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Vocationalization in secondary education **Skilling India's Demographic Dividend**

Centre for Civil Society
21ST December 2011



Agenda

The current landscape

Bridging India's skill deficit

Vocationalisation of Secondary Education

NSDC – an introduction

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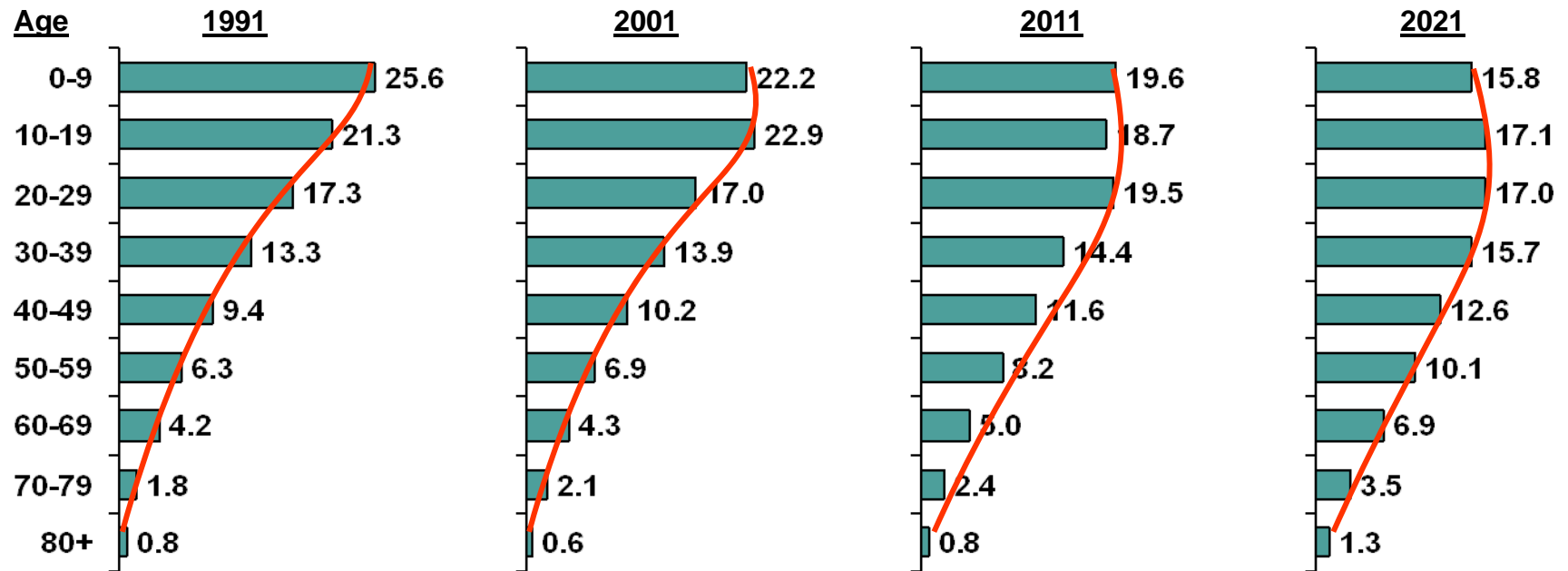
The current landscape

India - the land of extremes



With a rich demographic dividend

India – % distribution of population (1991 - 2021)



Current status at +2 level

Table 1.6: Levels and Distribution of Educational Attainment (Ages 25 years and Above)³¹

Country	Average Years of Schooling	Proportion of Adult Population with:			
		No Education	Some Primary	Some Secondary	Some Tertiary
India	4.9	51.0	31.6	11.7	5.7
Argentina	8.5	5.8	49.6	24.9	19.7
Brazil	4.6	21.3	56.8	13.5	8.4
Chile	7.9	5.3	42.9	36.0	15.8
Mexico	6.7	12.4	47.3	29.0	11.3
Korea	10.5	8.0	26.6	47.4	25.8
Malaysia	7.9	13.9	35.6	43.0	7.5
Singapore	8.1	12.6	28.3	48.5	10.6
Australia	10.6	1.7	21.1	38.6	29.8
Norway	11.9	1.2	11.5	62.5	24.8

Source: World Bank database

Comparing India to countries with similar income levels – India does not underperform in primary education but has a comparative deficit in secondary education.

These figures are from different years between 1998 and 2003 for the different countries

Present status of vocational education at secondary stage

- National Policy Education has achieved only 5% of the stated targets since its setting up in 1982
- With the high drop out rates after class VIII, relevance and role of vocational education is ever increasing.
- At present only 2% of the work force in the age group 15-29 has undergone formal vocational training and 8% have had non formal vocational training.

Projected Population,2008 (16-17 yrs)	48.6 million
Projected Population 2008, (14-17 yrs)	97.1 Mn
Children in secondary schools	28.9 Mn
Children in higher secondary schools	16.6 Mn
No. of higher schools	123,265
No. of higher secondary schools	60,383
GER classes IX-X	59.82
GER classes XI-XII	34.25

- As evident from the table above, there is huge gap in demand and infrastructure availability of proper training and education has to undergo a change to make it more relevant n the lives of children

Huge Challenges lay ahead...

Drop outs at various levels

- 90% of the students drop out at different stages before Class XII, & 63% of the students drop out before reaching Class X

High School Drop Out Rate

- Gap between the enrolment for Class I and the pass out from Class XII is large (200 million enroll in class I & 20 million pass out from class XII)

Lack of Counselors/ Counseling sessions at various education levels

- No synergy between formal educational set up and functional educational dimensions
- Parallel entries to make effective horizontal movement from formal to vocational/ functional totally absent

Low Education Level in existing workforce

- 67% of the existing work force is either illiterate or literate up to primary level of education

These figures also indicate that if properly leveraged, the drop out pool itself can become a big opportunity in the skilling space, providing skilled man power to the nation!

3 major problems

- **Lack of sufficient number of learning and training infrastructure**
- **Poor quality of education and vocational training**
- **No defined career path**

Problem 1: Existing framework for vocation & education

Need for a new intervention evident

Industrial Training Institutes

- Ironically, under the purview of Ministry of Labour while rest of the education system is under Ministry of HRD
- Disconnected from Industry, archaic curriculum not revised since 1960s
- Poor infrastructure, trainers
- Rigid entry & exit points, no modular approach to skill & certification levels

Polytechnics

- Polytechnics affiliated to AICTE offering Diploma Programs
- Largely theoretical courseware
- Same issues as that in ITIs

Others

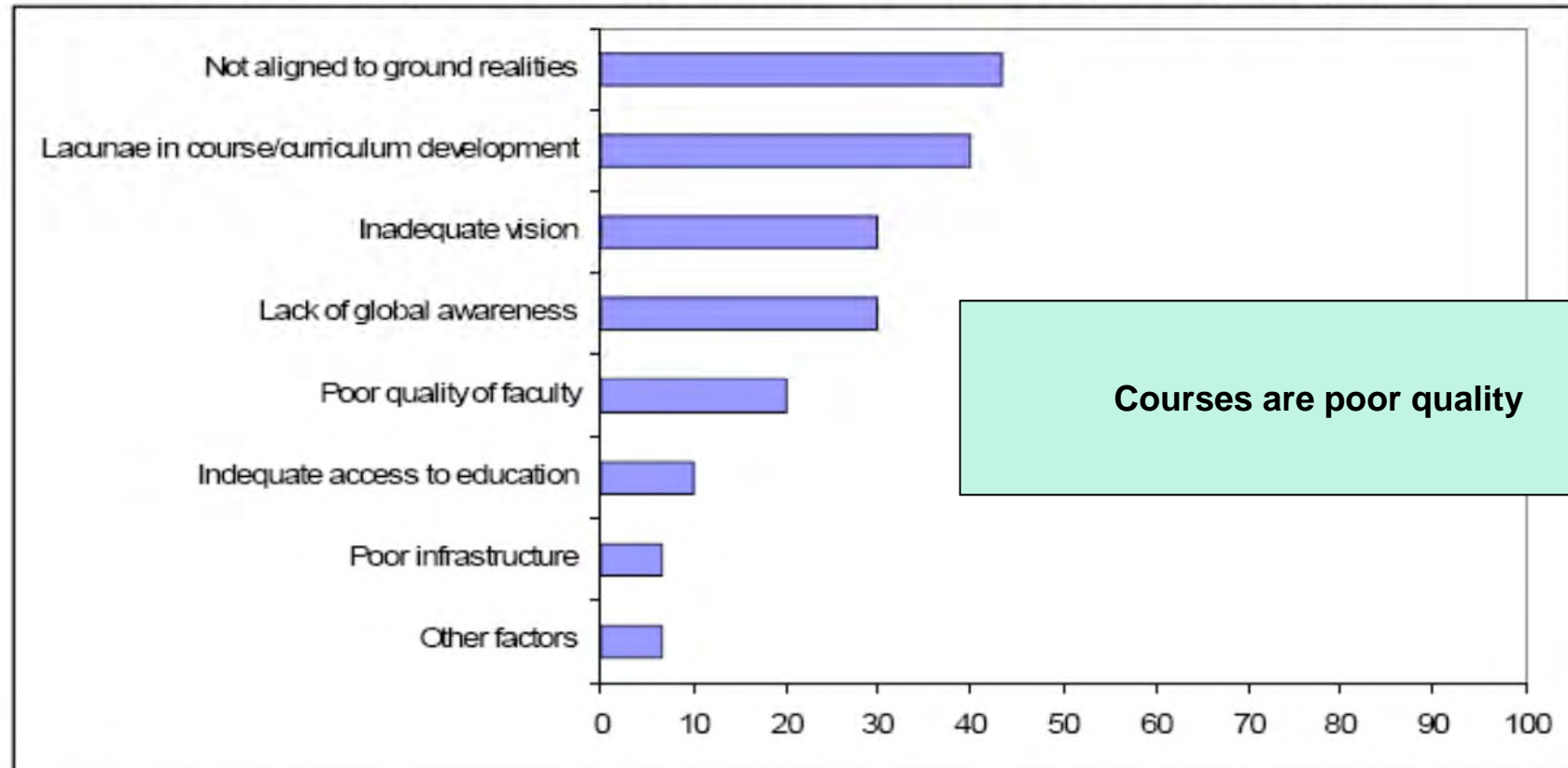
- Government Training Schemes (implemented through PIAs)
- Ministry of Rural Development (SGSY)
- Housing & Urban Development Department (JJSRY)
- Ministry of MSME through NSIC
- SC/ST Department through ITDA
- PPP models established by NSDC: Gram Tarang, B Able, Centum, IL&FS etc

12.8 million youth need initial vocational training every year; existing Private & Public Institutional Capacity is 4.3 million India has under 10,000 ITI's and VET schools, China has 500,000 senior secondary vocational education and training schools

The current framework delivers poor quality education delinked with industry

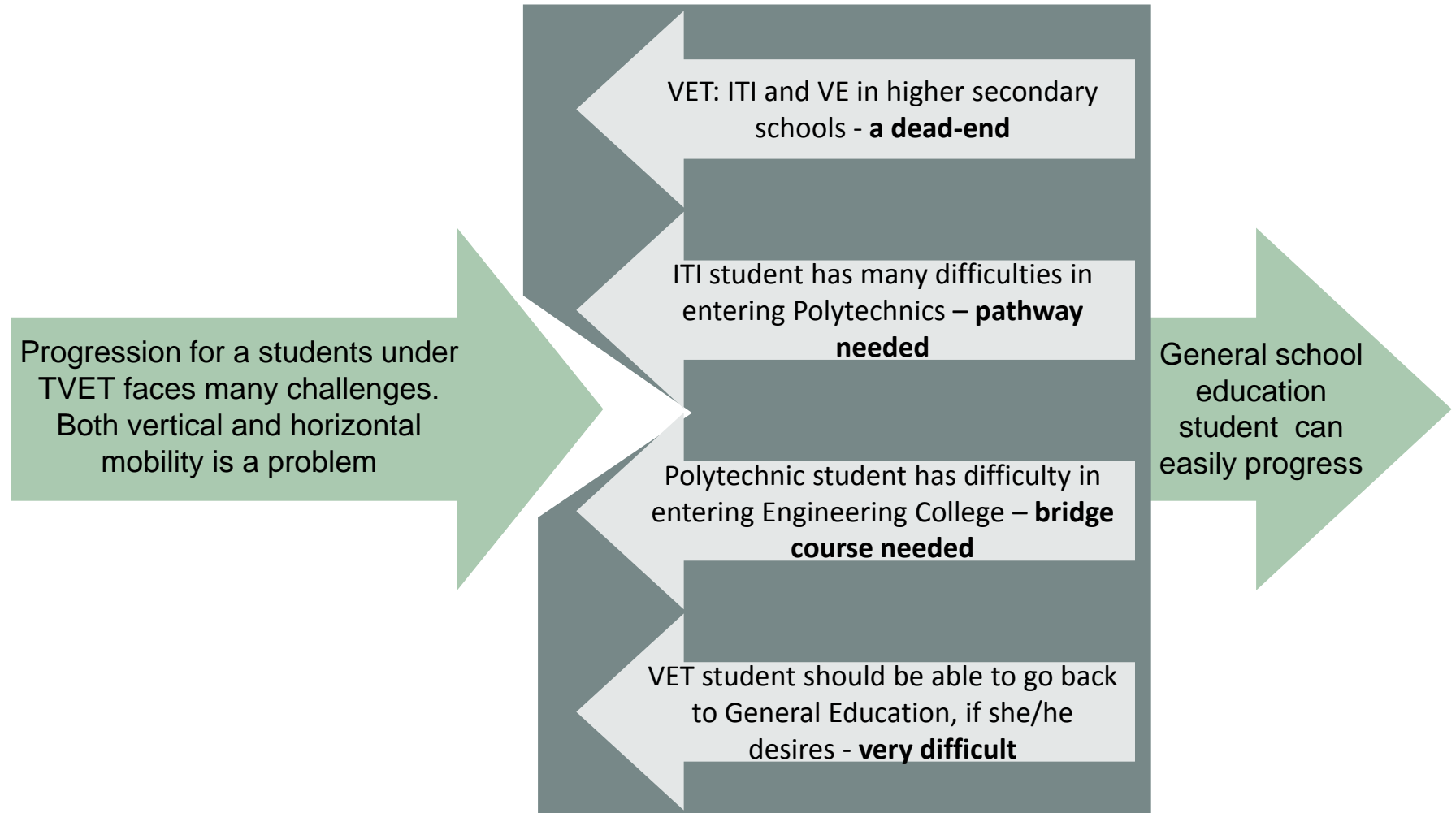
Employers felt that ITI graduates did not perform well enough in the use of computers, practical use of machines, communications and team work practices. A survey by the Federation of Indian Chambers of Commerce and Industry (FICCI) shows ground survey results

Figure 3.3: Employers' Concerns with Vocational Education & Training System



Source: FICCI (2002)

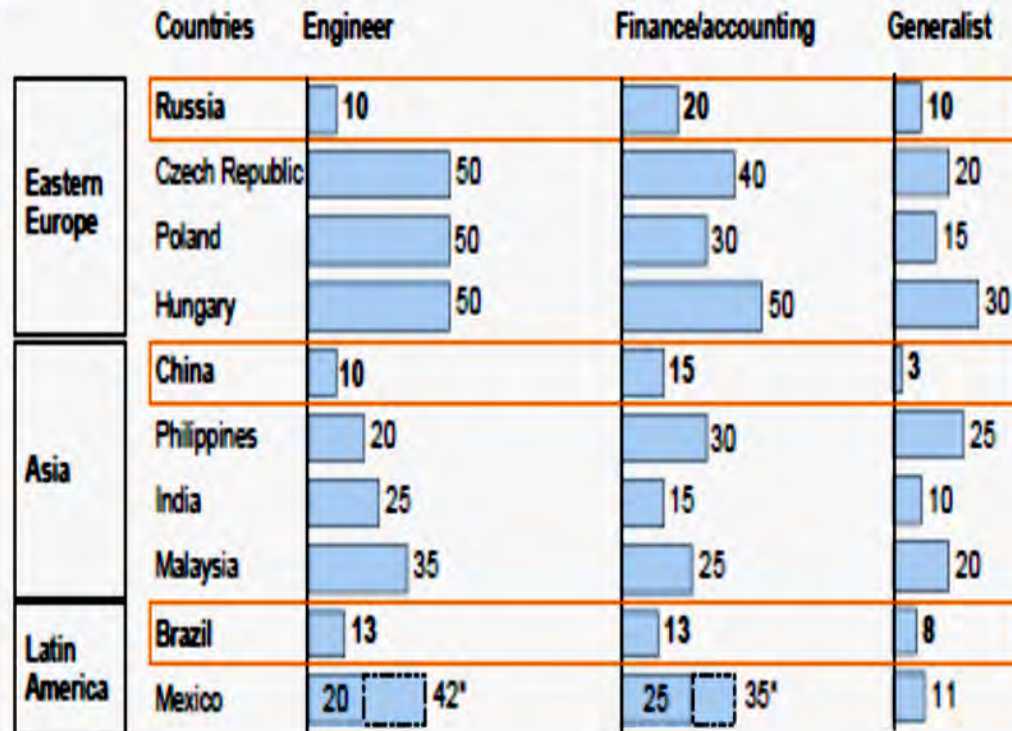
TVET vis-à-vis general school education is not very encouraging



Problem 2: Poor quality of education leads to unemployable graduates

SUITABILITY VARIES MARKEDLY BETWEEN COUNTRIES AND SEEMS ESPECIALLY LOW IN NASCENT GLOBAL RESOURCING MARKETS

"Of 100 graduates with the correct degree, how many could you employ if you had demand for all?"
%



Global shortage in "employable talent"

Gap Areas :

- Technical Skills
 - Functional Knowledge and skills
 - Business specific Knowledge
 - Organization specific knowledge and skills
- Soft Skills
 - Communication
 - Self presentation and management
 - Professional work habits
 - Leadership & team working
 - Organization fitment

- The educated without professional skills constitute 69% of the total unemployed
- NASSCOM — the Indian IT industry's trade association — reported that 75% of the fresh engineering grads recruited by domestic IT providers are unemployable.

Problem 3: No career path for “Rejects”

	Blue Collar	Grey Collar	White Collar		
	School Dropouts	ITI	Diploma	Advanced Diploma	Professional Degree
Job Role	Fitter/Helper	ITI Fitter / Machine Operator	Machine Operator / Production Supervisor	CNC Programmer / Design CAD /CAM	Operations Manager
Employment Opportunity	SME	Manufacturing Sector, PSUs	Manufacturing Sector, PSUs	Specialized Industries: Auto etc	Manufacturing Sector, PSUs
Starting Monthly Income (INR)	2,000 – 3,000	4,000 – 5,000	6,000 – 8,000	8,000 - 10,000	15,000+
Monthly Income after 5 Years (INR)	5,000 – 6,000	8,000 – 12,000	12,000 – 14,000	30,000+	50,000+

Career Ceiling for School Dropouts

The HRD system makes it almost impossible for a dropout to have a career progression into a white collar job, however skilled he may be

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Bridging India's skill deficit

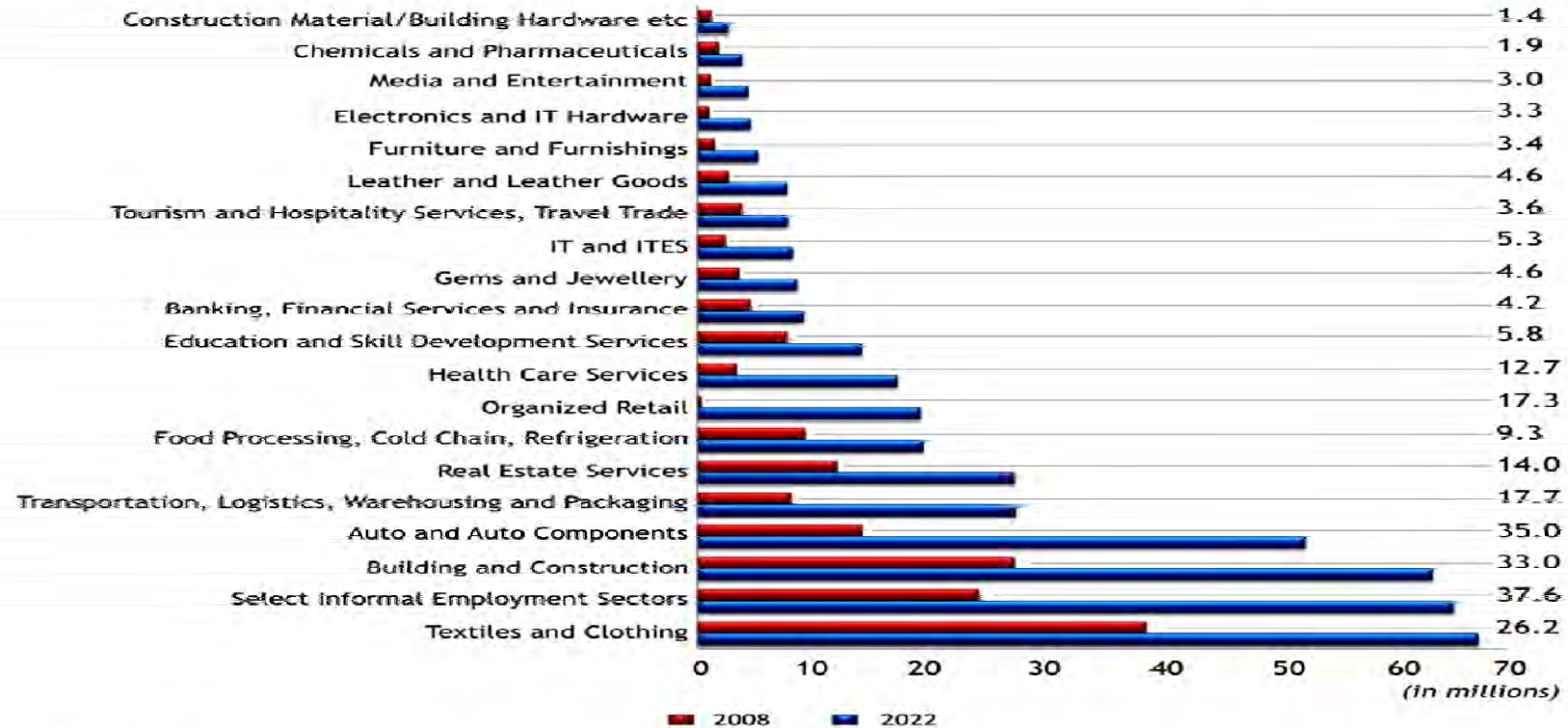
Need to find opportunities in this period of transitions!

- **Move away from the agriculture**
- **Need to move from unorganized employment to organized employment**
- **Transition from traditional skill to knowledge and training based occupations**
- **Transition from rural to urban India**

Large opportunities available

Estimated skill gap of 240 Mn across 21 key sectors

Current and Projected Requirement in Workforce till 2022 (in millions)

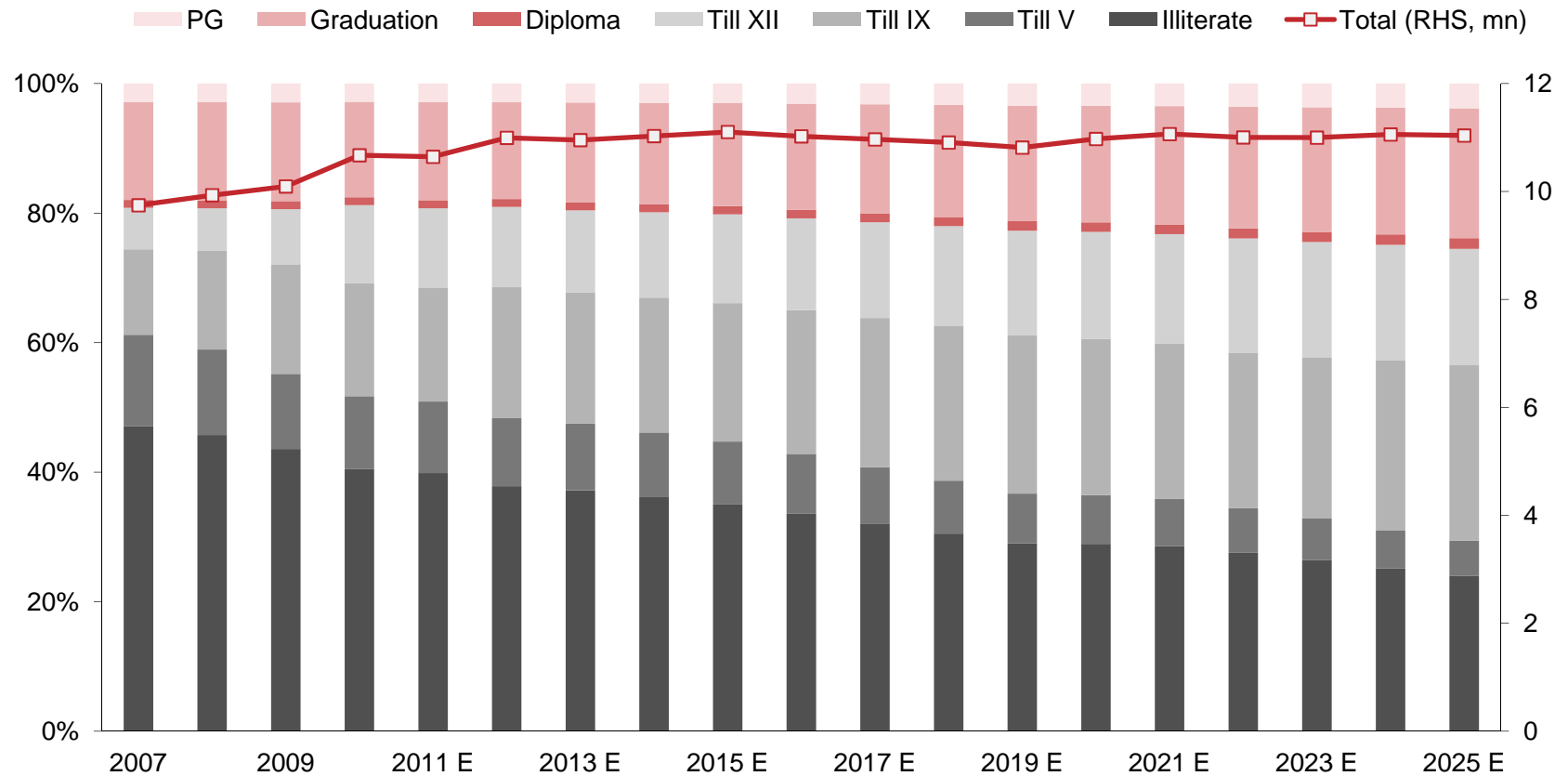


The above graph indicates incremental skill gaps across several high growth sectors from 2008 till 2022.

Reports are available on www.nsdcindia.org/knowledge-bank/index.aspx

Illiteracy in the labor force likely to reduce – employability is the new education!

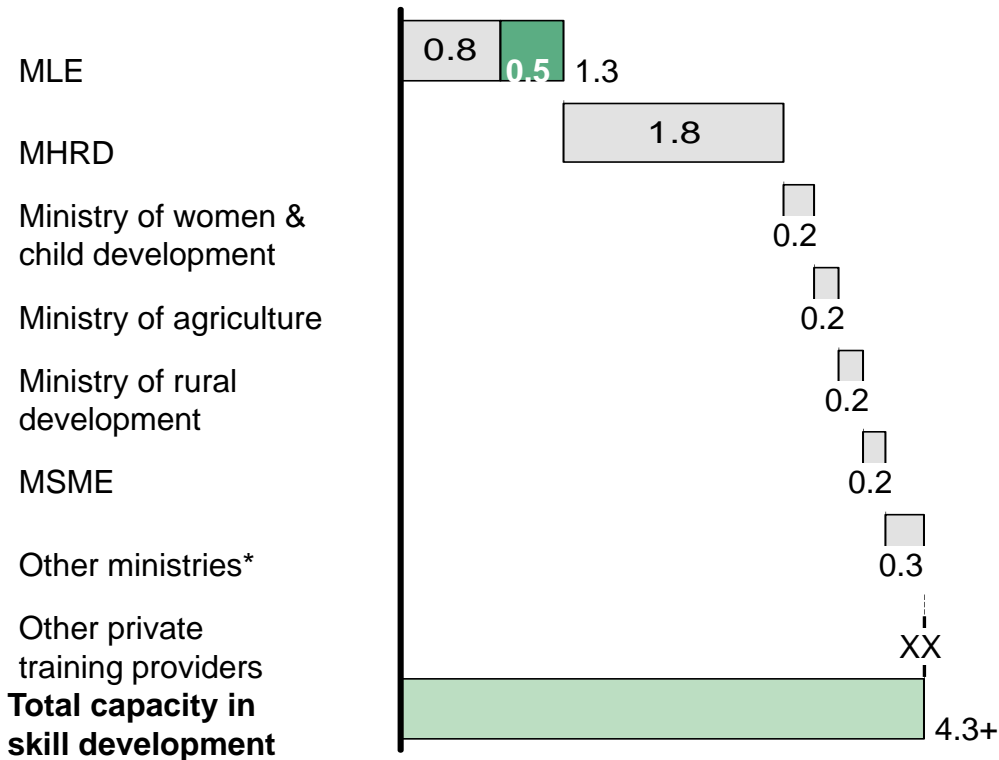
Schedule showing actual quality of work force joining each year



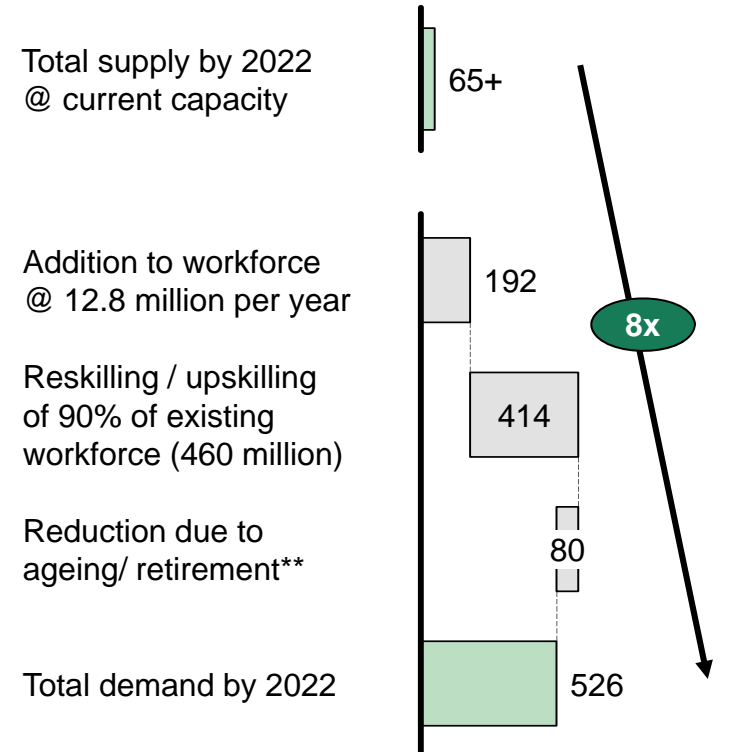
Source: Census of India, Kotak Institutional Equities analysis.

The size of the industry is large

Current capacity in skill development under various schemes, 2008-09



Eight-fold increase in capacity is required to meet aspiration



Business opportunity of ~ 1 Lakh Cr* , 20 Bn USD**

Privately owned ITCs

*Includes ministry of housing and urban poverty alleviation, textile, health and family welfare, food processing industries, and others

**Assuming that the existing workforce in the age group of 45-59 will not be re-skilled

***Assuming training fee of Rs 2000 per student for the total demand estimated

Industry is at a nascent stage with very few players of scale

Leaders (e.g. NIIT)

- Top players which control ~ 50-60 % of market
- Wide geographic reach, healthy range of courses offered, typically across industries
- Strong connect with industry for placements

Aspirants (e.g. India Can)

- Companies with wanting to scale existing operations
- Current focus on particular sectors

Boutique firms (e.g. Redwood Edge)

- Largely individual dependent
- Looking for opportunities to expand



Huge demand for a brand of credibility and repute in this space

IRRs of 25% possible through developing innovative models

Innovative models need to be developed . . .

- **Increased revenue**

- Employer driven standards and strong accreditation system differentiating high quality play, ensuring employers participation to pay placement fees
- Channelization of fragmented flow of funds from the government, multi-lateral agencies, and industry associations

- **Reduced costs**

- Shorter duration courses customized to the industry requirements, lowering the overall costs
- Better operations through hub and spoke model and multiple shifts to reduce overall costs
- Ready-to-use curriculum and consolidated train-the-trainer programs, bringing down training overheads
- Support from state government, leveraging public infrastructure to lower capex investment

- **Reduced taxes**

- Tax holiday for 3 years to increase profitability

. . . to make the economics attractive for private play

	Current large-scale model	Large scale economically attractive model
Training capacity, #	50,000/ yr	500,000/ yr
Cost, Rs./student	~8,000	~4,000
IRR, %	~10%	~25%
Breakeven period	~8 years	~3 years
Capex	~Rs.250 cr	~Rs.1,000 cr
NPV	~Rs.-30 cr	~Rs.450 cr

There are challenges in this segment but they can be dealt with

Challenges

What we have heard



**Student
mobilisation**

“We don’t get jobs even after going through these courses”

“My wages remained the same even though I was trained”

“Institutes are mushrooming – how do I know which are the good ones?”



**Industry
education**

“We need to re- train these people, why should we pay them higher”

“There are very few quality institutes today and very few have an idea of what we want”



**Inadequate
enabling
environment**

Lack of student loans for vocational courses

No standardization of curriculum or content

No certification or accreditation process

Largely an unregulated space which allows players to participate on their own terms

K-12 segment

Higher education segment

Vocational education

Authority

- No Central governing body
- Ruled by state boards / ICSE / CBSE / International Boards

- Regulated by the University Grants Commission (UGC) under MHRD
- Multiple councils for specific areas
 - All India Council for technical education
 - Medical Council of India
 - Bar Council of India
 - Dental council of India
 - ...

- No single authority for accreditation

Regulations

- A school must be affiliated with a Board for recognition
- All formal education institutes must be run as "not-for-profit" centres either under a society or a trust
- Any 'reasonable' surplus generated must be ploughed back in the same school and can not be distributed

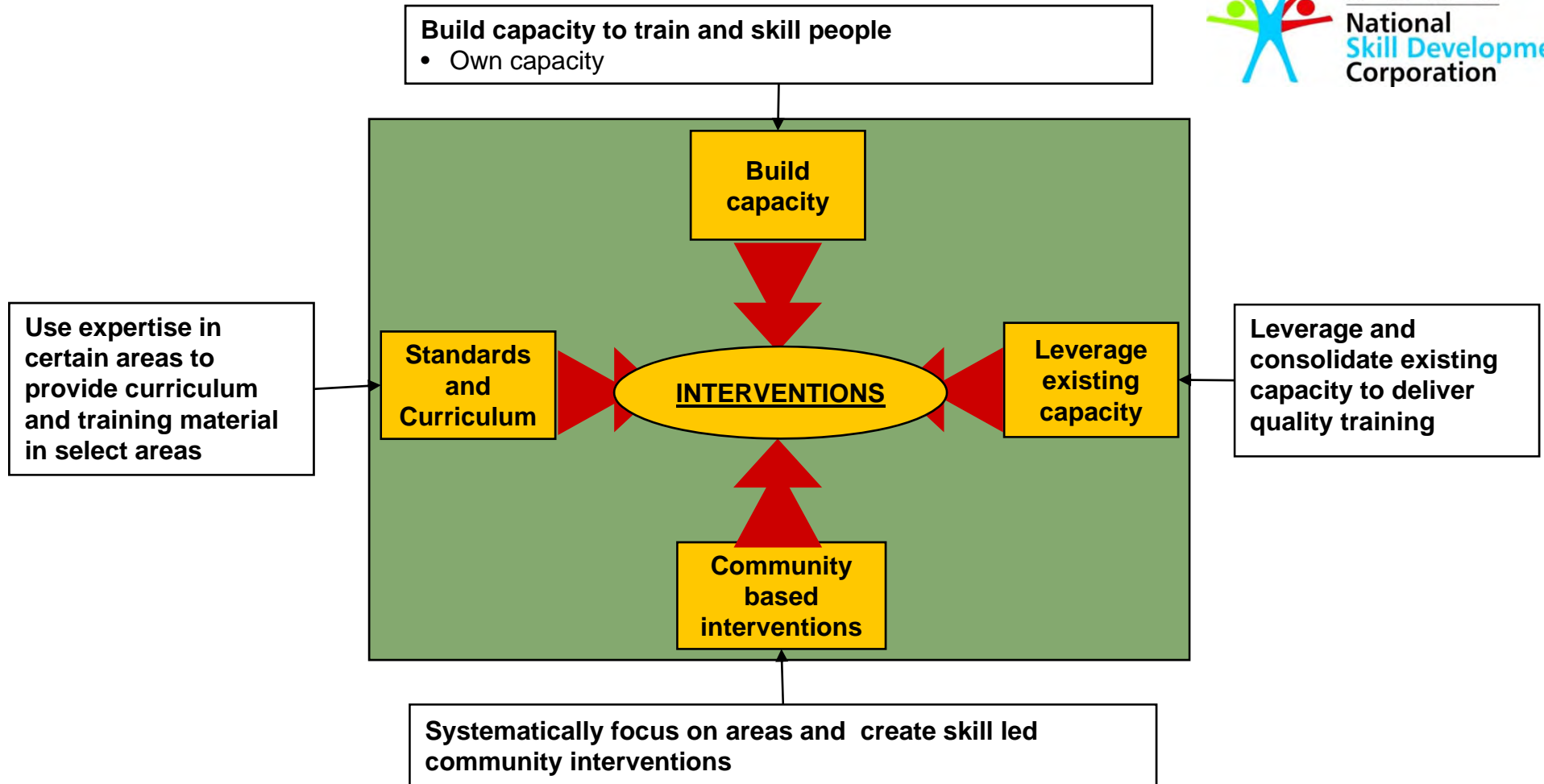
- Accreditation by council recommended though not mandatory if industry acceptance reached
 - e.g. Indian School of Business is not recognized – However such institutes are niche and not norm
- Required to be run as "not-for-profit" centres if institute is recognized
- Unregulated space
- Specific sectors like nursing are regulated

Key challenges / implications

- No large school chains since surplus could not be distributed across schools
- School chains restricted to private social initiatives, religious / political groups
 - DAV schools (600+), Chinmaya Vidyalaya (75+)

- Multiple authorities to be dealt with – process bureaucratic and plagued with corruption
- Highly over-subscribed space with innumerable small players
- Open space for participation

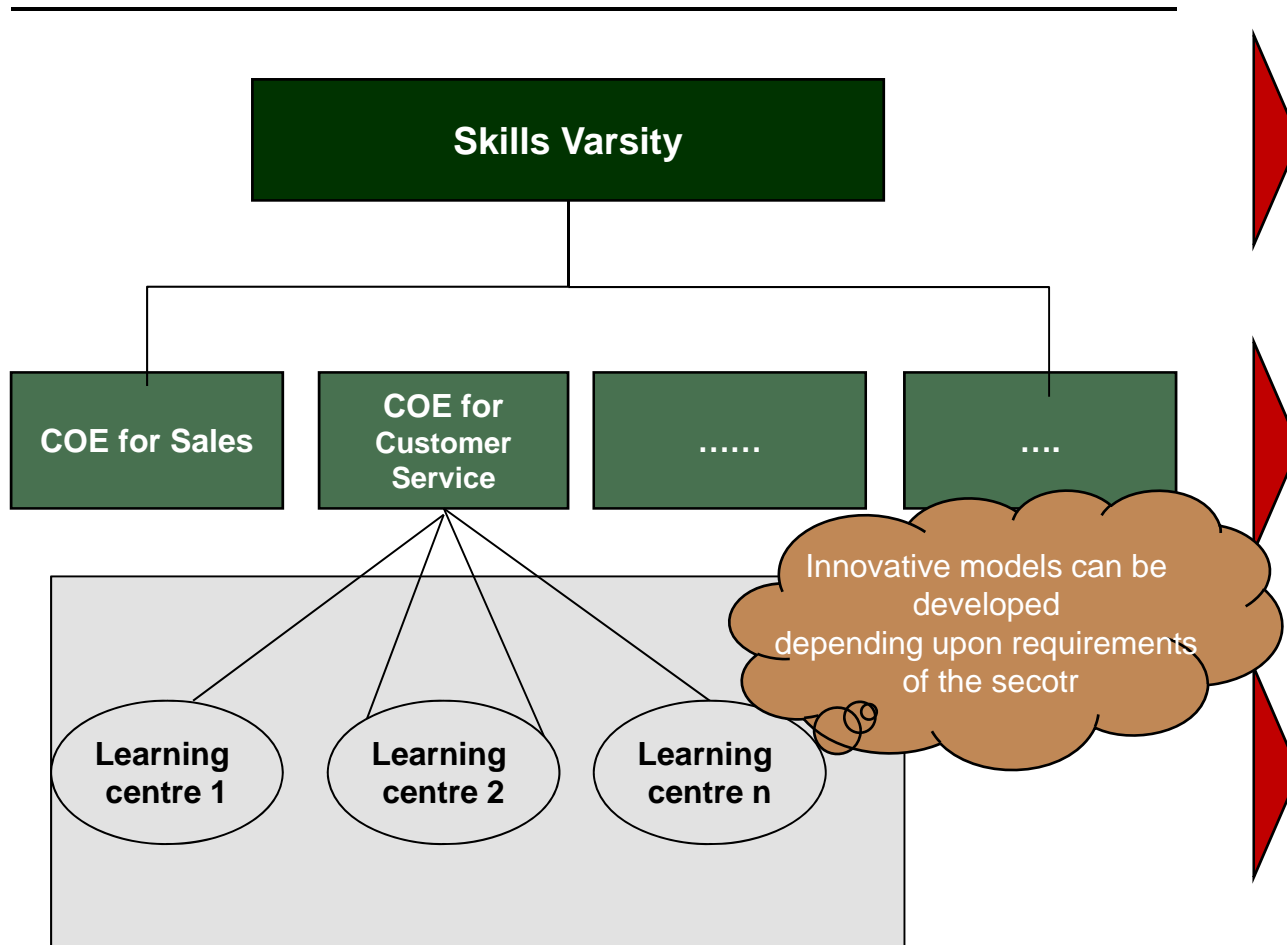
Multiple forms of interventions possible on the skill development space



Different business models can be built

Illustrative

Option 1



Key activities

Research and development of content
Methodology
Train the trainer
Overall strategy and management

Sector specific centres of excellence
Focus on sector requirements
Regarded as best in class training centres for a particular sector/ function

Learning centres (owned) dispersed all over the country for sector/ functional expertise

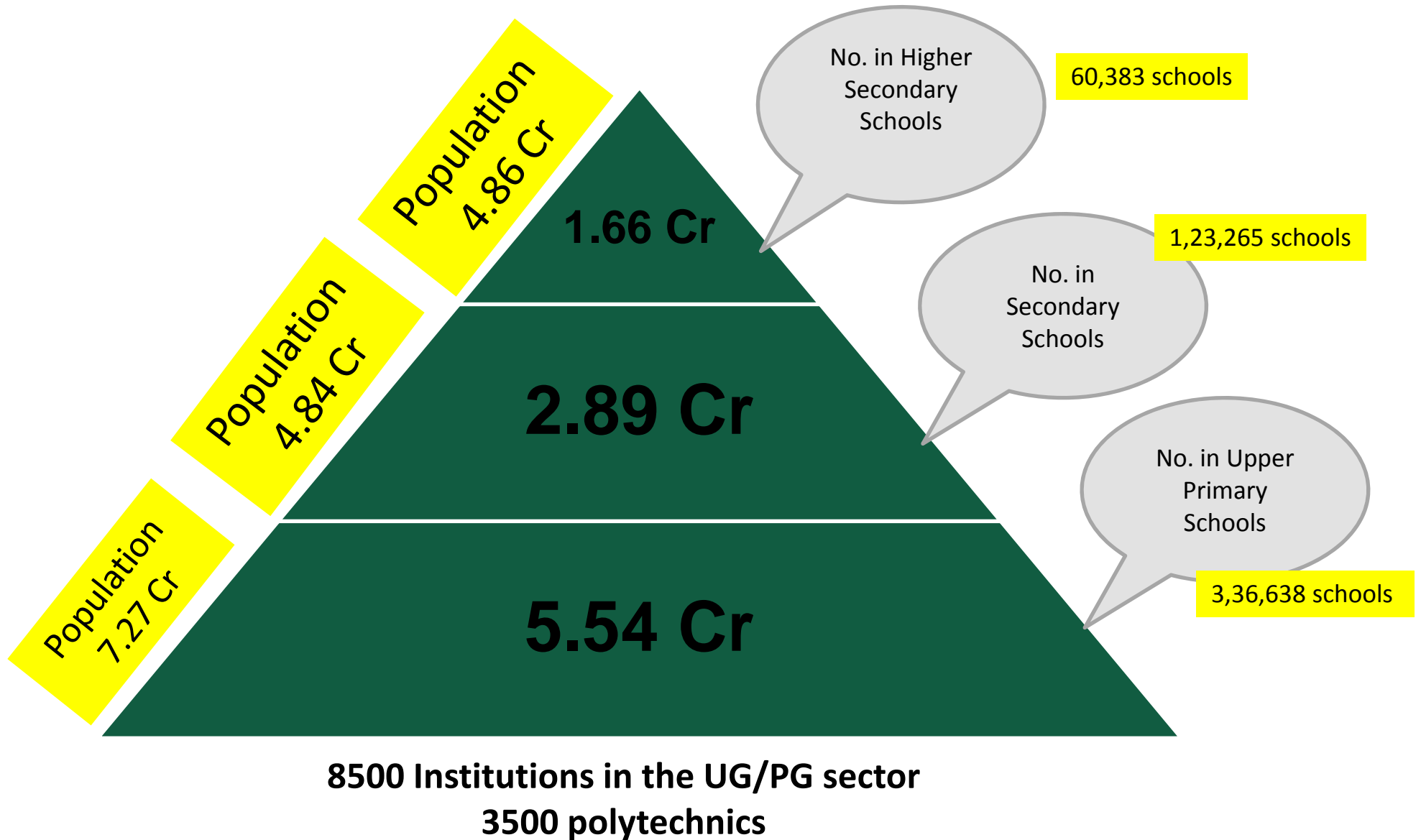
Summary: The Indian context makes a foray into this space very attractive

	Current	Implications for players
Industry Potential	Rs 1 Lakh Cr	<ul style="list-style-type: none">+ • Rapid growth+ • Opportunities across all spaces
Current capacity	4.3Mn; Need to increase 8x	
Structure of industry	Very unorganised Few large players	<ul style="list-style-type: none">+ • Need for a brand of credibility+ • First mover advantage
Examples of business models	Limited in India	<ul style="list-style-type: none">- • Limited examples of successful business models in India= • Globally models of scale have been seen
Regulations	Unregulated	<ul style="list-style-type: none">+ • Allows a player to participate on their own terms
Investment climate	High focus	<ul style="list-style-type: none">+ • Both government and private equity money chasing this space

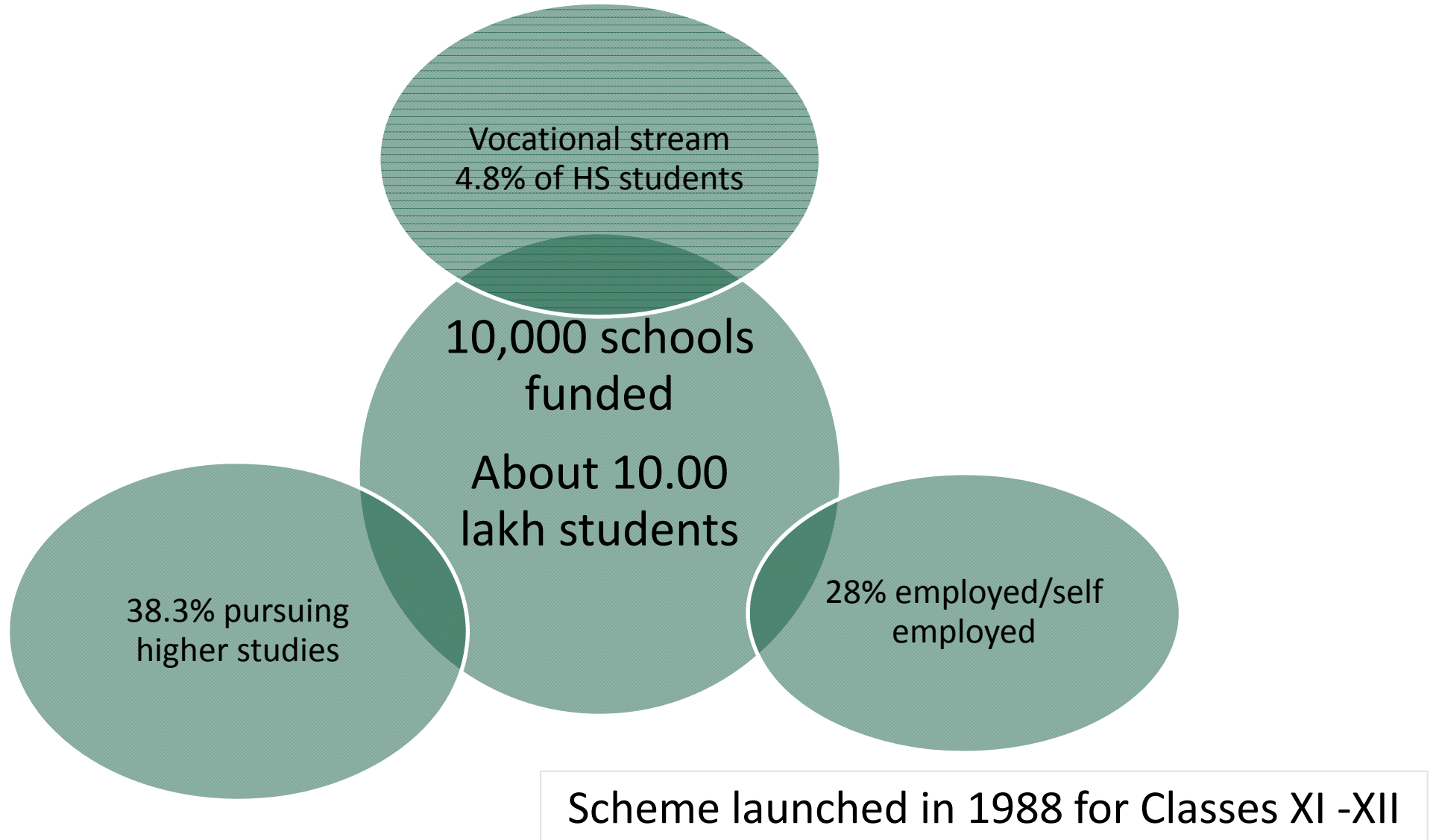
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Vocationalisation of Secondary Education

Need for vocationalisation



Progress under the Pre revised Scheme



Goals and objectives of the revisions

Bridge the gap between demand and supply of skilled work force

Enhance employability of the youth

NVEQF

Establish close synergy with industry at all levels

To be offered in CI XI –XII
Pilot in CI IX

Salient features of revised scheme

Creating Infrastructure

- Strengthening of existing vocational education schools and establishment of new schools
- Assistance to private vocational education schools under PPP mode
- Assistance to NGOs for innovative practices
- Training of vocational education teachers

Establishing eco-system

- Development of competency based modules
- Mandatory revision of curriculum in keeping with changes in NOS
- Establishment of VE cell in CBSE
- A strong partnership with the industry/employers in all activities right from selection of courses, curriculum development, teaching processes, resource persons, assessment and certification
- Web based MIS to be set up

Pilots of NVEQF in Class IX in Haryana and West Bengal

Inter Ministerial Executive Council with HRM as Chair constituted, includes 5 States in rotation also

New Initiatives in the existing context

CBSE

*Enrollment in VE is about 37,000 in over 850 CBSE affiliated schools
Launched new courses*

- Financial Market Management (joint certification with National Stock Exchange)
- Healthcare Sciences
- Mass Media studies and Media Production (Whistling Woods International, Mumbai)
- Hospitality and Tourism (National Council of Hotel Management and Catering Technology, New Delhi)
- Geospatial Technology (Rolta India Ltd, Mumbai)
- Some other courses have been revised and made more relevant in today's context

National Institute of Open Schooling (NIOS)

- Vocational Education courses/Programmes (1313 Accredited Vocational Institutes offering about 85 vocational courses integrated with general subjects)
- Life Enrichment Programmes
- At present there are about 2264 study centers catering to more than 18.5 lakh students all over the country
- MOU signed with Western Sydney Institute (WSI) and its Open Training and Education Network (OTEN)

PSSCIVE (NCERT)

- Integral role in curriculum and course design together with School Boards, NITTTRs, AICTE and SSCs
- Designing and execution of teacher trainings
- Strengthening of infrastructure, manpower and existing faculty
- Curricula of all the levels from 1-10 to be synchronised, with adequate bundling of skills, so that the outcomes at all exit points are known to the student and parents

Restructuring of VE due to revision of scheme

Broad Framework

- To be delivered within the NVEQF
- VE to be demand driven with strong industry linkage - school advisory committee to be headed by industry
- NOS would determine competencies – curriculum – course material
- Competency based modular curriculum with provision for credit accumulation and transfer - equivalency between general and vocational education
- Horizontal and vertical mobility and multiple entry exit
- Teacher training, master trainers from industry

Mode of Delivery

- Assessment standards and testing and certification will be done by the School Board in association with industry (SSC) to enhance acceptability of the vocational pass outs by the prospective employers.
- Vocational Education cell has been established within CBSE
- Vocational sections to be set up in mainstream schools
- Schools to function as AVIs of NIOS also
- Model vocational schools to be set up

Bring about a perception change in the way society views VET and restore its relevance in enhancing the employability of the country's youth

Proposed management structure and work progress

Management Structure

- Bureau of Vocational Education at MHRD
- Vocational Education Cell in CBSE – States to follow suit
- State Coordination Cell for VE: representation of Education + Labour + Industry
- State Boards to have a Vice Chairman i/c VE
- District Vocational Education Office (DVEO)
- RIEs and NITTTRs to be made model teacher training institutions
- Vocational cells in RIEs and SCERTs

Work Done so far in NVEQF

- NOS developed for retail, security, IT and automobile
- Curriculum and course material developed for IT for levels 1 and 3 by PSSCIVE and CBSE
- Curriculum developed for automobile sector. Course material by end of the month
- Funds released to Haryana for implementation of pilot in Class IX
- Draft cabinet note prepared for inter ministerial consultations

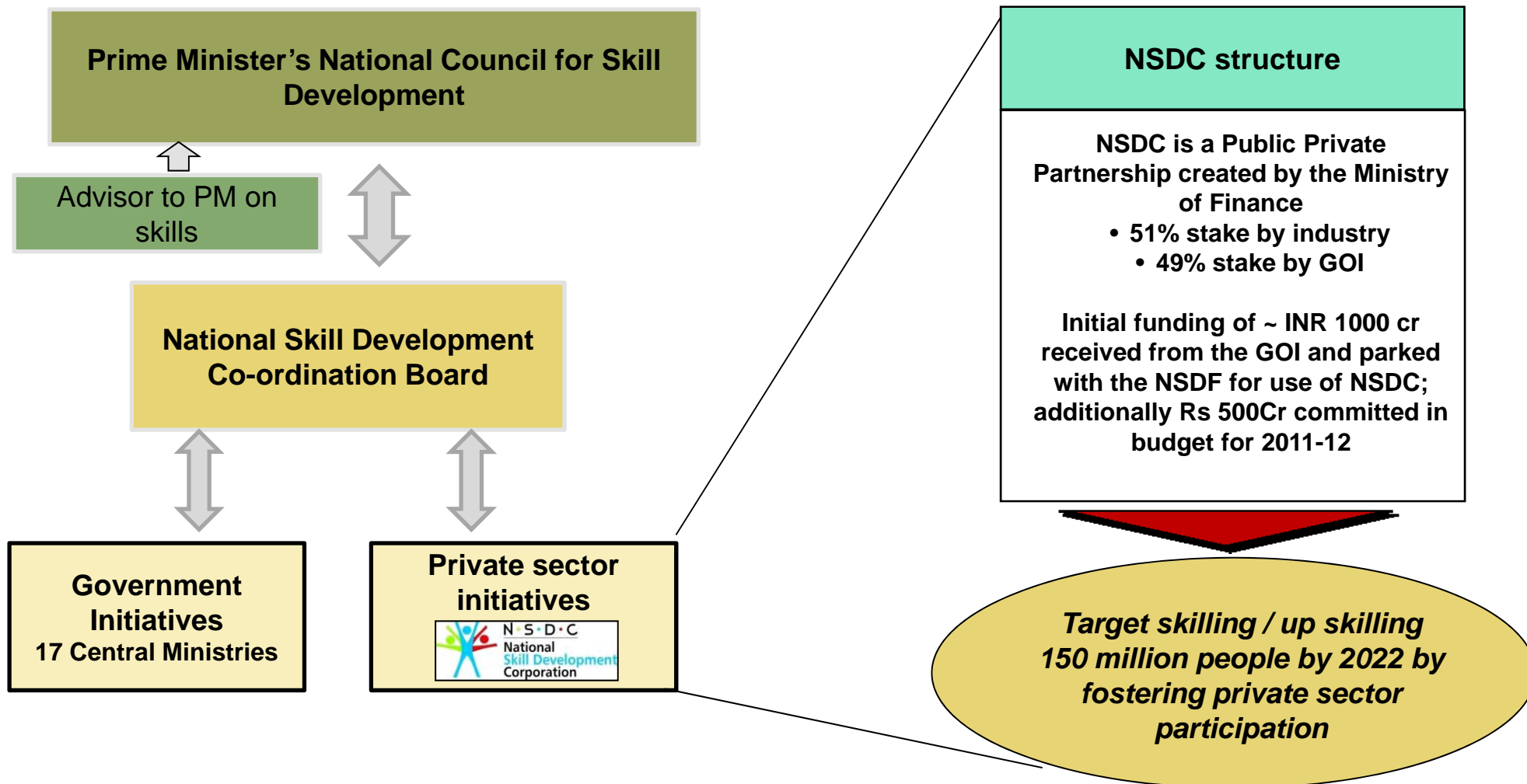
Integration of VT in NVEQF

Certification Level	Normal Qualification	Case I		Case II	
		Vocational Qualification	Certifying Body	Vocational Qualification	Certifying Body
7	3 rd yr bachelors	Advanced Diploma	Board of Technical Education, NCVT and SSCs	Degree	University and SSC
6	2 nd yr bachelors				
5	1 st yr bachelors	Diploma	Board of Technical Education, NCVT, etc and SSCs	Grade XII	School and SSC
4	Higher Secondary School Grade XII				
3	Higher Secondary School Grade IX				
2	Secondary School Grade X	Grade X / ITI	School Board/NCVT and SSC	Grade X	School Board and SSC
1	Secondary School Grade IX	Grade IX /ITI	School / NCVT and SSC	Grade IX	School and SSC

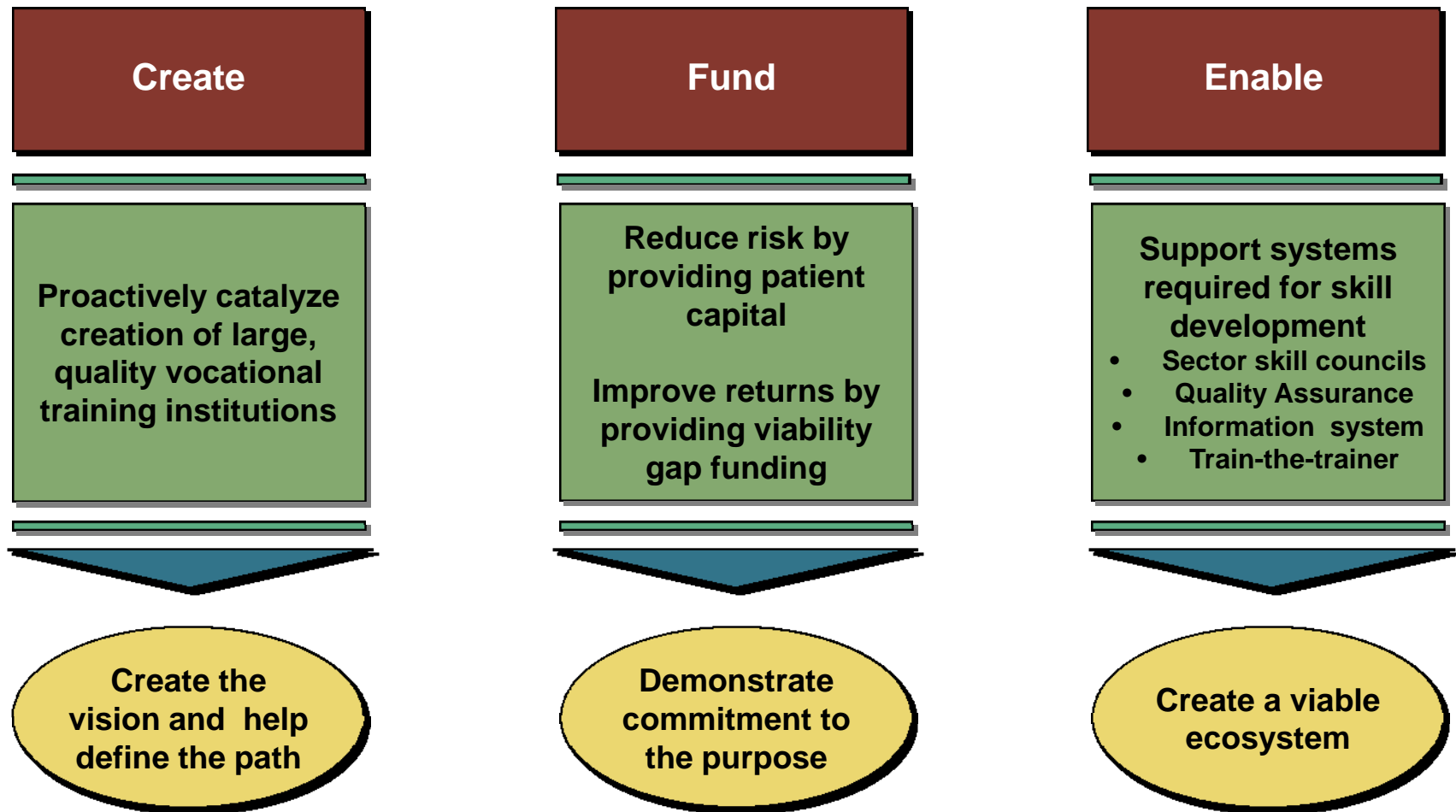
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NSDC – an introduction

NSDC created as a part of the government's co-ordinated action in the skills space



NSDC to achieve mandate through three key pillars



Key elements of NSDC funding

Elements	Description
Who gets funded?	<ul style="list-style-type: none">• Any organization with scalable, sustainable business model that ensures employability of the resources trained<ul style="list-style-type: none">• Including start ups
What is the amount of funding?	<ul style="list-style-type: none">• ~Upto 75% of the project cost
What is the form of funding ?	<ul style="list-style-type: none">• Debt at subsidized rates ; other features like moratorium built in depending upon nature of project• Equity• Grant funding (only in very select cases)
Is there special focus?	<ul style="list-style-type: none">• NSDC is looking to fund businesses that seek to create employable people across <u>all sections</u> of the society

Funding proposals approved by board

As of 31 Oct 2011

Number of proposals approved
Training organisations
Sector skills councils

42

34

8

Financial commitment

\$ 244 Mn

Per annum training capacity created at full
scale

11.7 Mn

Number of people to be trained over 10 years
through 34 projects

58.6 Mn

Diverse portfolio of 34 companies

In addition 8 Sector skills councils

Training providers

In the education business

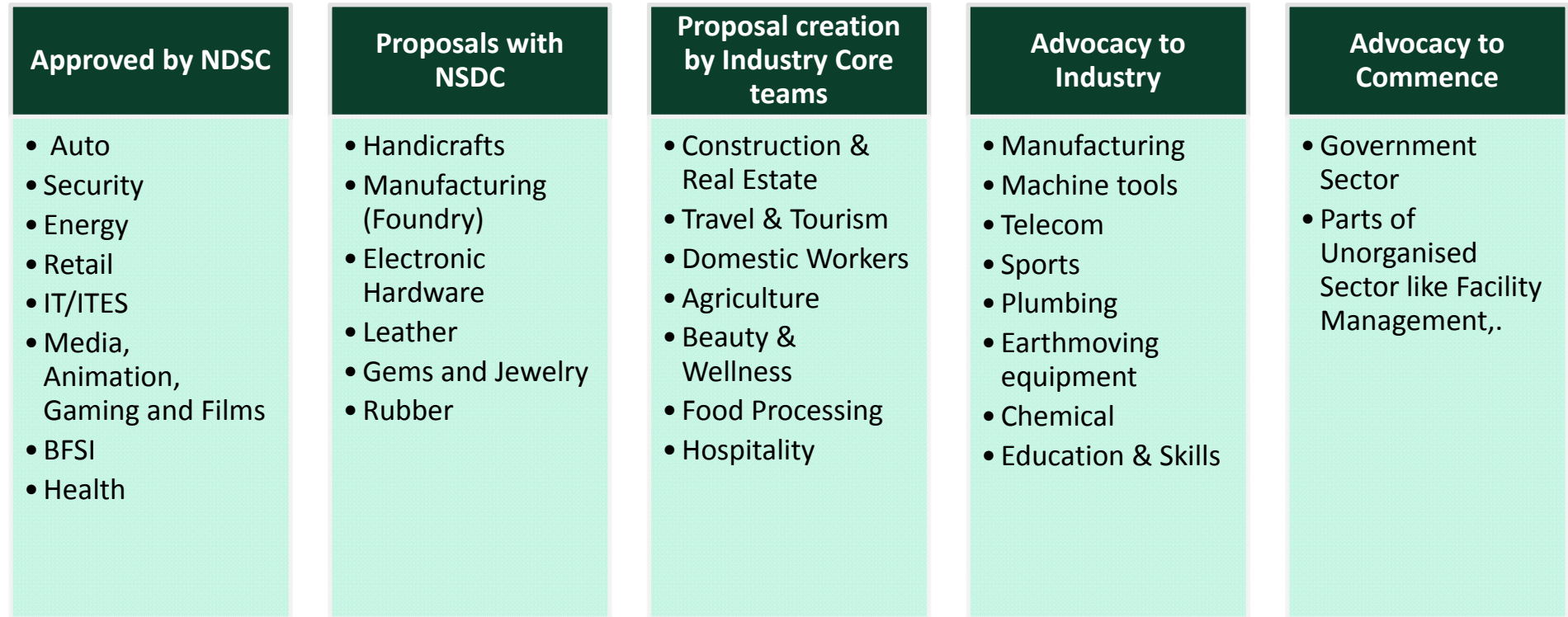
In unrelated businesses



Start ups

Large established corporates

Strong pipeline of Sector skills councils



31 SSCs at various stages of Formation

End of presentation