choice needs to be between greater knowledge and vocational content. These are discussed in the next sub-section.

[29] The reason being poor quality delivery at the primary level combined with greater ability of the child to carry out other tasks (household chores, family business, or income earning). When the educational base is poor it is not sensible for rational households to let their children continue into higher levels.

Secondary (Grades 9-10) and Higher Secondary (Grades 11-12)

There are many different types of vocational training, and indeed they would differ between various locations. For instance, the range of occupations prevalent in rural areas is highly different from those in metropolitan cities. Take the case of agriculture. A large part of the training that a typical farmer undergoes is from family members and on the job learning. This is an important part of a farmer's training. However if productivity levels have to be scaled up, new technologies made more accessible, emerging solutions such as water harvesting to be introduced, etc. external intervention in vocational training would be required. That is, these would require a different type of training than a farmer would obtain through traditional means. Similar issues apply for a range of primary, secondary and even tertiary occupations.

Objective: To provide adolescents a range of vocational and educational options; to allow them the flexibility to chose; and to enable them to shift between different streams.

Regime: The current school system is low on vocational content and high on knowledge. This needs to be changed. Vocational education can be provided within the school or outside with appropriate transfer of credits (see Box below). Consequently a system of minimum standards and benchmarking needs to be put in place. These need to be achieved both in the public and the private school system. It should also be recognized that many adolescents receive basic vocational training while working in the household occupation. For this as well, a testing and grading system for informal vocational education can be put up. This would enable children who need to contribute to their household to continue their post elementary education while picking up lifetime skills. Appropriate state recognized certification would further help in their advancement and employability.

Access: Greater number of options would imply that not all vocations or educational content is available in each school. A highly decentralized system would ensure that depending upon the choices of the largest numbers, the specific vocational or knowledge content is made available as per the demands of a large majority. But for those wanting to choose a different set of vocational skills and knowledge content, the following would be required: A transport/fee subsidy to the underprivileged for availing such courses in other institutions, along with appropriate transfer of credits. Admittedly the costs of vocational and a highly heterogeneous content would be high. These can be met in three ways:

- *Government pays*: Subsidies towards vocational education instituted through a voucher system
- *Household pays*: Educational loan to the underprivileged for vocational education in the formal sector to be repaid by the household
- *Employer pays*: Educational loan to be repaid through salary deductions from the future employers who then repay the creditor.

  The above three options are not mutually exclusive in that all can work in parallel. For instance the last option (employer pays) would be difficult to put in place if the employee is in the informal sector.

Advancement: All of education is about advancement. And in a rapidly changing environment flexibility will be an important component of advancement. For instance an adolescent who has chosen a computer based vocational education might later want to improve her income potential by pursuing a software engineering degree. By providing experience based course credits (backed by a testing system) even such persons can be provided options later in their career.

Post School Education & Training

There would be broadly two types of youth desiring post school educational or vocational training- those who have no experience and those who have had some experience. A good educational regime needs to treat them differently but provide all with opportunities as per their inclinations. Moreover, some may prefer a graduate degree, some professional degrees, and yet others might want to focus on vocational certification.

Vocational training is important not just to be able to get a job (as the term 'employability' is sometimes confused with). It is also required to improve productivity levels for the self-employed and those employed in family businesses. Moreover, employability needs to be improved not only to meet the organized sector's requirements, but also to meet the needs of the unorganized sector.

Of the three options of government pays, household/employee pays, and employer pays the last two would be much simpler among this segment of the population. Indeed there are many experiments currently occurring and some such experiments will become successful and therefore scaleable. The policy implication is simply to ensure that a large number of such experiments are conducted to ensure the evolution of an India-specific model to human resource development.

Informal Training, Credits and Temping

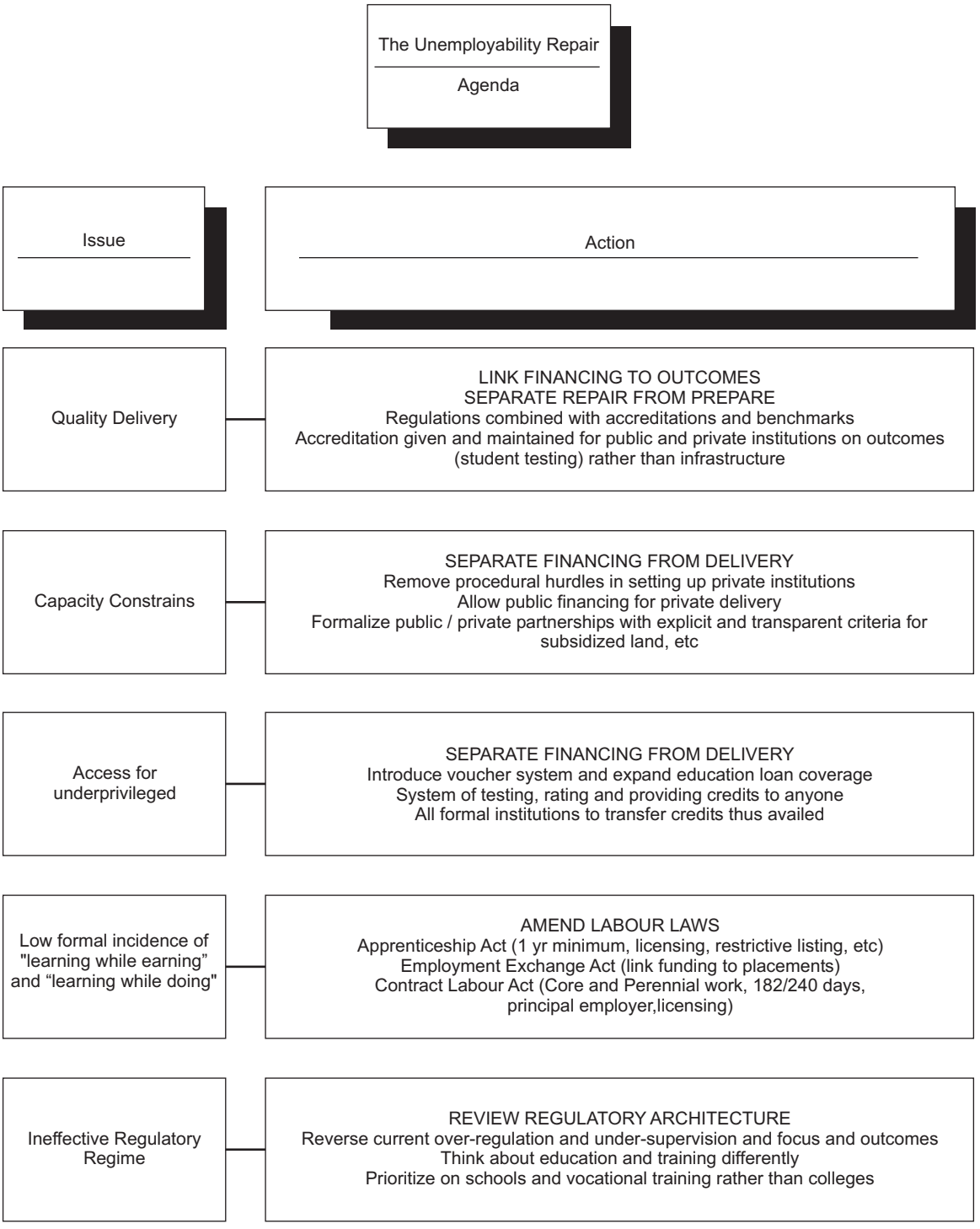
There is a whole spectrum of training that occurs, this includes on the job training through experience, through working in family business, through working as temporary employees, and also many training academies. Each of these needs to be recognized as an important ingredient in improving overall employability of the workforce. This recognition needs to be formalized in the following manner:

- Provide appropriate credits backed by a testing system so that informal training is given formal recognition. Such credits system needs to be recognized at the state-level as well as nationally. This will help in ensuring greater vertical as well as horizontal employability.
- Universal rating of vocational institutions of all training institutions need to be rated on the basis of quality of delivery. The credit rating agencies can be used as a model to design the rating mechanism of such institutions as well.
- Temporary employees are a gray area under current laws. The critical issue there is the argument that companies may use this method to limit employee benefits. But there are ways by which that issue is addressed without changing the basic structure of labor laws. Temping should be classified as a means of training to improve employability. There are ways of ensuring this while ensuring that this is not misused to limit employee benefits to long-term employees.[30]

[30] Research by McKinsey & Co. (2000) points out that, 'On an average 43% of those given temp posts moved into fixed contract jobs within a year. It is quite clear that niche skills picked up during temping phase helped in enhancing employability.

6.2 The Full Circle

The following issues and solutions will ensure that India's objectives vis-à-vis its educational regime are fulfilled.



To conclude, India's employability enhancement can be made a reality by incorporating all the building blocks that have been elucidated in this report

- Convert Demographic Challenges to Opportunities.
- Re-align the HR regime
- Focus on Continuous Skill Enhancement
- Evolve Public-Private Partnership
- Improve Information Sharing on Quality of Educational Institutions
- Assign responsibilities, rewards and punishments to all in educational regime.

When a consensus is achieved India has achieved great changes. The post independence public sector driven manufacturing led growth took less then two decades to yield results. The green revolution took less than a decade; the post 1991 economic reforms changed the whole structure of the economy within a very short period. India has been able to achieve great changes and taken large strides when she put her mind to it.

Appendix

Table A1: Percentage of individuals in different age groups by education levels

Year	**2004-05**	**2004-05**	**2004-05**
Source	**NSS 61st round**	**NSS 61st round**	**NSS 61st round**
General Education	**18-22 age group**	**28-32 age group**	**38-42 age group**
All who are literates	79%	65%	56%
Above Primary	70%	55%	45%
Above Middle	56%	42%	32%
Above Secondary	35%	26%	20%
Above Higher Sec.	20%	16%	12%
Above Dip/ Certf	6%	10%	8%
Above Grad	4%	8%	6%
Total	100%	100%	100%

Table A2: Drop Out Rates for Education Levels
(Based on NSSO 61st Employment and Unemployment Round)

General Education Levels	**Drop Out Rate: By Completion (what % of pupil drop out at/by the below mentioned levels)**
Lit- Below Primary	1%
Primary	8%
Middle	17%
Secondary	25%
Higher Secondary	28%
Graduate	29%
Total	11%

Table A3: Vocation Training Status among individuals in 15-29 age group (Based on NSSO 61st Employment and Unemployment Round)

Vocational Training Status		
	Percent Individuals	**Cum.**
Receiving Formal Vocational Training	1.3	2.15
Received Vocational Training: Formal	2.35	4.5
Received Vocational Training Non-Formal: Hereditary	3.93	8.43
Others	3.75	12.19
Did Not Receive Any Vocational Training	87.81	100
Total	100	

Table A4: Field of Vocational Training for 15-29 year old individuals who have either received or are receiving training (Based on NSSO 61st Employment and Unemployment Round)

Field Training	**Percent Individuals**	**Cum.**
Mechanical Engineering Trades	2.53	70.68
Electrical And Electronic Engineering Trades	3.99	74.66
Computer Trades	9.48	84.15
Civil Engineering And Building Construction Related Works	1.07	85.21
Chemical Engineering Trades	0.09	85.30
Leather Related Work	0.07	85.37
Textile Related Work	3.28	88.65
Catering, Nutrition, Hotels And Restaurant Related Work	0.29	88.94
Artisan/ Craftsman/ Handicraft And Cottage Based Production Work	0.62	89.56
Creative Arts/ Artists	0.38	89.94
Agriculture And Crop Production Related Skills And Food Preservation Related Work	0.19	90.12
Non-Crop Based Agricultural And Other Related Activities	0.16	90.28
Health And Paramedical Services Related Work	2.10	92.39
Office And Business Related Work	1.54	93.92
Driving And Motor Mechanic Work	1.93	95.86
Beautician, Hairdressing & Related Work	0.53	96.39
Work Related To Tour Operators/ Travel Managers	0.02	96.41
Photography And Related Work	0.04	96.45
Work Related To Childcare, Nutrition, Pre-Schools And Crèche	0.35	96.8
Journalism & Mass Communication And Media Related Work	0.08	96.88
Printing Technology Related Work	0.18	97.06
Other	2.94	100
Total	100	

Table A5: Source of Diploma for those who have either received or are receiving training (15-29 years) (Based on NSSO 61st Employment and Unemployment Round)

Source of Diploma	Percent Individuals	Cum.
NA	68.21	68.21
Industrial Training Institutes (ITIs)/Industrial Training centers (ITCs)	6.39	74.61
School offering vocational courses (Secondary, Higher Secondary level)	1.73	76.33
UGC (first degree level)	1.55	77.89
Polytechnics	1.47	79.35
Community Polytechniques/ Jansiksha Sanstha	0.25	79.61
National Open School	0.06	79.66
Hotel Management Institutes	0.15	79.82
Food craft & Catering Institutes	0.13	79.95
Small Industries Service Institutes/District Industries Centres/Tool Room Centres	0.14	80.09
Fashion Technology Institutes	0.09	80.18
Tailoring, Embroidery and Stitch Craft Institutes	2.44	82.61
Nursing Institutes	0.73	83.34
Rehabilation/ Physiotheraphy /Ophthalmic and Dental Institutes	0.11	83.45
Institutes giving Diploma in Pharmacy	0.31	83.76
Hospital and Medical Training Institutes	0.77	84.52
Nursery Teachers' Training Institutes	0.41	84.93
Institutes offering training for Agricultural Extension	0.17	85.10
Training provided by Carpet Weaving Centers	0.04	85.14
Handloom/ Handicraft Design Training Centers/ KVIC	0.03	85.16
Recognised Motor Driving Schools	1.31	86.47
Institute for Secretariat Practices	0.34	86.81
Recognised Beautician Schools	0.33	87.14
Institutes run by Companies/ Corporations	1.22	88.36
Institutes for Journalism and Mass Communication	0.14	88.50
other institutes	11.5	100
Total	100	

Table A6: Field of Vocational Training for 15-29 year old individuals who have received training (Based on NSSO 61st Employment and Unemployment Round)

Field Training	Percent Individuals	Cum.
Informal Training	63.1	63.08
Mechanical Engineering Trades	2.5	65.62
Electrical And Electronic Engineering Trades	4.1	69.74
Computer Trades	11.6	81.29
Civil Engineering And Building Construction Related Works	1.0	82.29
Chemical Engineering Trades	0.1	82.34
Leather Related Work	0.1	82.40
Textile Related Work	4.3	86.70
Catering, Nutrition, Hotels And Restaurant Related Work	0.3	86.99
Artisan/ Craftsman/ Handicraft And Cottage Based Production Work	0.6	87.54
Creative Arts/ Artists	0.4	87.89
Agriculture And Crop Production Related Skills And Food Preservation Related Work	0.2	88.06
Non-Crop Based Agricultural And Other Related Activities	0.2	88.27
Health And Paramedical Services Related Work	2.3	90.57
Office And Business Related Work	1.9	92.43
Driving And Motor Mechanic Work	2.6	95.03
Beautician, Hairdressing & Related Work	0.7	95.71
Work Related To Tour Operators/ Travel Managers	0.0	95.73
Photography And Related Work	0.1	95.78
Work Related To Childcare, Nutrition, Pre-Schools And Crèche	0.4	96.22
Journalism & Mass Communication And Media Related Work	0.0	96.26
Printing Technology Related Work	0.3	96.51
Other	3.5	100
Total	100.0	

Table A7: Source of Diploma for those who have received training (15-29 years)
(Based on NSSO 61st Employment and Unemployment Round)

Source of Diploma	Percent Individuals	Cum.
Informal Training	63.19	63.19
Industrial Training Institutes (ITIs)/Industrial Training centers (ITCs)	7.34	70.53
School offering vocational courses (Secondary, Higher Secondary level)	2.04	72.57
UGC (first degree level)	1.04	73.61
Polytechnics	1.26	74.87
Community Polytechniques/ Jansiksha Sanstha	0.25	75.12
National Open School	0.07	75.19
Hotel Management Institutes	0.11	75.3
Food craft & Catering Institutes	0.17	75.47
Small Industries Service Institutes/District Industries Centres/Tool Room Centres	0.16	75.63
Fashion Technology Institutes	0.10	75.73
Tailoring, Embroidery and Stitch Craft Institutes	3.18	78.91
Nursing Institutes	0.82	79.73
Rehabilation / Physiotheraphy /Ophthalmic and Dental Institutes	0.10	79.83
Institutes giving Diploma in Pharmacy	0.29	80.12
Hospital and Medical Training Institutes	0.90	81.02
Nursery Teachers' Training Institutes	0.57	81.59
Institutes offering training for Agricultural Extension	0.20	81.79
Training provided by Carpet Weaving Centers	0.04	81.83
Handloom/ Handicraft Design Training Centers/ KVIC	0.04	81.87
Recognised Motor Driving Schools	1.98	83.85
Institute for Secretariat Practices	0.45	84.29
Recognised Beautician Schools	0.43	84.73
Institutes run by Companies / Corporations	1.48	86.21
Institutes for Journalism and Mass Communication	0.07	86.29
Other Institutes	13.71	100
Total	100	

Table A8: Percentage of Individuals across General Education levels in 15-60 age group across 3 years (Based on NSSO 61st Employment and Unemployment Round)

Year	**1993-94**	**1999-2000**	**2004-05**
Source	**NSS 50th round**	**NSS 55th Round**	**NSS 61st round**
General Education	**% of Individuals in 15-60 age group**	**% of Individuals in 15-60 age group**	**% of Individuals in 15-60 age group**
Not Literate	46.2%	41.0%	35.8%
Lit W/O Formal Schooling	0.3%	0.2%	0.5%
TLC	0.2%	0.2%	0.7%
Others	0.6%	0.7%	1.0%
Literate - Below Primary	9.7%	8.8%	7.7%
Primary	11.7%	11.5%	13.2%
Middle	13.4%	15.7%	17.0%
Secondary	9.1%	10.8%	10.7%
Higher Secondary	4.7%	5.7%	6.2%
Diploma/Certificate Course	-	-	1.3%
Graduate & Above	4.2%	5.4%	5.9%
Total	100.0%	100.0%	100.0%

Table A9: Percentage of Individuals across Technical Education levels in 15-60 age group across 3 years (Based on NSSO 61st Employment and Unemployment Round)

Year	1993-94	1999-2000	2004-05
Source	**NSS 50th round**	**NSS_55th Round**	**NSS 61st round**
Technical Education	**% of Individuals in 15-60 age group**	**% of Individuals in 15-60 age group**	**% of Individuals in 15-60 age group**
No Tech. Educ.	98.1%	97.9%	97.6%
Tech. Deg (Agri/ Eng/ Tech/Medicine)	NA	0.3%	0.3%
Agri-Dip/Certf.	0.1%	0.0%	0.1%
Eng/ Tech-Dip/Certf.	0.6%	0.6%	0.9%
Medicine-Dip/Certf.	0.1%	0.1%	0.2%
Crafts-Dip/Certf.	0.1%	0.1%	0.1%
Other Subjects-Dip/Certf.	1.0%	0.9%	0.9%
Total	100.0%	100.0%	100.0%

Table A10: Number and Percentage of Households across Sector having various categories of land cultivated in hectares (Based on NSSO 61st Employment and Unemployment Round)

Sector	< 1 Hec	1-2 Hec	2-4 Hec	4-10 Hec	> 10 Hec	All
Rural	54,661,668	16,978,729	9791084.7	3945185.8	521,560	85,898,227
(percentage of total)	63.64	19.77	11.4	4.59	0.61	100
Urban	2987695.4	674,624.82	399,066.61	291,680.74	89,436.86	4442504.4
(percentage of total)	67.25	15.19	8.98	6.57	2.01	100
Total	57,649,363	17,653,354	10,190,151	4236866.5	610,996.80	90,340,732
(percentage of total)	63.81	19.54	11.28	4.69	0.68	100

Table A11: PRATHAM Learning Scores 2004-05 Elementary education: Language

PRATHAM Learning Scores 2004-05 Elementary education % All school children who can read- standard-wise					
State	**Nothing**	**Letter**	**Word**	**Para-Level I**	**Story- Level II**
Andhra Pradesh	8.8%	10.5%	15.6%	17.7%	47.3%
Arunachal Pradesh	7.2%	13.5%	21.6%	13.3%	44.4%
Assam	10.8%	15.5%	20.2%	21.2%	32.3%
Bihar	14.9%	15.2%	12.8%	14.8%	42.3%
Goa	0.6%	6.1%	12.9%	24.2%	56.2%
Gujarat	7.2%	12.4%	18.9%	18.6%	42.9%
Haryana	8.5%	12.1%	12.7%	16.1%	50.7%
Himachal Pradesh	3.5%	14.9%	11.8%	14.5%	55.3%
Jammu & Kashmir	3.4%	10.2%	26.5%	20.8%	39.1%
Karnataka	5.4%	12.1%	17.7%	19.0%	45.9%
Kerala	3.2%	3.7%	10.7%	11.3%	71.1%
Madhya Pradesh	15.7%	15.3%	15.5%	17.1%	36.5%
Maharashtra	7.0%	12.1%	13.0%	17.4%	50.4%
Manipur	10.6%	10.7%	18.7%	15.7%	44.4%
Meghalaya	0.9%	8.9%	22.0%	8.6%	59.5%
Mizoram	.	.	.	.	.
Nagaland	3.1%	16.5%	21.7%	25.6%	33.2%
Orissa	12.4%	15.0%	13.5%	15.0%	44.2%
Punjab	8.9%	15.3%	15.1%	17.8%	42.8%
Rajasthan	15.8%	13.2%	12.7%	14.9%	43.6%
Sikkim	.	.	.	.	.
Tamil Nadu	10.3%	11.4%	17.5%	17.3%	43.6%
Tripura	1.0%	7.3%	11.7%	16.8%	63.4%
Uttar Pradesh	16.8%	19.2%	14.6%	14.8%	34.6%
West Bengal	4.3%	12.3%	13.8%	24.6%	44.9%
Chhattisgarh	7.3%	16.0%	15.0%	15.5%	46.4%
Jharkhand	13.8%	16.9%	15.5%	15.4%	38.5%
Uttaranchal	6.8%	13.0%	11.2%	13.3%	55.7%
ALL INDIA	**11.0%**	**14.1%**	**14.9%**	**17.0%**	**42.8%**

Table A12: PRATHAM Learning Scores 2004-05 Elementary education: Math

	PRATHAM Learning Scores 2004-05 Elementary education			
	% All school children who can solve written numerical sums standard-wise			
State	**Nothing**	**Number recognition**	**Subtraction**	**Division**
Andhra Pradesh	11.9%	25.7%	26.5%	35.9%
Arunachal Pradesh	7.6%	21.1%	31.3%	40.1%
Assam	22.1%	28.1%	25.7%	24.0%
Bihar	22.6%	21.1%	21.4%	35.0%
Goa	5.9%	24.8%	32.5%	36.8%
Gujarat	16.2%	27.3%	22.2%	34.3%
Haryana	13.8%	19.6%	20.7%	45.9%
Himachal Pradesh	5.8%	26.2%	21.0%	47.0%
Jammu & Kashmir	5.0%	29.6%	25.1%	40.3%
Karnataka	8.6%	36.0%	31.4%	24.0%
Kerala	4.9%	22.8%	25.7%	46.6%
Madhya Pradesh	20.5%	28.8%	23.2%	27.5%
Maharashtra	17.5%	31.8%	23.9%	26.7%
Manipur	14.4%	24.7%	26.9%	34.0%
Meghalaya	10.1%	25.2%	27.6%	37.2%
Mizoram	.	.	.	.
Nagaland	7.6%	33.4%	36.4%	22.5%
Orissa	24.0%	26.8%	25.3%	23.8%
Punjab	14.7%	25.8%	27.0%	32.5%
Rajasthan	23.9%	23.2%	18.7%	34.2%
Sikkim	.	.	.	.
Tamil Nadu	14.0%	30.2%	28.1%	27.7%
Tripura	5.9%	17.1%	37.4%	39.6%
Uttar Pradesh	30.3%	27.2%	19.8%	22.8%
West Bengal	7.8%	21.7%	28.0%	42.5%
Chhattisgarh	14.8%	28.0%	23.5%	33.8%
Jharkhand	24.0%	25.3%	24.2%	26.5%
Uttaranchal	10.0%	27.8%	25.1%	37.1%
ALL INDIA (%)	**18.6%**	**26.7%**	**23.9%**	**30.7%**

Table A13: Median Incomes (Annual, in Rupees) of all earning individuals Across select occupations (Based on NDSSPI 2004-05)

Education Level	Subsistence farmer	Organized farmer practicing mechanized farming	Salaried employee (private sector with > 20 employees	Salaried employee (Central Government)	Owner of trading/retail business from fixed premises	Owner of small-scale manufacturing unit
Illiterate	6200	37600	10000	48000	24000	39000
Literate but without formal schooling	26000	.	25000	110544	30000	487100
Less than primary	25400	31000	48000	60000	30000	60000
Primary school	14000	70000	24000	60000	38000	33500
Middle school	14800	69100	31450	80000	50000	39000
High school/ Matriculate	20600	71500	48000	66000	60000	53500
Secondary / Intermediate	43500	90000	61560	74400	76200	600000
Technical Education/ Diploma	13600	.	72000	79000	85000	250000
Graduate	.	61000	70000	96000	96000	150000
Professional Degree	.	55000	96000	96000	55200	.
Post Graduate and above	.	.	120000	130200	64000	240000
Others	.	.	.	.	240000	.

Table A14: Median Incomes (Annual, in Rupees) of earning individuals in mid-career scenario (age 38-42 years) irrespective of occupation (Based on NDSSPI 2004-05)

Education Level	Annual Median Income in Rs.
Illiterate	14400
Literate but without formal schooling	24000
Less than primary	22000
Primary school	24000
Middle school	28800
High school/Matriculate	38000
Secondary / Intermediate	48000
Technical Education / Diploma	78000
Graduate	70000
Professional Degree	88000
Post Graduate and above	83000
Others	240000

Table A15: Median Incomes (Annual, in Rupees) of earning individuals across age groups irrespective of occupation (Based on NDSSPI 2004-05)

Education Level versus Age group	20-25	25-30	30-35	35-40	40-45	45-50	50-55
Illiterate	12500	13000	15000	14000	16000	16000	12600
Literate but without formal schooling	15500	18000	16000	22500	21600	22600	20000
Less than primary	15000	19600	21600	20000	24000	21600	22900
Primary school	18000	19200	24000	24000	25800	27100	26000
Middle school	18000	23000	25000	28800	30000	34000	35400
High school/Matriculate	24000	28860	33500	36000	42000	40000	48000
Secondary / Intermediate	24500	36000	36000	48000	48000	60000	63600
Technical Education/ Diploma	33600	48000	65000	72000	72000	85000	84000
Graduate	30000	46000	60000	70000	72000	84000	94000
Professional Degree	39000	48000	70000	88000	78000	100000	92000
Post Graduate and above	36000	48000	62000	78000	101640	96000	108000
Others	36000	40200	11400	240000	100000	157000	70000

Table A16: Percentage Distribution of all earning individuals across income cuts based on annual median income (NDSSPI 2004-05)

Education Level	Less than 25,000	25000-75000	75000-1,50,000	1,50,000-3,00,000	3,00,000-8,00,000	8,00,000 & above
Illiterate	78.8	19.4	1.5	0.1	0.2	0.0
Literate but without formal schooling	59.8	34.5	5.1	0.0	0.6	0.0
Less than primary	58.2	35.7	5.6	0.5	0.0	0.0
Primary	50.9	41.9	5.2	1.8	0.2	0.0
Middle	43.8	45.9	7.9	1.7	0.6	0.2
High school	29.7	54.5	12.6	2.3	1.0	0.0
Secondary	20.7	52.7	19.5	4.2	2.7	0.2
Technical Education	6.9	41.1	39.9	10.3	1.9	0.0
Graduate	11.9	43.9	34.2	7.7	1.5	0.8
Professional Degree	8.1	33.0	48.0	8.6	2.3	0.0
Post Graduate and above	4.6	39.6	43.4	12.2	0.3	0.0

Table A17: Distribution of workers as per NCO 1-Digit Classification (Based on NSSO 61st Round)

NIC-1 Digit	Occupation	Percentage Share of the total work force
[0]	Professional, Technical and Related Workers	0.98
[1]	Professional, Technical and Related Workers	2.96
[2]	Administrative, Executive and Managerial Workers	3.48
[3]	Clerical and Related Workers	2.84
[4]	Sales Workers	8.11
[5]	Farmers, Fishermen, Hunter, Loggers and Related Workers	4.25
[6]	Service Workers	55.98
[7]	Production and Related Workers, Transport Equipment Operators and Labourers	5.33
[8]	Production and Related Workers, Transport Equipment Operators and Labourers	4.45
[9]	Production and Related Workers, Transport Equipment Operators and Labourers	11.61
[X]	Workers not classified by Occupations	0.02

Table A18: Percentage of Graduates who are wage/salaried versus Income cuts based on Annual Income across two years of age (earliest career) (Based on NSSO 61st Round) for vocational training status

Only Graduates / AGE	1			2		
Range of Income (Annual, Rs.)	(NO vocational)	(Vocational Trg)	Total	(NO vocational)	(Vocational Trg)	Total
Zero	65.4%	17.4%	82.8%	74%	14%	88%
0-10K	1.8%	0.3%	2.0%	2%	0%	2%
10K-20K	2.5%	1.0%	3.5%	2%	2%	4%
20K-30K	0.8%	1.9%	2.8%	1%	0%	1%
30K-40K	2.7%	0.4%	3.1%	1%	1%	2%
40K-50K	0.3%	1.0%	1.3%	0%	0%	0%
50K-100K	2.0%	0.5%	2.5%	1%	1%	2%
100K-200K	1.7%	0.1%	1.9%	1%	0%	1%
Above 200K	NA	NA	NA	0%	NA	0%
Total	77.3%	22.7%	100.0%	83%	17%	100%

Table A19: Distribution of workers as per NIC 1-Digit Classification (Based on NSSO 61st Round)

NIC Classification	NIC (Digit 1)	Percentage persons employed (above 18 years of age) to total work force
Agriculture, Hunting and Forestry, Fishing	0	56%
Mining and Quarrying	1	6%
Manufacturing	2 & 3	6%
Electricity, Gas and Water Supply	4	6%
Construction	5	11%
Wholesale and Retail trade; Repair of motor vehicle, motor cycle and personal & household goods, Hotels and Restaurants	6	5%
Transport, Storage and Communication	7	3%
Financial intermediation, Real estate, Renting and Business activities	8	3%
Public administration and Defence, Compulsory social security, Education, Health and Social work, Other community, Social and Personal Services, Private household with employed persons, Extra territorial organizations and bodies	9	3%
Total	-	100%

Table A20: Percentage of Individuals by their Usual Principal Activity Status (Based on NSSO 61st Round)

Activity Type (US)	Percent Individuals	Cum.
Self-employed: Own Account Worker	12.3	12.3
Self-employed: Employer	0.5	12.8
Worked as helper in household enterprise	7.8	20.6
Regular salaried/wage employee	5.9	26.4
Casual Wage Labour: Public works	0.1	26.5
Casual Wage Labour: Other works	11.5	38.0
Did not work but was seeking/available for work	1.2	39.2
Attended Educational Institution	24.7	63.9
Attended Domestic Duties only	10.8	74.6
Attended Domestic Duties and other household activities	7.9	82.5
Rentiers, Pensioners, Remittance Recipients	1.0	83.5
Not able to work due to disability	0.9	84.4
Others (including begging)	5.2	89.6
NA	10.5	100.0
Total	100.0	

Table A21: Percentage (of total labour force) Individuals across Rural and Urban sector by their Usual Principal Activity Status (Based on NSSO 61st Round)

		% of labour force	
Employment Status	**Activity Type**	**Rural**	**Urban**
Employed	Self-employed: Own Account Worker	31.9%	29.3%
	Self-employed: Employer	1.0%	2.3%
	Worked as helper in household enterprise	22.9%	9.9%
	Regular salaried/wage employee	7.6%	38.9%
	Casual Wage Labour: Public works	0.1%	0.1%
	Casual Wage Labour: Other works	33.9%	14.2%
Unemployed	*Did not work but was seeking/available for work*	*2.5%*	*5.3%*
Total		100.0%	100.0%

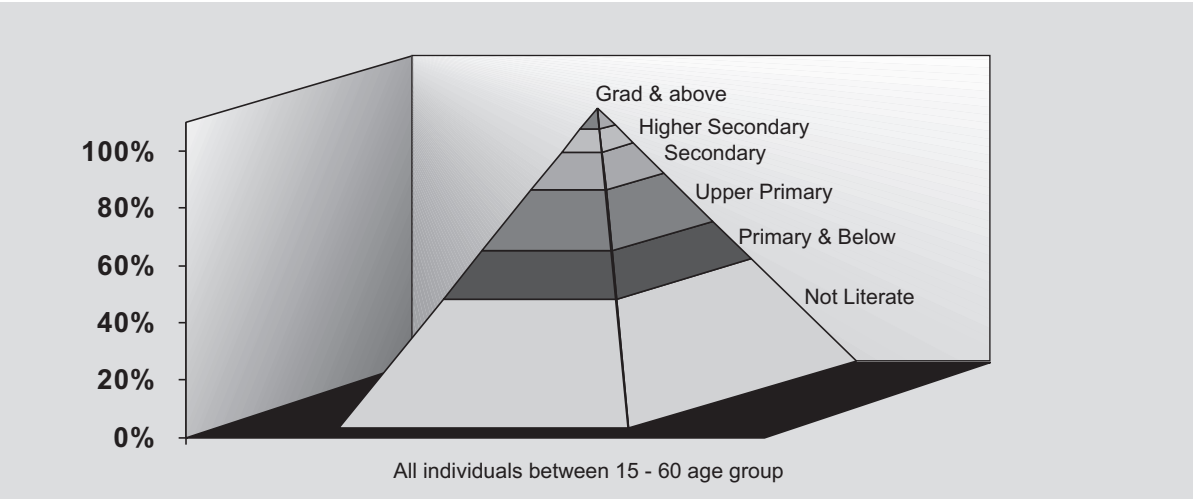
Table A22: Percentage (of total labour force) Individuals across Rural and Urban sectors combined by their Usual Principal Activity Status (Based on NSSO 61st Round)

		% of labour force
Employment Status	**Activity Type**	**Total (Rural+Urban)**
Employed	Self-employed: Own Account Worker	31.3%
	Self-employed: Employer	1.3%
	Worked as helper in household enterprise	19.8%
	Regular salaried/wage employee	15.0%
	Casual Wage Labour: Public works	0.1%
	Casual Wage Labour: Other works	29.3%
Unemployed	*Did not work but was seeking/available for work*	*3.1%*
Total		100.0%

Table A23: Unemployment Rate across sector measured by Usual Principal Activity Status (Based on NSSO 61st Round) across general education levels

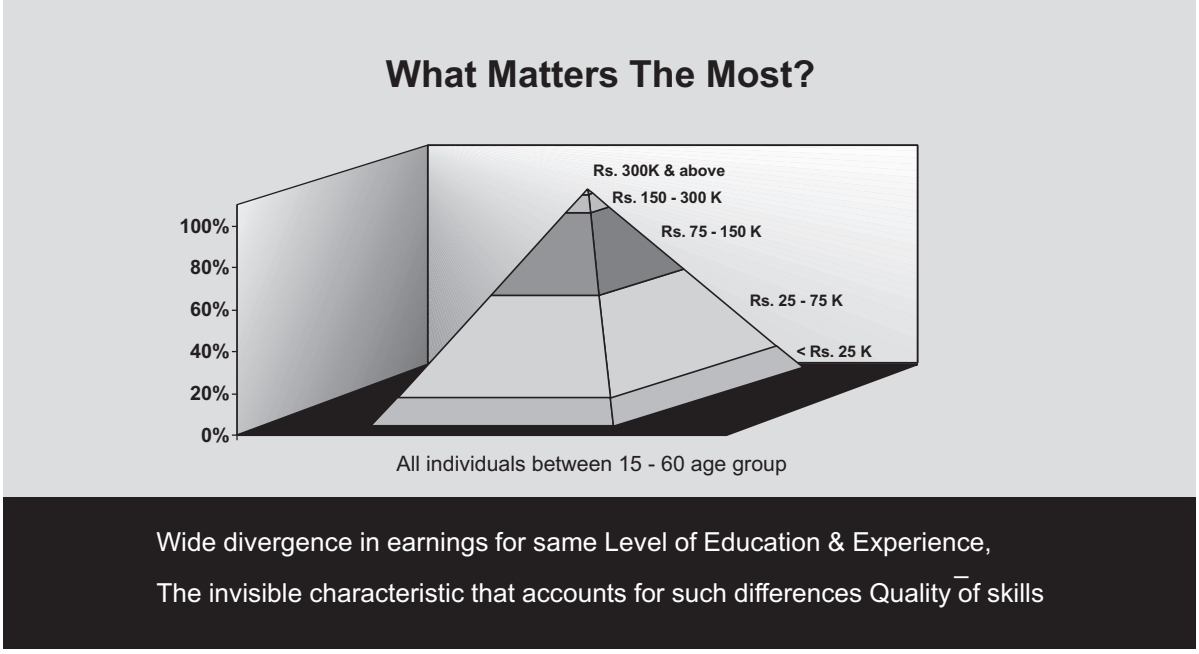
	Unemployment Rate (Sector wise)		
Educational Level	**rural**	**urban**	**Total Unemployment Rate**
not literate	0.65%	1.31%	0.73%
Lit w/o formal school	1.04%	0.94%	1.02%
TLC	1.21%	1.21%	1.21%
others	2.01%	1.68%	1.95%
lit- below primary	1.35%	2.36%	1.53%
primary	1.88%	3.14%	2.17%
middle	2.99%	5.74%	3.73%
secondary	5.93%	6.35%	6.08%
higher secondary	8.93%	6.98%	8.11%
dip./Certf course	15.42%	11.55%	13.27%
graduate	11.87%	9.20%	10.22%
post grad.& above	11.17%	8.57%	9.42%
Total	2.45%	5.30%	3.13%

Figure A24: Accumulation at the bottom of education pyramid



Source: Indicus Estimates based on NSSO 61st Round 2004-05. All individuals in the working age group of 15-60 years.

Figure A25: Importance of Skill Levels



Source: NDSSPI 2004 - 05. All Graduates irrespective of occupation in 38 - 42 age group. Mid career scenario

Table of Coefficients from Heckman Model

Heckman selection model -- two-step estimates (Regression model with sample selection)

Number of obs	= 36406
Censored obs	= 9423
Uncensored obs	= 26983
Wald chi2(101)	= 20445.60
Prob > chi2	= 0.0000

LHS VARAIBLE= Log Annual Income . MENTIONED BELOW ARE RHS VARIABLES

Note: All RHS Variables except "Work Experience in years" are Dummies in the analysis

		Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
	ST	.0508884	.0161605	3.15	0.002	.0192144	.0825624
	OBC	.0280835	.0103466	2.71	0.007	.0078046	.0483624
	Others/Gen	.1497509	.0112398	13.32	0.000	.1277213	.1717806
	Urban Sector	.1918399	.0081384	23.57	0.000	.175889	.2077908
	Female Gender	-.3992817	.0165969	-24.06	0.000	-.431811	-.3667523
Lit. w/o formal Schooling		.1304046	.0715347	1.82	0.068	-.0098009	.2706101
Total Literacy Campaign		.0066259	.0440212	0.15	0.880	-.0796541	.0929058
Other Education		.1442032	.0375671	3.84	0.000	.0705730	.2178333
Lit. below Primary		.0854287	.0159254	5.36	0.000	.0542155	.1166419
Completed Primary		.1126290	.0161554	6.97	0.000	.0809650	.1442931
Completed Middle		.1926792	.0225625	8.54	0.000	.1484574	.2369009
Completed Secondary		.3836759	.0353360	10.86	0.000	.3144187	.4529332
Completed Higher Secondary		.6495794	.0444223	14.62	0.000	.5625132	.7366456
Diploma/Certificate Course		.9495966	.0465211	20.41	0.000	.8584168	1.040776
Graduate		1.225935	.0477587	25.67	0.000	1.1323300	1.319541
Post Graduate & Above		1.496320	.0454906	32.89	0.000	1.4071600	1.585480
Work Experience in years		.0361489	.0009906	36.49	0.000	.0342074	.0380904
Recd Informal Vocational Trg		-.0225935	.0144150	-1.57	0.117	-.0508465	.0056594
Recd Formal Vocational Trg		.0157889	.0207188	0.76	0.446	-.0248192	.0563970
State Dummies	Chandigarh	-.0525989	.0682034	-0.77	0.441	-.1862750	.0810773
	Uttaranchal	-.2239970	.0375441	-5.97	0.000	-.2975821	-.1504119
	Haryana	-.0587602	.0290027	-2.03	0.043	-.1156045	-.0019158
	Delhi	.1466745	.0374903	3.91	0.000	.0731947	.2201542
	Rajasthan	-.1355968	.0247010	-5.49	0.000	-.1840099	-.0871837
	UP	-.3400533	.0209503	-16.23	0.000	-.3811151	-.2989915
	Bihar	-.3833954	.0289673	-13.24	0.000	-.4401702	-.3266207
	Sikkim	.3130090	.0425938	7.35	0.000	.2295266	.3964914
	Arunachal	.3857851	.0483966	7.97	0.000	.2909296	.4806407
	Nagaland	.4721028	.0792686	5.96	0.000	.3167393	.6274664
	Manipur	.0196039	.0466135	0.42	0.674	-.0717569	.1109647
	Mizoram	.3040683	.0463622	6.56	0.000	.2132002	.3949365
	Tripura	-.0832657	.0552936	-1.51	0.132	-.1916391	.0251078
	Meghalaya	.0388948	.0427165	0.91	0.363	-.044828	.1226175
	Assam	-.1012742	.0346413	-2.92	0.003	-.1691699	-.0333785
	WB	-.5401201	.0218145	-24.76	0.000	-.5828757	-.4973645
	Jharkhand	-.3314323	.0312114	-10.62	0.000	-.3926055	-.2702592
	Orissa	-.4796002	.0320107	-14.98	0.000	-.54234	-.4168604
	Chhatisgarh	-.5870845	.0281174	-20.88	0.000	-.6421936	-.5319754
	MP	-.5777970	.023808	-24.27	0.000	-.6244597	-.5311342
	Gujarat	-.2781467	.032582	-8.54	0.000	-.3420062	-.2142871
	Daman & Diu	-.0454891	.085321	-0.53	0.594	-.2127152	.1217370
	Dadar&Nagar	.0475174	.0639658	0.74	0.458	-.0778533	.1728881
	Maharashtra	-.3688212	.0230143	-16.03	0.000	-.4139284	-.3237140
	AP	-.4983144	.0237476	-20.98	0.000	-.5448588	-.4517699

Karnataka	-.3717573	.0318527	-11.67	0.000	-.4341875	-.3093271
Goa	.0209156	.0559414	0.37	0.708	-.0887276	.1305588
Lakshadweep	.4142869	.1019878	4.06	0.000	.2143945	.6141793
Kerala	-.0443533	.0261426	-1.70	0.090	-.0955918	.0068852
TN	-.4178641	.0298477	-14.00	0.000	-.4763644	-.3593637
Pondicherry	-.3641072	.0459779	-7.92	0.000	-.4542223	-.2739922
Andaman&Nico	.1408347	.0472565	2.98	0.003	.0482137	.2334557
_cons	9.616326	.0290923	330.55	0.000	9.559307	9.673346

THE COEFFICIENTS BELOW ARE HECKMAN COEFFICEIENTS FOR "PROBABILITY OF EMPLOYMENT" CORRESPONDING TO RHS VARIABLES LISTED HERE

	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
ST	.1749545	.033301	5.25	0.000	.1096857	.2402233
OBC	-.0139624	.021421	-0.65	0.515	-.0559468	.0280221
Others	.0183519	.0224967	0.82	0.415	-.0257408	.0624446
Urban Sector	.0205869	.0162362	1.27	0.205	-.0112355	.0524093
Female Gender	-.3388716	.0179805	-18.85	0.000	-.3741128	-.3036303
Lit. w/o formal Schooling	-.0134526	.1703922	-0.08	0.937	-.3474151	.3205100
Total Literacy Campaign	.0492224	.1124852	0.44	0.662	-.1712444	.2696893
Other Education	-.1928913	.0851101	-2.27	0.023	-.3597040	-.0260787
Lit. below Primary	-.1573040	.0361495	-4.35	0.000	-.2281557	-.0864522
Completed Primary	-.2983598	.0300124	-9.94	0.000	-.3571830	-.2395366
Completed Middle	-.5512435	.0277985	-19.83	0.000	-.6057276	-.4967594
Completed Secondary	-.8583594	.0305370	-28.11	0.000	-.9182108	-.7985080
Completed Higher Secondary	-1.020812	.0334703	-30.50	0.000	-1.086412	-.9552110
Diploma/Certificate Course	-.9987858	.0474777	-21.04	0.000	-1.091840	-.9057313
Graduate	-1.075400	.0330793	-32.51	0.000	-1.140234	-1.010565
Post Graduate & Above	-.9175948	.0479375	-19.14	0.000	-1.011551	-.8236390
Recd Informal Vocational Trg	.1953986	.0290719	6.72	0.000	.1384187	.2523786
Recd Formal Vocational Trg	-.0058203	.034788	-0.17	0.867	-.0740035	.0623628
HP	-.0910327	.0737228	-1.23	0.217	-.2355267	.0534612
Punjab	.0388344	.0611050	0.64	0.525	-.0809292	.1585980
Chandigarh	.5804456	.1567250	3.70	0.000	.2732703	.8876209
Uttaranchal	-.0251358	.0802868	-0.31	0.754	-.1824950	.1322235
Haryana	.1145428	.0703126	1.63	0.103	-.0232673	.2523529
Delhi	.3673940	.0858490	4.28	0.000	.1991330	.5356549
Rajasthan	.1879391	.0650992	2.89	0.004	.0603471	.3155312
UP	-.0835969	.0584212	-1.43	0.152	-.1981003	.0309065
Bihar	-.2370765	.0676012	-3.51	0.000	-.3695724	-.1045806
Sikkim	.3351719	.1013113	3.31	0.001	.1366053	.5337385
Arunachal	-.2103313	.0940405	-2.24	0.025	-.3946473	-.0260152
Nagaland	-.5489944	.1165193	-4.71	0.000	-.7773681	-.3206206
Manipur	-.1241752	.0884383	-1.40	0.160	-.2975111	.0491607
Mizoram	.0642119	.0990568	0.65	0.517	-.1299357	.2583596
Tripura	-.8794636	.0671939	-13.09	0.000	-1.011161	-.7477660
Meghalaya	.5038082	.1033033	4.88	0.000	.3013374	.7062790
Assam	-.4124945	.0654636	-6.30	0.000	-.5408009	-.2841881
WB	-.1888868	.0573729	-3.29	0.001	-.3013357	-.0764379
Jharkhand	-.2557161	.0684352	-3.74	0.000	-.3898467	-.1215855
Orissa	-.4707530	.0601583	-7.83	0.000	-.5886610	-.3528450
Chhatisgarh	.0535225	.0700118	0.76	0.445	-.0836981	.1907430
MP	.2145519	.0635137	3.38	0.001	.0900674	.3390365
Gujarat	.7122398	.0679828	10.48	0.000	.5789959	.8454838
Daman & Diu	.8631625	.2146773	4.02	0.000	.4424027	1.283922
Dadar&Nagar	.4816594	.1542438	3.12	0.002	.1793472	.7839716
Maharashtra	.3461783	.0557246	6.21	0.000	.2369601	.4553966
AP	.3818016	.0580593	6.58	0.000	.2680074	.4955958
Karnataka	.7030159	.0648476	10.84	0.000	.575917	.8301147
Goa	.1136636	.1068206	1.06	0.287	-.0957009	.3230281
Lakshadweep	-.9662397	.1317424	-7.33	0.000	-1.22445	-.7080294
Kerala	-.2319557	.0578202	-4.01	0.000	-.3452811	-.1186303
TN	.6004320	.0595772	10.08	0.000	.4836629	.7172011
Pondicherry	-.0291484	.0925456	-0.31	0.753	-.2105343	.1522376
Andaman&Nico	-.0274059	.0934675	-0.29	0.769	-.2105989	.1557871
_cons	1.186447	.0565025	21.00	0.000	1.075704	1.29719
Mills Lambda	-.2250812	.0932693	-2.41	0.016	-.4078857	-.0422767
Rho	-.3618100					
Sigma	.62209377					
Lambda	-.22508118	.0932693				

ABOUT TEAMLEASE

TeamLease is India's largest staffing company. It is a people supply chain company that put India to work by connecting the right people, to the right company, at the right time.

TeamLease (***www.teamlease.com***) has a range of temporary and permanent solutions for companies and individuals. Our primary services include temporary staffing, payrolling and permanent recruitment. These are supplemented by strong vertical practices that understand their industries deeply and offer special solutions. Clients, associates and candidates are serviced through our network of offices, web and phone support. Our proprietary web based TeamLease Temp Network (TLnet) has three components; ALCS (Associate Life Cycle System), CLCS (Candidate Life Cycle System) and our Intranet.

TeamLease, as a market leader, has a responsibility and self-interest in dispelling the faulty conception of temporary staffing as precarious employment. Our research efforts include a Quarterly TeamLease Employment Outlook, Annual TeamLease Temp Salary Primer and our Annual India Labour report.

ABOUT INDICUS

Indicus Analytics (http://www.indicus.net) is a specialized economics research firm based in New Delhi. It has been providing research inputs to Central and State ministries, institutions such as The World Bank, UNICEF, Stanford University, Harvard University, Maryland University, USAID, Rajiv Gandhi Foundation, CII and many other national and international institutions. Media groups such as India Today and Outlook have carried cover stories based on our work. The India Today special issue on the 'State of the States' is released every year in the presence of Chief Ministers from across the country.

Constant interaction with national and international experts and our ongoing non-funded research activities are the key factors that enable us to maintain a high quality of output. Our persistent endeavor to keep abreast of new developments in research methodology gives us the ability to bring out fresh insights from otherwise intractable information.

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