Skills Development by Green and Inclusive SMEs in India:

Entrepreneurs' Approaches

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Disclaimer

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Forward

The transition to a low carbon economy is a universal goal where all countries, no matter at which stage of development they are, have a role to play. How to ensure that the private sector adjusts and re-engineers business operations and production modes, while at the same time ensuring that businesses can seize the opportunities linked to in the process of transition, is a major challenge. The ways entrepreneurs are innovating today in the emerging green market-place offer illuminating suggestions for the design of policies and strategies which will support an inclusive transition to low carbon growth.

This discussion paper on 'Skills Development by Green and Inclusive SMEs in India: Entrepreneurs' Approaches' provides insights into how small companies are making the green transition today while at the same time addressing the social implications of their business activities. The innovative approaches used by these Indian companies to adjust their business models, which in certain cases also generate intentional benefits for the communities where they operate, offer unique, field-based knowledge that can inspire SMEs and agencies in other parts of the world.

The study has been conducted under the auspices of the Green Growth Working Group (GGWG) of the Donor's Committee for Enterprise Development (DCED) in cooperation with the OECD. The DCED is a unique global forum of more than 20 bilateral donor and UN agencies which aims to reduce poverty by developing and sharing guidance on the most effective practices for creating economic opportunities and jobs through private sector development – based on the practical experiences of DCED members and others. The DCED has also become the leading source of knowledge on Private Sector Development (PSD) – documenting and disseminating success stories and lessons learned to improve the results of PSD programs in developing countries. The study represents a valuable contribution in a new field of interest of the Committee.

The DCED GGWG[1] creates a space where development agencies can meet and share knowledge and expertise, as well as information on the latest developments in PSD-related Green Growth, with the aim of mainstreaming green and inclusive growth strategies in private sector development. The GGWG also advocates for the importance of private sector development when implementing green and inclusive growth strategies in other areas of development cooperation.

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[1] http://www.enterprise-development.org/page/ggwg.

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Summary

This paper examines the approaches of entrepreneurs in developing the skills necessary for themselves and their employees to achieve green innovation.

The rapid population growth and pace of urbanisation in India combine to present a significant threat of environmental damage, which is predicted to significantly increase in the coming decades. Population growth has also produced a 'youth reservoir', on the grounds of which India's National Skill Development Policy calls for the creation of 500 million skilled workers by 2022. Providing workers with the skills necessary for a green economy offers a great opportunity to address the environmental challenges faced by India and provide decent work to youth. At present, however, the formal training offer for 'green' skills, such as programmes in achieving energy efficiency, is under-developed.

MSMEs are responsible for a great deal of both the employment – particularly of disadvantaged members of societies – and the innovation in the Indian economy. This paper interviewed the entrepreneurs/owners of eight green and inclusive MSMEs – MSMEs that reduce damage to or benefit the environment, create opportunities for all segments of the population and distribute their products, services and dividends of increased prosperity fairly across society.

Interviews were also completed with training organisations, in order to better understand the activities which are already being undertaken to provide green skills to workers and how these could be improved.

The policy themes which emerged are as follows:

1. Provide incentives, programmes and support from the national government, to promote the benefits of skills development within green SMEs. Also provide financial aid to encourage and stimulate employee and employer training.
2. Provide better support from the government for the acquisition of financial and business knowledge. This should be promoted both to registered and unregistered SMEs. SMEs in the green sector, and in particular those which offer community benefits through inclusivity, should be prioritised.
3. Increase the quality of formal training by improving course curriculums, equipment and teacher training. Steps should be taken to ensure that training reaches those who require it most, such as low-skilled youth.
4. Provide a standardisation for training institutions (small and large) to ensure the quality of service required for green SME skill needs. The focus should be on business management, sales and firm expansion.
5. Encourage and promote communication between industry and training institutes to reduce the gap between demand and supply. Innovative tools should be encouraged to assist policy dialogue, such as real time labour market information systems via the Internet.

6. Endorse green SMEs to construct training plans that incorporate both informal and formal training.
7. Create a link between the informal knowledge-intensive service activities (KISA) approach for skills training and formal technical and vocational education and training (TVET). This can be done through government support (information sharing and financial) and programmes such as work experience, apprenticeships and the firms' training plans.
8. Promote SME inclusivity through mechanisms that provide incentives for green SMEs to advance their business models into disadvantaged and rural communities, such as financial support or tax considerations.
9. Increase the investment by government and green SMEs in training low-skilled staff to encourage inclusivity and add value in business development.
10. Encourage apprenticeship training in SMEs for better skilled manpower, since entrepreneurs often cannot afford to spare their manpower for training or pay for their training.
11. MSMEs have particularly limited information and access to risk capital for sourcing/developing and internalizing new technologies.
12. Develop industrial estates/laboratories near premier technical institutions.
13. Strengthen partnerships between Industry and Academia/Other Research Institutes to create IPs domestically

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Abbreviations

ADB	Asian Development Bank
ARI	Agro &rural industry
CNG	Compressed natural gas
EM	Entrepreneurs Memorandum
GDP	Gross domestic product
KISA	Knowledge-intensive service activity
MSMEs	Micro, small and medium enterprises
NIESBUDNSIC	National Institute for Entrepreneurship and Small Business Development
NSIC	National Small Industries Corporation
NSQF	National Skill Qualification Framework
NSS	National Sample Survey
ODA	Official development assistance
OECD	Organisation for Economic Co-operation and Development
PPP	Public-private partnership
RFD	Results-Framework Document
SME	Small and medium enterprise
TVET	Technical and vocational education and training

Chapter 1

Introduction

1.1. Rapid development and green skills development

Countries across the world are rethinking their economic development policies to make them more inclusive and sustainable. While many countries, chiefly those in the Organisation for Economic Co-operation and Development (OECD) area, are being affected by demographic changes, such as slowing of the population growth rate, declining fertility rates, reduced youth population and increases in the elderly population (OECD, 2012), other countries especially the South Asian are experiencing a youth dividend. India is becoming a "youth reservoir" with a population of 1.224 billion people, or 17% of the world's population. By 2050, the United Nations (2009) predicts that India will surpass the People's Republic of China to become the world's most populated country with 1.692 billion people. As per the latest Indian Census 2011 833 (69%) million people live in rural areas and 377 (31%) million in Urban areas, registering an annual growth of 1.2% in rural area and 3.2% in urban areas over 2001 Census. This is a smaller proportion compared to other large developing countries, for example, 45% in China, 54% in Indonesia, 78% in Mexico and 87% in Brazil. However, it is expected that the rapid economic growth would speed up the process of urbanisation and it is projected that by 2031 the urban population would increase by about 200 million in 20 years to reach level of 600 million it is projected that the proportion of urban population would increase (Planning Commission, ,2013c) The scale and speed of this urban transformation is unprecedented in India, the effect of which has the potential to influence environmental and social issues on a global scale.

In urban terms, India's over-loaded city infrastructure is struggling to meet the rising demand posed by rapidly expanding city populations all over the country. Across India, local governments do not have the capacity to deal with the challenges posed by rapid urbanisation and as such, environmental damage has been substantial (Planning Commission, 2013a: 133). Nationwide, water pollution is exacerbated by poor waste management practices and inadequate infrastructure, for example sewerage and drainage systems that do not provide equitable access for all. An Asian Development Bank (ADB) report estimates that more than half of the Indian population does not have access to any kind of toilet (ADB, 2009: 10). In Delhi, the capital of India, it is not only infrastructure, but dangerous levels of airborne pollution, which are many times higher than the levels recommended by the World Health Organisation, the government of India, poses a challenge. According to the OECD (2013c), the growing levels of air emissions from transport and industry will threaten human health in emerging

economies such as India, especially in rapidly growing cities. Without new pollution controls, premature deaths due to particulate matter are estimated to double.

A major source of airborne pollution is derived from the emissions of private vehicles, which are growing in total numbers nationally by approximately 10% a year (Planning Commission, 2013a: 129) and the rising urban demand for electricity, generated largely from unsustainable coal-fired power plants. The consumption of fossil fuels has risen markedly and so too has the transport and power sector's contribution to India's surging greenhouse gas emissions.

However, India has one of the lowest greenhouse gas emissions per capita in the world, with emissions nearly one-quarter of the global average. India's total carbon footprint is expanding and it is the third largest emitter in the world behind China and the United States (Planning Commission, 2011: 9). In 2009, its total carbon emissions were 1 979 million tonnes, an increase of around 9% on the previous year and about 6% of total global emissions (United Nations, 2009). Recognising India's vulnerability to climate change, the government has acknowledged within the2006 National Environmental Policy that development is only sustainable when it respects ecological constraints and the imperatives of social justice (Planning Commission, 2013a: 115). The Twelfth Five-Year Plan 2012–2017 has broadened its approach to pressing issues of environmental concern. For example, the Indian government is now focusing on low-carbon strategies for inclusive growth in sectors that emit large quantities of carbon such as power, transport, industry, building and forestry. The government is committed to limiting its greenhouse gas emissions and has set itself the voluntary target of reducing the emissions intensity of its gross domestic product (GDP) by 20-25% over 2005 levels by 2020 (Planning Commission, 2013a: 112). Furthermore, the National Action Plan for Climate Change targets vulnerable sectors and seeks to prepare for and mitigate the effects of any future changes.

The government has also formulated a low-carbon strategy with a focus on sustaining agriculture using eco-friendly methods, recycling and waste management, and developing alternative sources of energy supply. Transitioning to green growth has implications for employment generation and will bring about a change in occupational structures and skill sets (OECD, 2013b). While lower level skills are generally available locally (such as drivers, loaders, masons), skills related to new green occupations are harder to source.

India's National Skill Development Policy envisages the creation of 500 million skilled workers by 2022. Providing the skills for a green economy is challenging. A large part of the workforce is engaged in the informal sector and does not have any skill training. The education and training system faces severe difficulties in meeting the skills requirement of the green economy; industry linkages with training institutes are at a very nascent stage and there is no comprehensive strategy for promoting green skills. Skills need to be mapped and a skills registry created, infrastructure for skills development (both physical and human) needs to be developed, and the private sector and civil society both need to be involved (Sanghi and Sharma, 2012).

At the public sector level, the federal and provincial levels in India are responding to the green skills deficit by running skills training programmes for generic and sector-specific skills. For example, the Indian Green Building Council and the Bureau of

Energy Efficiency are conducting training programmes in energy efficiency and have created a national certification exam for energy managers and auditors. The Ministry of Road and Surface Transport is organising training programmes for drivers and conductors of the compressed natural gas (CNG) buses, while agricultural universities are offering specialised degree courses to meet local needs. Efforts are also being made to place more trained workers and arrange on-the-job training, and the private sector is coming increasingly onboard (Sunita and Sharma, 2012).

1.2. The role of small and medium enterprises

The micro, small and medium enterprises (MSMEs) are considered worldwide an engine of economic growth and development with equity. The labour intensity of the sector places it in advantageous position vis a vis large enterprises in terms of generation of low cost employment both wage and self-employment. They account for a major share of industrial production and exports. This is true for most of the developing economies including India. The sector has emerged as a highly vibrant and dynamic sector of the Indian economy over the last five decades and supporting the large industries as ancillary units. This sector also contributes enormously to the socioeconomic development of the country. They are playing a critical role in the overall industrial economy of the country by helping in industrialisation of rural and backward areas. This way they help in reducing regional imbalances, assuring more equitable distribution of national income and wealth. With its agility and dynamism, the sector has shown admirable innovativeness and adaptability to survive the recent economic downturn and recession. The inclusiveness of the sector is underlined by the fact that nearly 50% of the MSMEs are owned by disadvantaged groups of society (MMSME, 2013). The critical challenges faced by the MSMEs in India include adequate and timely availability of credit; development of appropriate technologies for various manufacturing processes which will lead to substantial reduction in cost of manufacturing by enhancing labour productivity, reducing material wastage and minimising energy consumption; appropriate physical infrastructure, marketing and procurement (MMSME, 2013).

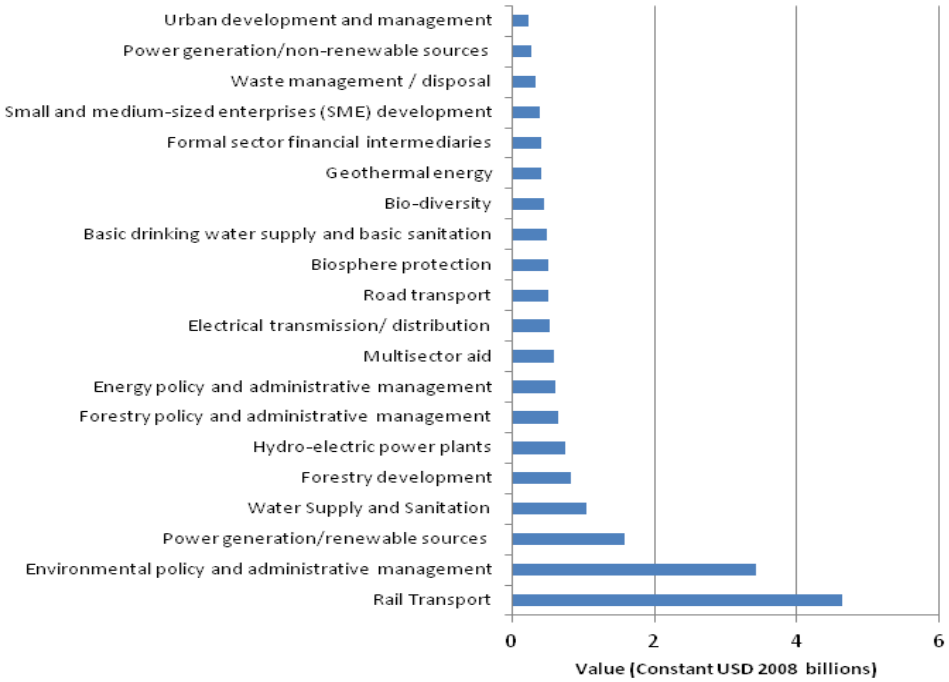
As per available statistics (4th Census of MSME Sector), the sector employs an estimated 59.7 million persons spread over 26.1 million enterprises. It is estimated that in terms of value, MSME sector accounts for about 45% of the manufacturing output and around 40% of the total export of the country. They are a nursery of entrepreneurship, often driven by individual creativity and innovation. The sector in India is highly heterogeneous in terms of the size of the enterprises, variety of products and services produced and the levels of technology employed. While at one end of the MSME spectrum contains highly innovative and high growth enterprises, more than 94 per cent of MSMEs are unregistered, with a large number established in the informal or unorganized sector. The heterogeneity and the unorganised nature of the Indian MSMEs are important aspects that need to be factored into policy making and programme implementation.

The roles of SMEs in economies are significant, from employment to poverty reduction, but they also have a role in achieving sustainable development. However, as Usui and Martinez-Fernandez (2011) highlighted, there are significant challenges at the level of engagement of SMEs in activities related to green innovation or to developing skills for green products. The authors also state that the linkage between SMEs' growth

and the diffusion of low-carbon technologies is less recognised in the context of developing countries, where often they face issues of access to financial capital and technical capacity. A potential solution is international donors; however, support is generally in the form of providing finance, especially to infrastructure projects. For example, in 2009, 45% of Japan's climate-targeted official development assistance (ODA) went to three large-scale loans to mass rapid transport projects in India, Thailand (Bangkok) and Indonesia. However, finances to support SMEs were significantly smaller (see Figure 1.1), and do not address the aspects of skills development and training or awareness raising in general.

Private sector approaches to skills development can significantly add value to public administration efforts to equip the workforce with up-to-date skills; those that can lead to quality and inclusive jobs. However, very little is known of the approaches taken by firms, particularly by small and medium enterprises (SMEs), to fill the vacuum of skills development frameworks, chiefly in new economic areas such as green growth. OECD research (OECD, 2013a) shows that SMEs in OECD countries are severely limited by size in terms of training their workforce, using other approaches such as informal learning to acquire the skills they need for new products and service development to maintain and enter new market positions.

Figure 1.1.**Activities supported by climate-related aid**



Source: Usui, K. and C. Martinez-Fernandez (2011), "Low-carbon green growth opportunities for SMEs", *Asia-Pacific Tech Monitor Journal*, Special Feature: Environmentally Sustainable Low-Carbon Technologies, Nov/Dec.

As argued by Usui and Martinez-Fernandez (2011), international donors could play a stronger role in the transition of SMEs to a green economy by supporting the type of soft infrastructure that develops skills and raises awareness among SMEs to harness the economic opportunities of green growth.

1.3. Methodological note

This paper is based on semi-structured interviews with the entrepreneurs/owners of eight firms plus interviews with training organisations. The interviews mapped the development and implementation of skills, which skills are more significantly involved in the operations of the firm, the type of human resources involved and the results of any informal skills development activities.

The paper first examines India's skills context analysing statistics from 1990 to 2010 and introduces the SMEs in India and skills training and development. It then examines entrepreneurs' approaches to develop the skills they need for their innovation processes. According to OECD (2013c: 88), India, along with Brazil and China, have become important drivers of green innovation in recent years and the technologies from these countries are more suited to the needs and conditions of developing countries. The cases examined belong to a particular group of entrepreneurs and in a particular geographic context: green and inclusive SMEs in India. While the cases examined do not intend to be exhaustive or representative of all SMEs in the country, they document a particular trend of innovative businesses that contribute to skills development in India; at times as an unplanned knowledge-intensive knowledge activity needed as part of the firm's product/service development.

Formal training is not the only activity that firms engage in to increase skills, knowledge and competencies. They also develop other methods to acquire the knowledge they need. These methods often imply an informal approached to learning and problem solving interactions with other professionals inside and outside of the firm. A recent analysis of skills and training in SMEs (OECD, 2013a) refers to these activities as "KISA" (knowledge-intensive service activities); an alternative way of training which includes activities such as: interactions with co-workers, suppliers, clients and consultants; and internal work projects to improve the company's processes, such as quality assurance. These activities can explain the dynamics of training and skills development beyond formal programmes and are associated with innovation processes in both manufacturing and service firms (OECD, 2013a: 39).

The paper discuss how the SMEs analysed are being "inclusive", e.g. inclusive growth referring to economic growth that creates opportunities for all segments of the population (OECD and Ford Foundation, 2013). "Inclusive SMEs" refer to small firms and businesses that create opportunities for all segments of the population and distribute their products, services and dividends of increased prosperity, both in monetary and non-monetary terms, fairly across society.[1] Inclusivity is not just about the employment of the disadvantaged, but also providing opportunities to increase skills and competency levels, health, and lifestyle options for disadvantage communities. Once the domain of public institutions, inclusive growth can also (and should) be tackled by the private sector.

Note

1. Definition elaborated from OECD and Ford Foundation (2013).

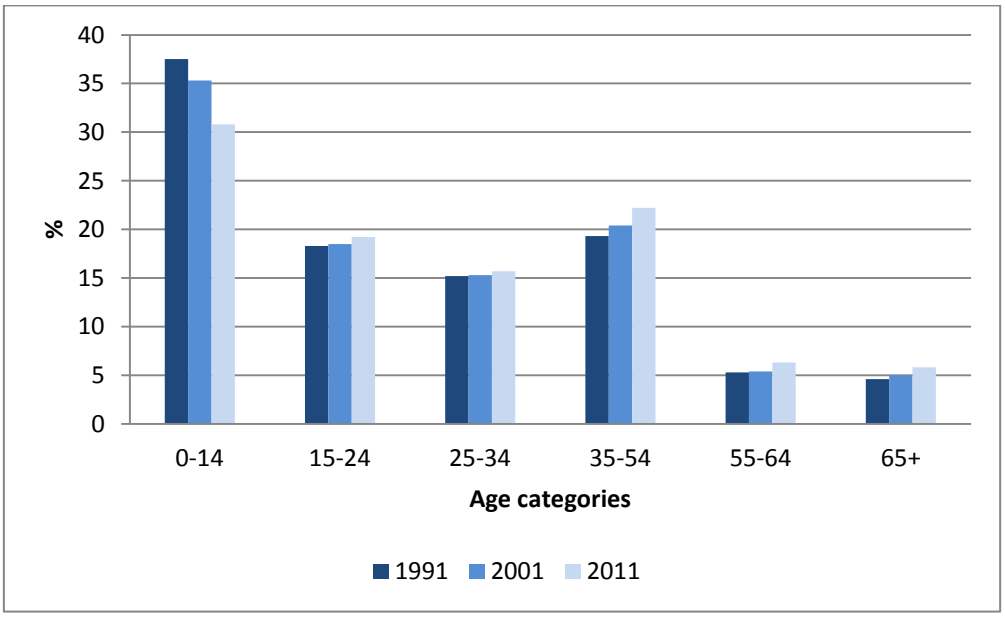
Chapter 2

The Indian context

2.1. The demographic transition and labour force trends

According to the Census of India for 1991, 2001 and 2011 the rate of growth of Indian population has declined from 2.1% in the decade 1991 to 2001 to 1.77% in decade 2001-2011. The age structure witnessed the change in terms of decline in the population in age group 0-14 from 37.2% in 1991 to 30.8% in 2011, a decline of 6.5%. On the other hand the population in the working age group 15-64 increased from 58.1% in 1991 to 68.3% in 2011, an increase of 5.3% (Figure 1.2). India is said to enjoy the demographic dividend vis a vis the aging economies of the west and can supply labour force to other economies.

Figure 2.1.**Changing age structure in India**



Source: Census of India

This changing age structure imply more and more people are entering the labour market and indicate that the labour force participation rate may be moving positively. However, a look at the labour market indicators viz. age specific labour force

participation rates (LFPR) (Table 2.1) and unemployment rate provides a different scenario (Table 2.2).

Table 2.1 **Age specific labour force participation rates**

Age Specific Labour Force Participation Rates				
	Rural		Female	
Age group	1993-94	2009-10	1993-94	2009-10
15-19	59.8		37.1	19.5
20-24	90.2		47.0	31.4
25-29	98.0		52.8	40.4
30-34	98.8		58.7	43.4
35-39	99.2		61.0	49.7
40-44	98.9		60.7	49.8
45-49	98.4		59.4	49.2
50-54	97.0		54.3	48.5
55-59	94.1		46.8	41.1
60 & above	69.9		24.1	22.6
all (0+)	56.1		33.1	26.5
	Urban		Female	
Age group	1993-94	2009-10	1993-94	2009-10
15-19	40.4		14.2	8.5
20-24	77.2		23.0	19.7
25-29	95.8		24.8	22.2
30-34	98.93		28.3	23.9
35-39	99.0		30.4	27.8
40-44	98.4		32.0	25.6
45-49	97.6		31.7	23.1
50-54	94.5		28.7	22.8
55-59	85.6		22.5	19.1
60 & above	44.3		11.4	7.0
all (0+)	54.2		16.4	14.6

Source: Employment and Unemployment Survey, 2009-10 66th Round, NSSO,)

It is seen that the pattern in the LFPRs over the age groups is same for all the categories of persons (rural male, rural female, urban male and urban female) as usual (ps+ss[2]) approaches, it is observed that about 65% of the aged males (60 years and above) in rural areas and about 34% of the aged males in the urban areas were found to be in the labour force. The corresponding figures for females were 23% in rural and 7% in urban areas. A long term comparison reveals that compared to the rates in 1993-94 the LFPR has declined in the younger age groups (age less than 25 years) during 2010 for all the four segments of the population. For males in both rural and urban areas, the

[2] Usual status (ps+ss), workers are those who perform some work activity either in the principal status or in the subsidiary status. Thus, a person who is not a worker in the usual principal status is considered as worker according to the usual status (ps+ss), if the person pursues some subsidiary economic activity for 30 days or more during 365 days preceding the date of survey.

LFPR for the persons of age 25 years and above, during this period, has remained almost invariant except for the age group 60 years and above where the LFPR had declined, while for females in both rural and urban areas, there had been a fall in the LFPR between 1993-94 and 2009-10 for persons of age 25 years and above (Employment and Unemployment Survey, 2009-10 66th Round, NSSO).

As outlined in Table 2.2 compared to the rates in 1993-94, among rural males and females, the age specific work population ratio (ASWPR) have generally declined in the younger age groups over the period ending with 2010. For the other age-groups for rural males between 1993- 94 and 2009-2010, the ASWPR had remained almost the same, while for female there had been a fall in the ASWPR during this period. In urban areas compared to 1993-94, in 2009-10, for the younger age groups, the ASWPR for both males and females have decreased while for other age groups, the rates for males have remained almost same and for female there was a reduction in ASWPR.

Table 2.2 **The employment to population ratio**

Rural	**Male**		**Female**	
Age group	1993-94	2009-10	1993-94	2009-10
15-29	77.5	64.8	44.7	28.8
30-44	98.6	99.1	59.8	47.3
45-59	96.8	96.5	54.3	46.8
all(0)+	55.3	54.7	32.8	26.1
Urban				
15-29	61.8	56.4	17.3	14.4
30-44	97.5	98.0	29.5	25.2
45-59	93.5	93.7	28.3	21.9
all(0)+	52.1	54.3	15.5	13.8

Source: Employment and Unemployment Survey NSSO 2009-10 6th Round)

In addition to this there is change in the status of the employment (Table 2.3). There were only about 51% engaged as self- employed with 33% as casual labour. The proportion of regular employees increased to 16.4% in 2010.

Table 2.3 **Status of employment (percent)**

	1999-00	**2004-05**	**2009-10**
Self employed	52.6	56.4	50.7

Regular/Salaried employee	14.6	15.2	16.4
Casual labour	32.8	28.3	33.0

Source: Twelfth Plan Document Chapter 22 Employment and skill development

Agriculture remains a dominant sector for employment (Table 2.4). The 12th Plan is envisaging shift in employment opportunities from agriculture to no farm employment. Since the workers would be moving from non- farm they are required to be skilled in jobs that are to be created.

Table 2.4 **Proportionate share of sectors in employment**

Sectors	1999-2000	2004-5	2009-10
Agriculture	59.9	56.6	53.2
Industry	16.4	18.7	21.5
Services	23.7	24.7	25.3
Total	100	100	100

Source: Employment and Unemployment Survey NSSO 1999-2000; 2004-05; 2009-10

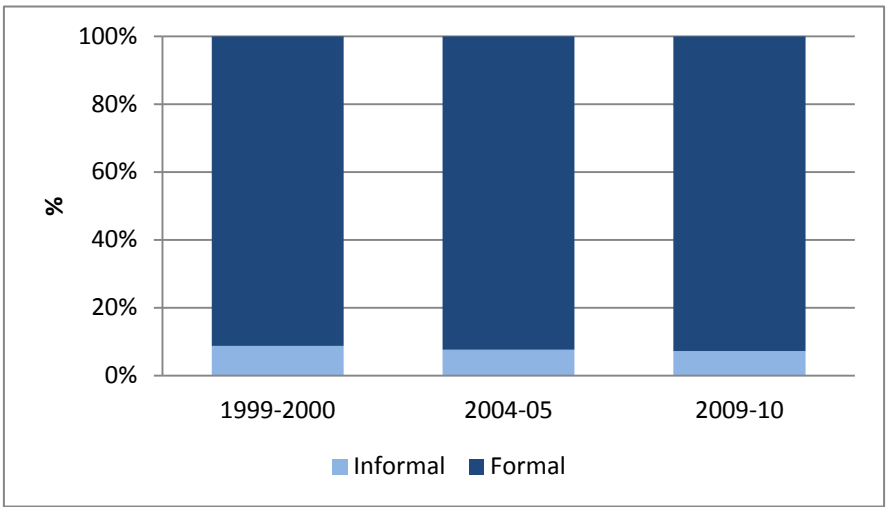
The nature of employment is key to any skill initiative. Given that 84% and 93% of the employment is in the unorganised and informal sector respectively. This makes skilling a major challenge. Further the size of enterprises also poses a challenge given that as per 2010 Employment and Unemployment survey of NSSO more than 75% of the enterprises have less than 10 workers and of these 66% had just about less than 6 workers mainly categorised as family enterprises. Large number of these enterprises are part of MSME making skill development a difficult challenge (Table 2.5 and Figure 2.2 and 2.3).

Table 2.5 **Formal and Informal Employment in Organized and Unorganized Sector**

	1999-2000	2004-05	2009-10
Unorganised	86.3	86.3	84.2
Organised	13.6	13.7	15.8
Informal	91.2	92.4	92.8
Formal	8.8	7.6	7.2

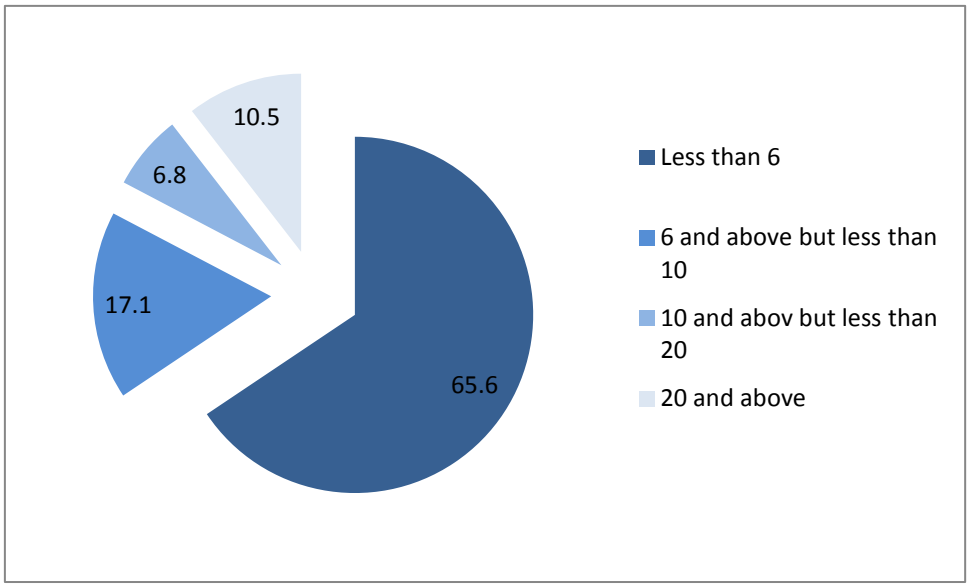
Source: for 2009-10, computed from NSS 66th round, for 2004-05, and 1999-2000 NCEUS, 2007

Figure 2.2.**Informalisation of labour (percentage)**



Source: Employment and Unemployment Survey NSSO 1999-2000; 2004-05; 2009-10 and Planning Commission Government of India, 2013c

Figure 2.3.**Size of enterprise in industry and services (percentage)**



Source: Compiled from NSS, 2009-10 (66th Round) and NSS, 2004-05 (61st Round)

The unemployment among youth in the age group 15-29 has seen an opposite trend in rural and urban areas (Table 2.6). While in rural areas the unemployment rate has gone up substantially it has gone down in the urban area both for male and female. This indicates low level of employability of the youth as also lack of availability of jobs.

Table 2.6 **Unemployment among youth (15-29)**

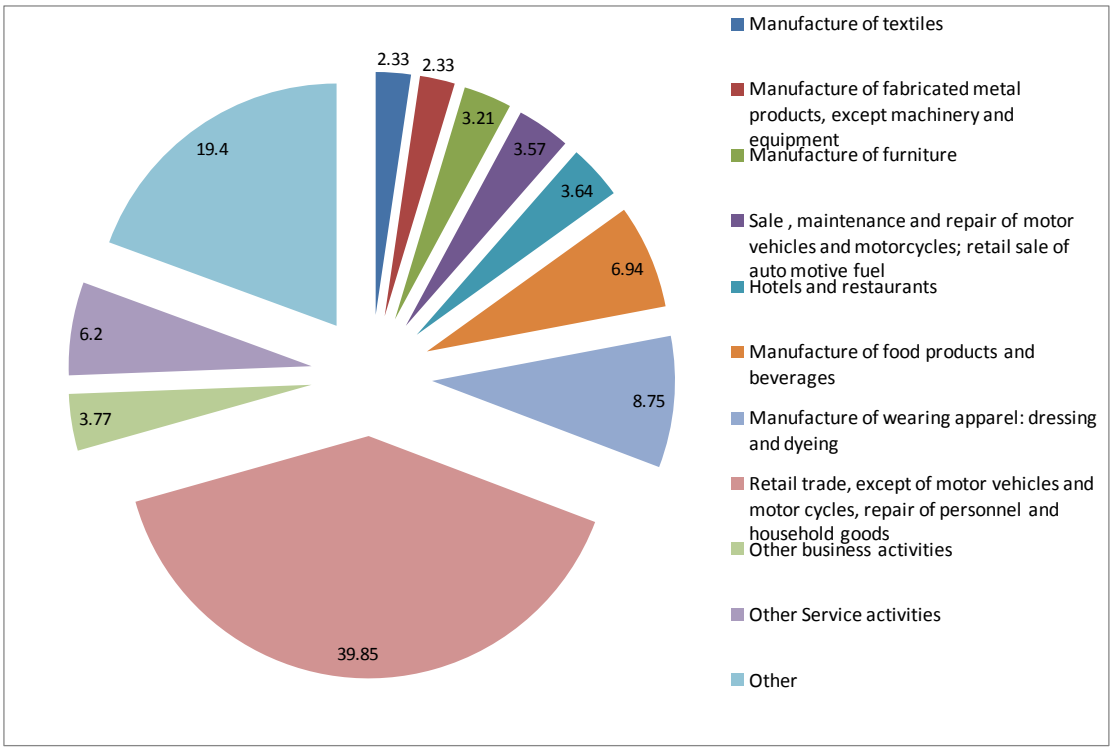
	1993-94	2009-10
Rural Male	9	10.9
Rural Female	7.6	12
Urban Male	13.7	10.5
Urban Female	21.2	18.9

Source: Employment and Unemployment Surveys, NSSO 1993-94 and 2009-10

2.2. The Indian small and medium enterprises

The small and medium, enterprises are scattered and heterogeneous in nature. However, it contributes substantially not only to the socio economic development of large strata of population but also to the employment, exports and manufacturing output. In terms of value it contributes 8% of GDP, accounts for 40% of manufacturing output and 45% of exports. In addition it provides employment to about 69 million people (Figure 2.4) in 26 million units producing more than 6000 products in both registered and unregistered un its. It offers the maximum employment opportunities' both for self employment and wage employment (MNSME, 2013 and Planning Commission, Government of India, 2013b). The sector has seen an unprecedented growth since the enactment of the Micro, small and Medium enterprises Act in 2006 which defines the MSME differently from the rest of the world. As against the number of people the act defines MSME in terms of investment in plant and machinery. The sector has seen an unprecedented growth since the enactment of the Micro, small and Medium enterprises Act in 2006. The Act redefines the Sector.

Figure 2.4.**Leading industries: MSME sector**



Source: Ministry of MSME, 2013

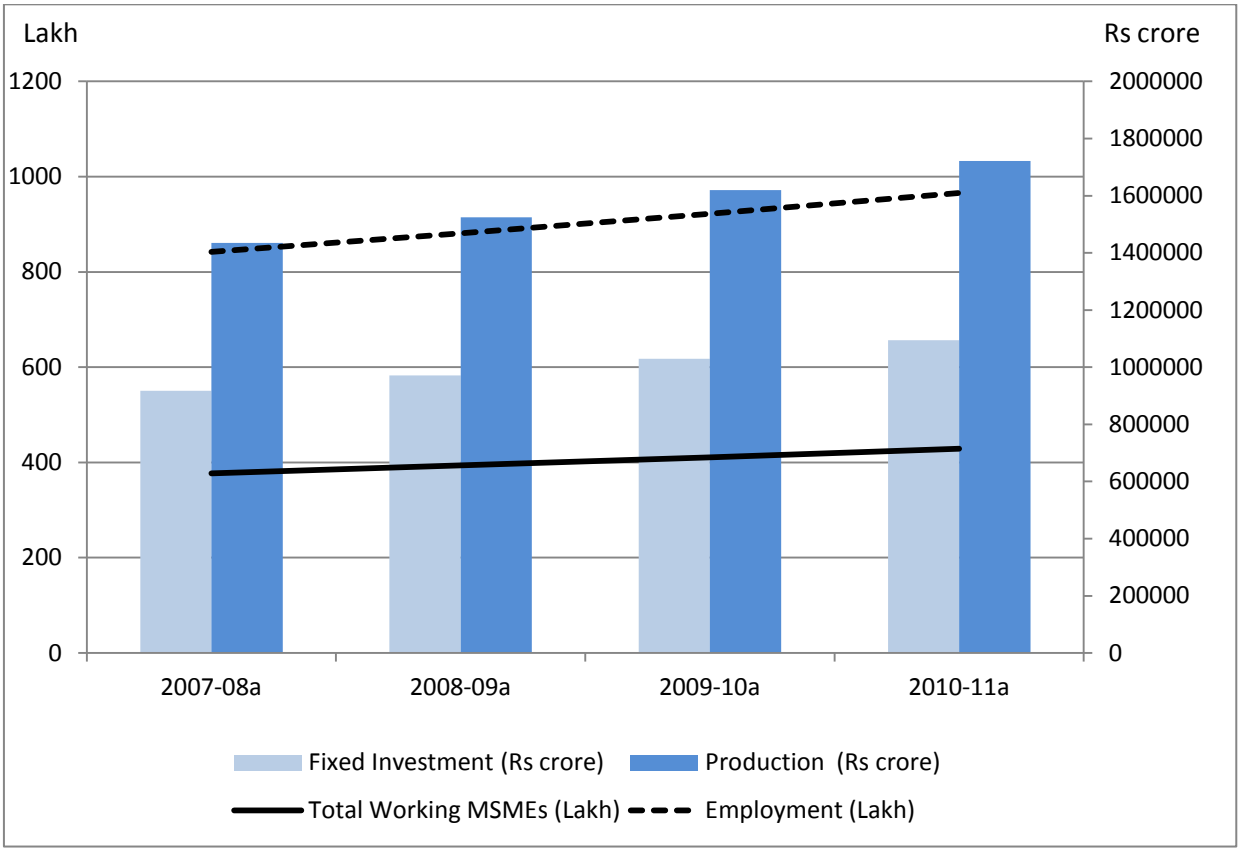
The OECD define SMEs as employing up to 250, while India the MSME Development Act 2006 are defined based on their investment in plant and machinery (for manufacturing enterprises) and on equipment for enterprises providing or rending services[3]:

- Micro enterprise: Manufacturing Sector – does not exceed 25 lakh rupees; and Service sector – does not exceed 10 lakh rupees;
- Small enterprise: Manufacturing Sector – More than 25 lakh rupees but does not exceed five crore rupees; and Services Sector – More than 10 lakh rupees but does not exceed two crore rupees;
- Medium enterprise: Manufacturing Sector – More than 5 crore rupees but does not exceed ten crore rupees; and Services Sector – More than two crore rupees but does not exceed five crore rupees.

As per Annual Report 2012-13 for Ministry of Micro Small and Medium enterprises the working enterprises have registered an average growth of 4.4% per annum; the employment by 4.7% per annum; output and market value of fixed investment by 6.3% per annum since 2007-08 9 (Figure 2.5).

[3]http://www.dcmsme.gov.in/ssiindia/defination_msme.htm

Figure 2.5.**Growth of Indian micro, small and medium enterprises**



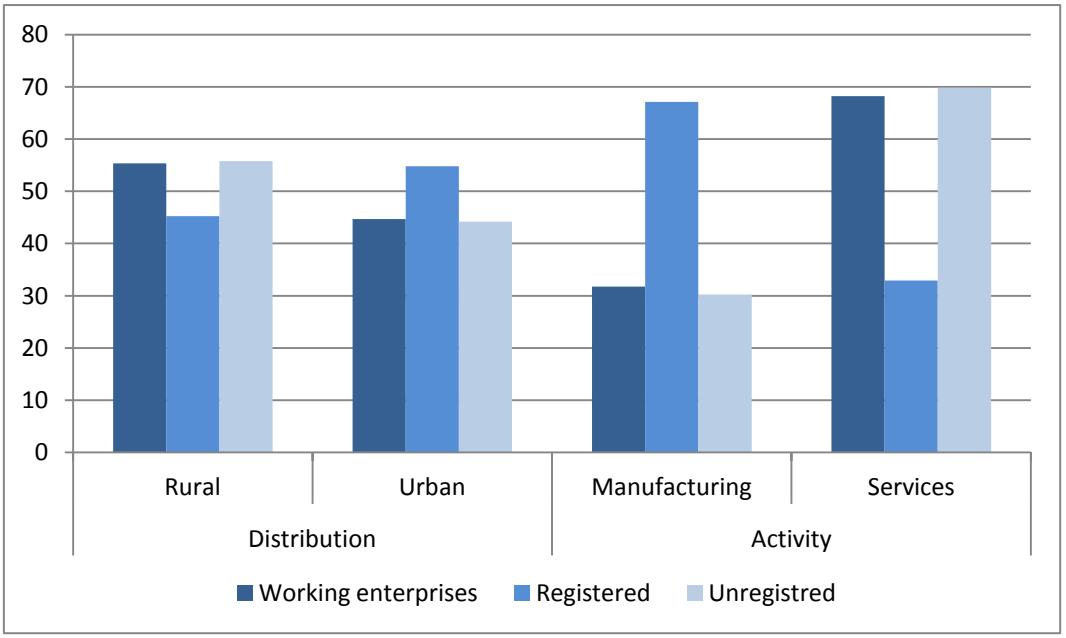
Notes: A. Projected. B. Lakh equals 100 000. C. Crore equals 10 000 000.

Source: elaborated from the Ministry of MSME (2013).

As the largest employer outside the agricultural sector, SMEs make important economic contributions in rural and less industrialised areas of the country and generate much needed employment. It is also an important sector in terms of its economic output and makes up 8% of India's GDP (MSME, 2013: 214). It is estimated that in terms of value, the sector accounts for about 45% of the manufacturing output and 40% of the total exports of the country (MMSME, 2013. In addition to manufacturing, a majority of SMEs provide a diverse range of services.

The majority of working enterprises or SMEs in India are located in the rural districts (55.34%) and are involved in the service industry. However, there are distinctive variations between registered and unregistered firms. For example, unregistered firms are more likely be located in rural districts and be involved in the service sector, while registered firms are more likely to be in manufacturing and located in the urban districts of India (Figure 2.6).

Figure 2.6. **Distribution and activity of working enterprises (unregistered and registered SMEs)**



*Notes:*1. Working enterprises includes both registered and unregistered SMEs. 2. Registered sector: Enterprises registered with district industries centres in the state/UTs, KVIC/Khadi and village industries. 3. Board, coir board as at 31 March 2007 and factories under the coverage of section 2m(i) and 2m(ii) of the Factories Act 1948 used for the*Annual Survey of Industry* having investment in plant and machinery up to INR 10 crore were considered to belong to registered sector.4. Unregistered sector: All enterprises engaged in the activities of manufacturing or in providing/rendering of services, not registered permanently or not filed entrepreneurs memorandum (EM)with state directorates of industries/district industries centers on or before 31 March 2007 are called unregistered enterprises.

Source: Ministry of MSME (2012).

The government of India has invested considerable resources in the sector and the Micro, Small and Medium Enterprises Development (MSMED) Act of 2006 is an example seeking to address perceived policy issues and facilitate investment in the sector. The act brought considerable change, establishing the first-ever legal recognition for the concept of "enterprise" and the formation of the Ministry of Micro, Small and Medium Enterprises (MSME) in 2007 with the amalgamation of two former ministries: the Ministry of Small Scale Industries and the Ministry of Agro and Rural Industries. While the primary responsibility for the sector lies at the state level of government, the Ministry of MSME provides assistance and co-ordination at a national level. More recently, in 2009 the Prime Minister established a task force to look into perceived impediments hampering growth in the sector, of which the majority of recommendations have already been implemented.

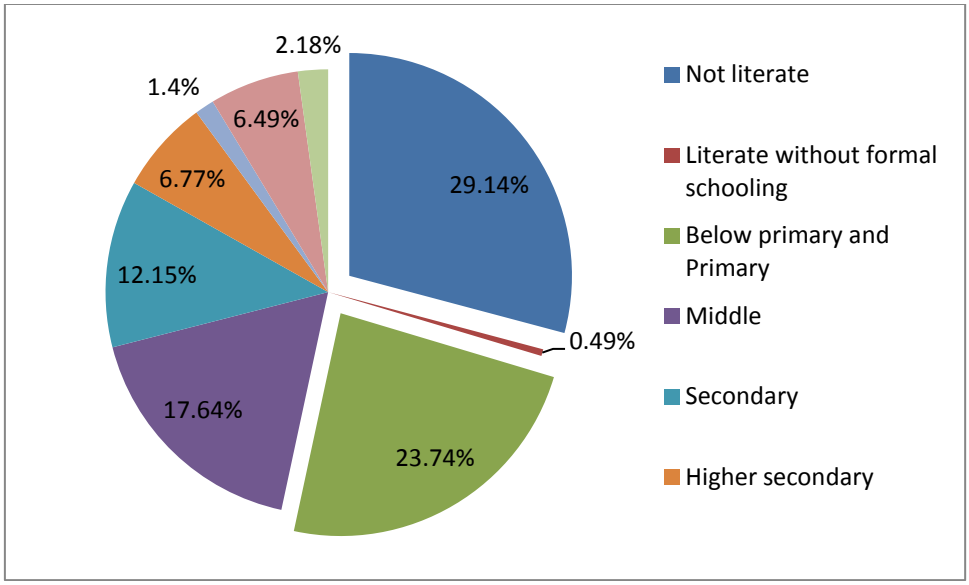
2.3. Skills training and development

Skill development is critical not only for achieving faster, sustainable and inclusive growth but for providing decent employment opportunities to the growing labour force. India enjoys demographic dividend where more than 50% of its population is in the

working age group of 15-59. This is sufficient to make India a skill capital of the world. However, skilling the large and growing young population is a challenge given that the education level of the labour force is very low, institutional capacity is inadequate, no labour market information system to update the skill levels through continuous up gradation of curriculums; lack of mobility ;limited outreach and no industry linkage.

As per NSS latest Employment and Unemployment survey (Figure 2.7) only about 10% of the labour force in the age group 15-59 is vocationally trained (2% formally and 8% informally). Further the general education level of more than 50% of India's labour force in the age group 15-59 remains extremely low- about 29% are not even literate and another 24% are having education up to primary level. Only about 17% have higher level of education including higher secondary, diploma/certificate, graduates and higher than graduation qualification.

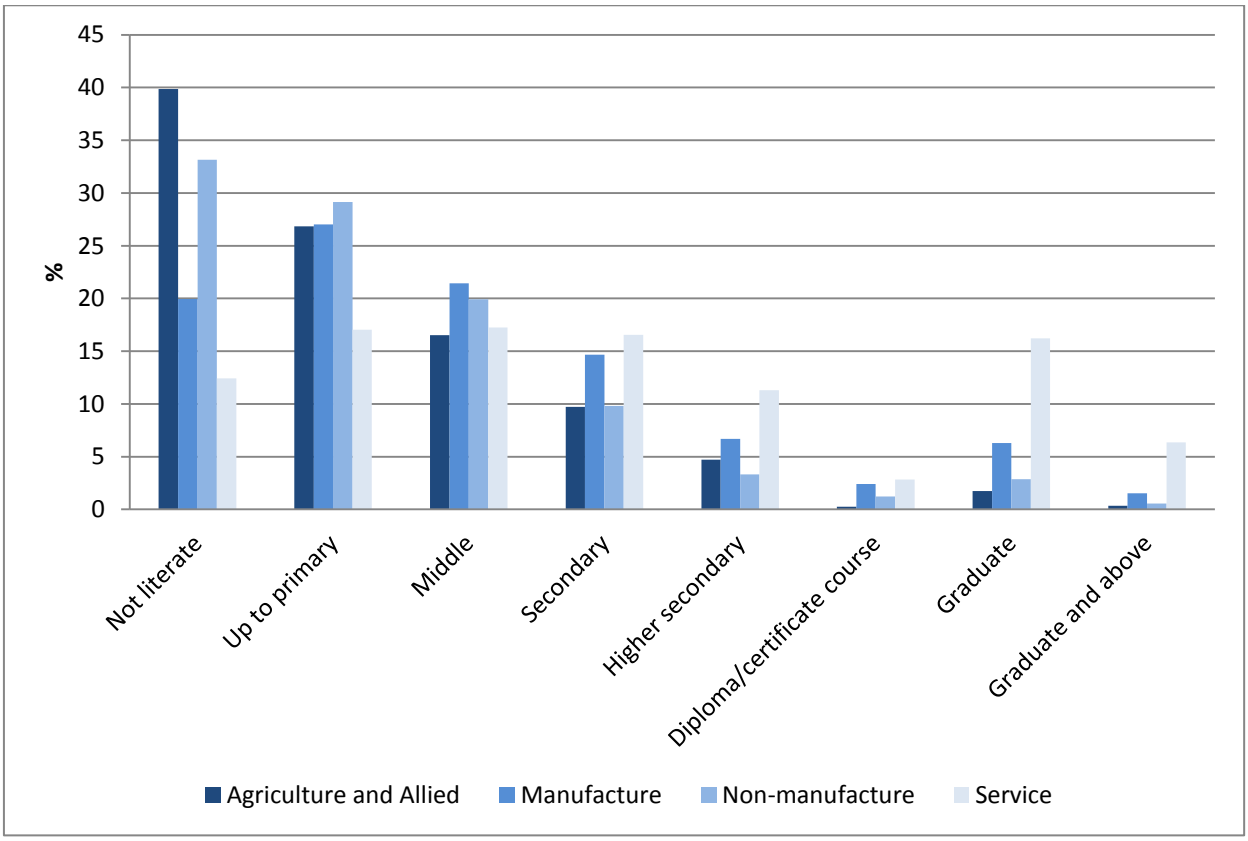
Figure 2.7.**Education level of labour force, 2009-10 (UPSS) in percentage**



Source: Employment & Unemployment Survey (2004-5 & 2009-10)

The available data indicates that about 54%of the persons who are unemployed are either illiterate or just about primary education. The number of persons above diploma level is just about 9.52% (Figure 2.8).

Figure 2.8. **Percent Distribution of Workers (PS+SS in the age group of 15-59) by level of education 2009-10**



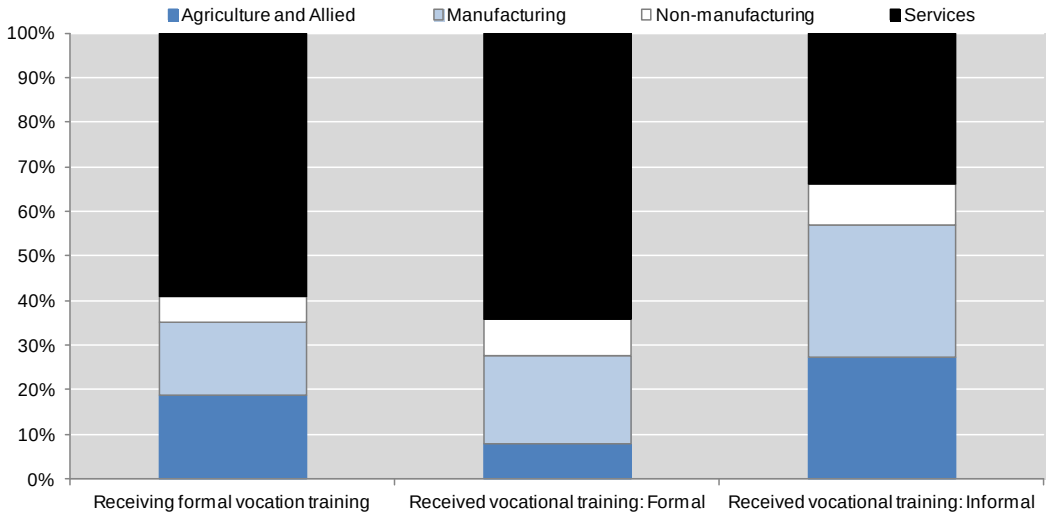
Source: Computed from NSS (66th Round), 2009-10.

The above figure indicates that the education level of workers in different sectors vary a lot. While the agriculture and the non manufacturing sector have the highest number of illiterate indicating low skill level of the work force, the services sector has the highest number of workers with higher secondary and above level of education. As regards vocationally trained workforce it emerges from the NSSO 66th Round data on vocational training that only about 10% of the workers had formal and informal training with 90% not having any training at all. This is in contrast to many South East Asian economies such as China and Korea who have more than 90% of the workforce with some vocational training (Planning Commission, Government of India, 2013c)

In terms of sectoral distribution of vocationally trained workers it emerges that the proportion of workers who received some kind of vocational training was the highest in the services sector (33%), followed by manufacturing (31%), agriculture (27%), and non-manufacturing and allied activities (9%) (Figure 2.9). However most of the workers had the non formal vocational training. The proportion of workers with non-formal vocational training was the highest in agriculture in the form of hereditary transfer of knowledge. In the non-agricultural sector, the non-formal vocational training was in the form of on the job learning (Figure 2.10). Dependence on non-formal vocational training to such an extent highlights the grossly inadequate system of vocational training that currently exists in the country. What is remarkable is that there is little difference

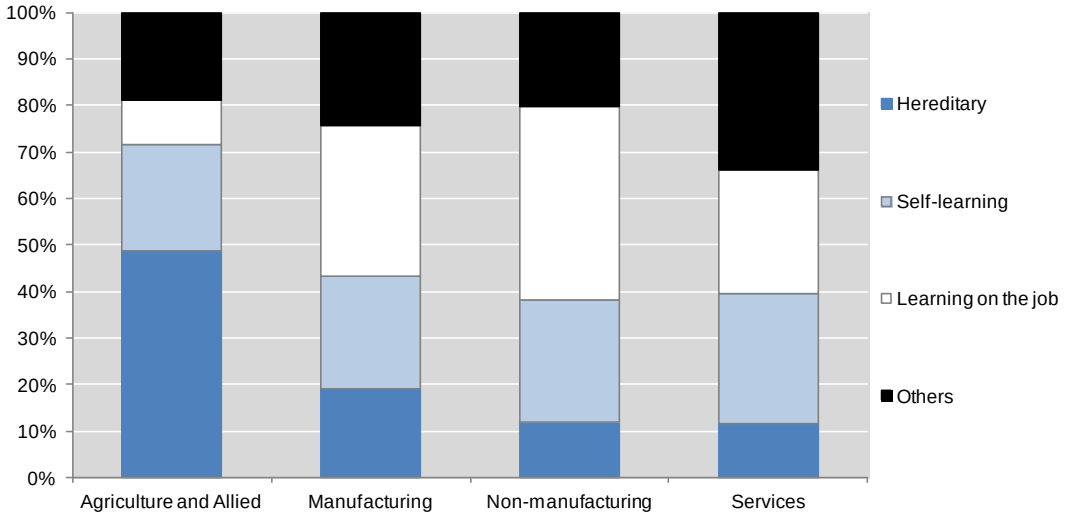
between manufacturing and agriculture in the share of those with vocational training who only received non-formal training: 86% in agriculture and 91.7% in manufacturing. Only in services is the share of those informal training much lower at 56% (Planning Commission, Government of India, 2013c).

Figure 2.9.**Distribution of formal and informal vocational trained workers (15-59 age cohort) 2009/10**



Source: calculations based on the National Sample Survey (NSSO) (66th Round) (2009/10).

Figure 2.10.**Distribution of informal trained workers (15-59 age cohort) 2009/10**



Note: Hereditary: skills transferred from parents to their children.

Source: calculations based on the National Sample Survey (NSSO) (6th round), 2009-10.

Complicating matters further is the inequitable distribution of industrial training institutes/centres that presently exists. Approximately 70% of all institutions can be found in the south and the west of the country; these regions account for just half the

national population. The government of India has laid emphasis on catalysing the private sector to contribute to skills development and training so as to be able to provide training opportunities to a greater proportion of the population, for example using public-private partnership (PPP) models.

The transition from agriculture to non-farm activities is extremely difficult except in low paid contract/casual labour in the construction sector. The employment generation during the period between 2004-2005 and 2009-2010 corroborates these facts. Of the total 2 million jobs created in the 5 years period, more than 65% have been in the construction sector alone. The fallacy of high growth process leading to structural transformation in employment is proving to fail in Indian context. There is a paradoxical situation where on the one hand jobs are available but suitably skilled people are not there, on the other hand there is unemployment among the youth. The phenomenon of educated unemployed in a fast-track economy is peculiar to India (Sanghi 2012).

Realizing the need for continuous up gradation of skills of its labour force/workforce, Government of India for the first time in 11th Five Year Plan (2007-12) laid special emphasis on skill development and created an enabling infrastructure which envisages participation both by the government as also by the private sector. A target of 500 million skilled manpower by 2022 has been laid. The national skill policy formulated in 2009 provides a framework for expanding the outreach and equitable access by all irrespective of any divide; ensuring quality and relevance of training; linkage between school education and skill development initiatives and mobilizing adequate investment for financing the skill development projects The policy caters to the requirements of the bottom of the Pyramid who constitutes about 80% of the workforce (Sanghi 2012). The structural shifts in the economy in terms of increase in contribution of secondary and territory sectors to GDP and availability of demographic dividend have implications for skills development strategy. India needs to skill and train its young workforce to utilise this window of opportunity. However, the availability of demographic dividend varies across the country with wide variation in Northern and Southern states. The realisation of full potential of the demographic dividend depends on generation of decent employment opportunities and skilling/ up skilling of existing as well as new entrants to the workforce (Planning Commission 12th Plan).

To reap the demographic dividend, accordingly, the Eleventh Five Year Plan laid focus on skill development by recognizing that skill building is a dynamic process and individual skills need to be upgraded continuously for the workforce to remain relevant and employable. A three tier structure was set up in 2008 with PM council for policy formulation, National Skill Development Coordination Board for coordinating efforts of central ministries and National Skill Development Corporation for catalysing the efforts of the private sector.

Realizing the importance of skill development for country's growth, efforts are made to bring about systemic changes in terms of labour market information system for bringing together all the stakeholders. The National Skill Qualification Framework (NSQF) facilitates career progression both horizontally and vertically and would assist recognition of prior learning. All training providers are required to align their skills programmes to the NSQF.

The skill profile among this labour force in younger groups is distressing. The key issues of skill development in the unorganised sector include inadequacy of current training programmes to meet the requirements of large workforces in the informal sector. The formal training system because of its entry requirement does not offer skills to people with low level of education. When it does, it is not appropriate for those in the rural and urban non-farm sectors. Most workers continue to learn on the job informally at their place of work from other low skilled qualified people (Planning Commission, 2013c: 146)

The Twelfth Five Year (2012-17) has laid special emphasis on skill development to achieve the target of faster, more inclusive and sustainable development. Generating decent employment opportunities (Planning Commission, 2013c: 139). The objective of sustainable development rests on availability of skilled manpower for the industries including green.

During the period from 2012-17, it is envisaged that some 50 million non-farm jobs will be generated and at least as many people's skills will be assessed and certified. However, to achieve this goal, the need is to improve the access and quality of skill training by improving both physical and human resource infrastructure. This task is challenging in light of the poor general education level of the majority of the Indian labour force.

Chapter 3 discusses the results of the interviews with green and inclusive SMEs and which skill training and development activities they are utilising.

Chapter 3

Green and inclusive SMEs skills training and development

This chapter discusses skills development activities by green and inclusive firms and how they are implemented in the workplace, in which way they are inclusive, how they use knowledge-intensive service activities (KISA), what impact they have on the community and service providers, and the parallel effects of their business operations. A series of interviews were undertaken with eight green and inclusive SMEs (Table 3.1) and three training organisations (Table 3.2). Whilst this chapter provides cross-firm analysis of these firms working in locations all over India, it should not be viewed as an exhaustive study. Instead, it should be interpreted as a snapshot of a diverse and dynamic sector that contributes to India's social and economic well-being.

Table 3.1. **Firms interviewed**

Firm	Main product/service	Number of employees	Location
SMV Wheels	Designing and selling cycle-rickshaw	12 full-time and 2 part-time staff	2 offices in Varanasi and Jaunpur
Sustaintech	Sells three different fuel-efficient cook-stoves	25 full-time staff	Headquarters in Madurai, Tamil Nadu; three sales centres in southern India (Erode, Trichy and Udupi)
Drishtree	Social enterprise – works towards creating an impact in villages by creating an eco-system of micro-enterprises run by entrepreneurs with a specific focus on women	140 full-time staff and approximately 15 interns	Working predominately in the north and north-east of India
Greenlight Planet	Sells solar powered lights to communities without access to electrified grids	450 staff, a further 2 500 indirectly employed as "sale agents of franchisees"	Head office in Bombay, with many other offices spread out across India. Overseas offices in Ethiopia, Ghana and Kenya
Vayugrid	Profit social enterprise – developing community bio-fuel supply chains	20 full-time staff and approximately 40 contracted based positions	Work within Southern India, overseas offices in Ethiopia, Kenya and Zambia
Waterlife	Produces, sells and maintains water systems	190 full-time, 8 part-time with a further 60 casual staff	Indian rural communities
Waste Ventures	A door-to-door rubbish collection service	7 full-time staff and a further 53 part-time and casual pickers	Service is provided in two urban locations in the states of Orissa and Bihar;headquarters are in

			Delhi
New Ventures	Not-for-profit – service-based company.Provides a think-tank/business accelerator for environmental enterprises	Employs 50 globally across 6 offices.	The Indian office employs 3 full-time and 2 casual consultants

Source: elaborated from interviews and firm websites.

Table 3.2. **Training institutes interviewed**

Institute	About
Indian Institute of Corporate Affairs (IICA)	The IICA has been established by the Indian Ministry of Corporate Affairs for capacity building and training relevant to corporate regulation and governance such as corporate and competition law, accounting and auditing issues, compliance management, corporate governance, business sustainability through environmental sensitivity and social responsibility, e-governance and enforcement.
Ministry of Small and Medium Enterprise (MSMEs)	The ministry has two divisions: 1) SME; and 2) Agro and Rural Industry (ARI). The SME division is allocated the work of administration, vigilance and administrative supervision of the National Small Industries Corporation (NSIC) Ltd., a public sector enterprise and three autonomous national level entrepreneurship development/training organisations. The division is responsible for the implementation of schemes relating to performance and credit ratings and assistance to training institutions and the preparation and monitoring of Results-Framework Document (RFD). The implementation of policies and various programmes/schemes for providing infrastructure and support services to MSMEs is undertaken through its attached office – the Office of the Development Commissioner.
National Institute for Entrepreneurship and Small Business Development	Apex institute under the Ministry of Micro, Small and Medium Enterprise with the aim to promote and develop MSMEs, including enhancing their competitiveness. Activities include: model syllabi, training strategies, facilitating and supporting government programmes, accelerating entrepreneurship development, programmes for motivators, trainers and entrepreneurs.

Source: elaborated from interviews and institute websites.

This chapter is divided into the following sections: training systems for small and medium enterprises in India; skill development practices and shortcomings in green small and medium enterprises; societal benefits of green and inclusive small and medium enterprises; the use of knowledge-intensive service activity within green and inclusive small and medium enterprises, the parallel effect, followed by conclusions.

3.1. Training systems for small and medium enterprises in India

The Technical and vocational training system in India is diverse and covers a broad array of fields. At the national level 23 central ministries and departments including the Ministries of Micro, Small and Medium Enterprise; Labour and Employment; Human Resources Development; Minority Affairs; Textile, Tourism and Social Justice and Empowerment. Besides this the 35 States and Union Territories implement their own training programmes/ initiatives also civil society organizations/ non-governmental organizations partner with government agencies to provide training and skill development programmes nationwide. Further, to catalyse the efforts of the private sector the National Skill Development Corporation is providing financial assistance in the

form of soft loans to the private partners to upgrade their infrastructure for improving access and equity.

At the smaller scale, where the number of informal enterprises is high, appropriate skills are in short supply for this reason the quality of training provided and the trained manpower is a matter of great concern for SMEs. The National Policy on Skill Development has set a target of 15 million for the Ministry of Micro, small and Medium Enterprises out of total target of 500 million for the country as a whole. This would make available skilled manpower for the sector. The Government of India is implementing several schemes on skill development with the objective of enhancing employability through skilling and re-skilling. The skill development programme in India can be divided into:

1. Universal program aimed at all the sectors
2. MSME centric

Target group oriented (Minorities/Women/Beow Poverty line) who may be working in the SME sector. The details of some major programmes under all categories are in Annexure. As SMEs are the largest employer in the manufacturing sector, the Ministry of MSME believes this ambitious goal can only assist these companies and at the same time, create further employment opportunities, particularly for the country's youth. The ministry implements large number of schemes through its own centres, institutes and corporations and other training providers. The National Institute for Entrepreneurship and Small Business Development (NIESBUD) trained an additional 52 000 people in 2012, a vast improvement on previous years. NIESBUD is one of three national training institutes supported by the Ministry of MSMEs and works in tandem with the other ministry agencies to co-ordinate, at a national level, skill development and training. For example, NIESBUD formulates and upgrades in excess of 160 national entrepreneurial and skill development course curriculums. Programmes that cover a broad array of entrepreneurial and vocational skill-related topics such as plumbing, footwear design and web design, in addition to other more advanced managerial and business operations training programmes.

Using these standardised curriculums, NIESBUD carries out training in the country's 650 districts through its district industrial centres. In rural areas, district rural development agencies carry out similar work. NIESBUD also works with many private partner institutions to upscale the number of training places available and estimates that more than 10 000 institutions are directly and indirectly involved in training in India. Ongoing dialogue between industry, trainer and trainee also provides information that helps NIESBUD to further refine its course curriculums. NIESBUD has also set up high-school programmes targeting students in their final years that expose them to entrepreneurial thinking and activities. In the longer term, it hopes to create a more entrepreneurially active society, where people have greater career choices.

Not to be forgotten and as stated within the OECD (2011a) report, is the importance of early childhood and primary education as a crucial factor for a more cohesive society. Early childhood education is a key is reducing educational barriers of children with poorer social background and improves competences such as emotional and verbal communication, social skills (functioning in the group, conflict and problem solving etc)

which are prerequisite for the successful schooling (Federowicz, 2011). PISA[4] results suggest that those school systems that perform the best and provide equitable learning opportunities to all students are also those that provide more inclusive access to pre-primary education (OECD, 2011b).

The Ministry of MSME's commissioners development institutes, for which there are 30 main offices and 28 branch offices, with approximately one in each state, in addition to a further 20 autonomous institutions, carry out skill training directly targeted at the SME sector. While there are many formal industrial training institutes, polytechnics and government field offices carrying out training aimed at the SME sector, their reach is limited in terms of the nation's total training and skill development requirements.

The Ministry of MSME is in a good position to understand the requirements of the labour market because of its organic links to the SME sector and intimate interaction with business. While there is a gap between vocational skill training and the labour market, improvements have been made in recent years as a result of greater efforts at the national level to interact with SMEs to better understand their training needs. In response, changes have been made accordingly to curriculums and standardised training courses have emerged. While India has one of the largest public and private sector training networks in the world, unfortunately overall, the number focused on the SME sector is very limited.

Furthermore, while SMEs in India are heterogeneous and innovative in nature, graduates from traditional technical institutes are not ideally suited to employment in the sector. To address this persistent vocational skill gap, the Ministry of MSME and its national training institutes communicate regularly with industry in an ongoing effort to tailor training programmes to meet their needs. For example, developed in consultation with industry, the ministry's skill development programmes at a degree/diploma level enjoy a 90% placement rate. While courses such as these mainly target the unemployed, enhancing their chances of finding work, some cater to current employee needs as well. For example, the ministry has established ten sophisticated tool rooms across the country to cater to the tooling requirements of small-scale industry.

The ministry's training initiatives that specifically target the SME sector focus on two distinct area: entrepreneurship and skill development training. These nationwide programmes include mostly practical, vocational skills, in addition to classroom-based training. The tool rooms in particular that have been established across India have proven a success and those who have completed the advanced manufacturing course are in high demand for employment. The majority of training is vocationally orientated, particularly in relation to the National Skill Development Mission and promotes skills likely to be in demand in the workplace. Providing training will not only increase the chance of unemployed participants finding a job, but will help SMEs to fill positions with skilled workers.

Training is primarily financed by the central government and the Ministry of MSME distributes funding to the various national institutes and other private training organisations. The ministry's current training budget is about INR 1 billion

[4]PISA – The Programme for International Student Assessment (PISA) is an internationally standardised assessment that was jointly developed by participating economies and administered to 15-year-olds in schools,

(100 crore)/USD 17.2 million. However, depending on the type of course, duration and participants, nominal fees may also be charged to supplement the cost of providing the programme. This is seen more as a means to ensure the commitment of those taking part, rather than meeting the costs of delivering the training programme. In the self sustained public private partnership model of NSDC students pay fee for the training these are identified by industry to increase their chances of finding employment.

Working at a national scale and with the needs of industry in mind, the ministry and NIESBUD work with formal training institutions to bring about greater interaction, such as gathering feedback about skill deficiencies and informing them of the synergies that can be gained by working together. However, more interaction, particularly between the informal sector and small-scale industry, must be facilitated because there is still insufficient interaction between SMEs, training organisations and government. The technical institutions, for example, tend to focus their attention on the larger Indian and foreign companies. Like other skill-related training challenges, reach is limited and scope exists for considerable expansion.

The ministries/departments are mandated to evaluate their programmes for continuation in the new plan. The ministry has completed other assessments and estimates that about 20% of trainees find either wage employment or are pursuing entrepreneurial activities. However, it readily admits that its evaluation techniques are inadequate, too short and in need of expansion. The ministry also repeatedly emphasised the simple nature of many of its training programmes that provide only rudimentary skills that might encourage participants to attend further formal training courses or assist them in finding employment.

The government of India recognises the benefits of sustainable inclusive growth and is implementing green-orientated policy reform that has predominantly focused on energy efficiency. Similarly, the Ministry of MSME claims its training programmes develop complimentary skills to support energy efficient, low-emission manufacturing. In the past, it has run a six-week programme focused on biotechnologies. However, two of the three representatives from the government agencies interviewed were not overly familiar with the concept of green and inclusive growth, nor could they name any SMEs working in this field. Both the ministry and NIESBUD iterated their commitment to principals of sustainable development and acknowledged the expanding influence of environmentally friendly economic growth in India. According to the organisations interviewed, there does not seem to be any specific green and inclusive-orientated skill training organised by the Ministry of MSME.

SMEs may have lack of understanding of government efforts towards providing training to disadvantaged and low-skilled groups, although the 12th Plan industry chapter focuses on the development of green MSMEs and there are two positive examples to acknowledge. The state government of Uttar Pradesh recently signed an agreement with SMV Wheels to expand its services, an attempt to provide services to all the rickshaw drivers in the state, reaching some 250 000 people. This agreement is an acknowledgement of the success of for-profit organisations bringing vocational skills to low-income disadvantaged workers, many of whom have arrived in the city from rural areas in search of work. Likewise, Drishtee, another for-profit enterprise, initiated its business operations from a government contract to provide government services in rural

communities and continues today whereby the firm focuses on small entrepreneurs and empowers women in particular.

3.2. Skills development practices and shortcomings in green small and medium enterprises

According to OECD (2013a), SMEs in OECD countries participate in 50% fewer training activities than large firms due to lack of critical mass within the firm enabling them to afford (both financial costs and the cost of an employee's time) and access formal training opportunities. Instead, SMEs are more inclined to participate in knowledge-intensive activities as a way of learning new techniques or new ways to operate. This includes learning by interacting with consultants, suppliers or clients; or attending conferences, meetings or internal activities such as quality control activities. These activities, however, do not carry formal qualifications or standard training certificates and tend to benefit managers, business owners and the higher educated staff members.

SMEs do take part in training, both formal, but mostly informal, for the purpose of conducting their daily business and for the need for business development.

The green and inclusive SMEs interviewed, in order to develop and expand, need to carry-out skills and training development agendas. All of the SMEs interviewed carry out training, to varying degrees, to develop employee skill sets in the workplace. This includes formal and informal training, both on-the-job at work and in a variety of locations outside the workplace. While the type, duration and complexity of skills imparted depends a great deal on the task at hand, they are strongly influenced by the education and skill base of each employee. Greenlight Plant (low-powered LED lanterns), for example, does not have an allocated training budget; it does, however, recognise skill development as a business requirement. New employees receive on-the-job training, whereby they shadow a counterpart or work alongside a superior or manager. They also receive structured and transparent performance plans and further assistance is provided if required. Skill-specific workshops are held dependent on the time of year, staff needs and business requirements. For example, staff from the financial and logistics departments recently participated in language and communications training. The company also notes a number of skillset areas in need of improvement including: language, communications, sales, management, finance and function-specific skills.

SMEs need to understand the education levels of both employees and the clients/customers they are selling their product or services too.

In the past year, Vayugrid (bioenergy and biofuel), an emerging for-profit social enterprise, has spent USD 400 000 on a formal training programme in the marginal agricultural village communities, predominantly in south India. At the beginning of the planting season, staff utilise diagrams to teach basic agricultural skills that many workers are not familiar with to people who are sometimes illiterate and to others who speak different languages. To reinforce this classroom-based training, Vayugrid ensures there is enough material on hand to immediately practice these skills in the field and staff are present to watch and make corrections as needed. Following this initial training, staff return once a week to continue the training programme and identify any gaps or points

that have not been understood. Vayugrid has found this training process very challenging, due to communication difficulties, "… they speak local languages and cannot read". Green and inclusive SME training therefore needs to be formulated to the needs and competency levels of the target audience. The content of the training also requires careful consideration as to whether to focus on generic (business management) or technical skills.

Waterlife, on the other hand, works to address the critical need to improve access to clean water and has developed its own technology to do so. Waterlife has a formal staff training plan that includes an induction programme for new employees introducing the products and services the company sells. At this stage, the company does not have a training budget, however, it intends to establish one during the current financial year. On-the-job training is used as an effective method to teach staff specific skills associated with their role. Quarterly training is also undertaken to brief staff, in addition to classroom training that aims to keep employees aware of new products. Further training is carried out to aid career development and encourage new skills development.

Generally, green and inclusive SMEs do not have a formal training programme; skills and training development is primarily focused on on-the-jobtraining. The importance of formal training and qualifications cannot, however, be underestimated. The formulation of training and skills development plans should be encouraged for all entrepreneurs, raising the awareness of the employee benefits and the associated firm remuneration/rewards.

New Ventures, a small not-for-profit consultancy, identifies promising green businesses to assist them in accessing investment. With only three full-time employees working out of its Hyderabad office, New Ventures employees are, by Indian standards, already highly educated and have all completed a MBA. It regularly offers staff advanced and high-level training, locally and in the United States, that is tailored to meet the needs of individuals and those of the company. For example, if the company wanted to expand into a new area and this skill set was missing from the company, it would arrange for a member of staff to participate in training activities to address this deficiency. New Ventures is satisfied with the level of skills in the company and cites their thorough recruitment process as the main reason for their firms' satisfactory skill level.

Although green and inclusive SMEs generally recruit based on the skill level required for the job, therefore optimising the current competency levels of staff, it is important to not limit the inclusiveness of their potential employees. The potential opportunities that training and skills development offer for disadvantaged persons in building expertise, confidence and financial benefits, and the firm in providing fresh innovative ideas and processes cannot be undervalued.

Although the majority of organisations interviewed were satisfied with the level of skills in their respective companies, Sustaintech, Drishtee and Waste Ventures voiced their dissatisfaction. Sustaintech, in particular, cited a significant and pressing need to carry out employee sales training as this was directly impacting on the success of its business. For example, Sustaintech, which works to make sustainable energy technologies widely available, does not have a specific training budget or carry out formal training activities *per se*, but spends 10-15% of its INR 200 000/USD3 500

monthly marketing budget on informal training activities. While there is informal monthly training for sales employees, there is no employee career development programme in place. At present, the sales team is falling behind on its budgeted sales targets because they have not been suitably trained. The company is currently developing a comprehensive sales curriculum with which to formally train sales employees during the next 12 months. *This highlights the importance for green and inclusive SMEs to develop generic business skills, such as management, marketing and sales training, to take advantage and gain from the product or services they are providing.*

Waste Ventures (waste management) is another firm dissatisfied with the level of semi-skilled staff or second-tier management. While the company allocates a small amount (INR 20 000/USD350) for formal training with "its waste pickers" at the beginning of a new project, it does not have a budget or training plan for more senior, administration level staff located at its headquarters in Delhi. In the future, Waste Ventures hopes to improve the skills levels of second-level management by recruiting better qualified staff, who better match the level of skills they require. In addition, new recruits will also be mentored by senior staff, on-the-job training, during their first two years of employment within the company. For example, these recruits will be included in important meetings and managerial processes that will develop skills and knowledge to allow them to independently contribute to the company's long-term success. *The lack of finances commonly impedes skills and training development for employee and firm development, green and inclusive SME support is required to assist in building a sustainable business structure for the future.*

Regardless of their level of satisfaction, each company unanimously acknowledged skills development as an important factor that contributes to the success of their company and recognised the need to continuously improve skills and training standards in order to achieve better business outcomes. It is apparent from the interviews that training and skills development is required at the management and sales levels within green and inclusive SMEs, to improve their business function and expansion. Due to the importance of SMEs within the Indian economy, there is a *need for more incentives, programmes and support from national government to not only promote the benefits of skills development within green and inclusive SMEs, but also to provide financial aid to encourage and stimulate employee and employer training*.

3.3. The use of knowledge-intensive service activities within green and inclusive small and medium enterprises: The parallel benefits

Recent OECD studies (2013a) highlight the importance of informal knowledge-intensive service activities (KISA[5]) for SMEs as an alternative approach to the workforce developed by small and medium firms (Box 3.1).

[5] see Methodological Note, page 12

Box 3.1. Skills development and training in SMEs in OECD countries

14. SMEs use both formal training and informal knowledge-intensive services activities (KISA) as ways of learning in order to acquire the knowledge and skills they need, particularly for their innovation and entrepreneurial processes.
15. There are better skills development outcomes from informal training and skills development activities (particularly through participation in KISA) than from formal vocational training.
16. "Growth potential" SMEs focus on productivity enhancing skills via informal training. These "growth potential" SMEs are the most likely to take up opportunities in the green economy.
17. Market forces are the main drivers for skills development in firms, particularly informal skills development.

Source: OECD (2013), *Skills Development and Training in SMEs*, OECD Publishing, http://dx.doi.org/10.1787/9789264169425-en.

The green and inclusive SMEs interviewed identified a range of collaborators and stakeholders involved in KISA training at a community level, many of whom share a direct interest in its success. These collaborators include community groups, customers, universities, private academies, entrepreneurs, manufacturers, other green businesses and various levels of government and its agencies. They represent a cross section of society, not necessarily limited to a particular field. They are also involved in different ways, as teachers, participants and consultants, bringing with them valuable expertise and experience. All of the firms are aware of the parallel effects of their business practices and nominated the positive social and economic impact of their activities as being a central focus of their operations.

SMV Wheels is actively seeking to improve both the vocational and economic bottom-line of their respective employees and customers. As already noted, SMV Wheels' vocational training programme works with its customers, the rickshaw drivers, to develop health, hygiene and life skills, in addition to a broader curriculum that discourages alcohol abuse and violence at home whereby the firm has formed a partnership with the District Urban Development Authority, the government of Uttar Pradesh and the State Urban Development Agency. Furthermore, while the men are participating in vocational training, the firm tries to actively involve the wives and encourage them to take part in training such as sewing or handicraft classes that are provided by the government, thereby doubling the programme's reach and impact. SMV Wheels and its rickshaw clients also work with the local traffic police who provided training on road rules and basic citizen rights. Other KISA partners include HFDC, a private bank that has shown rickshaw drivers how to open a free bank account, which brings new customers to the bank. In addition, the company has also established two workshops, where cycle mechanics, trained by design and mechanical engineers from technical institutions are employed to assemble rickshaws, whilst providing low-cost repair and service options. The municipal council also benefits from data SMV Wheels compiles on cycle-rickshaws in Varanasi and in return works with them to

provide legal licenses to drivers. In comparison to motorised rickshaws, the growing number of cycle-rickshaws also pay an environmental dividend to urban communities in the form of a low-impact transport options that are quiet, convenient and importantly, carbon-free for short local trips around town.

Waste Ventures collaborates with households where they are both customers and direct community stakeholders. Waste increases in value the earlier it is segregated. Waste Ventures communicates to its customers on a regular basis the extra value that can be achieved if waste is segregated before collection. To do this, Waste Ventures distributes posters that graphically illustrate best practice segregation methods to raise awareness within the community. Waste Ventures also encourages late-adopters to take up their services through educational events that highlight the harmful environmental and public health risks of dumping or burning waste illegally. Both strategies directly target local residents in the communities in which the company works. But it is the strategic preparation before services commence that engages local government, in particular the municipal chairman, that ensures ongoing support. The result of these public education campaigns can be measured in customer satisfaction, new skills and higher wages for the waste pickers and expansion of the waste collection services. However, more fundamental is the contribution being made to reducing urban pollution, its environmental impact and the risk this poses to public health, contributing to a cleaner city.

Waterlife also conducts health-related education campaigns with community stakeholders in the rural villages in which they have installed filtration units. Collaborating with self-help groups, “Panchayats” (local government and village water sanitation committees), the company promotes the positive impact of clean drinking water on health and well-being. Initially, this is in the form of education and later through the development of joint projects. For example, they provide simple training to detect water impurities; e.g. if guava leaves are crushed and submerged in water contaminated by arsenic, the water turns black. To enhance the sustainability of the work they conduct, the company trains local community representatives to maintain their products and carry out the training programmes in the community, which not only provides employment, but improves the long-term health of the community. The health benefits are principally related to a reduction in the incidence of disease and other ailments associated with drinking contaminated water. Waterlife’s commitment to socially inclusive working practices and individual awareness of the benefits frame the long-term success of each project and community health which forms the economic base of the company.

Greenlight Planet has been designed from the outset to provide clean energy to rural businesses and communities that do not have access to regular electric grid services. The impact of the firm’s training and services can be measured by increased access to services that support their products in the rural communities in which they are so vital. As such, the company has established workshops and manuals and is in the process of setting up knowledge centres whereby customers can call to make product enquiries and access other services. Their products, lanterns, not only allow students to study in the evening, but enhance job prospects and economic activity where little existed before.

A further example is provided by Sustaintech's technical executives who work with the manufactures of their cookstoves to educate about the importance of using suitable construction materials, in this case stainless steel, and the associated environmental advantages. Materials that contribute to making more efficient stoves are more able to reduce the quantity of fuel required to heat them. The company also campaigns to raise awareness amongst small restaurant owners' potential customers to highlight the growing need to reduce carbon emissions and put a stop to deforestation in India, two problems which wood stoves contribute too. Customers therefore recognise that there are not only economic reasons to use Sustaintech's stoves, but also significant environmental grounds as well. Sustaintech highlighted its focus on inventing and distributing sustainable technologies in different parts of India to limit deforestation and carbon emissions through customer awareness campaigns. One suggestion in the hopes of simultaneously boosting sales and addressing the founding principles of the company is increasing the awareness of the sales team of the company's goals, for example, sharing quarterly and monthly information with sales executives that clearly demonstrate how much wood has been saved with the sale of each stove and the reduction in emissions in the same period that has been achieved because of their efforts. In this way, there are not only financial targets, but meaningful contributions that have a positive environmental impact.

Drishtee, a social enterprise, also collaborates directly with local entrepreneurs, to establish conditions in rural villages in which small businesses can thrive. The firm collaborates with local entrepreneurs, in particular women, to start their businesses within the local communities in which they work. Drishtee's own trainers work with the community and entrepreneurs, imparting sewing, clothing and cooking focused skills. A sort of peer training, whereby all parties involved learn something from each other which enables all parties to apply this training in different contexts. While the company has a specific focus on women, its goal is to provide livelihood-related services in communities across India and in this way, its services make a contribution to sustainable development.

New Ventures is another firm that has actively chosen to work with green and inclusive SMEs whose business, more often than not, is directly focused on community level stakeholders in rural India. It cites the volume of research-based work that focuses on helping rural communities across India gain access to energy, preferably from renewable sources. Moreover, the environmental enterprises that it supports put the company in an informed position, where it is able to assess if a company is genuinely making a contribution to green and inclusive growth or not. The company's KISA training is having a positive community impact in disadvantaged rural Indian communities due to a large proportion of their project-based work being carried out directly with community level stakeholders. For example, a recent study[6] sought to better understand the many companies working with local village-level entrepreneurs in order to find ways to better support village entrepreneurs and understand what services and products communities want from these small businesses. This project hopes to directly improve skills training for SMEs in India that will allow them to provide both more appropriate and environmentally sustainable services and products.

[6]Source: interview data

Vayugrid is beginning to see the results of an agricultural training programme that it has implemented working with marginal agricultural communities, who are both collaborators and employees. The success can be measured by the current 1 million plants (Mongamia plants) in production. As such, the direct community impact is large and will result in higher earnings, as the Vayugrid system pays workers by the number of plants produced or successfully planted. In addition, the success of the skills development and incentivised financial payments will lead to larger crops, which will also generate more opportunities in coming years because Vayugrid's business model relies on local entrepreneurs at each stage of production. Moreover, the expansion of the number of trees in production indicates that the skills Vayugrid has been teaching in the communities has proven successful. With this expanded skill set, it is expected that the communities will appropriate these enhanced skills and use them on other agricultural ventures, in addition to those of Vayugrid. Vayugrid has made a conscious business decision to focus on a triple net bottom line that is financially very profitable while at the same time, environmentally and socially responsible.

All of the "for-profit enterprises" have evolved with the interest of their employees, customers and the environment as a high priority. The impact of KISA training on the communities and firms with which they collaborate is broad and includes enhanced economic, social and environmental outcomes, including higher wages in the short term, and educated consumers who make conscious decisions to purchase more sustainable items. By imparting KISA training results in the expansion of training and skills development that not only include employees of the company or entrepreneurs, but the community, other local training providers and disadvantageous low-skill level society as well. In social terms, the impacts are positive, with access to clean water and electricity which influences better health outcomes. However, green and inclusive *SMEs in India should provide greater investment in lower level staff (low-skilled) because they are the greatest contributors to value creation.* As one firm pointed out, with more investment in transforming unskilled labourers to semi-skilled employees with professional pride and a sense of responsibility for their position, SMEs will then experience decent returns in the form of lower costs related to recruiting replacements and the loss of knowledge related to high attrition rates.

The training institutions with which many of the companies collaborate are frustrated by the limited coverage and reach in India. There are insufficient numbers to provide an adequate and quality service for firms, especially green SMEs. Due to India's diverse cultural and linguistic composition, many training institutions are small local businesses that speak several languages and are familiar with local cultural practices. Although this is a positive aspect, because it meets the needs of a culturally diverse nation, some firms highlighted their frustration that they are not able to access training of a higher standard. A concerted effort is required to *provide a standardisation for training institutions (small and large) to provide the quality of service that is required for green and inclusive SMEs' skill needs, focusing on business management, sales and firm expansion*. *The NSQF would provide the necessary support system for this.*

3.4. Societal benefits of green and inclusive SMEs

The majority of organisations interviewed work to improve the livelihoods of some of the most disadvantaged communities in India, either through employment or other indirect means whilst ensuring their business is environmentally friendly. These green and inclusive SMEs also collaborate with a diverse mix of government agencies, civil society organisations and other public and private businesses in the local areas in which they work to procure materials and services. Some firms support workers through increased wages or better working conditions while others provide valuable employment opportunities in their businesses, imparting skills and know-how to unskilled workers. Other green and inclusive SMEs exist to provide basic services to the community, such as clean drinking water and electricity in rural communities. In the process, they generate employment and entrepreneurship in some of the most disadvantaged states in India. For example, SMV Wheels designs and sells cycle-rickshaws to hard-working and often exploited rickshaw pullers/drivers and cart operators in Uttar Pradesh, an extremely underdeveloped state in northern India. The drivers, who normally earn approximately USD 5 per day, buy a cycle-rickshaw from the company and receive a loan they can sustainably repay over the course of a year. Although the drivers are, in fact, the firms customers, SMV Wheels delivers "…life skills and training that discourages alcohol abuse and violence at home" and an affordable ownership path for cycle-rickshaw drivers that eventually delivers higher wages, better working conditions and greater flexibility.

Similarly, Waste Ventures provides door-to-door waste collection services and directly employs some of the poorest and most unskilled workers. Employees whose livelihoods are put at risk by larger scale waste management operations that do not recycle sufficient waste or provide effective services. To date, the company has recruited 53 "pickers", who traditionally collect rubbish from roadsides and dump yards to earn their living. Providing employment and training, Waste Ventures equips them with skills and protective clothing that empowers them to collect waste directly from local households in the communities in which they work. The training gives them the skills to segregate waste on the spot into recyclable, organic and inert portions. Generally, 80% of the waste is processed for recycling and by selling the by-products, additional revenue is generated from which Waste Ventures is able to pay the pickers a salary about twice that which they would normally earn.

New Ventures recently concluded a village-level entrepreneur (VLE) study outlining ways in which small business owners can serve low-income communities, often rural locations. The benefits of small business within these communities are the process of and expansion of markets and providing communities with access to a diverse range of products and services. In this case, the report, like other New Ventures projects before it, seeks to bring together clean energy companies, such as Greenlight Planet and VLEs to enhance the availability of innovative and environmentally friendly products to these low-income populations across India, thereby increasing living standards and creating employment and economic activity and inclusivity. For example, in the last 12 months, Vayugrid has implemented training and skills development programmes in 6rural communities, the product of which has seen the tentative steps to up-scale the business' operations. As part of the business process, trees are planted on low-quality

agricultural land generally not suitable for food crops, in otherwise undeveloped corners of India. The importance of the Vayugrid community bio-fuel chain is to equip low-income communities with new skills and kick start economic opportunities in these local areas.

Green and inclusive SMEs are a vital key to provide inclusivity within the Indian society, providing opportunities for learning and skill advancement for low-skilled workers and encouraging and imparting sustainable practices within community villages. *SME inclusivity needs to be encouraged through mechanisms that provide incentives for green SMEs to advance their business models into disadvantaged and rural communities, such as financial support or tax exemptions.*

Chapter 4

Conclusions and themes for policy attention

There is a plethora of public and private organisations involved in the development of entrepreneurial and vocational skills development in India. The plan to skill/upskill some 500 million people as part of the Prime Minister's National Skill Development Mission by 2022 will prove challenging. This plan, if successful, will benefit SMEs and India more broadly and has the capacity to transform the labour market through widespread skills development. However, the *quality of this training must be enhanced and steps should be taken to ensure it reaches those who require it most, such as the low-skilled youth*. While much work has been carried out to date, *further financial and time investments are required to improve course curriculums, equipment and teacher training*. *More communication is also required between industry and training institutes to close the gap between the demand for skilled workers by the labour market and the education system. In other words need is to create the demand driven system.* In this context, it will help to create a real time labour market information system that would be linked to all vocational training programmes and facilitate all the stakeholders.

The Indian training system is large, yet there is considerable scope for expanding it. The government of India has standardised course curriculums in an attempt to make training programmes uniform across the country. This development gives private partners opportunities to develop their own courses that meet government requirements and in doing so, expand capacity to meet the rising demand for places. The National Skill Development Corporation, a public-private partnership, is a unique example of an organisation contributing to the private expansion of the training sector. The corporation provides funding and business support, amongst others, to assist proliferate private training institutes across the country.

Green and inclusive SMEs in India operate across a wide variety of rural and urban settings, contributing much needed economic activity to unindustrialised areas of the country. In some locations, they provide basic services such as water and electricity. These SMEs are generating new economic activity in socially and environmentally responsible ways that is creating new employment opportunities for many low-skilled and low-income workers. Moreover, all of the organisations interviewed actively set out, in one way or another, to improve the livelihoods of some of the most disadvantaged communities in India. For example, some provide employment, skills training and higher wages, while others provide infrastructure and technology to rural communities so they are able to access electricity and clean drinking water. In doing so, they collaborate with a diverse mix of government agencies, civil society organisations, and other public and

private businesses in the local areas in which they work to procure materials and services.

The majority of the green and inclusive SMEs interviewed were satisfied with the level of skills. This may be due to a lack of knowledge as to how further training and skills development will benefit employees and firms. Firms that have not implemented a formal training programme are somewhat dissatisfied. All of the companies interviewed acknowledged the importance of skills development and the need to carry out regular training in order to achieve better business outcomes. In terms of government support, only one of the SMEs had received a government subsidy for training and had worked extensively with government agencies in the past before receiving this support. It is therefore important *to encourage and educate entrepreneurs of the benefits of skills and training development for green and inclusive SMEs and better government support (both financially and business support knowledge) that is well promoted for both registered and unregistered SMEs. There is a need to encourage green and inclusive SMEs to construct a training plan/schedule, both informal and formal training, to assist business growth, inclusiveness and innovation.*

All of the green and inclusive SMEs carry out, to varying degrees, KISA training to develop employee skill sets in the workplace. This includes formal and informal training, both on-the-job and off-site in a variety of locations outside the workplace. While the type, duration and complexity of the skills imparted depend a great deal on the task at hand, they are strongly influenced by the educational, cultural and linguistic skills of each employee. As such, the majority of KISA training is interactive, focusing on communication-based or socially orientated skills, in addition to the knowledge or skill itself that is the subject of the training initiative. In terms of techniques, on-the-job and peer review training disseminate informally individual knowledge and skills effectively throughout the company to participating employees. Importantly, green and inclusive SMEs conduct a range of KISA training with staff and employees covering a range of skill sets, such as IT, vocational life skills, health, construction, sales and research skills. KISA training also provides green and inclusive SMEs opportunities to collaborate with other institutions, which offers employees the chance to build new skills, but also new contacts and networks that further the business interests of their employers. SMEs engage in some sort (formal or informal) of training and skills development as part of general operations, however, as stated previously, *government support (both financial incentives and knowledge) would be valuable inducement to provide the motivation for further "planned" training for employee and firm development. To encourage governmental support there is a need to create a link between the formal and informal (KISA approach) skills and development training. The link can be in the form of work experience, apprenticeships and tool rooms as part of green and inclusive SME firm training programmes or plans.*

The green and inclusive SMEs are aware of the parallel effects of their business practices and KISA training's social and economic benefits. The firms collaborate with a wide range of stakeholders at a community level including community groups, customers, universities, private academies, entrepreneurs, manufacturers, other green businesses and various levels of government and its agencies. They are also involved in different ways, as teachers, participants and consultants, bringing with them valuable expertise and experience. The impact of KISA training on the communities and firms

with which they collaborate are broadly positive and include enhanced economic, social and environmental outcomes, in addition to the specific skills and knowledge. A clear advantage in the expansion of training and skills development is that does not stop inside the company or with the entrepreneur, but includes the community and other local organisations as well. The *parallel effects of business practices and KISA training should be recognised by the government and community organisations as a significant community benefit, in promoting inclusion and raising the skills and knowledge of the society*.

India has a diverse cultural structure and regional languages, many of the collaborating organisations are invariably small local training institutions which can better understand local business and cultural dynamics. However, it seems at present they are insufficiently advanced to meet the needs of some of the green and inclusive SMEs' training requirements. The main impediment to skills development and training, especially for dynamic green and inclusive SMEs, is a lack of access to training institutes across the country. Government and community organisations should provide specific skills training programmes (especially for business management for entrepreneurs) and generic education skills for rural communities across the country, not only in cities, but also in isolated and rural areas.

While expanding all forms of formal entrepreneurial and vocational training is required, in addition to *increasing its quality, proper and more thorough consultations with green and inclusive SMEs and other business should be initiated* to discern the areas in which they believe skills are lacking. At the same time, *evaluation programmes* must also be extended and accurately maintained so as to be able to develop a broader picture of the training that is taking place and ascertain its effectiveness. A broader view of the role of donors cannot be underestimated in the context of skills development and training for green and inclusive SMEs.

While this paper does not provide an exhaustive analysis of private sector approaches to skill development that is green and inclusive, it does raise attention to the policy themes summarised in Box 4.1.

Box 4.1. **Key policy themes**

During the interviews, firms acknowledged skill development as an important factor that contributes to the success of their company and recognised the need to continuously improve skills and training standards in order to achieve better business outcomes. The sample of green SMEs interviewed does provide inclusivity within India's disadvantage groups. The majority of SMEs interviewed work to improve the livelihoods of disadvantage communities, through employment or other indirect means. KISA is a vital tool for SMEs skills training and development. SMEs have a range of collaborators and stakeholders involved in KISA training at the community level, representing a cross section of society enhancing economic, social and environmental outcomes. Currently, there is limited coverage of training institutes in India, with insufficient numbers to provide adequate and sufficient quality of service. Many training institutions are small local businesses which, provided the potential of localised cultural practices, are limited in the standard of training provided. The following proposed policy responses would be valuable for increasing skills and training in SMEs:

1. Provide incentives, programmes and support from the national government, not only to promote the benefits of skills development within green SMEs, but also to provide financial aid to encourage and stimulate employee and employer training.
2. Better government support (both financially and business support knowledge) that is well promoted for both registered and unregistered SMEs, especially within the green sector that offers added community benefits of inclusivity.
3. Improve the quality of formal training by improving course curriculums, equipment and teacher training. Steps should be taken to ensure that training reaches those who require it most, such as the low-skilled youth.
4. Provide a standardisation for training institutions (small and large) to provide the quality of service that is required for green SME skill needs, focusing on business management, sales and firm expansion.
5. Encourage and promote communication between the industry and training institutes to reduce the gap between demand and supply. Innovative tools should be encouraged to assist policy dialogue, such as a real time labour market information system through the Internet.
6. Endorse green SMEs to construct a training plan/schedule that incorporates both informal and formal training, to assist business growth, inclusiveness and innovation.
7. Create a link between the informal KISA approach for skills training and the formal technical and vocational education and training (TVET), through government support (information sharing and financially) and programmes such as work experience, apprenticeships and tool rooms and the firms' training plan.
8. Promote SME inclusivity through mechanisms that provide incentives for green SMEs to advance their business models into disadvantaged and rural communities, such as financial support or tax considerations.
9. Increase the investment by government and green SMEs to lower level staff (low-skilled) to encourage inclusivity, improved contribution and value adding and creation for business and employee development.
10. Encouraging Apprenticeship training in the SMEs for better skilled manpower as size of most of the SMEs are very small and the entrepreneurs cannot afford to spare their manpower for training or pay for their training.
11. Many segments of the industry, especially MSMEs, have limited information and access to risk capital for sourcing/developing and internalizing new technologies.
12. Modular industrial estates/laboratories near premier technical institutions with the required plug and play facilities.
13. Strengthen Partnership between Industry and Academia/Other Research Institutes to Create IPs Domestically

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Annex

Major Skill Programmes of Government of India

MSME centric

1. **Entrepreneurial Skill Development Programme (ESDP**) of the **Ministry of Micro, Small & Medium Enterprises (MSME)**. Under the scheme, comprehensive training programmes are organized to upgrade skills of prospective entrepreneurs, existing workforce and also develop skills of new workers and technicians of MSMEs. Specific tailor made programmes for the skill development of socially disadvantaged groups (OBC, ST, ST, Minorities and women) are organized in various regions of the States, including the less developed areas. 20% of the total targeted of ESDPs are conducted exclusively for weaker sections of the society i.e. (SC/ST/women and physically handicapped).

2. **MSME Development Institutes (MSMEDI's):**

These institutes provides Assistance/Consultancy to Prospective Entrepreneurs/ existing units; preparation of state / District Industrial Potential Surveys Project Profiles; Entrepreneurship Development Programmes; Motivational Campaigns; Management Development Programmes; Skill Development Programmes; Vendor Development Programmes for Ancilliarisation; Quality Control and Upgradation; market surveys; Promotion of handholding programme called Rajiv Gandhi Udyami Mitira Yojana (RGUMY) for micro & small entrepreneurs. There are 30 MSME Development Institutes (MSME – DIs) and 28 Branch MSME Development Institutes set up in the State capitals and other industrial cities all over the country.

3. **MSME Tool Rooms (MSME-TRs)** The 10 MSME-TRs set up under the

Indo-German and Indo-Danish collaborations, assist MSMEs in technological upgradation. These tool rooms provide good quality tooling through design and production of tools, moulds, jigs & fixtures, components etc. These Tool Rooms also provide training and consultancy in the area of tool engineering.

These Tool Rooms & Training Centres provide production, training and consultancy services in the areas of tool engineering i.e. facilities for production of tools, moulds, dies, jigs & fixtures, etc. and providing skilled manpower to industry. These services help the industry become more productive and competitive.

4. **MSME Testing Centres (MSME-TCs)** at Chennai, Delhi, Kolkata and Mumbai have facilities for quality upgradation, training/consultancy in testing, quality control, quality management, process quality control systems, etc. The 7 Field Testing Stations (MSME-TSs)provide focused testing services in the cities of Bangalore, Bhopal,

Ettumanur, Jaipur, Hyderabad, Kolhapur and Puducherry which have significant concentration of MSMEs.

5. **MSME Technology Development Centres (MSME TDCs)**

MSME Technology Development Centres (MSME TDCs) are product specific Centres to look into MSME's specific problems and render technical services, develop and upgrade technologies & manpower development and training in specific product groups like Foundry & Forging, Electronics, Fragrance & Flavour, Sport Shoes, Electrical Measuring Instruments and Glass, etc. MSMETDCs include the Electronics Service &Training Centre (ESTC), Ramnagar; Institute for Design of Electrical Measuring Instruments (IDEMI), Mumbai and Process and Product Development Centre (PPDC), Agra. The main objective of these Technology Development Centres is to develop human resources for meeting the requirements for transfer of technology in respective products fields. These Centres are also running training courses as per the requirements of the industry.

6. **National Entrepreneurship Development Institutes**

NIESBUD is an apex Institute in the area of Entrepreneurship and Small Business Development under the Ministry of Micro, Small and Medium Enterprises Government of India. The basic objectives for which the Institute has been established are: Promotion and Development of Micro, Small and Medium Enterprises including Enhancement of their Competitiveness through various activities.

It helps in evolving standardized materials, research, publications; formulation of standardized procedures of identification and selection of potential entrepreneurs and help in preparation of training aids a materials . It also organizes program for training of trainers for support organizations such as SISI, DICs, development corporations, small business promotion program, entrepreneurship orientation;

The Institute focuses its attention on small business development by encouraging and supporting arrangements in remote and backward areas. The number and percentage of small business among small entrepreneurs is very large. The Institute concentrates its efforts on evolving methodology for training, supporting and sustaining this Group.

Sustaining existing entrepreneurs is an important activity. In this direction, the Institute organizes Continuing Education Programmes for SSI Entrepreneurs besides providing counselling and consultancy. Short duration training programmes on Working Capital Management, Marketing, Project Identification & Selection, Accounting etc. are conducted on campus while counselling / consultancy is provided on and off campus.

The Institute provides support and guidance in establishing EDP institutions. The assistance covers developing programmes & faculty, providing training, library facilities and sharing experiences of conducting programmes at the initial stage(s).

The Institute has conducted a total of 8619 training programmes covering 2,25,076 participants which includes more than 150 international training programmes with 2,500 participants from more than 125 countries till 30th November , 2013.

7. **National Small Industries Corporation (NSIC)** provides technical support to MSMEs through 'NSIC Technical Services Centres' (NTSCs) and a number of extension and sub centres spread across the country. The range of technical services provided through these centres include training in Hi-Tech as well as conventional trades, testing, common facilities, toolkits, energy audit, environment management etc.

8. **National Institute for micro small and medium enterprises,** since its inception in 1960 by the Government of India, has taken gigantic strides to become the premier institution for the promotion, development and modernization of the SME sector. An autonomous arm of the Ministry of Micro, Small and Medium Enterprises (MSMEs), the Institute strives to achieve its avowed objectives through a gamut of operations ranging from training, consultancy, research and education, to extension and information services. The UNIDO had recognized this as an institute of meritorious performance under its Centres of Excellence Scheme to extend aid. Subsequently, it was also accorded national status and SIET Institute became nisiet in the same year. To cope with the precut of globalization, the Government of India has enacted Micro, Small, Medium Enterprises Development (MSMED) Bill in the Parliament which was commenced on 2nd October 2006. Accordingly, the institute also has emerged as an apex organisation by changing its structure as well as name as ni-msme from 11th April 2007.

9. **Universal programmes** like Crafts Training Programme; Skill Development Initiative on Modular Employable Skill (MES); Placement Linked Skill Development under Aajeevika / National Rural Livelihood Mission (NRLM) of the Ministry of Rural Development; Skill Training for Employment Promotion amongst Urban Poor (STEP-UP) component of Swarna Jayanti Shahari Rozgar Yojana (SJSRY) of the Ministry of Housing and Urban Poverty Alleviation; Support to Training and Employment Programme (STEP) under the Ministry of Women and Child Development; Rural Self Employment Training Institutes (RSETIs) is being implemented by the Ministry of Rural Development; Parvaazis a pilot programme on Comprehensive Skills and Education Programme for rural BPL Minority implemented by the Ministry of Rural Development; Hunar Se Rozgar Scheme of the Ministry of Tourism is being implementedwith the objective to bridge the skills gap in hospitality sector especially closely focussing on youth belonging to the economically weaker sections of the society.

Universal and Target Group Specific

i. **Craftsmen Training Scheme** (CTS) under the Ministry of Labour & Employment with the objectives of (a) providing semi-skilled/skilled workers to industry by systematic training to school leavers; (b) reducing unemployment among educated youth by equipping them with suitable skills for industrial employment. Seats are reserved for SC/ST candidates in proportion to their population in respective State/ UT. Guidelines for reserving 3% seats for physically handicapped and 25% for women

candidates have been issued to State Governments and these could be filled based on the general reservation policy of each State/UT and total reservation is limited to 50%.

ii. **Skill Development Initiative on Modular Employable Skill** (MES) is being implemented by the Ministry of Labour & Employment and has been developed in close consultancy with Industry, State Governments & Experts in pursuance of excellence in vocational training. MES is 'Minimum Skill Set' which is sufficient to get an employment in the world of work. MES allows skills upgradation / formation, multi entry and exit, vertical and horizontal mobility and lifelong learning opportunities in a flexible manner and allows reorganization of prior learning. The major objective is to provide vocational training to school leavers, existing workers, ITI graduates, etc. to improve their employability by optimally utilizing the infrastructure available in Government, private institutions and the Industry. Existing skills of the persons can also be tested and certified under this scheme and to build capacity in the area of development of competency standards.

iii. **Placement Linked Skill Development under Aajeevika** / National Rural Livelihood Mission (NRLM) of the Ministry of Rural Development. The objective of each Special Project for Skill Development would be to ensure a time-bound training and capacity building programme for bringing a specific number of Below Poverty Line (BPL) families above the poverty line through placement ensuring regular wage employment. All the trainees in the age group of 18-35 years with requisite aptitude depending upon the trade or job requirements are to be selected from rural BPL families, as per the list maintained by the District Rural Development Agencies (DRDAs)/State Government. The Implementing Agency will ensure that out of the total beneficiaries covered, a minimum of 50% will be from SC/ST. Women and minority categories has to be accorded a priority in selection of candidates depending on demographic profile and trade requirements.

iv. **Skill Training for Employment Promotion amongst Urban Poor (STEP-UP)** component of Swarna Jayanti Shahari Rozgar Yojana (SJSRY) of the **Ministry of Housing & Urban Poverty Alleviation**. The scheme has been recently revamped as the 'National Urban Livelihood Mission (NULM)'. The scheme focuses on providing assistance for skill formation/ upgradation of the urban poor to enhance their capacity to undertake self-employment as well as access better salaried employment. STEP-UP will target the urban population below poverty line, as defined by the Planning Commission from time to time. The percentage of women beneficiaries under STEP-UP shall not be less than 30%. SCs and STs must be benefited at least to the extent of the proportion of their strength in the city/town population below poverty line (BPL). A special provision of 3% reservation should be made for the differently-abled under this programme. In view of the Prime Minister's New 15-Point Programme for the Welfare of Minorities, 15% of the physical and financial targets under the Skill Training for Employment Promotion amongst Urban Poor (STEPUP) at the national level shall be earmarked for the minority communities.

v. **Support to Training and Employment Programme (STEP)** under the **Ministry of Women & Child Development**. The scheme was started with an objective of extending training for up-gradation of skills and sustainable employment for women through a variety of action oriented projects which employ women in large numbers. The scheme was revised in the year 2009-10 and covers 10 traditional sectors of employment besides the option of supporting the locally appropriate sectors. It seeks to support women's work by providing a range of inputs with special focus on training for skill up-gradation, marketing and credit linkages to ensure sustainable employment. The sequence of activities envisaged under the programme is to mobilize women into viable groups, improve their skills, arrange for productive assets/access to wage employment, create backward and forward linkages, provide access to credit, arrange for support services and awareness generation, gender sensitization, etc. The scheme not only aims at imparting training for upgrading skills to enhance income of beneficiaries but also provides a package of services consisting of education, health check-up, nutrition, nutrition education, legal literacy and crèche facilities for dependent children, etc.

vi. **Rural Self Employment Training Institutes (RSETIs)** is being implemented by the **Ministry of Rural Development.** The Government is setting up RSETI, one in each district of the country for basic and skill development training of the rural BPL youth to enable them to undertake micro enterprises and wage employment. These are bank led institutions i.e. managed and run by the Public Sector/ Private Sector Banks with active co-operation from the State Governments. Key features of the RSETIs include free, unique and intensive short-term residential self-employment training programmes with free food and accommodation, designed specifically for rural youth. RSETIs are helping the unemployed rural youth in the district transform into confident self-employed entrepreneurs through need-based experiential training programme followed by systematic handholding support and bank linkage. RSETIs partner with others, including the institutions of the poor, to realize their mandate and agenda.

vii. **Parvaaz** is a pilot programme on Comprehensive Skills and Education Programme for rural BPL Minority implemented by the **Ministry of Rural Development**. The main objective of this programme is to mainstream the minority BPL youth of the country by empowering them with education, skills and employment. This project is serving as a platform for the marginalized youth to take their first flight in pursuit of self-identity, freedom and equality. The scheme provides a continuum based learning on a graded curriculum ensuring quality of education for minority youth school drop-outs/left-outs.

viii. **Hunar Se Rozgar Scheme** of the **Ministry of Tourism** is being implementedwith the objective to bridge the skills gap in hospitality sector especially closely focussing on youth belonging to the economically weaker sections of the society. The courses are conducted by the Institutes of Hotel Management and Food Craft Institutes sponsored by the Ministry of Tourism and the India Tourism Development Corporation. Under the scheme, the main target group is in the age group of 18-28 years and focuses on short term 6 to 8 weeks training courses at free of cost.

ix. **Polytechnics** under the **Ministry of HRD** are meant to provide skills after class X and the duration of diploma programmes is 3 years in conventional disciplines such as Civil, Electrical and Mechanical Engineering. During the last two decades many polytechnics have started offering courses in emerging disciplines such as Electronics, Computer Science, Medical Lab technology, Hospital Engineering, Architectural Assistantship etc. Polytechnics are also offering post diploma and advanced diploma programmes of 1-2 year's duration in different specializations. A new sub–mission on polytechnics for enhancing employment oriented skilled manpower has been started. Similarly, 300 polytechnics through PPP in consultation with industry associations are also being set up.

x. **The Integrated Skill Development Scheme (ISDS)** is being implemented by the **Ministry of Textiles** aim to address the trained manpower needs of textiles and related segments including Handicrafts, Handlooms, Sericulture, Jute, Technical Textiles etc., by developing a cohesive and integrated framework of training based on the industry needs. The scheme which leverages on the existing strong institutions and training experience within the Ministry on the one hand and ensures private sector participation through a PPP Model on the other. All facets of skill development will be covered viz. Basic Training, Skill upgradation, Advanced Training in emerging technologies, Training of Trainers, orientation towards modern technology, retraining, skill upgradation, managerial skill, entrepreneurship development etc. In the selection of trainees, preference will be given to marginalised social groups like women, SC/ST and Handicapped persons, minorities and persons from the BPL category.

xi.

xii. **Udaan** is the Special Industry Initiative for Jammu and Kashmir training a total of 40,000 students in various sectors including retail, IT and BPO etc. within 5 years. The scheme is being implemented by NSDC and the corporate sector in PPP mode. Funds provided by the M/o Home Affairs.

xiii. A new skill development scheme called **Roshni** for rural youth from 24 most critical left-wing extremism affected districts in the country has been launched by the **Ministry of Rural Development**. Six districts each from Jharkhand and Odisha, five from Chhattisgarh, two from Bihar and one each from Andhra Pradesh, Uttar Pradesh, West Bengal, Madhya Pradesh and Maharashtra have been chosen for the scheme, which will be implemented at a cost of Rs 100 crore over the next three years. Training will be imparted through public-private and public-public partnerships. Four training models with duration ranging from 3 months to one year shall be taken up to meet the diverse needs of youth depending on their entry level qualifications.

xiv. **Skill Development in 34 LWE affected** districts is being implemented by the **Ministry of Labour & Employment** with the twin objectives of creating Skill Development infrastructure (ITI and Skill Development Centres) and to run demand driven short term and long term training in the Left Wing Extremism affected districts to enable the youth to access the decent employment opportunities in 9 states, namely Andhra Pradesh, Chhattisgarh, Bihar, Jharkhand, Madhya Pradesh, Maharashtra, Orissa, Uttar Pradesh and West Bengal.

Note on contributors

Dr. Cristina Martinez-Fernandez Dr Martinez was appointed Advisor of the *Knowledge Sharing* Alliance at the Secretary General Office of the Organisation for Economic Co-operation and Development (OECD) in January 2014.

From 2009 to end 2013 Cristina was a Senior Policy Analyst at the OECD Centre for Entrepreneurship, SMEs and Local Development (CFE, the LEED Programme) focusing on projects covering Employment and Skills, Green Growth & Skills, and Southeast Asia. She worked on issues related to the challenges of skills and training systems for SMEs, entrepreneurial and innovation activities; industrial policy, climate change and the transformation of labour markets and the low-carbon economy; and the challenges of demographic change and an ageing society for skills and employment development. Cristina also managed the initiative on Employment and Skills Strategies in Southeast Asia (ESSSA).

Before joining the OECD, Cristina was a Professor at the Urban Research Centre, University of Western Sydney (UWS) in Australia where she led the Urban and Regional Dynamics Program, which analysed industry change, urban performance and socio-economic development within the frameworks of innovation, globalisation and the knowledge economy. Previously at UWS Cristina held positions as Senior Research Fellow at AEGIS research centre (specialised in the analysis of industrial policy dynamics) and acted as Deputy Director and Director of AEGIS during extended periods. During this time Cristina was the scientific coordinator of the KISA project lead by the Australian Government with the OECD Directorate for Science, Technology and Industry.

Dr. Tamara Weyman works as a contracted expert for the OECD, working on various projects involving employment and skills, SMEs development, South-East Asia, territorial development policy, and demographic change and sustainability. Recently Tamara has been involved in publications such as *The Knowledge Economy at Work: Skills and Innovation in Knowledge Intensive Services Activities* (2012), *The Territorial Dimension of the European Social Fund: A Local Approach for Local Jobs* (2011), *Skills Development and Training in SMEs* (2012), *Demographic Change and Local Development: Shrinkage, Regeneration and Social Dynamics* (2012), and a chapter in a forthcoming book:"From 'up north' to 'down under': Dynamics of shrinkage in mining communities in Canada and Australia" in *Stories of Tough Times: International Perspectives and Policy Implication in Shrinking Cities*. Tamara worked as a Research Associate at the Urban Research Centre, University of Western Sydney (UWS) and completed her PhD on Spatial Information Sharing for Better Regional Decision Making in 2007 at UWS. Since 2009, Tamara has been involved in the COST Action TU 0803 "Cities Regrowing Smaller".

Martin Abbott is a Master of Architecture graduate from the University of Technology, Sydney. In 2012, he was awarded the Greenland Traveling Scholarship, a faculty graduate award for outstanding contribution in the field of sustainable development. His architectural work has been published in *Architectural Design* and *Architectural Review*, Australia. To date, Martin has worked on a number of diverse projects encompassing multiple scales, typologies and areas of interest. A series of projects that has intensified his gaze at the city and the social, economic and political formations that define its existence. Since September 2013, Martin is continuing his studies at Sciences Po in Paris as part of "Governing the Large Metropolis", a Masters in Urban Sociology and Public Policy.

Sunita Sanghi is presently working at a higher management level in the Federal Government as Adviser in the Planning Commission of the Government of India. She has done her Post Graduation from the Delhi school of Economics and she also holds a Masters in Development studies from the University of East Anglia, Norwich, United Kingdom. She has been working in the field of labour for about a decade and in skill development for about five years. Besides this she has worked in the Ministries of Finance, Agriculture and Petroleum at the Central level. She presented a paper on "Identification of skill shortages, achieving policy coherence: the case of India" in the previous OECD Green Skills Forum in February 2012. She also presented a paper on Local Development Strategy, Green Jobs and Skills in the Indian Context OECD Indian workshop; she contributed a paper on Strategy for Skill development in India IIM Journal Vikalp. Mrs Sanghi prepared a chapter on Employment and Skill Development for 12th Five year plan in India. Contributed a paper on Skills for inclusion in India in Yojana publication. Besides made number of presentations on the subject and on social security issues in India. She has coordinated the work of finalisation of Twelfth Five Year Plan of the Government of India.