Skill Need and Gap Analysis

A Research Report on
Khambaliya (Devbhumi Dwarka) and Lalpur (Jamnagar) Blocks, Gujarat

Prepared by
Centre for Environment Education
for Nayara Energy Ltd.

NAYARA ENERGY

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Acknowledgement and Credit

We express our sincere gratitude and acknowledge the effort put in by several team members from CEE and NEL who were part of this study and made it possible to bring out the report in time. We especially thank Shri Kartikeya V. Sarabhai for providing insightful comments and suggestions from time to time and for extending guidance when required.

We wish to thank Nayara Energy Limited for giving us this opportunity to come up with the comprehensive report which provides a roadmap for skill enhancement of rural youth around the second largest refinery of the country. The on-ground support by the Gramshiksha team members- Mr. Ayub Shersiya and Mr. Mukesh Kumar through continuous guidance and advice is thankfully acknowledged.

Foreword

India is witnessing a huge economic transition. With12.8 million people entering the job market every year and an employment rate of 6.9%, the country is amidst a challenge to create productive jobs for unskilled workforce whereas also strengthen the skilling capacity of the youth which forms one-third of the country's population. Almost half of the labour force in India is dependent on the agricultural sector, which is facing the brunt of climate change and resource depletion, resulting in low productivity. A sustained economic growth is thus the need of the hour.

Skill development for the youth, climate change and education are addressing key areas of economic concerns in the country. Education has an important role to play in creation of an enabling environment for such policy initiatives.

Skill development is identified across a number of goals within the Sustainable Development Goals framework and largely under the Goal 8- Decent work and Economic Growth. Goal 8 reflects the need to increase economic productivity, reduce unemployment and devise development-oriented policies with a special focus to women and youth in rural areas.

Centre for Environment Education in partnership with the Nayara Energy Limited are working under the aegis of Gramshiksha programme to empower people for their education rights through strengthening primary/secondary education as well as community engagement and contribute to their socio-economic development. As education forms a foundation for skill development, a study to understand the skilling needs and gaps of youth in the villages adjacent to the refinery was conducted with a view to increase their employability in the plant and nearby areas.

The study emphasizes on strengthening of formal education systems alongside provision of infrastructure to support skill enhancement interventions. The report clearly reflects the need for trainings across a range of skills, employment support and financial assistance. Agriculture and animal husbandry being the most prominent source of livelihoods, require economically sustainable and geologically suitable practices to enhance productivity and therefore their annual income. A range of policy level recommendations also form a vital part of the report which when done in conjunction with other stakeholders may furnish greater results.

We hope that the report will provide an impetus to address skill development issues and inspire stakeholders to take strong actions for sustained economic growth.

Kartikeya Sarabhai

Acronyms

AICTE	:	All India Council for Technical Education
AITT	:	All India Trade Test
ATS	:	Apprentice Training Scheme
BAIF	:	Bharatiya Agro Industries Foundation
BISAG	:	Bhaskaracharya Institute for Space Applications and Geoinformatics
CED	:	Centre for Environment and Development
CEE	:	Centre for Environment Education
CSR	:	Corporate Social Responsibility
CTS	:	Craftsmen Training Scheme
DDU-GKY	:	Deen Dayal Upadhyaya Grameen Kaushalya Yojana
DET	:	Directorate of Employment & Training
DGET	:	Directorate General of Employment and Training
DGT	:	Directorate General of Training
DSC	:	District Skill Committees
DST	:	Dual System Training
DTH	:	Direct To Home
eMPOWER	:	Employing and Moving People Off Welfare and Encouraging Responsibility
ESSA	:	Every Student Succeeds Act
EST&P	:	Employment through Skill training & Placement
FGDs	:	Focus Group Discussions
FICCI	:	Federation of Indian Chambers of Commerce & Industry
GCVT	:	Gujarat Council for Vocational Training
GDP	:	Gross Domestic Product
GIDC	:	Gujarat Industrial Development Corporation
GKS	:	Gujarat Knowledge Society
GLPC	:	Gujarat Livelihood Promotion Company
GMKRTI	:	Gujarat Matikam Kalakari and Rural Training Institute
GSDM	:	Gujarat Skill Development Mission
GSDP	:	Green Skill Development Programme

HQ	:	Head Quarters
i-KVK	:	Industrial Kaushalya Vardhan Kendra
INR	:	Indian Rupee Rates
ITIs	:	Industrial Training Institutes
KIIs	:	Key Informant Interviews
KVK	:	Kaushalya Vardhan Kendra
MES	:	Military Engineer Services
MHRD	:	Ministry of Human Resource Development
MMSDP	:	State Sponsored Mission Mangalam Skill Development Programme
MMT	:	Million Metric Tonnes
MoEF&CC	:	Ministry of Environment, Forest & Climate Change
MoU	:	Memorandum of Understanding
MSDE	:	Ministry of Skill Development and Entrepreneurship
NABARD	:	National Bank for Agriculture and Rural Development
NTC	:	National Trade Certificate
NATS	:	National Apprenticeship Training Scheme
NBTs	:	National Biodiversity Targets
NCERT	:	National Council of Educational Research and Training
NCEUS	:	National Commission for Enterprises in the Un-organized Sector
NCTVT	:	National Council of Training in Vocational Trades
NCVER	:	National Centre for Vocational Education Research
NCVT	:	National Council for Vocational Training
NDCs	:	Nationally Determined Contributions
NIOS	:	National Institute of Open Schooling
NOS	:	National Occupation Standards
NSDA	:	National Skills Development Agency
NSDC	:	National Skills Development Corporation
NSDF	:	National Skill Development Fund
NSQEF	:	National Skill Qualification Equivalency Framework
NSQF	:	National Skills Qualification Framework
NSSO	:	National Sample Survey Office

PMKKs   : Pradhan Mantri Kaushal Kendra(s)

PMKVY   : Pradhan Mantri Kaushal Vikas Yojana

PPP   : Public Private Partnership

QP   : Qualification Packs

RPL   : Recognition of Prior Learning

SANKALP   : Skills Acquisition and Knowledge Awareness for Livelihood Promotion

SCOPE   : Society for Creation of Opportunity through Proficiency in English

SDGs   : Sustainable Development Goals

SSC   : Sector Skill Councils

SUC   : Skill Up-gradation Center

TCPC   : Training Cum Production Centre

UNEVOC   : International Project on Technical and Vocational Education

USD   : United States Dollar

VET   : Vocational Education and Training

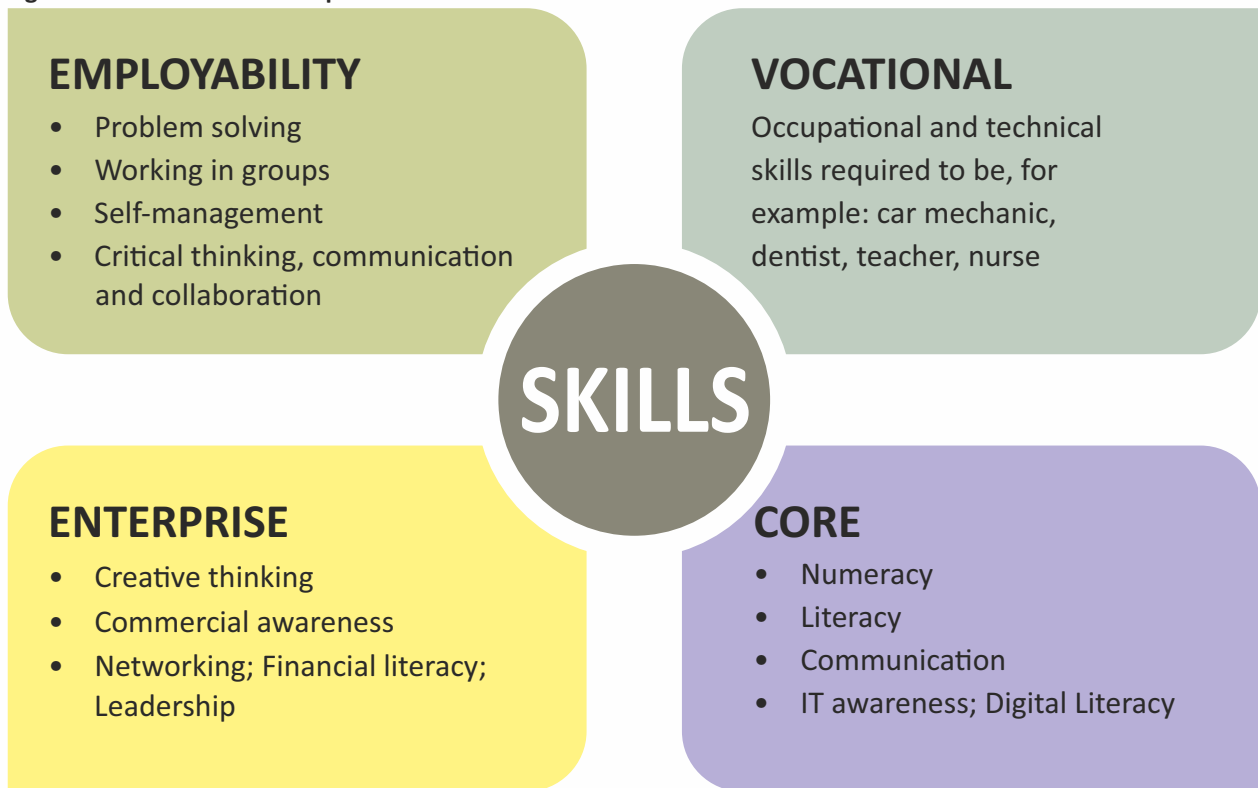VTPs   : Vocational Training Provider

Contents

Background

1.1. Skill Development- Concept and its Importance

Skill development is defined as the development of skills or competencies, which are relevant for the workforce[1]. This also implies gaining a set of attitudes necessary to perform a trade or occupation in the labour market. The International Labour Organization, in this regard, describes Vocational Skill as the ability to carry out the tasks and duties of a given job.

While skills are variously defined, an overall skillset is formed through coming together of four different pillars for skill development as explained by the British Council Report adapted from The UK Skills System: An Introduction.

Figure 1 Pillars of skill development

EMPLOYABILITY

- Problem solving
- Working in groups
- Self-management
- Critical thinking, communication and collaboration

VOCATIONAL

Occupational and technical skills required to be, for example: car mechanic, dentist, teacher, nurse

SKILLS

ENTERPRISE

- Creative thinking
- Commercial awareness
- Networking; Financial literacy; Leadership

CORE

- Numeracy
- Literacy
- Communication
- IT awareness; Digital Literacy

Source: *Overview of India's evolving skill development landscape, British Council, 2016*

Skill development is an important driver to address poverty reduction by improving employability, productivity and helping sustainable enterprise development and inclusive growth[2]. Skill development equips the youth with necessary expertise to create an employment ready future workforce of a country[3]. It is crucial for enhancing the employability of an individual, by facilitating the individual's transition into the labour market[4]. Conversely, the lack of access to good education and training keeps the vulnerable and the marginalized sections into the vicious circle of poverty.

Being a key driver of the macroeconomic growth and socioeconomic stability of the country, it becomes extremely important to keep skill development at the centre of national agenda.

1.2. SDGs and skill development

Skill development is crucial to achieve the 2030 Global Agenda for Sustainable Development and hence forms a major focus in 4 of the 17 SDG Goals. It is evident that building more resilient and sustainable world would lead to enormous opportunities and therefore result in stronger economies. This is also reflected in a Niti Aayog 2017 brief on SDGs that comprises the following skill targets under the four SDG Goals:

4.3   By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university

4.4   By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

4.5   By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations

4.7   By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development.

8.6   By 2020, substantially reduce the proportion of youth not in employment, education or training

10.1 By 2030, progressively achieve and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average
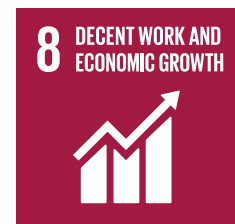
In particular, SDG 8 on Decent Work and Economic Growth is a crucial milestone on the path to achieving global growth. SDGs emphasize that economic growth must be inclusive and should focus on improvement in the wellbeing of all sections of society, especially the most vulnerable. SDGs also emphasize on the fact that Gender equality would have a substantial role in enhancing economic growth.

Figure 2 SDG 8 and Indian scenario

SUSTAINABLE DEVELOPMENT GOALS

8 DECENT WORK AND ECONOMIC GROWTH

PROMOTE SUSTAINED, INCLUSIVE, AND SUSTAINABLE ECONOMIC GROWTH, FULL AND PRODUCTIVE EMPLOYMENT AND DECENT WORK FOR ALL

GLOBALLY

172 MILLION PEOPLE ARE UNEMPLOYED OF WHICH

71 MILLION ARE YOUNG WOMEN AND MEN

IN INDIA

LABOUR FORCE OF **510 MILLION**

MORE THAN 10 MILLION CHILDREN ARE EMPLOYED IN SOME FORM OF LABOUR

12.8 MILLION ENTER THE JOB MARKET EVERY YEAR

12-15 MILLION ESTIMATED ANNUAL DEMAND FOR EMPLOYMENT IN INDIA

6.9% TOTAL EMPLOYMENT RATE

20.7% OF EMPLOYED ADOLESCENTS ARE ENGAGED IN HAZARDOUS WORK

**24%** DECLINING FEMALE LABOUR FORCE PARTICIPATION RATE

Source: www.un.org

Skill Development In India

Skills and knowledge are the fundamentals on which the financial growth and economic development of a country is built and India is no exception to that. India's workforce is the second largest in the world after China's. Being one of the largest pools of "young population" and a fast emerging economy, India has immense potential to be the skill capital of the world. Every year India adds to 12 million to its workforce[5], however presently only 3.05% of the total workforce in India has undergone formal skills training[6]. With another 109 million skilled workers required in the 24 key sectors of the economy by the year 2022, a larger demand-supply mismatch is expected to hit the country. With the launch of the Skill India mission, India is expected to contribute significantly to the overall target of developing new skills in 400 million people in India by 2022, through fostering initiatives in skill development.

The demand for skilled manpower in the country during the last decade has increased enormously and resulted in extended gaps considering the fragmented supply side. The challenges in the value chain further tend to increase and lead to gaps within the sector. There also exists a lack of platform and communication channel to enable the skill community to make informed decisions.

Figure 3 Indian Education and Development Structure
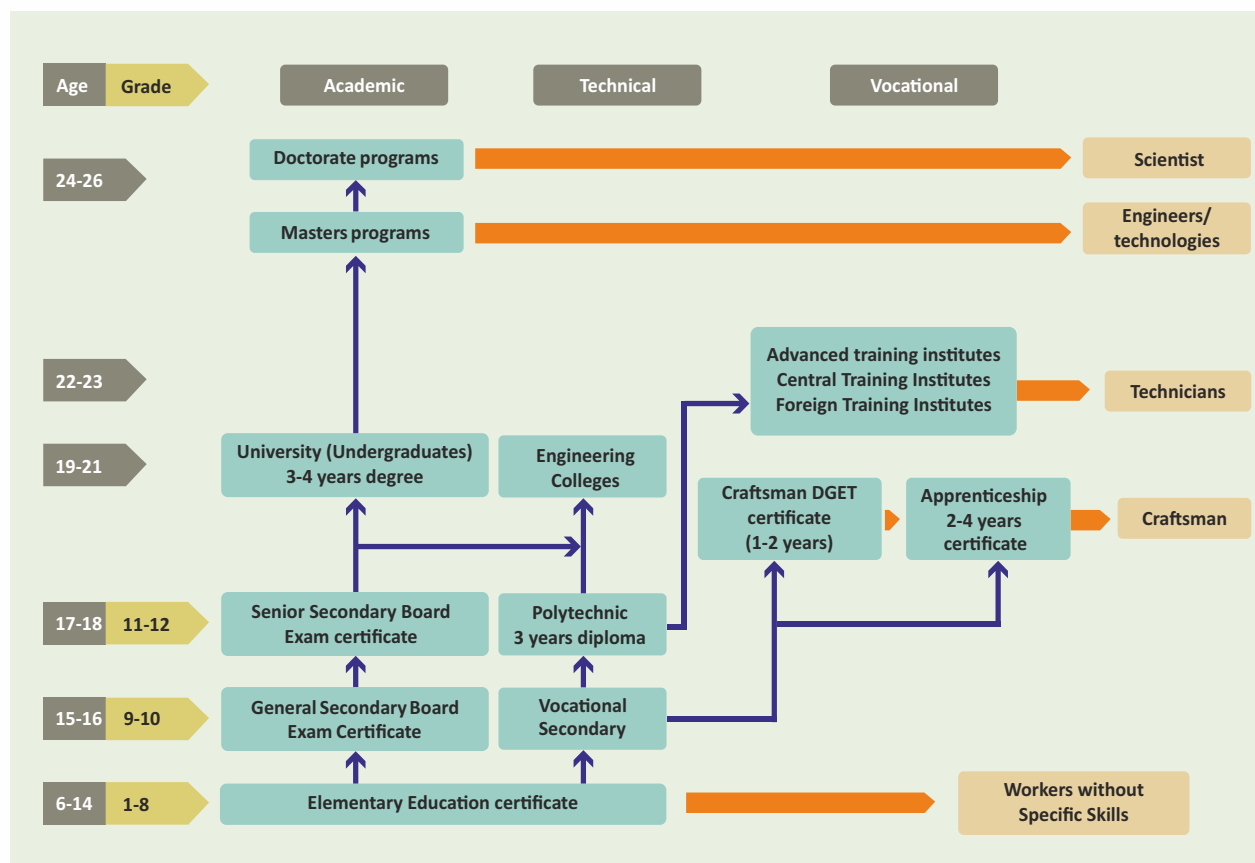
Source: World Bank

Skill development in India is reached through both formal and informal mechanisms. The unorganized sector comprises about 93% of the total population with high levels of underemployment, skill shortages and labour markets with rigid labour laws and institutions[7]. As per the National Commission for Enterprises in the Un-organised Sector – NCEUS, 95% employment is expected to be generated in the informal sector with further reinstating the fact that skill enhancement requires significant efforts for the informal workforce of the country.

Considering that almost of half the labour force in India still works in the agricultural sector, low productivity has been a major challenge in promoting gainful employment in the sector. Hence, upgrading high-value commodities, reforming agricultural marketing policies and market interventions, and strengthening linkages to agri-businesses are critical to steer economic growth. As per the report by the McKinsey Global Institute (2015), if India increases its female labour force participation rate by 10 percentage points by 2025, its GDP could rise by as much as 16 percent as compared to the business-as-usual scenario.

Understanding the growing demand, skill development currently forms an important agenda of the Government and has been receiving a strong push under the banner of Skill India mission. Corporate Social Responsibility has also recognized skill development as one of the priority sectors.

2.1.   Institutional and policy framework

The first National Skills Development Policy was formulated in the year 2009, and recognizing the major drawbacks in terms of funding resources led to the establishment of National Skills Development Corporation (NSDC). NSDC was developed with an idea to bring private sector participation through innovative funding models. Since its inception, NSDC has been endeavoring towards making India the skills capital of the world through multi-sectoral collaboration and initiatives. The 2009 skill policy was replaced by the National Policy for Skill Development and Entrepreneurship in 2015, which sought to:

- o   Create a demand for skill development

- o   Align skill development with required competencies

- o   Foster entrepreneur-ship especially women based

The National Skill Development Fund (NSDF) was also set up in 2009 by the Government of India for raising funds both from Government and Non-Government sectors for skill development in the country to address the above-mentioned pitfalls[8].

National Skills Development Agency (NSDA) was another agency created by the Government of India in June 2013 to work with State governments to rejuvenate and synergize skilling efforts at the State level. The NSDA further came up with the National Skills Qualification Framework (NSQF), which seeks to organize qualifications according to a series of levels of knowledge, skills and aptitude across formal, non-formal or informal learning mechanisms[9].

The Directorate General of Training (DGT) in Ministry of Skill Development and Entrepreneurship is the apex organization for development and coordination at National level for the programmes

relating to vocational training in particular policy formulation for the ITIs and skill development, which is, implemented Vis the state governments.

The National Council for Vocational Training, an advisory body, was set up by the Government of India in 1956 (the then National Council of Training in Vocational Trades—NCTVT). The Council has been entrusted with the responsibilities of prescribing standards and curricula for craftsmen training, advising the Government of India on the overall policy and programs, conducting All India Trade Tests and awarding National Trade Certificates.
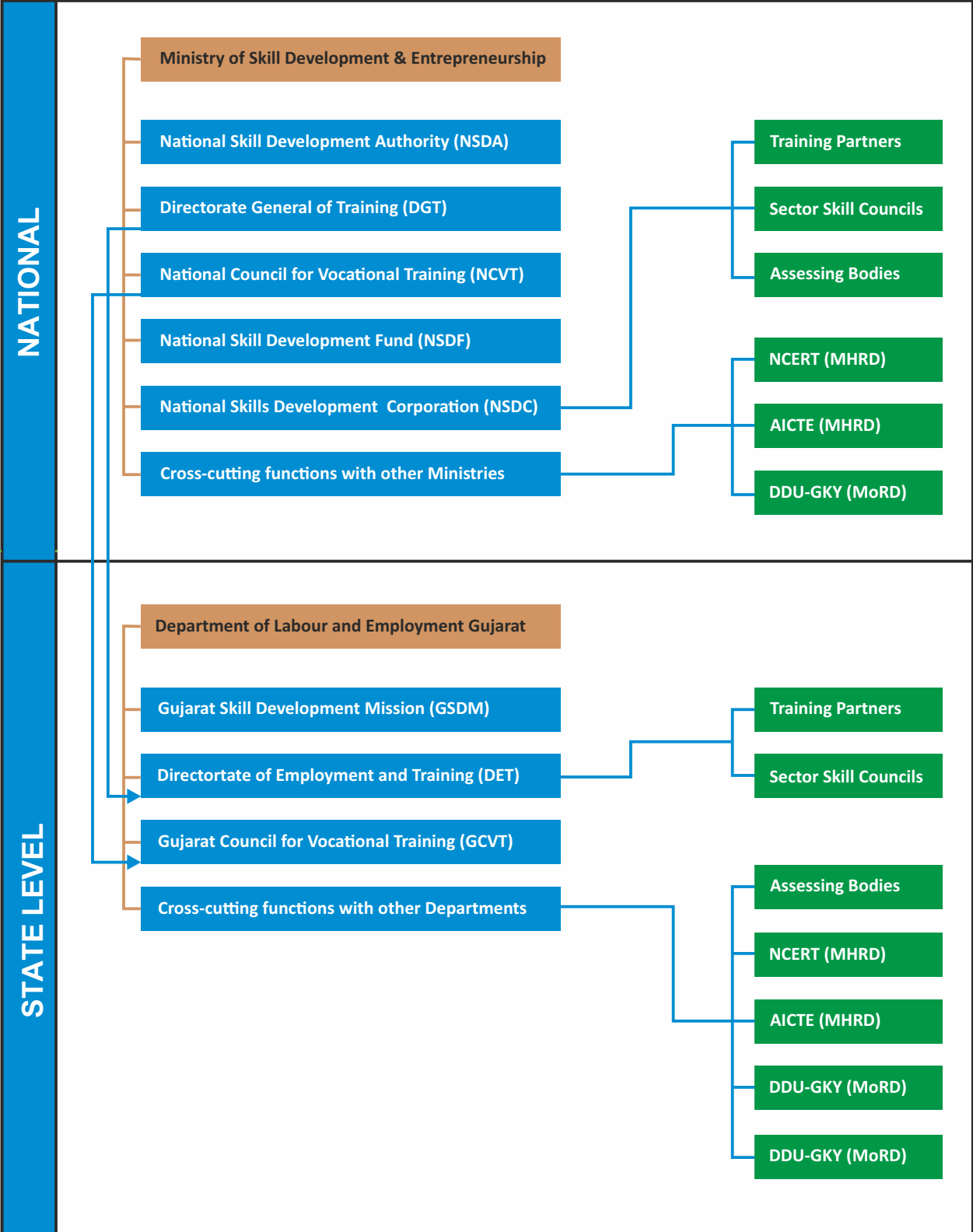
Another renewed effort was made in the year 2014, through 'Make in India' Programme. Under the aegis of the 'Make in India', the government set up the country's' first Ministry of Skill Development and Entrepreneurship (MSDE) to create an enabling ecosystem to impart employable skills to its growing workforce over the next few decades and streamline investments in the sector. In line with the same, the Skill India Mission was launched by the Honorable Prime Minister in 2015 which particularly aimed to train over 40 crore people and create an employable skilled talent pool till the year 2022.

Green Skill Development Programme (GSDP) is under the Skill India Mission pioneered by the Ministry of Environment, Forest & Climate Change (MoEF&CC) utilizing the vast network and expertise of ENVIS Hubs/RPs, endeavors to develop green skilled workers having technical knowledge and commitment to sustainable development, which will help in the attainment of the Nationally Determined Contributions (NDCs), Sustainable Development Goals (SDGs), National Biodiversity Targets (NBTs), as well as Waste Management Rules (2016)[10]. The list of courses offered under this could be found http://www.gsdp-envis.gov.in/Upload/List_for_duration.pdf.

Few other central government schemes towards skilling include:

• Pradhan Mantri Kaushal Vikas Yojana (PMKVY): It is a flagship scheme of the MSDE and implemented by NSDC launched in 2015. It aims to enable a large number of Indian youth to take up industry-relevant skill training that will help them in securing a better livelihood.

• Pradhan Mantri Kaushal Vikas Kendras: Skill India Mission envisages setting up of 432 Pradhan Mantri Kaushal Kendra(s) (PMKKs) in 415 districts across the country targeting to train a minimum of one lakh candidates annually.

• Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY): It is uniquely focused on rural youth between the ages of 15 and 35 years from poor families. As a part of the Skill India campaign, it plays an instrumental role in supporting the social and economic programs of the government.

• The Hon'ble Prime Minister laid the foundation of the first ever "Indian Institute of Skills" in the country at Kanpur, Uttar Pradesh in 2016 In line with his vision of making India the Skill Capital of the World by empowering its youth to be more employable and self-sustainable[11].

• National Apprentice Promotion Schemes and Drivers' Training Institutes help in apprenticeship training to address skill mismatches.

Figure 4 Institutional framework for skill development in India

NATIONAL	
Ministry of Skill Development & Entrepreneurship	
National Skill Development Authority (NSDA)	
Directorate General of Training (DGT)	Training Partners
National Council for Vocational Training (NCVT)	Sector Skill Councils
National Skill Development Fund (NSDF)	Assessing Bodies
National Skills Development Corporation (NSDC)	NCERT (MHRD)
Cross-cutting functions with other Ministries	AICTE (MHRD)
	DDU-GKY (MoRD)

STATE LEVEL	
Department of Labour and Employment Gujarat	
Gujarat Skill Development Mission (GSDM)	Training Partners
Directortate of Employment and Training (DET)	Sector Skill Councils
Gujarat Council for Vocational Training (GCVT)	Assessing Bodies
Cross-cutting functions with other Departments	NCERT (MHRD)
	AICTE (MHRD)
	DDU-GKY (MoRD)
	DDU-GKY (MoRD)

Source: *Overview of India's Evolving Skill Development Landscape, 2018*

- Sector Skill Councils: They have been developed as autonomous industry-led bodies by NSDC to play a vital role in bridging the gap between what the industry demands and what the skilling requirements ought to be. They are national partnership organizations which bring together all the stakeholders - industry, labour and the academia. NSDC has 38 Sector Skill Councils (SSC) approved in services, manufacturing, agriculture & allied services, and informal sectors[12].

- ITIs Dual System Training (DST): A scheme of model training inspired by the German method and provides industry exposure through industry led trainings to students of the various ITIs.

- SANKALP (Skills Acquisition and Knowledge Awareness for Livelihood Promotion) launched by MSDE aims at building a pool of quality trainers and assessors, creating convergence among all skill training activities at the state level, establishing robust monitoring and evaluation system for skill training programs.

- Skill India Portal-A strong IT Platform launched to converge the skilling data of various Central Ministries, State Governments, Private Training Providers and Corporates on a single platform[13].

- Recognition of Prior Learning, RPL program, under PMKVY 2016-19, was launched to recognize the prior skills acquired by Individuals.

- STRIVE scheme has been made to improve the performance of ITIs.

A recent strategy for New India @75 by Niti Aayog (2018) discusses the government's goal is for India to be a USD 4.0 trillion economy in 2022 when the country celebrates the 75th anniversary of its independence. The following skill development goals to be achieved until 2022-23:

- Increase the proportion of formally skilled labour from the current 5.4 per cent of India's workforce to at least 15 per cent.

- Ensure inclusivity and reduce divisions based on gender, location, organized/unorganized, etc.

- India's skill development infrastructure should be brought on par with global standards by.

   o Developing internationally compliant National Occupation Standards (NOS) and the Qualification Packs (QP) that define a job role.

   o Making all training compliant with the National Skills Qualification Framework (NSQF).

   o Anticipating future skill needs to adapt skill development courses.

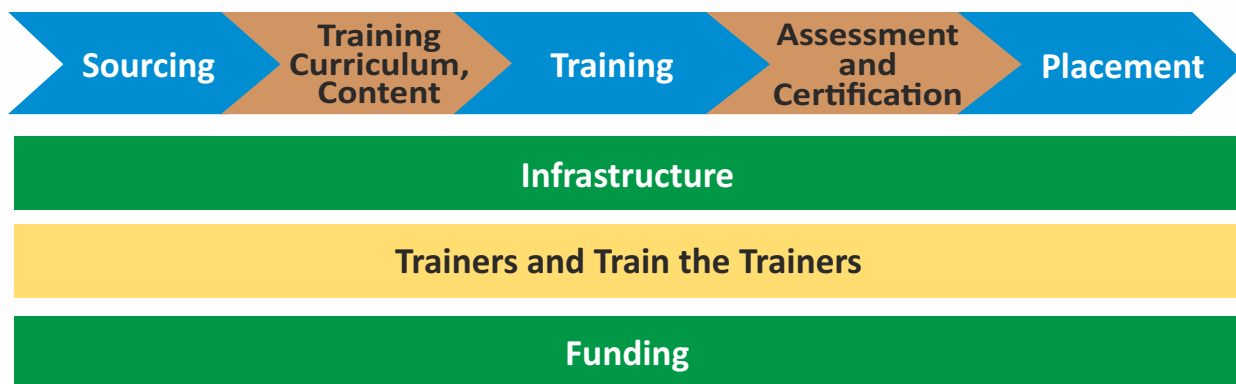- Skill development should be made an integral part of the secondary school curriculum

2.2.   Skill value chain and related stakeholders

Skill development is a shared-responsibility for a range of stakeholders, including the Government, private sector, civil society, industries, public sector, educational institutions, community-based organizations, highly qualified/dedicated individuals of the skilling and entrepreneurship space, and trade organizations. The Government of India has specifically set up Sector Skill Councils (SSCs) to complement the existing vocational education system for the industry to meet the entire value

chain's requirements of appropriately trained manpower in quantity and quality across all levels on a sustained and evolving basis[14].

The skill development value chain, considering the initiative as a whole, can broadly be classified into sourcing, curriculum, training, assessment and placement. This involves trainees, training providers and employers as primary stakeholders. The following diagram illustrates the value chain in the skilling value chain:

Figure 5 Skill Development Value Chain

| Sourcing | Training Curriculum, Content | Training | Assessment and Certification | Placement |

Infrastructure

Trainers and Train the Trainers

Funding

Source: IMaCS analysis

Engagement model with different parts of the skill value chain is crucial in attaining the overall Skill India targets. There is a need for an independent system to assess quality, comprising all elements of the skill development value chain, right from need assessment and student mobilization up to training and placement[15]. Infrastructure, funding and curriculum are the foundation in strengthening the overall skill development landscape and complement further through positive outcomes.

2.3. Current Scenario

Census 2011 was indicative of the imminent 'demographic dividend' in India by the year 2020, with 65% Indians under the age of 35 and thus making India the youngest country in the world. This could be seen as an advantage to fulfill the demand for 109.73 million skilled workers across India by 2022 (NSDC, 2014). However, if we see the other side of the coin, the National Sample Survey Office (NSSO) data reflects that out of the 470 million working age population, only 10% receive some kind of training or access to skilled employment opportunities. This clearly indicates a large-scale demand-supply gap in the skill development avenues. Moreover, if the available demographic dividend is not attended to, seriously, it may lead to demographic disadvantages, as the large numbers of unskilled and semi-skilled youth population have low productivity and subsequently lower wages, but form the base of the labour force within the country. In order to bridge the gaps, skills development has been made one of the national priorities by the government in the last decade and subsequent changes were witnessed in India's skill development framework.

The growing demand of skilled manpower in the country with one of the fastest growing economies of the world has led to an emerging need to scale and enhance quality of the skill development programs to meet the needs of the sectors providing employment opportunities. The country has

also been witnessing significant shifts of the labor force across primary, secondary and tertiary sectors (ESSA, World Bank, 2017). The government's recent skill gap analysis says that another 109 million skilled workers would be needed in the 24 keys sectors of the economy by the year 2022 (World Bank, 2017). The scenario may further worsen with the fact that only 3.05 percent of India's workforce receives formal skills training[16]. Realizing the fact, Government of India has already been undertaking a number of skill development initiatives to transform the challenges in this sector into opportunities. However, there still lies a large gap in both the demand as well as the supply side.

Over the years the central government's skill development programmes have panned across more than 20 Ministries/Departments. Convergence of these departments is a mammoth task and demands for a need of robust coordination and monitoring mechanisms to ensure progressive changes in the skilling sector.

Figure 6: Incremental Requirement across Sectors
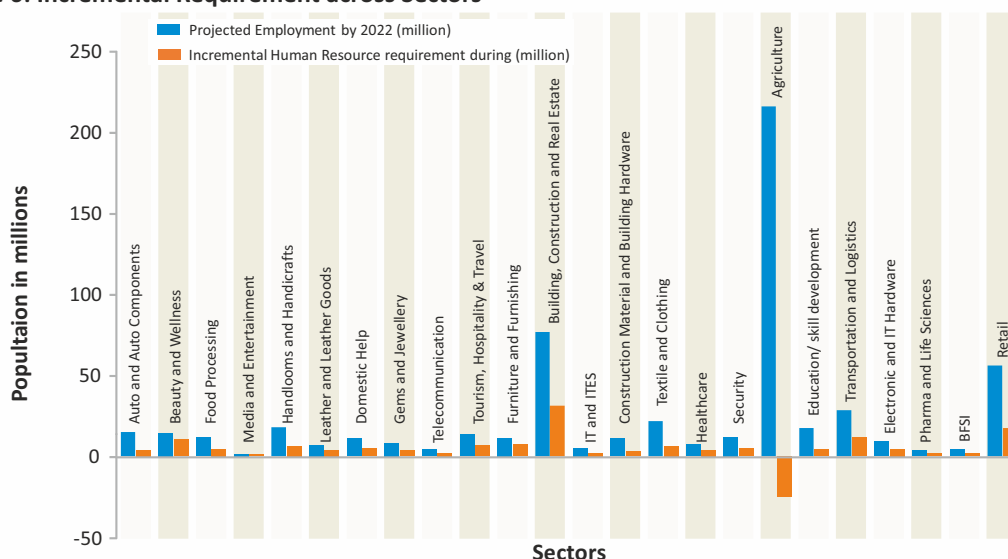
Source: National Policy on Skill Development, 2015

Talking about the future scenarios, a skill gap analysis study conducted by the National Skills Development Corporation (NSDC, 2014) reports an incremental requirement of 109.73 million skilled populations by 2022 across 24 key skill sectors.

India needs to achieve and sustain a high rate of GDP growth for the next three decades to be a USD 4.0 trillion economy. India has the opportunity to supply skilled labour globally and become the world's skill capital. However, the demographic advantage might turn into a demographic disaster if the skills sets of both new entrants and the existing workforce do not match industry requirements[17].

The major challenges to skill development over the years are the following[18]:

• Mapping skill requirements sector-wise and geographically.

• Making vocational training an aspirational choice.

• Involving industry for improved quality and relevance – scaling up the apprenticeship programme.

• Integrating the informal sector into the skill development ecosystem.

• Putting in place an effective, internationally recognized assessment and certification system.

The Gujarat Persepective

Gujarat is the ninth most populous state in India, with nearly 5 percent of the country's population and 6 percent of the country's geographical. The state continues to occupy a distinctive position in the Indian economy contributing to 7.6 percent of Gross Domestic Product of India[19]. The demographic and social profile of Gujarat presents a unique human resource opportunity for economic growth through manpower skilling[20].

Gujarat has taken great strides in the domain of skill development to create a skilled workforce. At present 287 Govt. ITIs, 497 Grant-in-aid & Self-Financed ITCs, 500 KVKs (Kaushalya Vardhan Kendra), 790 VTPs (Vocational Training Provider) and 48 Employment Exchanges are functioning under the Gujarat Directorate. 21.03 lakh candidates have been certified under the various schemed of PMKVY[21]. The team of more than 6,500 people makes excellent efforts in imparting training to 8,30,841 trainees at various Training Institutes in different training programs under the Directorate and assisting around 1,83,295 people to get employment through Employment Exchanges[22]. The state is expected to witness a gross addition of 32.90 lakh people to labour force during 2017-22 periods[23].

3.1. State Level Policies and Schemes

The Department of Labour and Employment of the Gujarat Government is the nodal agency to look after the skill development in the state. Its Employment Wing looks after the skill development component and in particular, by the Directorate of Employment & Training (DET), which works under it[24]. DET functions with the major objectives of providing Vocational Training and Employment Services to the youth in Gujarat State and runs the day-to-day administration of the vocational programmes of the Directorate General of Training. To achieve these objectives, the DET runs a variety of long-term and short-term training programmes in Industrial Training Institutes/ Centers in the State. It also registers the youth looking for employment and provides placement services to them through Employment Exchanges that also maintain the list of prospective Employers[25].

Besides, it is complemented by the Gujarat Council on Vocational Training (GCVT), which is the state council corresponding to the National council to deal with all matters relating to vocational training at the level of the State. The Gujarat Council which is affiliated to the National Council for Vocational Training (NCVT), New Delhi functions as a state agency to advise the State Government in carrying out the training policy laid down by the National Council and to coordinate the Vocational Training Programme throughout the State[26].

Furthermore, The Gujarat Skill Development Mission (GSDM) acts as an apex body for monitoring, coordination, convergence and providing overall policy direction for skill development activities in Gujarat. It creates an overarching integrated framework for action for skill development and strives to provide an enabling environment in this regard[27]. The state has significant scheme training opportunities through Government schemes and is imparted through Institutions under:

3.1.1. Institutions

Industrial Training Institutions (ITIs)

Industrial Training Institutes, also known as it is, have been established to provide vocational training, generally industry-specific skills, to students. The Directorate General of Employment and Training (DGET) - MSDE lays down guidelines, rules and regulations and formulating policies for ITIs in India and are implemented by the state government machinery. Creation of the ITIs in through the DGET and affiliation of courses through NCVT for both government and private ITIs, however, their admission process and daily administration is monitored by the state governments. The admission is done via DET in Gujarat and is given to eligible candidates as per the "merit basis" prepared on the basis of qualifying marks and does not require any specific test for the same. Training at ITIs is done via a number of schemes including Craftsmen Training Scheme and Apprentice Training Scheme[28].
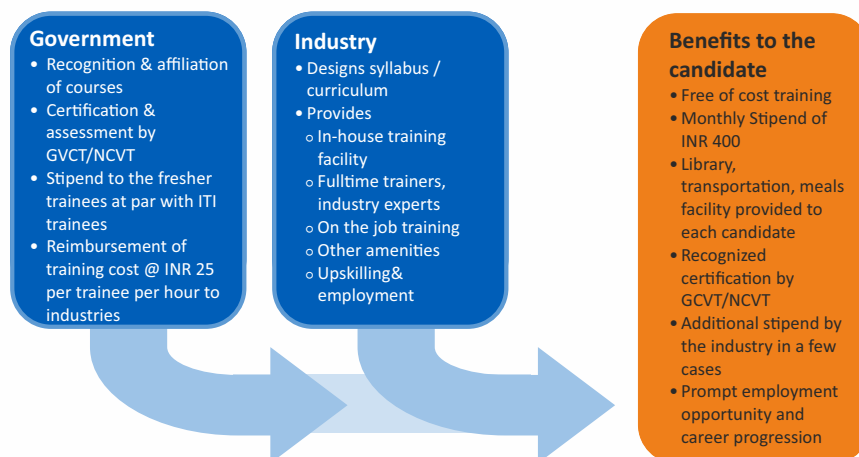
Kaushalya Vardhan Kendra (KVK)

These are skill centers within a 15 km cluster of villages of the state having a population above 5000. The buildings of Gram and Taluka Panchayats, schools, colleges, rural market yards and private owners are converted into Kaushalya Vardhan Kendras (KVKs) where skill training is imparted via courses as required by the locals. It provides for harnessing the potential of rural youth, imparting them hard and soft skills so as to meet the demand of regional and local industries also to promote self-employment and entrepreneurship. The KVKs are also equipped with DTH connections that deliver regular lectures and are monitored by the district level ITIs. Nearly 500 KVKs have been established in four phases training around 1.5 million youth including 0.95 million women[29]. List of courses offered under KVK are attached as Annexure.

Industrial Kaushalya Vardhan Kendra (i-KVK)

These are KVKs developed where skilling takes place in the industry, by the industry and for the industry through certification of industrial courses from GCVT. The model ensures high degree of

Figure 7 Role of stakeholders in i-KVK

Government
- Recognition & affiliation of courses
- Certification & assessment by GVCT/NCVT
- Stipend to the fresher trainees at par with ITI trainees
- Reimbursement of training cost @ INR 25 per trainee per hour to industries

Industry
- Designs syllabus / curriculum
- Provides
  - In-house training facility
  - Fulltime trainers, industry experts
  - On the job training
  - Other amenities
  - Upskilling& employment

Benefits to the candidate
- Free of cost training
- Monthly Stipend of INR 400
- Library, transportation, meals facility provided to each candidate
- Recognized certification by GCVT/NCVT
- Additional stipend by the industry in a few cases
- Prompt employment opportunity and career progression

Source: Directorate of Employment & Training, Government of Gujarat

engagement and ownership on the part of the employer to develop its own skilled workforce with the help of the government.

District Skill Committees

In order to get to the grass roots of the country with its various reforms and empower every citizen, the ministry has formed District Skill Committees (DSC) in all Districts as part of its Aspirational Skilling Abhiyaan under the Sankalp program, which is funded by World Bank. The MSDE is handholding these District Skill Committees through the Directorate General of Training (DGT) to further identify skill gap at a local level and then strengthen the ecosystem for local market driven skill development opportunities.

3.1.2. Schemes

Craftsman training Scheme (CTS)

The Craftsmen Training Scheme (CTS) was introduced by the Government of India in year 1950 is the most important in the field of Vocational Training, and has been shaping craftsmen to meet the existing as well as future manpower needs, through the vast network of ITIs spread over various States / Union Territories in the country. Upon completion of the training, trainees write the All India Trade Test (AITT) and successful candidates receive the National Trade Certificate (NTC). It further plans to integrate National Skill Qualification Equivalency Framework (NSQEF) with mainstream educational system on a mass scale.

Apprenticeship Training Scheme (ATS)

National Apprenticeship Training Scheme (NATS) is instituted by Board of Apprenticeship Training/Practical Training, Ministry of Human Resource Development, Government of India. It is a National Scheme for providing skill training to Fresh Graduates, Diploma Holders in Engineering and Technology and Vocational pass outs in the industry. It is a one year programme equipping technically qualified youth with practical knowledge and skills required in their field of work. During the period of Apprenticeship, the apprentices are paid a stipend amount, 50% of which is reimbursable to the employer from the Government of India. At the end of their training the apprentices are tested by the National Council for Vocational Training. Every apprentice who passes this test is awarded a National Apprenticeship Certificate[30].

Modular Employment Scheme

An Institutional demand-driven short term training through the registered Vocational Training Providers (V.T.Ps) that provides the "minimum skill set" which is sufficient to get employment and allows for Skills Upgradation. It is multi-entry and multi-exist and can be availed by people who have completed grade 5 and above. The skill is to be assessed by the Assessing Body mainly from the Industry Organization and Certification is done jointly by the National Council for Vocational Training and Industry (Assessing Body). M.E.S. benefits different target groups like Early School drop-outs and unemployed, Workers seeking skill upgradation and Workers seeking certification of their skills acquired informally[31].

Skill Certification

Individuals with prior learning experience or skills shall be assessed and certified under the Recognition of Prior Learning (RPL) component of the Scheme. RPL aims to align the competencies of the unregulated workforce of the country to the NSQF. It has two components:

1) To test & certify the existing skills of the experienced but uncertified workers at their place of work (Direct Assessment & Certification) and

2) To award skill certificate after upgrading and updating the skills of the Semi-skilled/Unskilled workers by short term training at their place of work (Assessment & Certification after Training).

It intends to provide these through both online mode and through on-site assessments and certification camps.

Figure 8 Role of stakeholder in skill certification
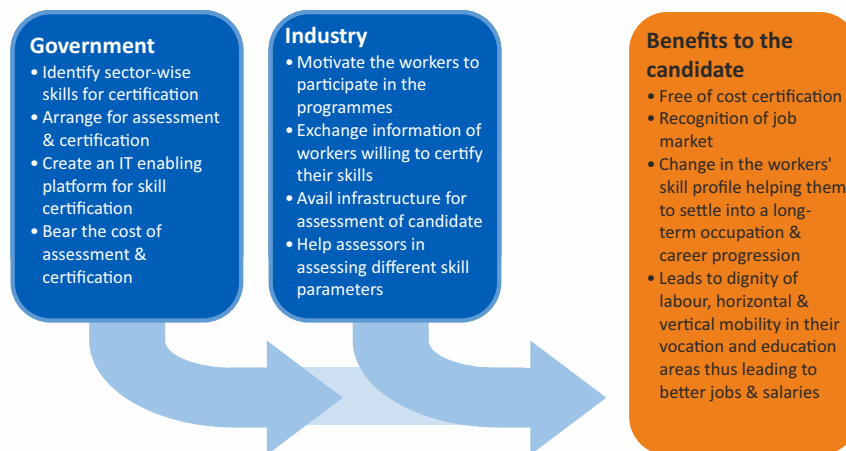
Source: Directorate of Employment & Training, Government of Gujarat

Public Private Partnership

Flexi-MoUs between state governments and industry partners to establish a vocational training centre. The staff and administration is monitored by the government while the industry plays the role of major implementer and designer. Terms are different for different MoUs on a case-by-case need in line with providing the maximum skill development opportunity for the unskilled and semi-skilled[32].

e-mpower

Through this scheme, the government is providing training related to computer and information technology to youth[33].

Participation at the World Skills Competition

The largest skill competition in the world held once every two years. India Skills, India's first National Skills Competition launched by the Ministry of Skill Development and Entrepreneurship (MSDE) &

National Skill Development Corporation (NSDC), has been leading India's participation at World Skill Competition since 2011. Gujarat has been actively participating with the involvement of all 33 districts across 10 trades[34].

3.1.3. Other State Schemes (pioneered by other departments)

- Gujarat Matikam Kalakari and Rural Training Institute (GMKRTI): a scheme of the Commissionerate of Cottage Industries which caters to the requirement of Training / Re-training of rural artisans for improving their skills, productivity & safe working conditions by imparting free training at the doorstep in 17 short duration courses of 30 to 60 days. It provides 1000 rupees monthly stipend to trainees and is imparted via GCVT approved syllabus in these GMKRTIs. More than 170 Talukas are covered every year under the scheme[35].

- Training Cum Production Centres (TCPCs), a scheme of the Commissionerate of Cottage Industries to impart training in 17 trades through 38 centres to candidates in the age group of 14 to 30 years depending on the trades and schooling. It also provides for loan subsidy and fresh apprentice training at the ITIs[36].

- Gujarat Livelihood Promotion Company (GLPC): It is the implementing agency of centrally sponsored Pandit Deen Dayal Upadhyay – Gramin Kaushalya Yojana (DDU-GKY) and State Sponsored Mission Mangalam Skill Development Programme (MMSDP) which imparts 3 to 6 months short term training to rural candidates in industry relevant trades along with stipend in the age group of 18 to 40. It also gives post placement handholding support for one year after candidate gets job and jobs to atleast 75% of the candidates[37].

- Society for Creation of Opportunity through Proficiency in English – SCOPE under Education Department for training candidates to be proficient in English[38].

- Gujarat Knowledge Society (GKS): It is a society formed by the Government of Gujarat to prepare the youth for the knowledge-based economy and society to stimulate creation of world-class knowledge resources by developing new competencies in skills. GKS is run by the Directorate of Technical Education, Education Department, Government of Gujarat. It imparts training via courses at partner training institutes[39].

- Employment through Skill training & Placement (EST&P): Scheme under Department of Urban Development wherein NCVT / GCVT pattern courses are offered in Urban local Bodies through MoU with NCVT / GCVT Registered VTP (Vocational Training Providers)[40].

- Sant Shiromani Ravidas High Skill Development: A job-oriented scheme launched in 2011-12 for Scheduled Caste youth under the Social Justice and Empowerment Department where training is imparted in courses including fundamental of Computers and English by training partners . It also provides placement assistance with one year handholding support[41].

3.2. State scenario, gaps and challenges

The Skill Development Sector Profile developed in 2017 for Vibrant Gujarat, provides the following overview of the skill training capacities developed in the state:

Table 1 Training capacity in State government departments and DET

Department	Training Capacity	Type of Institute	Training Capacity
Labour & Employment	5,62,025	Craftsmen Training Scheme (CTS)	1,95,952
Rural Development	19,280	Apprentice Training Scheme (ATS)	53,073
Education	2,92,161		
Industries & Mines	30,000	Kaushalya Vardhan Kendra (KVK)	1,00,000
Urban Development	40,000	i-KVK	5,000
Tribal Development	4,100	Skill Certification	20,000
Commissioner, Cottage Industries	20,800	MES after Training & Direct Assessment	28,000
Social Justice	4,100	eMPOWER	1,60,000
Total	**9,72,466**	**Total**	**5,62,025**

*Source: http://vibrantgujarat.com/writereaddata/images/pdf/skill-development-sector.pdf*

While talking about various schemes, the outreach numbers have been as follows:

- PMKVY Gujarat has ranked 15 in the implementation. As of January 2019, 21.03 lakh candidates were certified under it[42]. On a regional view, nearly 61% of the PMKVY targets of the state have been completed[43].

- CSR activities under PMKVY have been growing too. Nearly 93% of the CSR initiatives in the Gujarat have been completed[44].

- Craftsman Trading Scheme

  o Out of 668, 287 ITI are set up by Gujarat Government. 141 ITI are running under chair of Industries Partner in PPP Scheme mode. Total 113 ITI are Grant in Aid and 268 ITI are Self-finance.

  o Training is imparted in 169 trades under Craft Training Scheme (CTS) in ITIs. Among them, 87 are Engineering Trades and 82 Non- Engineering Trades[45]

- Kaushalya Vardhan Kendras

  o Total 500 Kaushalya Vikas Kendra (KVKs) have been established for training of Skill Development at Gram Level.

  o Total 17 lakh candidates have been trained under these KVKs, which includes 10 lakh women. KVKs are also running Selected Jails for inmates[46]. Total 13,02,949 trainees have been trained, out of which 818936 were women, and the participation of women have been increased from 47% to 61%[47].

o The KVKs have been identified as one of the State Governments' best practices in skill development by Niti Aayog.

Figure 9 Outcome of KVK initiative across the years
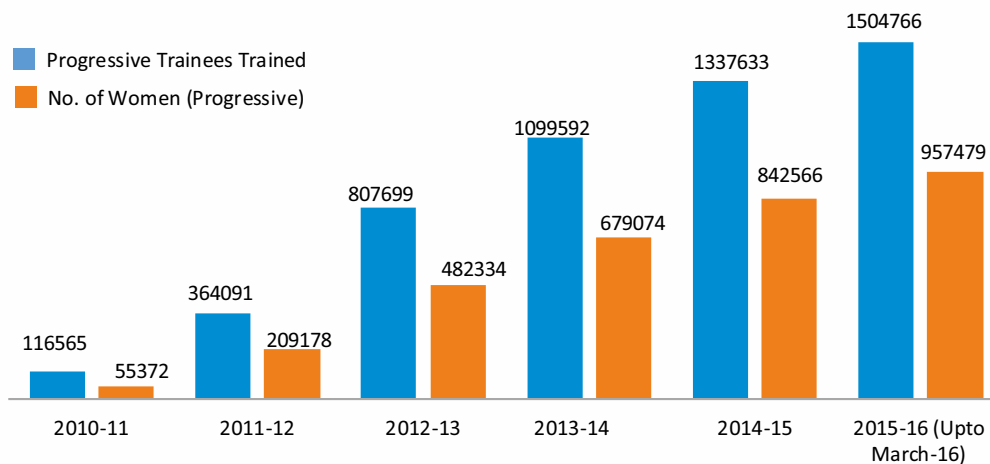
- Gujarat State stands no 1 in India for ATS with 7,925 units registered on portal. Currently, more than 25,000 Apprentices are taking training under these registered units[48]

- As of now, 102 i-KVKs and 291 courses have been approved which has employed 6314 people[49]. Total Capacity of 109 iKVK is 8,000[50].

- 9,30,317 people have registered under the eMPOWER scheme and 8,07,182 have completed their courses[51].

- Skill Certification has been issued to artisans of traditional skills (hereditary Skilled Manpower). More than 60,000 Skill Certification has been issued till date[52].

- Under the Public Private Partnership, DET has entered into 40 MoUs with industries while 1242 Flexi MoUs have been done by 282 Government ITIs with nearby Industries. This has resulted in training of 6914 students out of which 3859 have been placed and 1132 undergoing training in various sectors like Automobile, Construction, IT, Manufacturing etc. Additionally, 91 ITIs have been upgraded through it[53].

- Till date 4, 32,247 candidates successfully trained in various Gujarat Knowledge Society GKS Courses[54].

- Skill Up-gradation Center (SUC) has been established in GIDC area by CED[55].

- Virtual Class Rooms has been instituted for e-leaning in ITI and KVK centers and Training has been imparted to students through "VANDE Gujarat" Chanel with technical support of BISAG[56].

- Training Facility for Physically Challenged: Special training facility has been created in 19 ITI / KVK for disables[57].

- Training capacity of Gujarat has cross 10 lakh trainees per year. This includes training capabilities of various departments like Labour & Employment, Education, Development Commissioner, Commissioner of Industries, Social Justice & Empowerment, Tribal Development, Urban Development and Women & Child Development[58].

- To encourage Skill Development in Gujarat, Government has provided special provision in Industrial Policy, Tourism Policy, Electronic Policy, and I.T. Policy[59].

However, the youth aspiration study indicates a mismatch between student aspiration and job opportunities available in the state.

Table 2 Gap between demand and net supply of jobs

Period	Demand for Human Resource due to new jobs created (Lakhs)	Gross Addition to Working Age Population-Supply (Lakhs)	Gross Addition to Labour Force – Supply (Lakhs)	Net Addition to Labour Force Supply (Lakhs)	Gap between Demand & Net Supply (Lakhs)
2012 - 17	30.95	60.51	35.15	20.41	10.54
2017 - 22	26.34	56.67	32.90	15.83	10.51

Source: Skill gap study for the State of Gujarat (2012-17, 2017-22), NSDC

Estimation of demand supply gap over twelfth plan period indicates the significance of Gujarat as an employment hub for the workforce in semi-skilled category, considering the high level of industrial growth to provide employment opportunities to the semi-skilled workforce. District level variations in Demand-Supply gap indicate the need for geography specific initiatives to address the skilling issues[60].

Table 3 Classification across various skill levels

Region	2012-17				2017-22			
	Skilled	Semi Skilled	Minimally Skilled	Total	Skilled	Semi Skilled	Minimally Skilled	Total
Gujarat	(1,637)	939,383	116,890	915,489	(58,092)	651,365	457,174	1,067,007

An assessment of the studies and gaps were conducted through a review of reports available in the public domain. The gaps existing in the skill development sector is highlighted in the table below:

Table 4 Existing Gaps in skill development as identified by Gujarat CSR Authority

Gap Areas	Problem description
Mismatch in demand and supply	Supply Demand-Supply gap estimates indicates a need to improve participation rates in semi-skilled categories along with providing vocational skills to high skilled and minimally skilled labour force to ensure adequate considering the high level of employment opportunities in semi-skilled category within the state

Existing training infrastructure	Assessment of existing training infrastructure in comparison to human resource demand over XII Plan period, indicates significant capacity expansion requirement for semi-skilled category through vocational education.
Skilling considering local industrial	Issue of low employability of graduates has to be addressed through suitable up skilling considering local industrial requirements in order to ensure availability of industry ready manpower.
Entrepreneurship	Undertaking suitable measures to promote entrepreneurship among skilled workers considering the surplus scenario in the segment.
Industry participation and Setting	In order to make the skill development system relevant and driven by labour market signals, it is necessary to increase participation of industries through Sector Skill Councils. Functions of SSCs include identification of skill gaps, preparation of Skill Development plans and establishment of well-structured sector specific Labour Market Information System to assist planning and delivery of training.
Shortage of quality trainers	There is an urgent need for improving the quality and size of trainer resource. Skill up- gradation of trainers, their quality assurance, and improvement of their status in society are important to improve quality of training.

Source: http://gcsra.org/writereaddata/images/pdf/IP-Skill-Development.pdf

About The Study

Centre for Environment Education (CEE) in partnership with Nayara Energy Limited (Nayara) is working under Gram Shiksha programme since 2016 as part of their Corporate Social Responsibility (CSR). The project focuses on the education and holistic development in schools and communities in 15 villages surrounding the refinery, touching all ages between 6-35 years through multiple interventions. Over the years, Gram Shiksha has been carrying out multiple interventions in primary as well as secondary education.

With long-term initiatives focusing on formal education, Nayara came across a need to strengthen the skills of villagers beyond formal education for their economic advancement, livelihood security and overall development. Therefore, under the 'Literate Village' model of Project Gram Shiksha, CEE and Nayara engaged and planned to conduct a gap analysis study in the surrounding villages and thereby understand the current status and skill development requirements of residents. The study is the first step towards the lager goal of economic development of village through recommendations provided in the report. The study intends to identify bottlenecks and proposed interventions in the skill development ecosystem to empower the villagers. With Nayara's aspirations to create employment opportunities for skilled youth from nearby villages in the Vadinar plant, the study also discusses the scope of their absorption and training requirements.

4.1. Study objectives

The skill needs and gap analysis study aims:

- To determine the skilling needs of the residents in the 15 surroundings villages
- To facilitate a comprehensive understanding of the skilling demand, supply and migration patterns
- To analyze the gaps, identify interventions and provide recommendations

4.2. Study area and population

The study was conducted in the districts of Jamnagar and Devbhumi Dwarka. Earlier Dwarka and Jamnagar were one large district-Jamnagar and they were divided into two districts.

Jamnagar is situated on the north-west corner of the peninsular region of Gujarat State known as Kathiawar or Saurashtra. Formerly it was called 'Halar'. It lies between the parallels of latitude of 210.47' and 220.57' and the meridians of longitude 680.57' and 700.37'. It is bounded in the north by the Gulf and Rann of Kachchh, in the east by Rajkot district and in the south by Porbandar district and in the west by the Arabian Sea[61].

Jamnagar district forms a part of Kathiawar Peninsula and was originally an island, quite unconnected with Gujarat and forms a part of what might once have been an island or a group of islands of volcanic origin. The districts consist of several lakes and has several reefs and islands with good channels for coasting crafts when there is a swell outside the Gulf. The climate of Jamnagar

district is generally pleasant. The summer season extends from March to June, with daytime temperature reaching about to 42⁰C. The monsoons are from July to September. Winter season sets in during October and extends until February.

According to 2011 Census the total population of Jamnagar district is 21,60,119 having 11,14,192 males and 10,45,927 females. The district population is 3.6 percent of total population of Gujarat State and the district ranks 11th in population among 26 districts of the State. The total rural population of the district is 11, 89,054 comprising 6,10,088 males and 5,78,966 females. Jamnagar district is predominantly resided by Hindus constituting 83.8 percent of the population whereas 14.9 percent of population follows Muslim religion.

Rural population is distributed among inhabited villages in 10 talukas/blocks. After its division into two different districts, Jamnagar consists of six blocks namely Dhrol, Jodiya, Kalavad, Lalpur, Jamjodhpur and its headquarter block Jamnagar. While Dwarka district comprises of four blocks- Jamkhambhalia or Khambalia (HQ), Okhamandal, Bhanvad and Jamkalyanpur or Kalyanpur.

Figure 10 Talukawise population (in %)
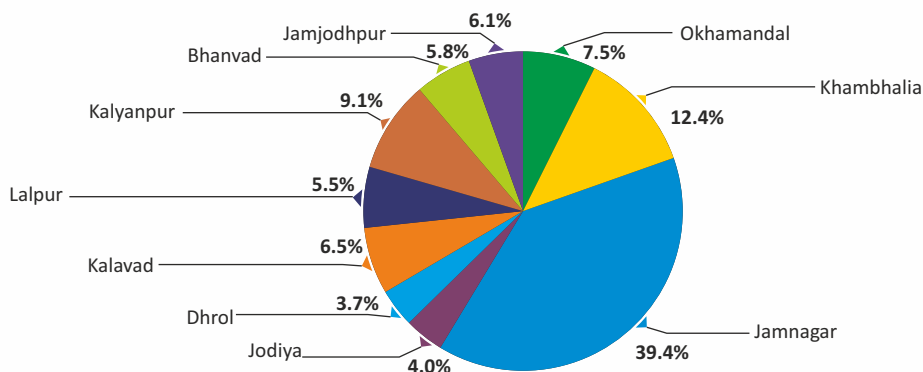
Source: Primary Census Abstract - 2011

Geological & Climatic Condition

The district has semi-arid climate with features including extreme temperatures, erratic rainfall and high evaporation. The average annual normal rainfall is 573.4 mm for 30 years.

Soils of the district may be broadly classified as Coastal alluvial, medium black, shallow black and hilly. The medium black and shallow black soils are the main soil type of the district, while the coastal and hilly soils are the sub-soils. The black soil is rich in mineral and organic matter and is more fertile. The medium black soils are found in Dhrol, Jamnagar, Khambaliya, and Kalyanpur blocks. These soils are generally 25 to 50 cm deep. Shallow black or light brown soils are found in Kalawad, Jam Jodhpur, Bhanwad, Okhamandal and Lalpur blocks. It is about 25cm deep. The coastal alluvial soils are found in Kalyanpur, Khambaliya, Jamnagar and Jodiya talukas. These soils are mostly saline and alkaline in nature. Hilly soils are found in southern parts of the district, particularly in Bhanwad, Lalpur, Jam Jodhpur and Kalawad talukas[62].

The two blocks which the study has been focused on is characterized by plain topography (Khambaliya), whereas Lalpur is characterised by hilly terrains. The soil along coastal areas of both

districts is highly saline, least fertile, and difficult to practice cultivation. The Light brown soil found across all blocks, especially in Lalpur and western part of Jamnagar block and Khambaliya and Kalyanpur in Dwarka is less fertile and requires a lot of water and manure for a good harvest.

Pertaining to the climatic and soil conditions with district observing medium to low rainfall, agriculture and agriculture allied sectors contribute to relatively smaller share of economy of Jamnagar. Further the soil is shallow to medium black due to which only 62% of total geographical area is cultivable. The district also has a limited spread of irrigation facilities with only 31.76% of net cultivable area under irrigation. The irrigation is predominantly dependent on tube wells with a 49.8 percent share of net irrigated area. Cotton, Paddy, Bajra, Castor and Pulses are key crops grown in the district. Main horticulture crops include spices, Brinjal, Tomato and ber. While about 92% of the cultivable land is covered by Kharif crops, only 53% of the cultivable land is covered under Rabi indicating sizeable opportunities for multiple cropping in the district with adequate training[63].

Jamnagar as in other districts of Gujarat, agriculture happens to be the main source of subsistence for the majority of people. According to the 2011 Census, 48.56% of the total working population of the district was engaged in agriculture, as against 49.61% in the State as a whole. Total livestock population in the district is 10,25,876 as per the 2011-12 Census, comprising 34.1% cows, 25.03% buffaloes, 20.3% sheep, 16.8% goats and 3.8% poultry. Due to the maximum population of cow and buffalo, milk production is the largest occupation in the district. Jamnagar district has around 34 medium and large scale industrial units involved in production of solvents, edible oils, cement, yarn, agriculture equipment, soda ash, salt and fertilizers whereas over 12,700 small scale industries.

Table 5 Distribution of Important, Industrial Establishments by Major Industrial Group

Sr. No.	Group Name	2009-10		2010-11	
		Number of Establishment	Avg no. of Persons Working Per Day	Number of Establishment	Avg no. of Persons Working Per Day
1	Textiles	5	32	33	144
2	Machinery and parts except electrical	27	189	68	443
3	Mining and Quarrying	10	202	10	114
4	Food Products	19	218	16	101
5	Chemical & chemical Products	6	48	8	59
6	Wood Products	3	28	11	46
7	Rubber & Plastic Products	5	41	14	125
8	Non-metallic mineral Products	25	303	27	308
9	Basic Metal Industries	269	2468	302	2525
10	Paper Product & Printing	4	25	4	6
11	Electrical Machinery and Apparatus	55	266	13	84
12	Transport equipment and parts	4	74	0	0
13	Leather Products	1	6	4	19
14	Beverages, tobacco & tobacco Products	5	31	10	47
15	Service Activities	22	1102	81	264
16	Trading Activities	1	5	47	181
17	Other	23	325	62	540
	Total	**484**	**5363**	**710**	**5006**

Source: Commissionerate of Industries

Occupational Pattern (2011 census)

Table 6 Occupational Distribution of working population in the district

Sr. No.	Occupation	No. of Person engaged	% to total Population
01.	Cultivators	1, 26,605	30 %
02.	Agricultural Labourers	45,306	11 %
03.	Household Indus...	7,338	2 %
04	Others	2, 42,650	57 %
	TOTAL WORKERS	4,21,899	100 %

It transpires from the above table that 41% of the total workforce is engaged in Agriculture which almost depends upon monsoon.

Table 7 Educational institutes in Jamnagar

Sr. No.	Education Institutes	Nos.	Teachers	Students
1	Primaryr Schools	705	3806	88391
2	Seconday Schools	22	73	2088
3	Higher Secondary Schools	15	82	1429

Source: http://dcmsme.gov.in/dips/2016-17/14.%20Jamnagar%202016-17.pdf

The Nayara Vadinar refinery is located in Jamanagar and is India's second largest single-site, state of the art refinery, which constitutes approximately 8% of India's refining capacity. The refinery started its commercial production on May 1, 2008 and is today India's second largest single - location refinery, capable of handling a diverse range of crude - from sweet to sour and light to ultra-heavy. The Refinery has an annual capacity of 20 million metric tonnes (MMT) and is capable of processing some of the toughest crudes and yet produce high quality Euro IV and Euro VI grade products[64]. Nayara was known as Essar Oil Limited before Rosneft-led consortium bought the company in August 2017 and later renamed it as Nayara Energy.

Located in Vadinar, a small coastal town along the Gujarat coast in Devbhumi Dwarka district, the refinery is surrounded by a total of 15 villages. The town is home to one of the most complex refineries in the world including Reliance Industries Limited, Essar Power Limited etc. The famous Narara Island, which is part of Marine National Park, is situated 7 kilometers away from the refinery. The town falls in the North-West corner of the peninsular Saurashtra region of Gujarat. The study was conducted in the fifteen villages surrounding the Nayara Vadinagar plant which fall under two districts-Devbhumi Dwarka and Jamanagar of the state and two different blocks-Khambalia and Lalpur Taluka with following statistics:

Table 8 Block-level demographics

	Khambalia	Lalpur
Total Population	2,68,062	1,18,187
Rural Population	1,79,619	1,18,187
Sex Ratio	929	953
Literacy rate (rural)	67.31	68.17
Total % of workers	39.26	43.47

Figure 11 Site map of Nayara refinery and nearby villages

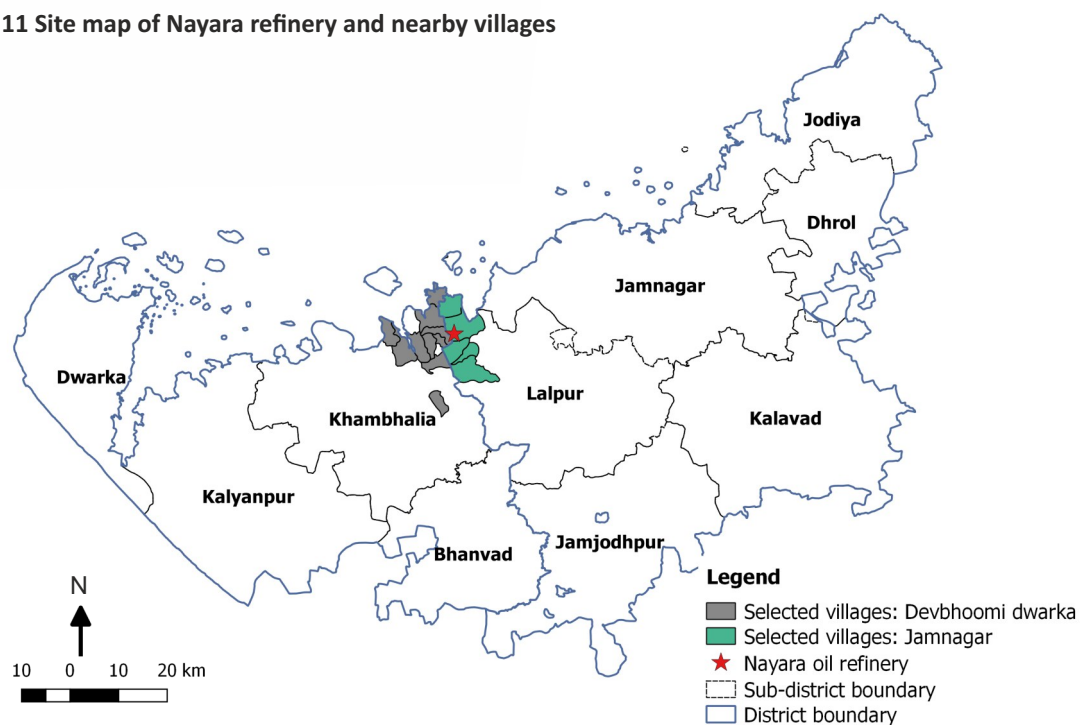**Table 9 List of surveyed villages**

S. No.	Village name	Total population (Census 2011)	Total Hhs (Census 2011)	District	Block
1	Mithoi	1395	259	Jamnagar	Lalpur
2	Zankhar	3872	726	Jamnagar	Lalpur
3	Singach	4681	815	Jamnagar	Lalpur
4	Modpar	3967	676	Jamnagar	Lalpur
5	Rasangpar	1208	243	Jamnagar	Lalpur
6	Vadinar	8946	1706	Devbhumi Dwarka	Khambaliya
7	Bharana	5287	899	Devbhumi Dwarka	Khambaliya
8	Timbadi	911	173	Devbhumi Dwarka	Khambaliya
9	Kajurda	1673	297	Devbhumi Dwarka	Khambaliya
10	Nana mandha	1934	361	Devbhumi Dwarka	Khambaliya
11	Mota mandha	2005	400	Devbhumi Dwarka	Khambaliya
12	Parodiya	1872	297	Devbhumi Dwarka	Khambaliya
13	Vadaliya sinhan	1695	325	Devbhumi Dwarka	Khambaliya
14	Kathi deveriya	6347	1624	Devbhumi Dwarka	Khambaliya
15	Sodha Tardhari	1436	298	Devbhumi Dwarka	Khambaliya
	Total	47,229	9,099		

4.3. Methodology

The study methodology and survey was designed in close coordination with the ground team of Gram shiksha and Nayara officials. The detailed methodology is as under:

I.   Inception meeting: The study was initiated in December 2019 with a site visit, followed by an inception meeting with the on-ground team and understanding the Nayara expectations.

ii. Secondary research and identification of target groups: A preliminary review of the resources on skill development was conducted to gather background information and come up with the initial survey design whereas also identify target groups. The identified target groups for individual surveys include students, employed, unemployed and self-employed. Stakeholders for Focus Group Discussions (FGDs) and Key Informant Interviews (KIIs) comprised of SHGs, farmers, principals/teachers, Sarpanch/Talati, Industry and Government Institute officials, local NGO representatives.

iii. Survey design and development of survey tools: The survey was designed keeping in mind the ground level context as understood from the team and initial desk research. It was decided that the survey would be conducted in the following three formats as under:

a.   General: Paper based survey with structured questionnaire to capture individual level data from villagers and with the help of locally-hired surveyors. Two separate questionnaires were designed for this, one for students and unemployed and other for employed. The questionnaires have been attached as Annexure 2 and 3.

b.   Focus Group discussions and Field Visits: Field visits for a detailed understanding of the on-ground situations and Focus Group Discussions were conducted with the range of identified stakeholders. We had a discussion with 29 farmers, 8 teachers, 7 Self-Help Groups, 17 Sarpanches and Talatis, some Government officials and people from the nearby Industry. The FGDs were driven by a set of questions to cover all aspects of skill development, attached as Annexure 4.

c.   Key Informant Interviews: Interviews with representatives of Nayara and other nearby industries conducted to get a sense of the skill demand and gaps.

The proposed questionnaire and survey schedule was shared with Nayara for review and finalization. Once the questionnaires were approved, they were translated in Gujarati.

iv. Sampling: Assuming 34.33% share of youth in the total population[65] in 2020 as per projections of Central Statistics Office. Random sampling method was used to survey 11.3% (1833) of the total youth population in the village. These random samples were distributed into two different categories according to the specific target groups:

Table 10 Sample distribution

Categories	No. of Surveys
Students and Unemployed	1135
Self-employed and Employed	698
TOTAL	1833

Figure 12 Proportion of target groups

Sample Proportion

53%   47%

■ Self employed   ■ Employed

Sample Proportion

44%   56%

■ Unemployed   ■ Students
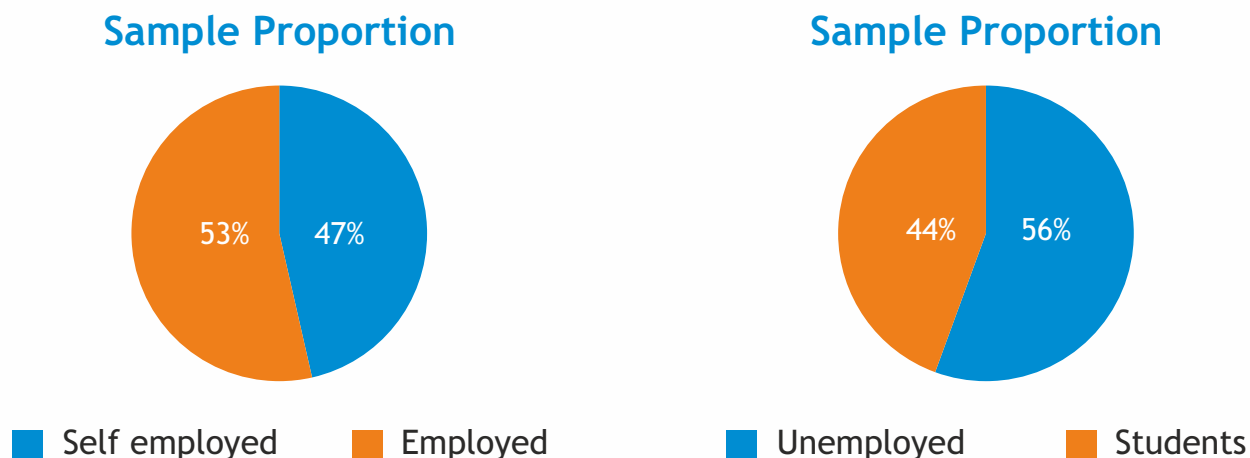
v.   Surveyor training & data collection: A half-day training to 31 enumerators was provided on the survey questionnaire, data collection and entry. On-ground data collection occurred for about 10 days during January/February 2020. A total of 1835 individuals were surveyed. Simultaneously, 36 FGDs and 40 KIIs were conducted.

vi. Report development: A tentative report outline was prepared for concurrence and thereafter the team developed a comprehensive report based on the survey findings and observations.

4.4.   Study limitations

• Generalization of study at village level is not possible due to low sample size.

• There is a probability of human bias and errors during data collection/entry at multiple levels and by different enumerators.

• FGDs were not conducted in Kathi Deveriya and Sodha Tardhari due to social reasons which led to absence of viewpoints from these two villages.

• Recall bias of the respondents and stakeholders need to be considered.
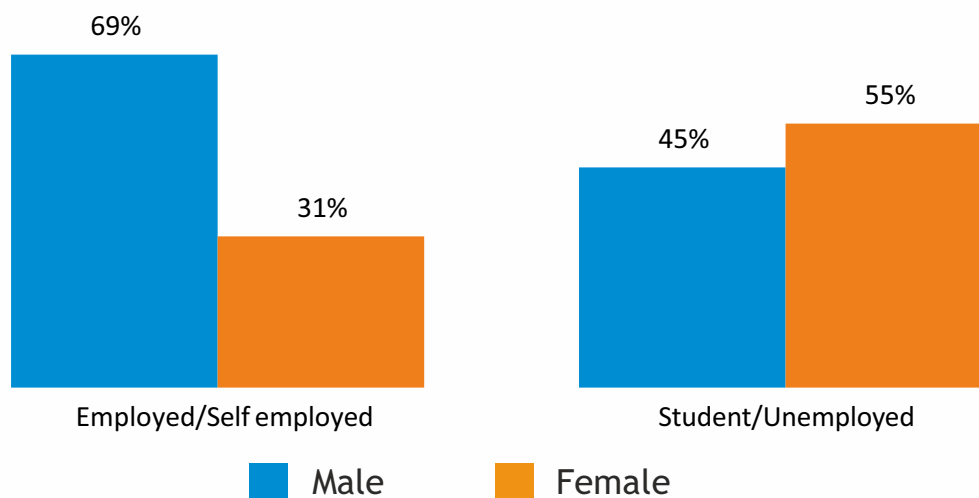
Results and Discussions

5.1. Socio –economic profile of the respondents

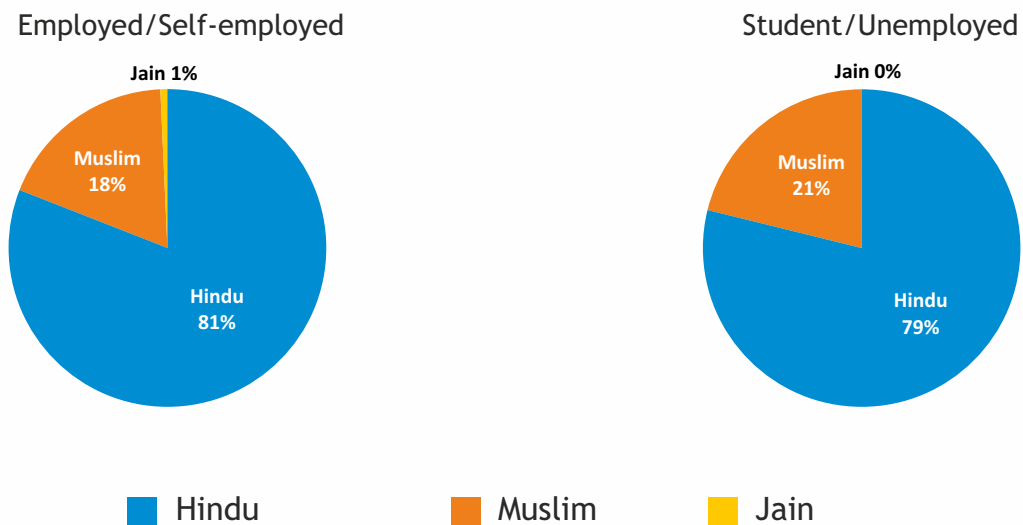### 1. Village-wise sample distribution
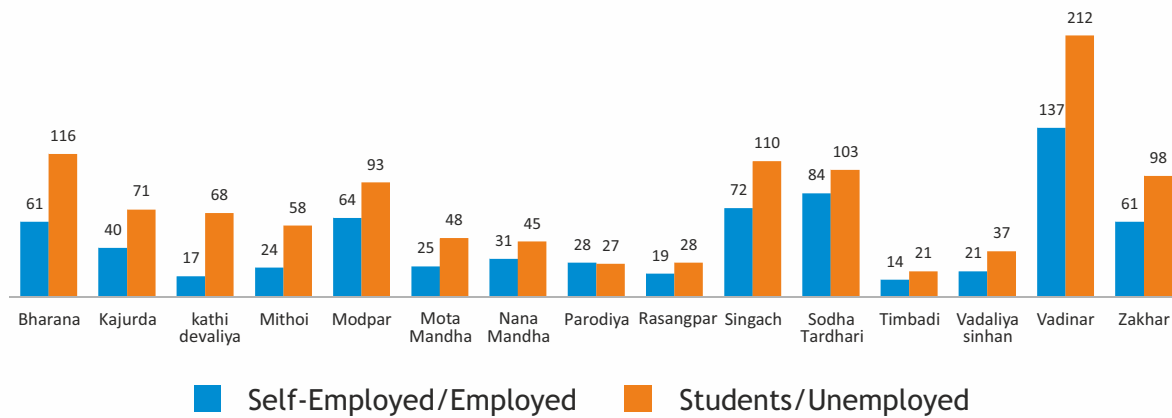
The results show that evidently the proportion of students/unemployed is more in these villages than the other target group.

2. Gender-wise distribution

Among the employed, there are more men (69%) than women. While among those who were unemployed, the number of women (55%) was slightly more than men (45%). This shows a disparity with the gender demographics as it is less than the proportion of females in the entire population.
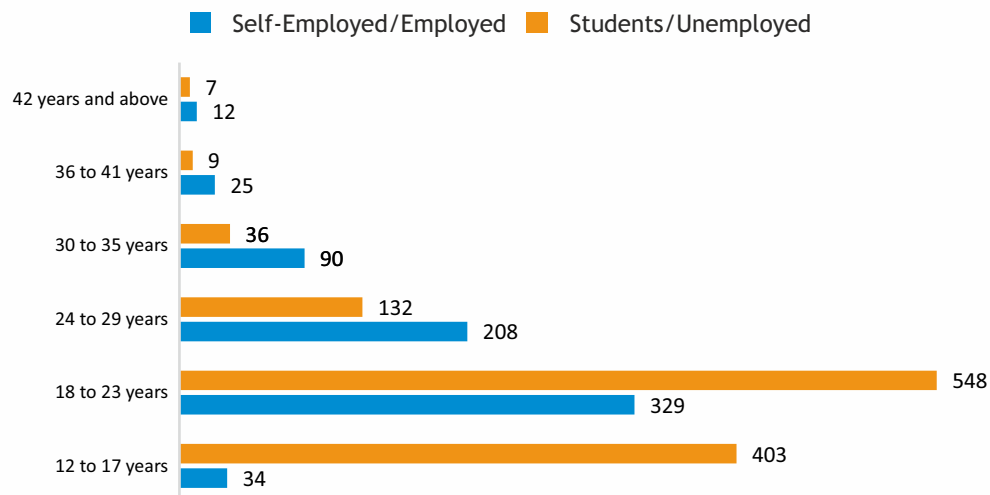
3. Religion-wise distribution

Employed/Self-employed

Jain 1%

Muslim 18%

Hindu 81%

Student/Unemployed

Jain 0%

Muslim 21%

Hindu 79%

■ Hindu   ■ Muslim   ■ Jain

Among the employed, the Hindus constitute 81%, the Muslims 18% and the Jains a miniscule percentage of the cohort.

Among the employed, the Hindus constitute 78.9%, the Muslims 20.8% and the Jains a miniscule percentage of the cohort.

4. Age-wise distribution

■ Self-Employed/Employed   ■ Students/Unemployed

| Age group	Self-Employed/Employed	Students/Unemployed
42 years and above	12	7
36 to 41 years	25	9
30 to 35 years	90	36
24 to 29 years	208	132
18 to 23 years	329	548
12 to 17 years	34	403

The majority of our sample has people who are in the age group of 12 to 30 years of age which comprises 82% and 95% for employed and unemployed respondents respectively. Out of these, the most common age group of 18 to 23 years comprising of 877 respondents has about one-thirds employed (38%) while two-thirds unemployed (62%). This reflects an immense scope for increasing employability of this age cohort.

5.   Community-wise distribution
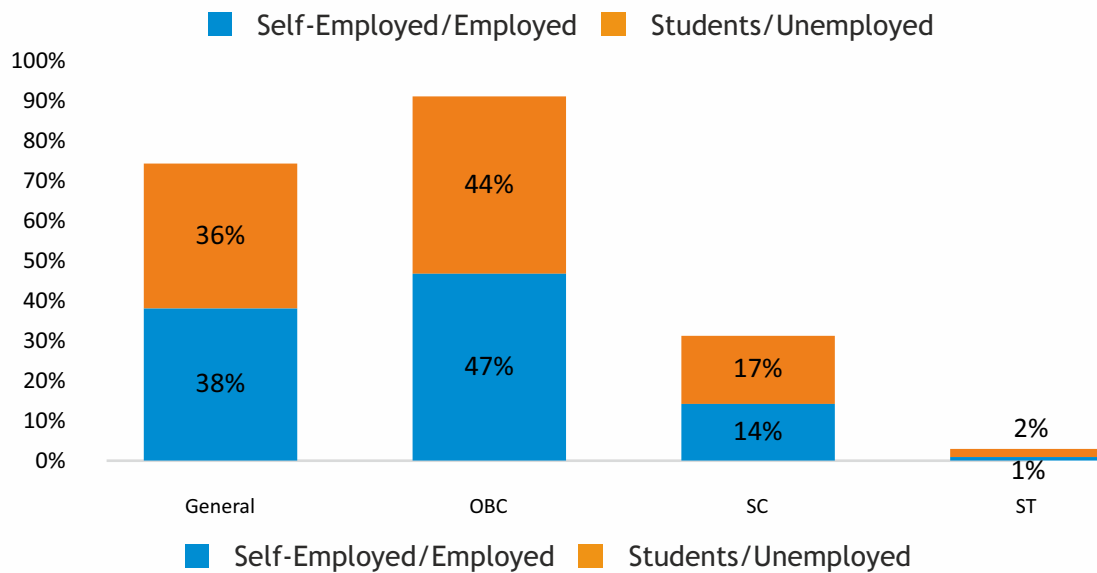
The overall sample shows more respondents from the OBC (45%) and General categories (37%) than from the others. The employed-to-unemployed ratio of general community and Scheduled Caste is nearly double having 37% and 16% respondents respectively. The scenario of the OBC is slightly better as they seem to have a ratio, which is better than the average ratio.

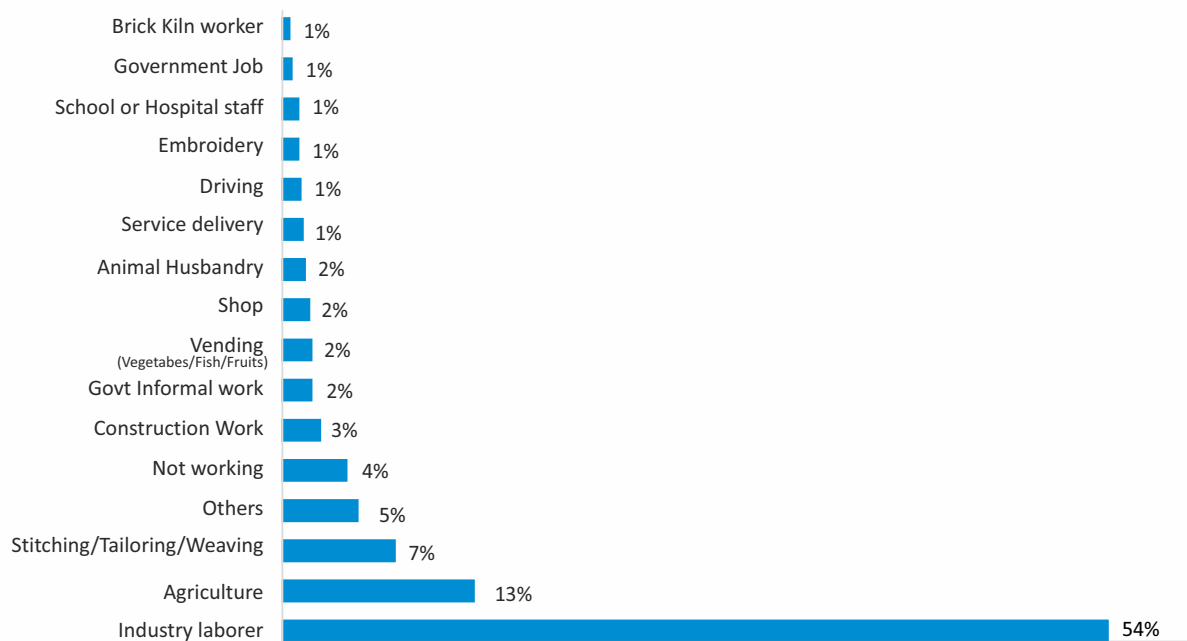## 6.   Education wise distribution
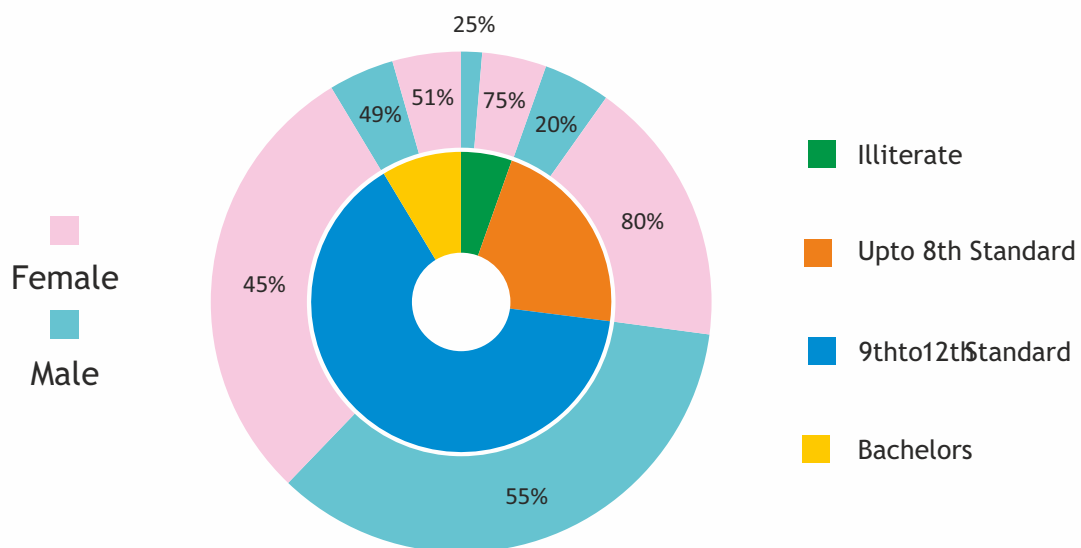
Most of the employed people (64%) have completed their secondary education. The second most predominant education level is up to primary schooling. This hints at a major scope for up-skilling and vocational training, which can be built upon the secondary school levels.

Female

Male

- Illiterate
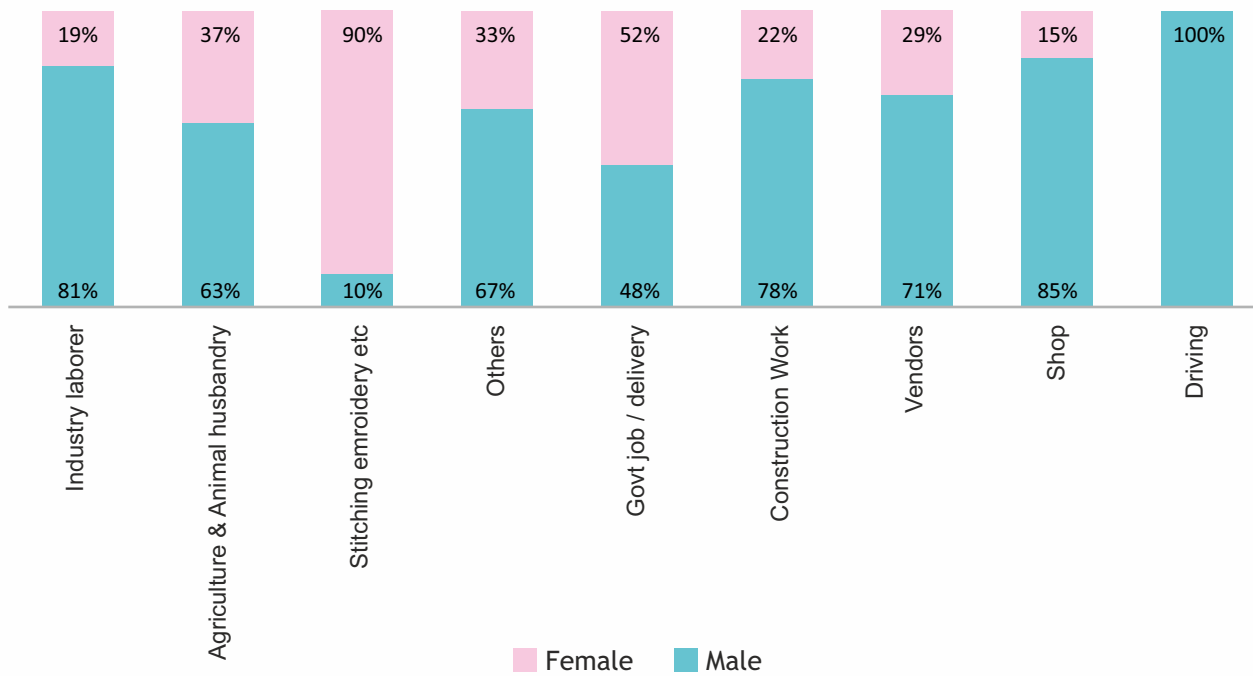- Upto 8th Standard
- 9thto12thStandard
- Bachelors
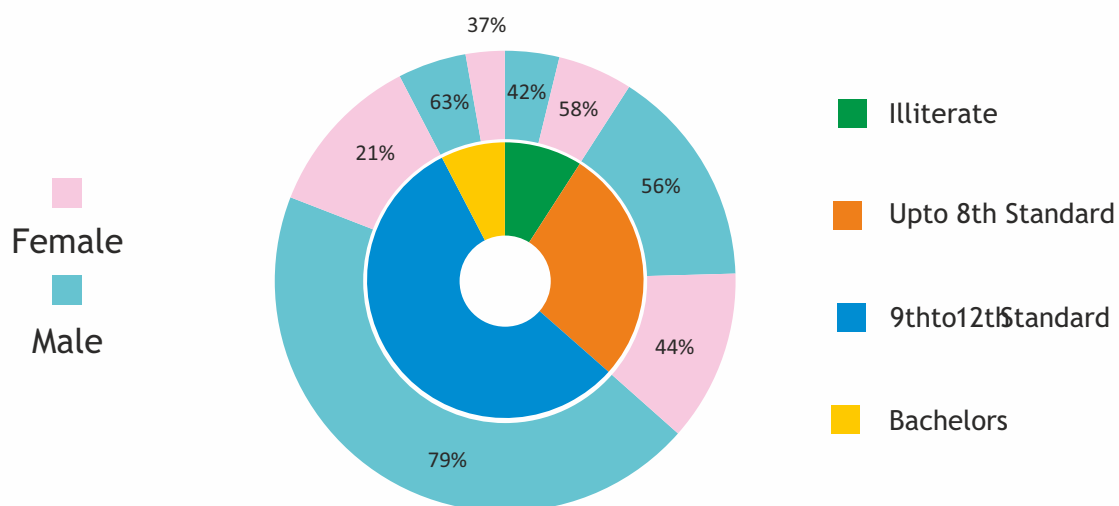
The graph shows similarity to the previous illustrating that the skilling programs would generally start off with a secondary schooling base and in some cases, primary schooling level.

7.   Occupation of the employed respondents

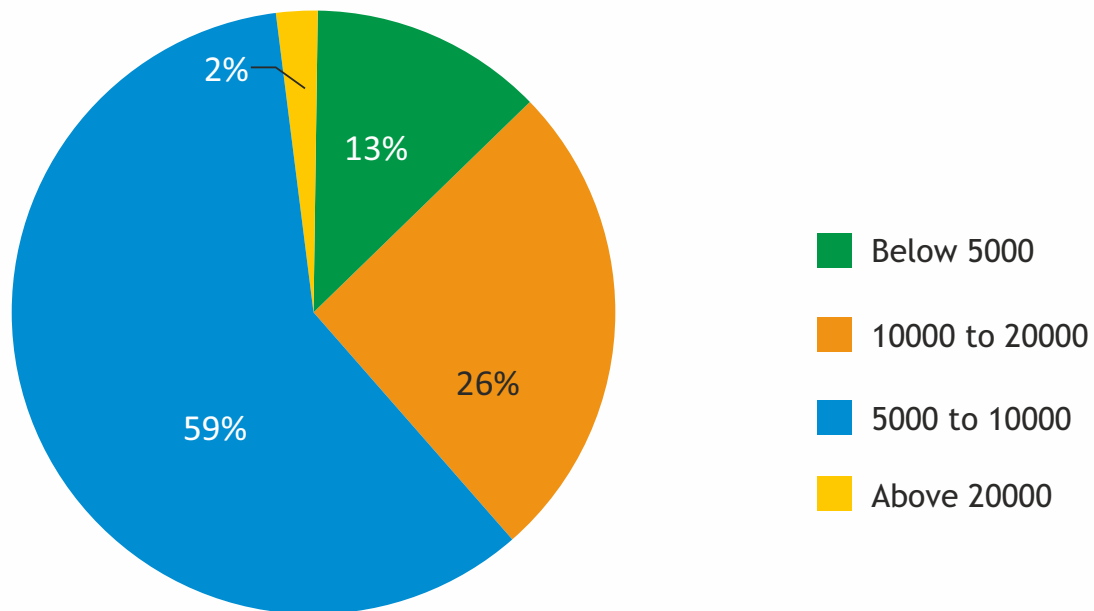| Occupation	Percentage
Brick Kiln worker	1%
Government Job	1%
School or Hospital staff	1%
Embroidery	1%
Driving	1%
Service delivery	1%
Animal Husbandry	2%
Shop	2%
Vending (Vegetabes/Fish/Fruits)	2%
Govt Informal work	2%
Construction Work	3%
Not working	4%
Others	5%
Stitching/Tailoring/Weaving	7%
Agriculture	13%
Industry laborer	54%

An interesting thing to highlight is most of the industry laborers also practice agriculture and animal husbandry. The data shows overlaps in these three categories over a large number of respondents and all these have been commonly put under the industry category in the chart. Overlaps were also observed between stitching and agriculture categories. This phenomenon is quite reflective of the results of Agricultural Studies in Rural India that show diversification of income[66].

Gender-wise distribution across major occupation

Occupation	Female	Male
Industry laborer	19%	81%
Agriculture & Animal husbandry	37%	63%
Stitching emroidery etc	90%	10%
Others	33%	67%
Govt job / delivery	52%	48%
Construction Work	22%	78%
Vendors	29%	71%
Shop	15%	85%
Driving	100%	—

Legend: Female, Male

8.   Average monthly income of the employed respondents

Pie chart:
- Below 5000: 13%
- 10000 to 20000: 26%
- 5000 to 10000: 59%
- Above 20000: 2%

Over 92-94% of the families of surveyed individuals own the house in the villages and 26% of the employed individuals are the single earning member of the house. The below graph shows gender-wise distribution of monthly income:

Besides, 35.9 % of the employed respondents did not like their present jobs and 32.2 % are willing to migrate for a new job.

5.2.2. Educational Preference

Nearly 25% of the Employed/Self-employed individuals are willing to go for higher studies pertaining to their interest in attaining further education and getting further technical skills. While the rest are not willing to go for further education as they are already into a job and do not have time. Many respondents also mentioned financial issues and lesser interests behind not going for higher education.

5.2.3. Perception on trainings

24.7% out of 698 employed respondents had attended trainings during the past. The Trainings they attended varied from 1 month to 3 years and were in the fields of computer, driving, fire-related, sewing/ stitching / embroidery, parlor, electrical, masonry etc. Only 10 out of 698 respondents were undergoing trainings while the survey was conducted which included animal husbandry, embroidery, stitching etc.

Despite this, 83.6% of the employed respondents feel that trainings are required for enhancement of skills and 57.7% are interested to take trainings for self-development in the same field where they are currently working. In General, there is a positive attitude towards training and it is likely to be welcomed.

Additionally, out of 173 people who attended trainings only 107 received certificates and 87.8% of which found these trainings helpful especially for better job prospects. However, 74.7% of the respondents find the certificates helpful at the end of the trainings.

The organizers of these trainings were as follows:
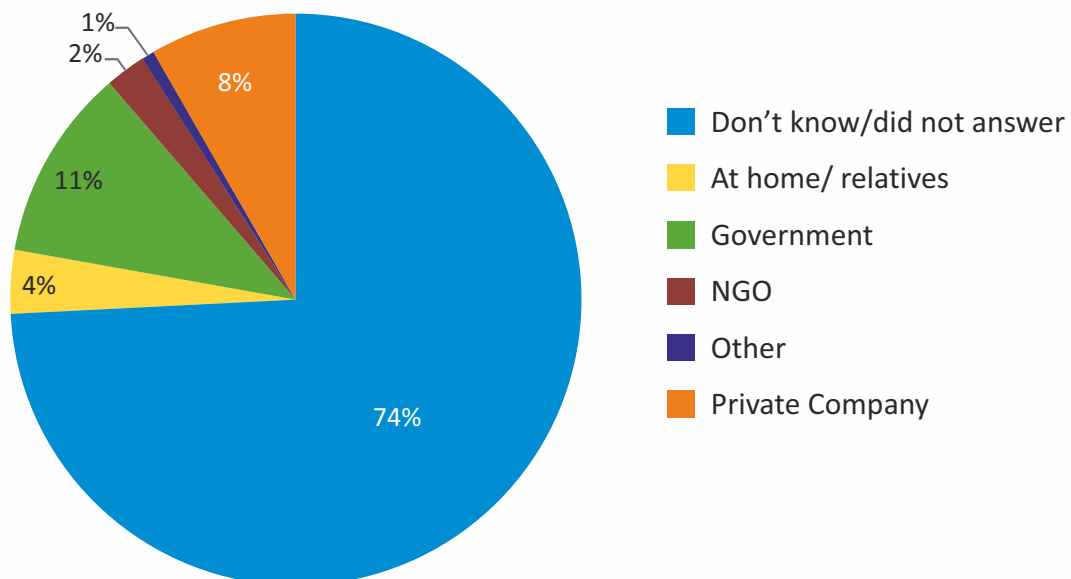
Gender-wise distribution of average monthly income
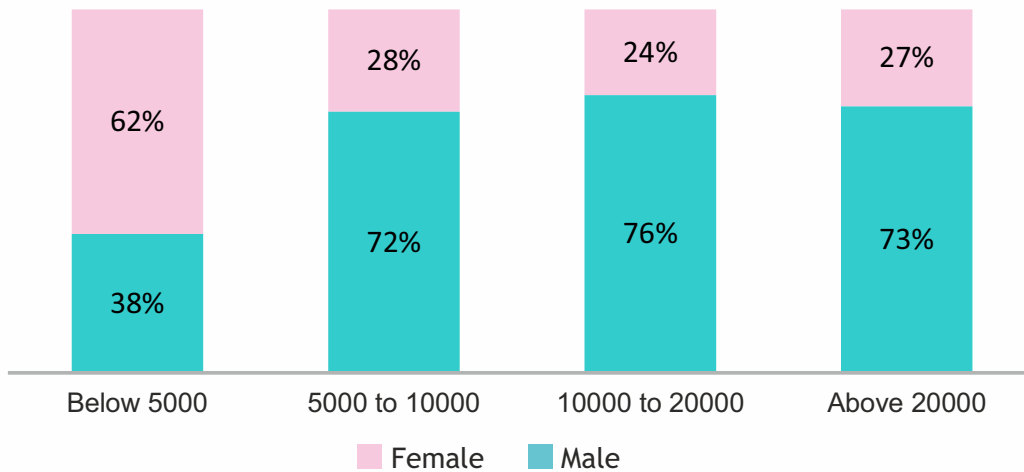
It shows that the most women fall in the below 5000 income category.

5.2.   Preferences by Employed/Self-employed

5.2.1. Job/Sector Preference

Of the 698 employed respondents 59.2% did not prefer any job or sector and 14.6% had a wide range of preference however not very significant for a particular sector. This included Agarbatti making, candle making, helper, carpentry, plumbing etc. The distribution for the remaining 48.8% is as in the graph shown below:
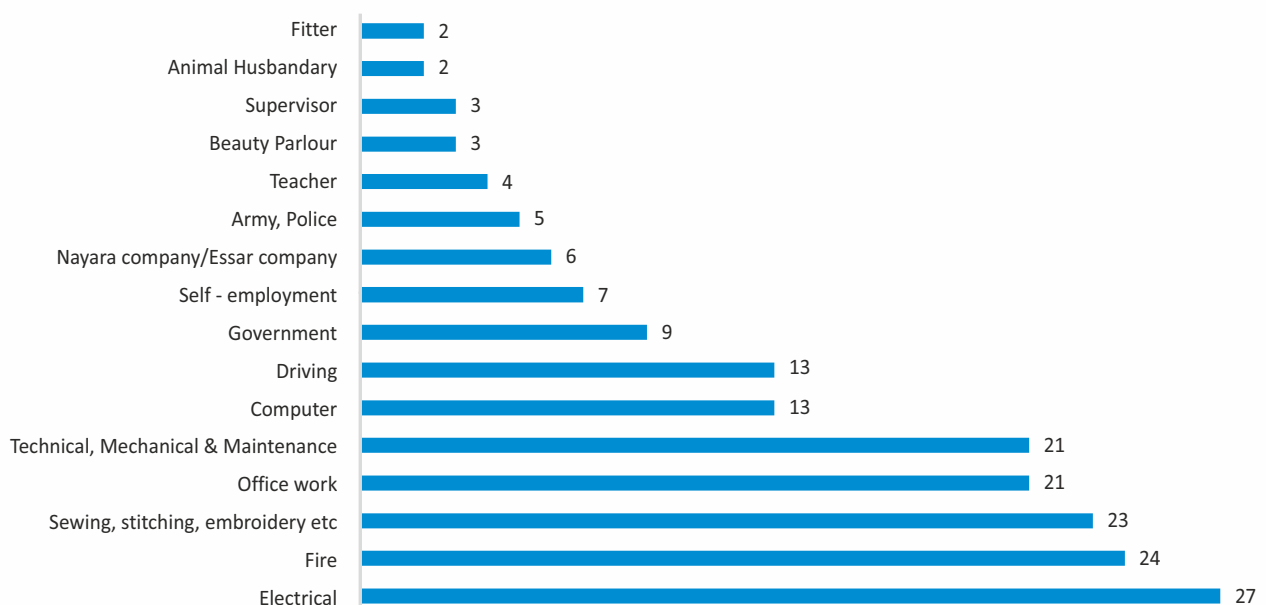
5.2.4. Training Prospects

The analysis clearly reflects that the training with more market value is the most demanded. Second to it, computer and sewing is in major demand (see graph below). Besides, Most of them wish to undertake these trainings in their village and the time duration could range between 1 month to 1 year for 1 to 6 hours a day or 8 hours over a period 2 days.

Although majority of the sample does not have any particular training preference at the outset, in conjunction with other parts of the survey, it is quite reflective that there is a scope of industry job/work led training, something on the lines of i-KVK where trainees are co-opted into work.

The training demands required by the respondents for future growth are as shown below in the graph. Out of 698, 35% respondents were convenient with any training and hence were excluded from the graph below.
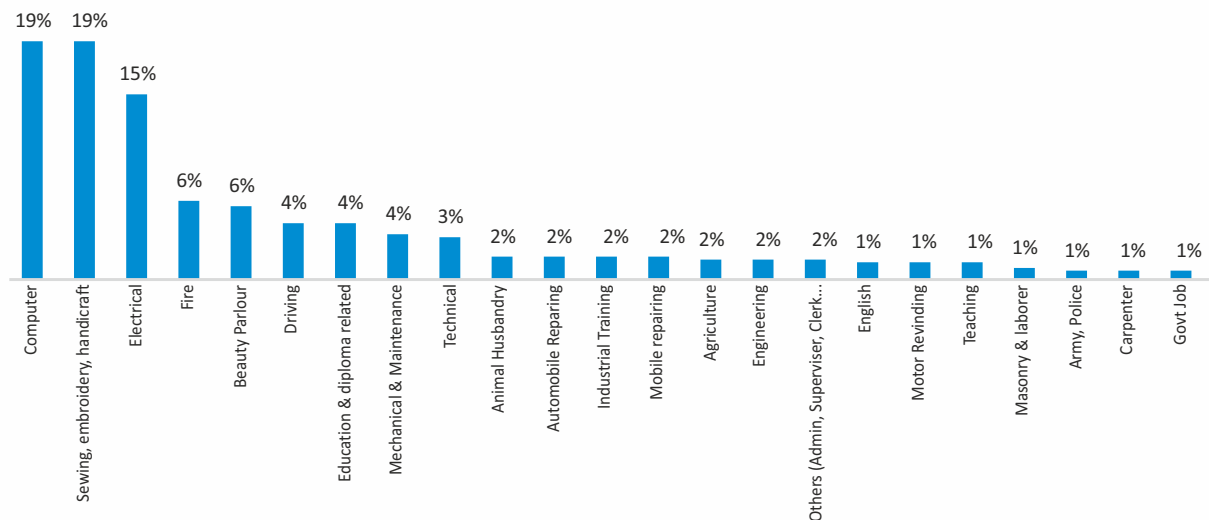
The chart for preferred organizers of the trainings is as shown below:
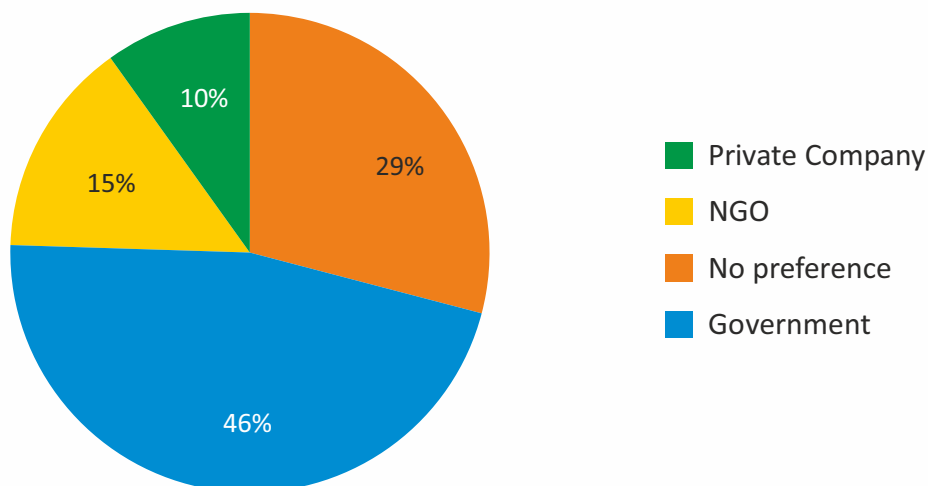
5.2.5. Migration

Nearly, 65.4% of the employed respondents do not wish to migrate for new job. Out of the remaining 241 (34.5%) respondents who wish to migrate, 156 (64.7%) want to go to Jamnagar/Khambaliya and major reason behind this migration is for a better job and higher salary. This again underlines the demand for job-led training or training for jobs that are present in the village.

While the actual migration is only about 15.2%, 84.8% of the respondents' family members have not migrated and ones who have are mostly working in the marketing field. The respondents feel that the migrants could be retained if employment opportunities are provided in or near their village. At present, most of the villagers are engaged in agriculture followed by industrial workers, laborers and fishing. Clearly, training in itself may not solve the problem. But, training in job profiles available in the village may be helpful.

5.3. Preferences by Students/Unemployed

5.3.1. Perceptions about Education

Almost 60% of the Students/Unemployed respondents wanted to go for higher education in a quest for better jobs and therefore better living. The rest do not have interest in further studies. Study also found that 70.6% of the students and unemployed respondents wish to work out of the villages and are fine changing their resident state as well for better employment.
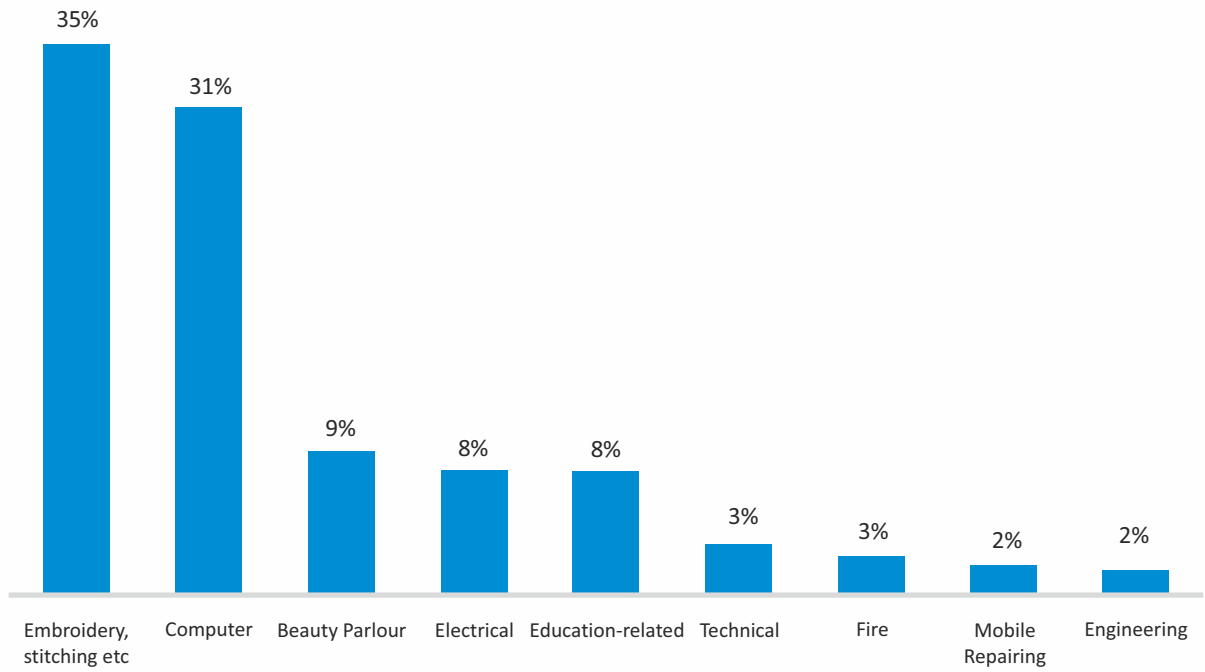
5.3.2. Perceptions on trainings

Only 24.1% of the students and unemployed respondents have undertaken trainings earlier, out of which 11% were organized by the government. Out of these 274 people only 174 people received certificates for the trainings attended. The respondents found these trainings helpful. Thus, Training has a positive perception among the students/unemployed as well. At the time of the survey, 57 (~5%) respondents out of 1135 were undergoing trainings and were about to get a certificate of completion. They were engaged in trainings related to sewing, Computer, ITI, education-related, driver, electrical and NIOS.

Yet again, 47.4% of these presently undergoing trainings were provided by the Government and 31.6% and 21.1% by private companies and non-government organizations respectively. These respondents too mentioned that the trainings were helpful for them in enhancing their understanding and are likely to help them in self-employment, better jobs and good income.

5.3.3. Future Training requirements

The list of trainings required by the respondents for future growth is as shown below:

Pretty much similar to the employed respondents, the unemployed respondents too reflect high demands for training in job-led training, sewing, computers, etc. Nearly 40% of the respondents prefer trainings during afternoons whereas 22.5% prefer during evenings. 21.8% prefer morning

35% — Embroidery, stitching etc
31% — Computer
9% — Beauty Parlour
8% — Electrical
8% — Education-related
3% — Technical
3% — Fire
2% — Mobile Repairing
2% — Engineering

trainings sessions. And almost 51.6% prefer government as training provider. Besides, these trainings are preferred to be located in or near their villages.

The training duration preference are as under:

1%
1%
17%
44%
37%

- 1 to 2 days
- Upto 1 month
- 1 to 6 months
- Above 6 months
- Any duration
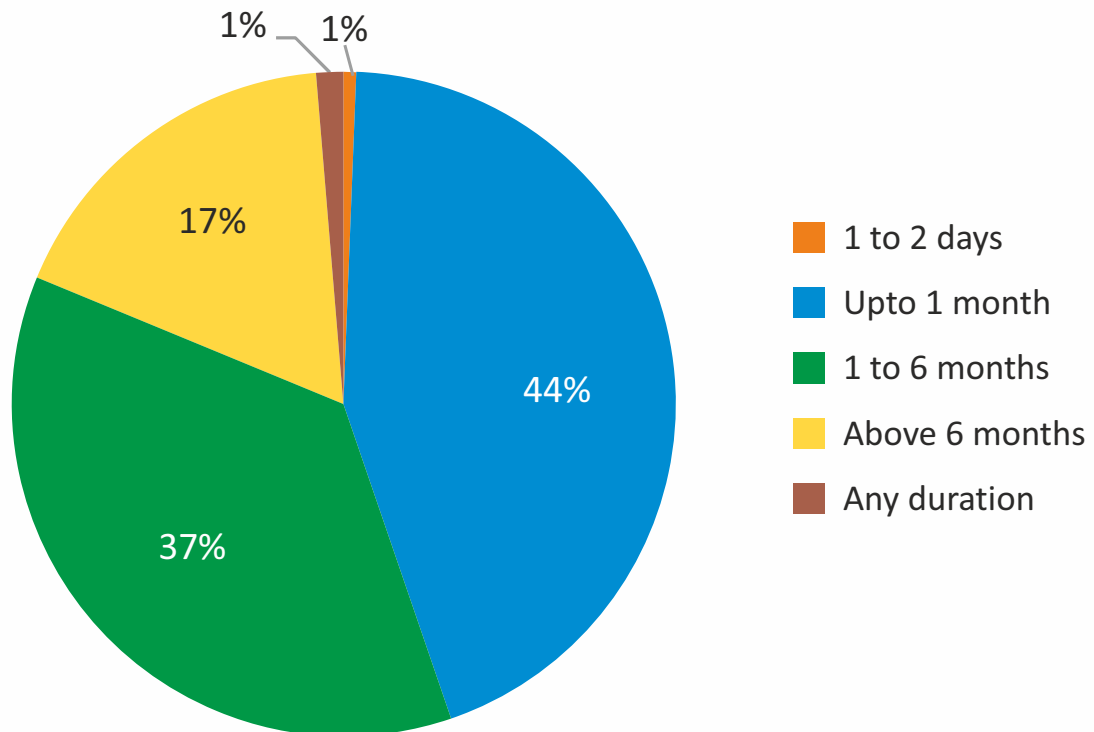
Respondents perceive that such trainings are also helpful for the villagers and there could be village-level requirements as below:

Category	Value
Agarbati, Candle making	3
Plumbing	4
Animal Husbandary	6
Fire safety	8
Driving	9
Home-based Industry or Self employment	20
Auto Mobile Repairing	23
Agriculture and related	27
Beauty Parlour	62
Diploma, education, cleanliness, health, teaching etc	73
Electric-related and welding etc	76
Industrial Laborer	118
Any topic	147
Embroidery, Knitting, Sewing, designing	279
Computer	280

Most of these trainings are preferred in and near the villages and by the following organizers:

- 8% Private Company
- 21% Don't know and others
- 18% N.G.O.
- 53% Government
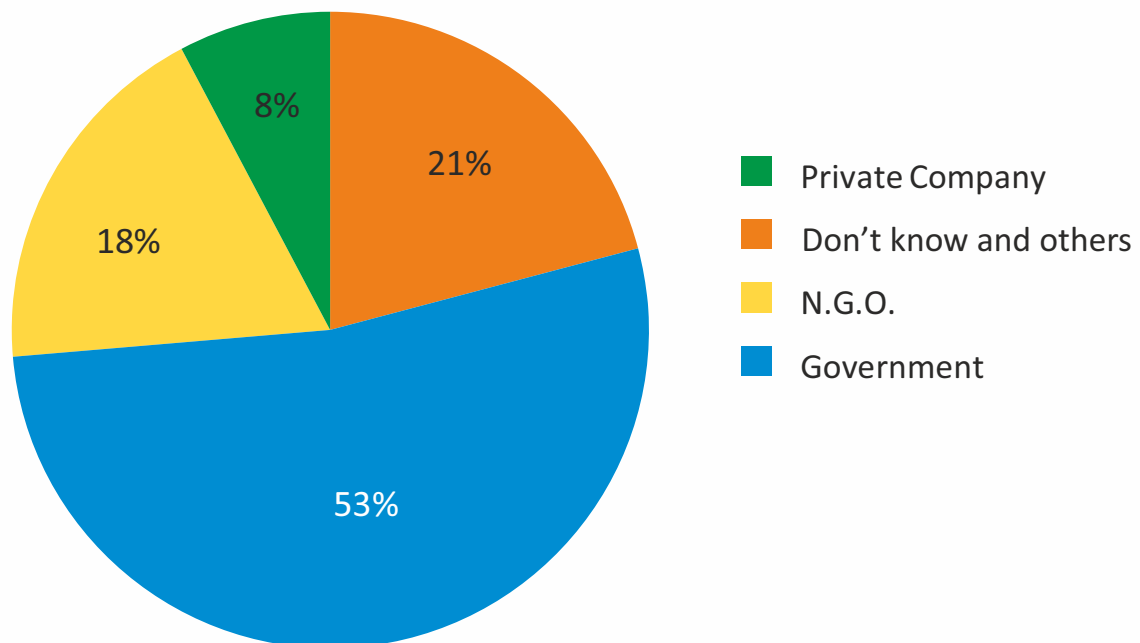
5.3.4. Migration

About 63% of the respondents do not wish to migrate for jobs. Out of 420 people who are willing to migrate, 211 wish to go to Jamnagar and 37 to Kambhaliya. While only 66 out of 1135 respondents family members under this category have migrated for job. The unemployed respondents too strongly feel that if there are ample job opportunities in and nearby villages, migrants could be retained.

5.4. Focus Group Discussions & Key Informant Interviews
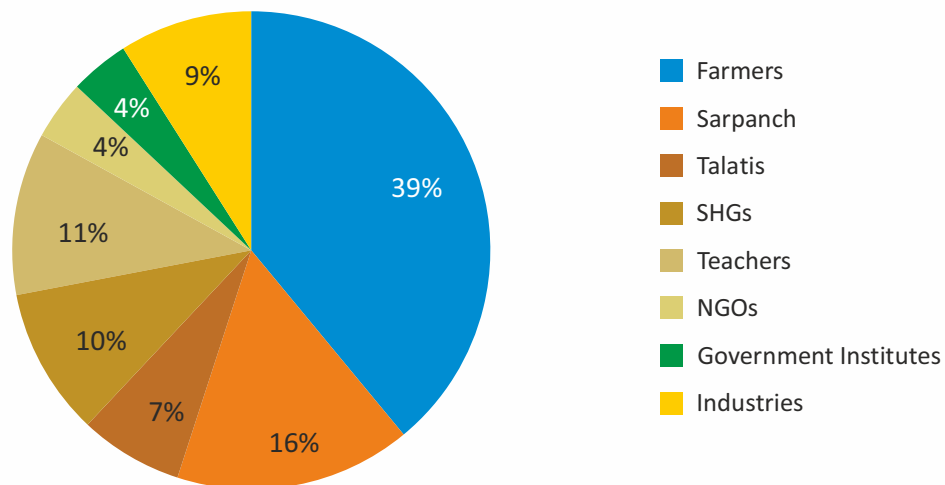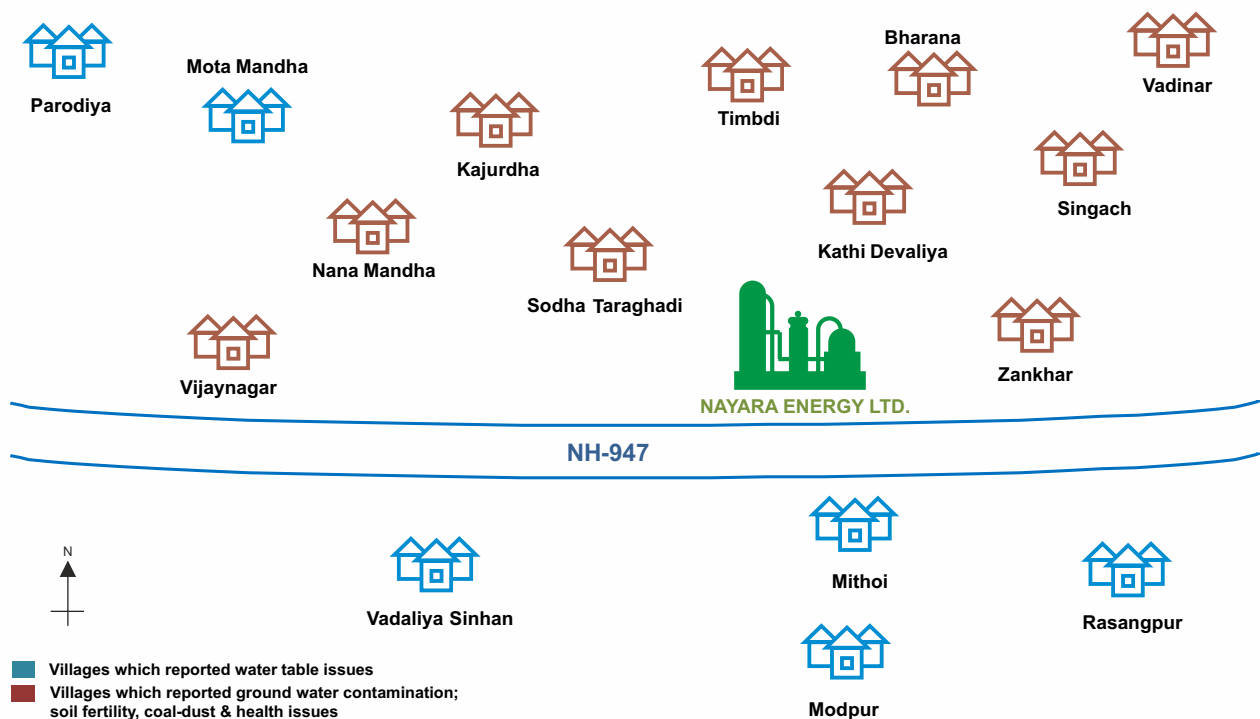
Sample Distribution

Figure 13 Schematic diagram indicating critical issues in villages (based on FGDs)

As per the Central Ground Water Control Board in 2013, there are significant ground water related issues and problems. Salinity in ground water exists, both inherent and coastal salinity. The ground water level has been continuously declining and high concentration of fluoride is observed. Ground water contamination due to improper/unscientific well construction is also seen is most of the areas. Coastal salinity due to sea water ingress as a result of heavy pumping is observed in the coastal areas. This altogether has made farming very difficult even in the surveyed villages.

Table 11 Concerns and needs of stakeholders as per the FGDs

Stakeholder	General Concerns	Training needs
Farmers	• Issues related to ground water contamination were shared. • Depleting water table and soil fertility was reported majorly by the upstream villages • Coal dust issues resulting in health impacts were shared by the farmers. • Three-fourths of them depend on the conventional form of irrigation and have been getting acutely affected due to water contamination.	• Organic farming skills • Learning newer and more efficient irrigation practices • Agro-processing techniques • Green skills are also high in demand in the market. • Smart agriculture skills depending on the geological condition • PMKY trainings could be linked.
Teachers	• 50% shortfall of teachers and this creates an impediment in strengthening the primary education system. • Unavailability of secondary and higher secondary government school at village level causes a whopping 100% dropout of girls. This is furthered due to the conservative attitude present among the locals. • Currently only one higher government secondary school is present at Modpur which is far away from the most of the surveyed villages.	• Training in computer turns out to be a popular demand in this section as well. • Soft skills • Sports
Self-Help Groups (SHGs)	• Most participants echoed the conservative nature of the society, which generally prevents them to work away from their respective villages and communities. • Interesting to note that most also voice their concern over saturation in the existing skill fields due to excessive competition. • We can include different trainings mention in PMKY	• As with the findings of our quantitative survey, skilling in sewing, embroidery, parlor work is very popular. • Due to competition, new techniques are demanded. • Handicraft skills • Opportunity for online entrepreneurship such as in e-Mahila Haat. • PMKY trainings could be linked.
Sarpanch or Talati	• Almost every Sarpanch and Talati is concerned about the unemployed youth of his village. • They are also concerned about the teacher shortfall in primary schools and lament the lack of secondary education facilities. • Issues of soil contamination and health impacts were also raised.	• Soft-skilling and computer training is important. • Skills in context to job demand i.e. for job profiles available nearby. • Most of the skill requirements are more industry driven.

Village-wise detailed views of stakeholders have been provided in Annexure 5.

Key informant interviews were undertaken for the following stakeholders who suggested the following measures for village-level skill enhancement:

5.4.1. Government Institutes and NGOs

The representatives feel that there is a need for skill-demand gap analysis of the area on a regular basis that should regularly inform the training centres for up-gradation of their modules based on the market demands. They also suggested the establishment of mobile vocational training and information center to provide information related to the agriculture, education, jobs, etc.

Accordingly to ITI, KVKs and NGOs working in the skill development in the area, specific and short term trainings need to be provided as the number of trained workers on similar cause a high risk of saturation.

5.4.2. Industries

The industry representatives mentioned that they generally do not require trained manpower having education below the 12th grade. The Government Industries on the other hand have their own centralized procedure for the recruitment and provide suitable training after selection of the candidates. They also informed that although the Apprenticeship training is being provided to the candidates as per government norms but there are difficulties in getting suitable local candidates due to lack of the awareness about the education. However, some industries prefer to engage local candidates for employment. They are further prepared to provide additional training to meet their requirements.

Detailed views along-with the list of industries and institutes interviewed have been provided in Annexure 6.

5.5. Key Findings

5.5.1. Supply-side analysis

The employed youth needs from the quantitative survey shows that the top five preferred skill sector are as below. Out of the 290 respondent data analyzed for this, about two-thirds reflect the need for computer and sewing-related trainings.

Figure 14 Preferred skill sector-Employed
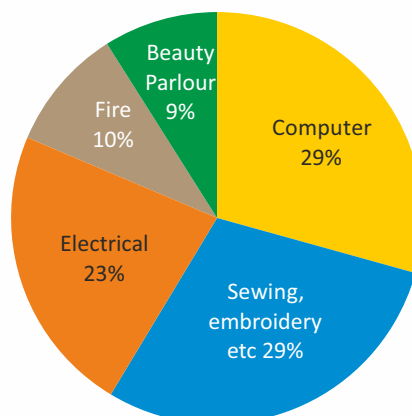
Figure 15 Preferred Training-Students & Unemployed
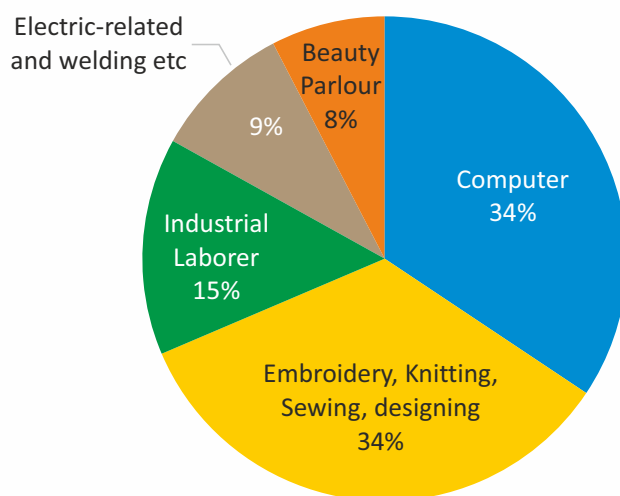
Whereas, top five preferred trainings among the unemployed respondents could be seen below. 15% of these respondents also show willingness to acquire skills with increased placement options in nearby industries.

However, while going through the details of the ITIs in Lalpur and Khambaliya blocks, it is observed that most of these trades are available, though we limited seating capacities.

Table 12 List of courses and seating capacities in ITI of the two selected blocks

S.No.	Trade Name	Duration (Months)	Eligibility (Syllabus)	ITI Khambaliya Seating Capacity	ITI Lalpur Seating Capacity
1	Computer operator cum programming assistant	12	12th Standard Pass	75	72
2	Fitter	24	10th Standard Passed	60	45
3	Welder	12	10th Standard Passed	60	40
4	Electrician	24	10th Standard Passed with Science & Maths	60	63
5	Wiremen	24	8th Standard Passed	60	63
6	Computer Hardware & Network Maintenance	24	Passed 10+2 or intermediate or pre university with physics	50	-
7	Motor rewinding/ Coil winder	24	10th Standard Passed With Maths & Science	60	-
8	Sewing technology	12	8th Standard Passed	60	-
9	Mechanic diesel engine	12	8th Standard Passed	-	24
10	Welder fabrication and fitting	12	10th Standard Passed		20

Source: *http://talimrojgar.gujarat.gov.in/Scripts/ListofITIs.asp?Category=1*

There are also about six KVKs nearby as follows:

Table 13 KVKs in Lalpur & Khambaliya blocks (Directorate of Employment and Training, Gujarat)

District	Block	Name of KVK Center	Attached ITI
Jamnagar	Lalpur	Bhangor	Lalpur
Devbhumi Dwarka	Khambaliya	Charabara	Khambaliya
	Khambaliya	Kathi devaliya	Khambaliya
	Khambaliya	Vadtra	Khambaliya
	Khambaliya	Dharampur	Khambaliya
	Khambaliya	Shaktinagar (Haripar)	Khambaliya

Source: https://employment.gujarat.gov.in/Training/kaushalyavardhankendra.aspx

However, only 3 of these KVKs were operating during our visit to the the selected villages.

Table 14 PMKY training centers available for different trades in Jamnagar & Devbhumi Dwarka.

Sr.No.	Sector	Potential Job Role	Accredited Institutions/ Training Provider	District
1	Beauty & Wellness	Pedicurist & Manicurist	GRAS education & training services Pvt. Ltd.	Jamnagar
2	Healthcare	General Duty Assistant		Jamnagar
3	IT-ITeS	Domestic Data Entry Operator		Jamnagar
4	Electronics & Hardware	Field Technician, Other Home Appliances	ICA Edu- skills Private Limited	Jamnagar
5	Electronics & Hardware	Solar Panel Installation Technician		Jamnagar
6	IT-ITeS	Domestic Data Entry Operator		Jamnagar
7	Apparels	Self Employed Tailor	National Institute Of Computer Training	Jamnagar
8	Automotive	Sales Consultant (Automotive Finance)		Jamnagar
9	Leather	Stitching Operator		Jamnagar
10	BFSI	Goods & Services Tax (GST) Accounts Assistant	Ovel Education Private Limited	Jamnagar
11	Beauty & Wellness	Pedicurist and Manicurist	De Unique Educational Society	Devbhumi dwarka
12	Logistics	Consignment Booking Assistant	De Unique Educational Society	Devbhumi dwarka
13	Media	Make-Up Artist	De Unique Educational Society	Devbhumi dwarka
14	Apparels	Self Employed Tailor	Ovel Education Private Limited	Devbhumi dwarka
15	Beauty & Wellness	Hair Stylist		Devbhumi dwarka

Source: http://pmkvyofficial.org/Training-Centre.aspx

According to the NSDC Skill Gap report for Gujarat (2012), the vocational education in Jamnagar district needs to be focused on the tehsils of Jodiya, Dhrol, Kalyanpur, Lalpur, Kalavad and Khambhalia to bring them in par with the district average in vocational education capacity. This was mainly emphasized due to unequal distribution of seats and need for capacity expansion.

Table 15 Capacity of ITIs

District/ Block of ITIs	Number Capacity	Seat Capacity	Vocational Training Density (Seats Per 1000 Population)	Private Sector Participation in Vocational Training
Jamnagar district	17	4,656	2.16	5%
Lalpur block	1	148	1.28	0%
Khambaliya block	1	212	0.90	0%

Source: Gujarat Skill gap report, NSDC

If we have a look at the workforce distribution of Jamnagar in 2010, it clearly reflects that labour force participation is much higher than the workforce.

Table 16 Participation of workforce in Jamnagar region

Region	Labour Force Participation	Workforce Participation
Jamnagar	58.15%	38.56%

Source: Gujarat Skill gap report, NSDC

Table 17 Key growth sectors in Gujarat as classified by NSDC

Primary	Secondary	Tertiary
Agriculture and Allied activities	Port and Logistics	IT/ITES
	Chemical & Chemical Products	Tourism and Hospitality
	Drugs & Pharmaceuticals	Trade and Retail
	Gems & Jewellery	Transport and Logistics
	Textile	Medical Services
	Food Processing	Financial Services

There is also a huge dependency on the primary sector and the percentage is marginally higher than the secondary and tertiary sectors.

Figure 16 Manpower requirement across sectors 2017-22

Primary Sector 57%
Secondary Sector 14%
Tertiary Sector 29%
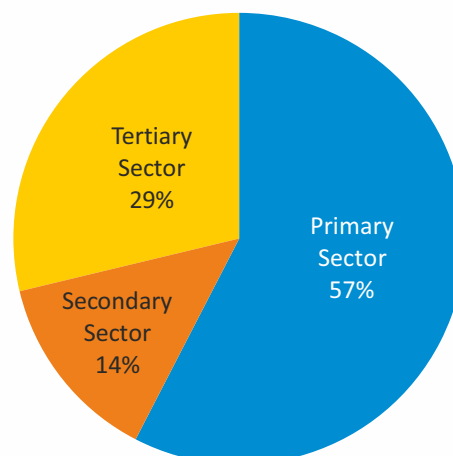
District has witnessed significant growth in industrial activity over the recent years which could potentially increase the contribution of secondary sector to overall employment market. Registered factories and service enterprises have contributed to over fifty thousand employment opportunities in the district. While the growth in secondary sector is witnessing boost recently, unorganized sector continues to dominate the overall manufacturing sector employment.

The Gujarat Skill report also reflects on the higher education availability and shares that Jamnagar is home to an Ayurvedic University offering post graduate and diploma courses in Ayurvedic medicines and pharmaceutical science, yoga and naturopathy. It has one medical college as well as dental, physiotherapy and ayurvedic colleges in the district. There are 16 colleges offering Arts, Commerce, Science, B. Ed & Law programs.

5.5.2. Demand-side analysis

Table 18 Manpower required by the priority sectors in Jamnagar projected for the 2017-22 as per NSDC.

Sector	2017-22			
	Skilled	Semi Skilled	Minimally skilled	Total
Agriculture & Allied Activities	NA	NA	12249	12249
Agro & Food Processing	54	218	272	544
Textile & Apparel	25	99	124	248
Wooden Products & Furniture	7	28	35	70
Chemical & Chemical Products	799	3196	3996	7991
Rubber & Plastics	33	131	164	328
Mineral Processing & Fabrication	379	1517	1897	3794
Electrical & Electronics	21	84	105	210
Manufacturing of Engineering Goods	79	315	393	787
Manufacturing of Construction Material	103	413	517	1034
Misc. Manufacturing	21	83	104	207
Construction	428	857	7281	8566
Trade, Retail	846	1268	6341	8455
Transportation & Logistics	470	7467	8884	16822
Hospitality & Tourism	855	1283	6414	8552
Banking & Financial Services	1957	5870	NA	7827
Healthcare	714	3570	NA	4284
Education & Training	1024	2757	NA	3781

Looking at the top 5 sectors it could be seen that transportation constitutes 31% with over 16000 workforces in demand, followed by agriculture.

Figure 17 Manpower requirement 2017-22
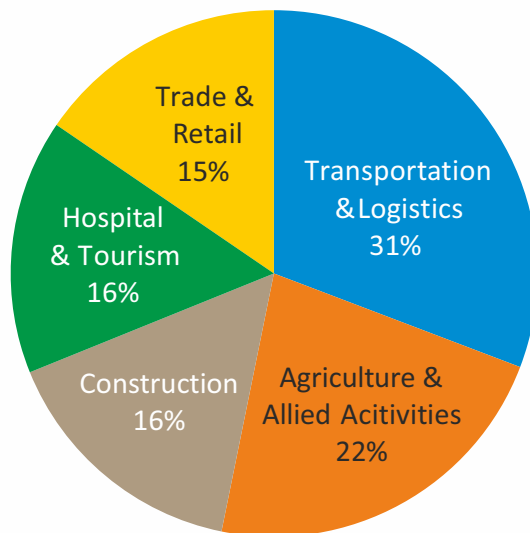
Source: *Gujarat Skill gap report, NSDC*

Table 19 The skills in demand in the district within other sectors

Industries/Services	Core Skills	Allied Skills	Skills with acute shortage
Chemical & Chemical Products	Mechanical, Electrical skills	Instrumentation, boiler attendant, AOCP, lab attendants	MSc/BSc chemists, Electronic Automation with understanding of PLC systems
Metal & Mineral Processing	Fitter, Welder, Turner, Electrician	Melter, Boiler Operator	PCB instrumentation
Construction	Electricians, carpenters, barbenders, welders and masons	Minimally skilled workers	Machine operators
Banking & Financial Services	Knowledge on core banking/mobile/internet platforms	Sales & Marketing	insurance underwriting, claims management

Source: *Gujarat Skill Gap report, NSDC*

During the KIIs, it was found that the recruitment policies of the industries are driven by specific rules which significantly demand workers with bachelor's degree or diploma with experience. The percentage of respondents with Bachelors/Master's degree and Diploma is very low in the area as also depicted in the graph below.

Even the ITI graduates are not being currently absorbed by the nearby industries. The policies are also much different from recruitment in Governmental organizations/ offices and could be estimate as one of the reasons for the employment gap in the region. Modifying as well as aligning the

Figure 18 Manpower requirement 2017-22
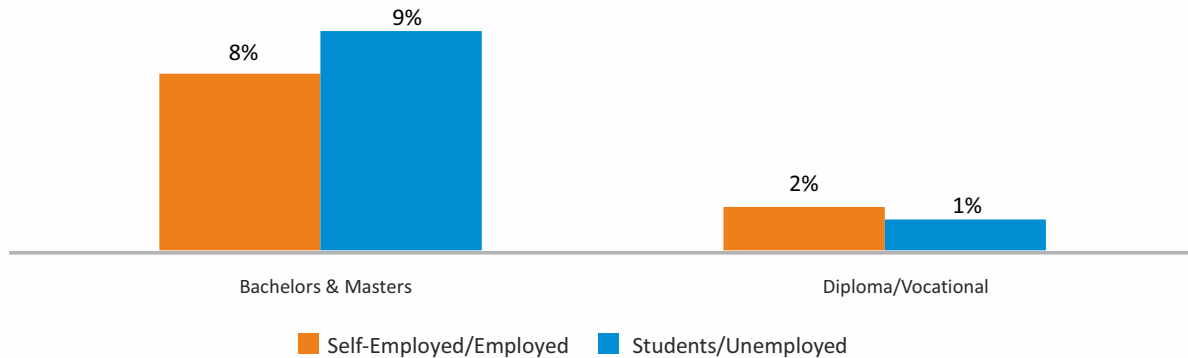
recruitment policies to suit the local needs could be taken into account.

Further, as per the quantitative survey 25% of the employed and 60% of the unemployed respondents wasn't to go for higher studies for better employment opportunities and income. However, there are hardly any higher education institutions in the vicinity of these villages. Hence the locals are both deprived of higher education and recruitment at engineer or managerial level within the nearby industries. This emerges a need to construct educational institutions with graduate and undergraduate degrees.

Manpower for in-house sweeping, cleaning, loading-unloading, local transfers etc is engaged via local contractors both for routine as well as for annual maintenance based on the industry needs. Generally a tendering process for identification of local contractors is done. Industries could emphasize on prioritizing contractors involving larger group of local laborers to close the demand-supply gap.

Although most of the industry workers are engineers (Chemical, electrical and mechanical), diploma or degree courses on administrative procedures, technical support and data entry operators is always in demand. These positions are mostly permanent in nature and would be beneficial for the industry to hire locally to lower down the attrition rates.

However if we look at the skill category human resource demand projections and net supply potential, category wise Demand-Supply gap estimations for the district are presented in the graph below:

Figure 19 Demand-supply gap
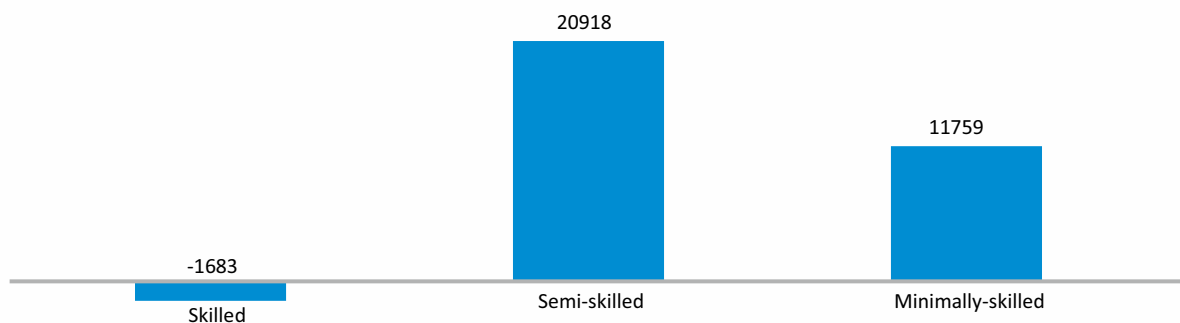
*Skilled labour has excess supply
Source: *Gujarat Skill gap report, NSDC*

Recommendations

6.1. Education-related

- Strong linkages exist between education and skill development, hence strengthening the educational facilities including infrastructure, staff and enrollments need to be one of the top priorities.

- Primary schools of the study area could be redeveloped in collaboration with the Government while also strengthening the overall quality of education.

- Ideally one school at or near Vadinar could be adopted and infrastructure facilities could be developed for higher secondary education under CSR provisions. A pickup and drop bus facilities for the students would be a value addition.

- About 50% deficit of teachers exists in primary school which calls for immediate recruitment or placement of staff. The secondary school pass out unemployed youth could be provided with soft skills or trainings to teach primary school kids.

- Secondary and higher secondary school needs to be established in the vicinity.

- There is no higher education facility near these villages and there is a demand among the residents.

- Requirement of regular trainers for sports, yoga, music and other extra-curricular activities as well as soft skills like English speaking, Computers. Kitchen garden, advance library and smart class teaching concept could also be thought of.

- Teachers are available for computer and science but the frequency of the classes are low and demand is high. The frequency could be increased to at least thrice a week.

- Majority of youth and unemployed have not enrolled for higher education while the demand side analysis clearly indicates that industries require highly qualified. Motivational classes or workshops could be conducted for increased enrolments and for students to take higher education. Regular campaigns could be arranged for this.

- Motivational fellowship programmes to encourage the youth for taking higher education could be designed. Increase in level of education is much required. High risk of saturation as stated by ITIs and other NGOs occurs in the villages and even the placement is also not more than 30-40%. For instance, the entry level education qualification in Nayara is diploma, engineering or graduate. However, most of the local residents have not gone for higher education. The gap could be fulfilled by setting up an institute for this purpose, or encouraging other NGOs through providing them with financial support.

- Industry visits of the students for better understanding of industrial systems and as employment opportunities.

6.2.   Skill-specific

- Survey reflects a major demand of trainings specifically on computer and stitching/embroidery. Hence, a foundation course in Computer and Sewing is highly recommended as per the youth demand. While sewing could be majorly targeted towards women residents, computer trainings could have a mixed target group.

- Soft skill trainings like English speaking and self-employment opportunities are also highly recommended.

- The training programs can be conceptualized simultaneously while conceptualizing a new project at industry/NGO level that may require new skills. This would help create job-relevant skills and make the workforce future ready.

- Government provided trainings have more value among the villagers, so these may be preferred.

- Aspirations of the people clearly reflect that there is a large interest in government led training/programmes. This clearly support the evidence that when other stakeholders implement programmes in collaboration or under the aegis of the Government the results improve remarkably for instance in Pratham's efforts in Harayana's Primary Education under its "Read India" Program[67]. Consequently, an initiative like a PPP or an iKVK can be undertaken for skill development in these villages. It's recommended that a Government-led training program should be implemented.

- As low water table has been one of major issue of the village, training on water recharging and rain water harvesting could be beneficial.

- Deterioration of groundwater quality due to seawater inundation/sea water ingress can be checked by construction of tidal regulators with gates (CGWB) as well as planting local species.

- Trainings on different government schemes focused on rural communities like ITI, KVK PMKY, especially agriculture related, is vital.

- District Industrial Centers gives small scale loan to entrepreneurs at the block level and also provide trade based trainings. Better linkages between the centers and communities could be made.

- Training courses need to be changed from time to time based on market demands.

- Motivational workshops to increase the willingness of the local people on new employment opportunities and strenuous jobs.

- Villagers' training in green skills that help reduce the environmental footprint of the industries could be effective. Trainings for waste management and recovery of valuable products from these wastes (e.g. granules from plastic waste, E-Waste etc) shall be arranged.

- According to the Demand side analysis by NSDC

  o Private skill training providers in Jamnagar should focus on Transportation and Logistics, Healthcare, Construction, Hospitality and Tourism as well as Banking and Financial Services.

  o Corporates many also provide training for skills in the sector where the requirement for absorption within the corporate is higher such as

    ▪ IT/ITES, Construction, Transportation and Logistics

    ▪ Initiate and support modular employability skill training in collaboration with private players/Government

    ▪ Create placement linkage opportunities in training institutions

- For Agriculture & allied activities

  o Training of farmers on economically sustainable and geologically suitable practices to enhance their annual income. For instance, oil expeller unit from cotton crop waste, , milk products etc

  o Assistance to farmers in addressing the ground water table and increasing salinity issues which has resulted in decline in the overall productivity. Providing exposure to them on the concept of rain water harvesting and water conservation.

  o There is a huge scope of horticulture and organic farming in the village which could help increase income and raise the standard of living. Trainings could be designed on these.

  o Geological climatic condition of the area is favorable for dates and coconut farming, but farmers are unable to afford the tissue culture plants. An initiative to encourage farmers through soft loans could be taken up.

  o Small-scale local projects like establishment of oil mill, agro-based and dairy products are recommended which will make farmers more self-sustainable.

  o Field visits of farmers to smart agriculture farms, co-operative societies and organic farming could be helpful in motivating them to take up new avenues as most of the residents so not wish to migrate.

  o Water-recharge structures and farm pond creation is recommended with support from Nayara as most of the farmers have their own bore-well and the water level depends on monsoons. Planned pumping pattern can be deployed in hard rock regions so that further discharge/withdrawal can be carried out during lean period this drawdown/withdrawal created will be recharged in the subsequent rainfall (CGWB).

  o Land holding of the group of farmers under public tube well irrigation should be brought under the provision of the change in crops, irrigation practices and installation of drip/sprinkler irrigation technique Uniformity and planned pumping pattern is required in

the region. Large scope for the operation and maintenance of tube wells would also mandate requirement of skilled manpower with knowledge on repair and maintenance (CGWB).

o   Awareness among local people regarding water conservation measures and existing aquifer system required. Creating awareness among the farmers regarding water conservation through judicious use of water and adoption of efficient irrigation techniques like drip/sprinkler irrigation (CGWB).

o   Resorting to artificial recharge practices by diverting surplus run-off during monsoon into ponds, percolation tanks, spreading basins, abandoned dug wells etc. This could be done on large scale through up skilling of farmers on appropriate techniques on a regional scale with active community participation (CGWB).

o   Financial support for setting up or installation of drip/sprinkler irrigation accessories is also recommended.

o   Establish cooperative model for value addition of dairy and agro products which may further provide villagers with access to government financial schemes.

o   Financial support to farmers for reverse canal system (of about 2 to 3 km) from main check dam to the agricultural land to suffice irrigation requirements.

6.3.   Skilling-Infrastructure

•   A well-developed multi training centre emerges as a significant need, since the villagers prefer training venues nearby their villages,

•   A mobile vocational training van could also cater to requirements of the villagers especially for women who mostly could not travel to distant venues.

•   Information center for farmers would make a huge difference as majority of the population is engaged in agriculture.

•   Effective communication platforms need to be built between villagers, industries and the government for on-ground skill requirements.

•   A full-fledged healthcare facility in the region.

6.4.   Policy-level

•   Current subsidy release process for drip irrigation, available for lands of 2 acres, is very slow and requires an intervention and in larger benefit of the farmers, additional subsidies for drip irrigation for land size less than 2 acre is recommended.

•   A head teacher position is required in the village schools in addition to the principal to share the work load and increase the staff strength.

- Skill gap analysis and demand of the villages need to be monitored from time to time and facilities to be provided accordingly.

- Regular up-gradation of training centers, curriculum and delivery mechanism is required.

6.5. General

- Working out ways to address the concerns of villagers regarding air, soil/land pollution and possible effects on their health. This could be considered on priority as it may resolve many linked issues. Regular dialogue with them is recommended.

- Industries need to give priority to qualified villagers in the vicinity for recruitment at all levels. This may additionally motivate other youth and decrease migration.

- Industries to re-consider recruiting ITI candidates. A system for training ITI trainees could be set up.

- SHGs are willing to work but have no long-term vision; initiatives based on demand-supply side management could be taken up in collaboration with them.

- Financial help to widows through linkages to government schemes, soft loans or marketing of home-based products

- Jamnagar district offers good scope for entrepreneurs to establish for manufacturing various products. Agro based industries, Livestock based industries as well as mineral and marine based industries have good scope. The skill of the entrepreneurs plays vital role in establishing these services and run them successfully. Steel Furniture items Tyre retreading and manufacture of corrugated paper boxes have opportunities for new entrepreneurs as identified by MSME – Development Institute, Govt. of India (2016-17).

Case Studies

Date Palm Cultivation in Semi-arid / Coastal Region of Jamnagar and Devbhumi Dwarka: *"A Game Changer to Secure Sustainable Income of Farmers"*

Hirabhai (46) a small farmer from Mithoi village Jamnagar District, was dependent on Agriculture and its allied activities. The village is just 15 kms away from the coastline due to which the ground water salinity was very high in the region. High salinity in the ground water and high use of chemical pesticides in agriculture resulted into low productivity which led to decrease of annual income of the farmer. There are many farmers facing similar challenges in the region.

The farmer attended one of the training programs organized by the Nayara in which he was briefed about the benefits of organic farming. The company also helped the farmer to install drip irrigation system in his farm land and provided 14 Tissue Culture Barhi Date Palm plants.

Besides, he also received training on organic vegetable cultivation alongside Dates plantation, an intercroping method to ensure optimum use of available land, water and sunlight. Hirabhai carefully followed the suggestions given the by the experts and have been practicing organic farming for last four years. After four years of efforts, Hirabhai's organic Date Palm plantation produced 450 KGs, 700 KGs and 1200 Kg of dates in 2017, 2018 and 2019, respectively, which provided an additional income of Rs. 0.90 lakhs to him. Against the cost of cultivation, the farmer has so far earned 7 times. Further the production would continue for another 10 years. Nayara helped him to market his Date Palm and provided a space to sell Dates at Nayara Township.

Besides income from Date Palm, Hirabhai also earned an additional income of around INR 24,300 from selling of organic vegetables every year. The impact of the intervention was very fruitful in many ways. Immediately, after the fruiting, local farmers visited Hirabhai's farm to learn from his experience. Consumers including Nayara's employees also started to approach him to get Organic Dates. Apart from the economic return, this intervention has also uplifted Hirabhai's social status in the village and in the society.

There are several farmers like Hiraibhai who has been benefitted from the Agriculture and Horticulture development programme.

Agricultural Livelihoods through Integrated Water Shed Management

Saurashtra region faces a double whammy of being drought prone and being a saline region - water scarcity and salinity continue to be an area of alarming concern, particularly as the agriculture is largely rain fed.

Started in 2013, Nayara's integrated water shed management initiatives, ranging from bore well recharge, repair and construction of check dams, farm bunding, repairing of nala plug have been focused towards making the region water neutral by 2026. Nayara's pioneering approach of

conducting a geo-hydrology study of aquifers in the region, have resulted in our water interventions bearing maximum impact. Over the past 5 years, Nayara has built 453 water harvesting structures and created ground water recharge capacity of 6.67 MCM in the region

The brimming pond in Jakhar is one of the several water bodies brought back to life as a result of intensive water management interventions done in the villages. Amarsangh, like many other farmers in the region, harvested a single seasonal crop a year on his rain-fed land of 10 bighas before the 'cut-off trenching activity' in the pond. Our intervention led to an increase in the storage capacity of the pond and other surrounding water bodies, leading to better irrigation, more crops per year and an increase in the annual yield of cotton from 300 kg to 440 kg. In 2 years, Amarsangh's earnings from his increased from Rs 87,000 to Rs 1.72 lakhs. In addition, the water quality of his well improved, with the TDS going down from 2460 ppm to 1123 ppm respectively.

Partnering with farmers like him annually, and providing them the right kind of training and awareness, more than 10,000 families are annually impacted due to the Gramsamruddhi programme of Nayara.

Amarsangh proudly says that "The value of my farm land has increased from 4 Lakhs/acre to 8 lakhs per acre. Thanks to the water availability in my farm. This would have not been possible without

increase in water availability and an increase in crop production – both unthinkable without Nayara's support"

Jetuben's transformation to a craft expert and Pashu Sakhi

Tobacco addiction is common in certain sections of the community. Jetuben, aged 28, and a mother of 2, was addicted to chewing tobacco right from her childhood. Her husband is a fisherman and earns INR 3000 -9000 a month, depending on the catch.

Nayara's Stitching Enterprise Centre offered women like Jetuben an opportunity to hone their craftsmenship skills. Jetuben had to abstain from chewing tobacco, while training at the Centre, as consuming any addictive material during class hours is strictly not allowed there.

The stitching centre also put her in touch with the village self-help group, where she trained to be a Pashu Sakhi (community resource person to help with Nayara's cattle management program). Nayara trains selected women from the village on cattle healthcare 'Pashu Sakhi'. The role of Pashu Sakhi is to build awareness in the village on cattle health and rearing practices. Last month, she treated two pregnant goats under the guidance of Veterinarian and save the life of both the goats and around INR 15,000 of poor goat owners.

Over a period of 6 months, Jetuben completely gave up her tobacco addiction, and cumulatively earns almost INR 4000 per month with the two skills that she has learnt.

"The constant counselling from Nayara's gender coordinator has helped me and my son overcome tobacco addiction. I am so happy that I can now put my skills to use, supplement my family income, and also help my village folk to make a better living", Jetuben says.

Education, Skilling and Livelihood Options for Women in the Community

The women of the region are well known for their exquisite craftsmanship, however faced the challenge of moulding these skills to create products with high market demand, and cultural restrictions on relocation for jobs. Nayara's stitching enterprise centre addresses multiple issues prevailing in the region. It not only trains the women for the requisite skills, but also provides appropriate market linkages for the products. The process involves active training support and handholding by Nayara, with market linkages and buy back guarantee

Afsana, who heard about our enterprise center from one of her peers at the NIOS programme, is one of the trainees at the enterprise centre is one such example - of a girl who had dropped out of school after 8th Std, and is now earning upwards of Rs 9000/- a month .

Encouraged by the market response, Nayara is planning to develop the enterprise Centre into a designing hub to build design and critical thinking skills in these women, and enable them to be 'MAsterG's in the fashion designing world – a position that has until now, been designated to only men.

References

1. UNEVOC/NCVER 2009, Global; Skills development Glossary retrieved from : https://unevoc.unesco.org/go.php?q=TVETipedia+Glossary+A-Z&id=427

2. National Bank for Agriculture and Rural Development (NABARD). (2020). Skill India National Paper. PLP – 2019-20. NABARD.

3. KPMG & FICCI. (2014). Skilling India a look back at the progress, challenges and the way forward.

4. National Bank for Agriculture and Rural Development (NABARD). (2020). Skill India National Paper. PLP – 2019-20. NABARD.

5. Ministry of Finance, Government of India, 2018. Economic Survey 2017-18.

6. Sanghi, Sunita & Srija, A. (2019). Skill Development and Productivity of the Workforce. Niti Aayog.

7. National Bank for Agriculture and Rural Development (NABARD). (2020). Skill India National Paper. PLP – 2019-20. NABARD.

8. General Information on Skill Development Fund. Retrieved from: https://www.msde.gov.in/nationalskilldevelopmentfund.html

9. General Information on National Skill Qualification Framework. Retrieved from: https://www.msde.gov.in/nsqf.html

10. General Information on Green Skill Development Programme. Retrieved from: http://www.gsdp-envis.gov.in/index.aspx

11. PIB release on Indian Institute of Skills (2016). Retrieved from: https://pib.gov.in/newsite/PrintRelease.aspx?relid=155623

12. General Information on Sector Skill Councils. Retrieved from: https://nsdcindia.org/sector-skill-councils

13. General Information on National Skill Development Council. Retrieved from: https://skillindia.nsdcindia.org/

14. Indian Brand Equity Foundation. (2013). Skilling the Workforce: Skill Development Initiatives in India.

15. ICRA Management Consulting Services Limited. (2010). The Skill Development Landscape in India and Implementing Quality Skills Training. Federation of Indian Chambers of Commerce & Industry.

16. Sanghi, Sunita & Srija, A. (2019). Skill Development and Productivity of the Workforce. Niti Aayog.

17. Niti Aayog. (2018). Strategy for New India @75.

18. Niti Aayog. (2018). Strategy for New India @75.

19. Directorate of Economics & Statistics, Government of Gujarat. (2018). Socio-economic review 2017-2018 Gujarat state.

20. National Skill Development Corporation. District wise skill gap study for the State of Gujarat (2012-17, 2017-22)

21. Skill Reporter. (2019). News Article. Retrieved from: https://www.skillreporter.com/2019/02/schemes/pmkvy/gujarat-ranked-15th-in-implementation-of-pradhan-mantri-kaushal-vikas-yojana-pmkvy/

22. Information about the Skill Trainings in Gujarat State. Retrieved from: http://talimrojgar.gujarat.gov.in/2014/default.aspx#.XkzH9zIzbIU

23. National Skill Development Corporation. District wise skill gap study for the State of Gujarat (2012-17, 2017-22)

24. General Information about Labour and Employment Department, Gujarat. Retrieved from: http://labour.gujarat.gov.in

25. General Information about Directorate of Employment and Training, Gujarat. Retrieved from: http://employment.gujarat.gov.in/Aboutus/introduction.aspx

26. Information about ITIs in Gujarat. Retrieved from: https://www.onlineresultportal.com/iti/gujarat.php

27. General Information about Gujarat Skill Development Mission. Retrieved from: http://employment.gujarat.gov.in/organisations/gujaratskilldevelopmentmission.aspx

28. General Information about Directorate General of Employment and Training. Retrieved from: https://dgt.gov.in

29. Information about the Skill Trainings in Gujarat State. Retrieved from: http://talimrojgar.gujarat.gov.in/2014/KVK.aspx#.Xk45nDIzbIV

30. General Information about Apprenticeship Training Scheme. Retrieved from: https://dgt.gov.in/Apprenticeship_Training

31. General Information about Modular Employment Scheme. Retrieved from: http://techedu.hp.gov.in/?q=mes-scheme

32. Information about the Skill Trainings in Gujarat State. Retrieved from: http://talimrojgar.gujarat.gov.in

33. National Skill Development Corporation. District wise skill gap study for the State of Gujarat (2012-17, 2017-22)

34. Information about the India Skills Competition Participation by Gujarat State. Retrieved from: http://www.indiaskillsgujarat.org/

35. Government of Gujarat, Vibrant Gujarat. (2017). Skill Development Sector Profile. Retrieved from: http://vibrantgujarat.com/writereaddata/images/pdf/skill-development-sector.pdf

36. Government of Gujarat, Vibrant Gujarat. (2017). Skill Development Sector Profile. Retrieved from: http://vibrantgujarat.com/writereaddata/images/pdf/skill-development-sector.pdf

37. Government of Gujarat, Vibrant Gujarat. (2017). Skill Development Sector Profile. Retrieved from: http://vibrantgujarat.com/writereaddata/images/pdf/skill-development-sector.pdf

38. Government of Gujarat, Vibrant Gujarat. (2017). Skill Development Sector Profile. Retrieved from: http://vibrantgujarat.com/writereaddata/images/pdf/skill-development-sector.pdf

39. General Information on Gujarat Skill Society. Retrieved from: http://www.gksgujarat.org/

40. Government of Gujarat, Vibrant Gujarat. (2017). Skill Development Sector Profile. Retrieved from: http://vibrantgujarat.com/writereaddata/images/pdf/skill-development-sector.pdf

41. Government of Gujarat, Vibrant Gujarat.(2017). Skill Development Sector Profile. Retrieved from: http://vibrantgujarat.com/writereaddata/images/pdf/skill-development-sector.pdf

42. Skill Reporter. (2019). News Article. Retrieved from: https://www.skillreporter.com/2019/02/schemes/pmkvy/gujarat-ranked-15th-in-implementation-of-pradhan-mantri-kaushal-vikas-yojana-pmkvy/

43. Information on Skill Development Sector Performance. Retrieved from: http://erp.ilfsskills.com/skillsdashboard/Monitoringdashboardnew.aspx

44. Information on Skill Development Sector Performance. Retrieved from: http://erp.ilfsskills.com/skillsdashboard/Monitoringdashboardnew.aspx

45. Department of Finance, Government of Gujarat. (2018). Budget 2018-19.

46. Information on Kaushalya Vardhan Kendra. Retrieved from: http://talimrojgar.gujarat.gov.in/2014/KVK.aspx#.Xk48DzIzbIU

47. Department of Finance, Government of Gujarat. (2018). Budget 2018-19.

48. Department of Finance, Government of Gujarat. (2018). Budget 2018-19.

49. Government of Gujarat, Vibrant Gujarat. (2017). Skill Development Sector Profile. Retrieved from: http://vibrantgujarat.com/writereaddata/images/pdf/skill-development-sector.pdf

50. Department of Finance, Government of Gujarat. (2018). Budget 2018-19.

51. Information on Skill Certification. Retrieved from: http://talimrojgar.gujarat.gov.in/2014/default.aspx#.Xk5BTTIzbIU

52. Department of Finance, Government of Gujarat. (2018). Budget 2018-19.

53. Government of Gujarat, Vibrant Gujarat. (2017). Skill Development Sector Profile. Retrieved from: http://vibrantgujarat.com/writereaddata/images/pdf/skill-development-sector.pdf

54. Government of Gujarat, Vibrant Gujarat. (2017). Skill Development Sector Profile. Retrieved from: http://vibrantgujarat.com/writereaddata/images/pdf/skill-development-sector.pdf

55. Department of Finance, Government of Gujarat. (2018). Budget 2018-19.

56. Department of Finance, Government of Gujarat. (2018). Budget 2018-19.

57. Department of Finance, Government of Gujarat. (2018). Budget 2018-19.

58. Department of Finance, Government of Gujarat. (2018). Budget 2018-19.

59. Department of Finance, Government of Gujarat. (2018). Budget 2018-19.

60. National Skill Development Corporation. District wise skill gap study for the State of Gujarat (2012-17, 2017-22)

61. Directorate of Census Operations Gujarat. (2011). District Census Handbook.

62. Ministry of Water Resources, Government of India. District Groundwater Brochure Jamnagar District -Gujarat, (2013). Central Ground Water Board.

63. National Skill Development Corporation. District wise skill gap study for the State of Gujarat (2012-17, 2017-22)

64. Nayara Energy Limited. Retrieved from https://www.nayaraenergy.com/refinery

65. Ministry of Statistics and Programme Implementation, Government of India. (2017). Youth in India.

66. Pingali P., Aiyar A., Abraham M., Rahman A. (2019). Rural Livelihood Challenges: Moving out of Agriculture. In: Transforming Food Systems for a Rising India. Palgrave Studies in Agricultural Economics and Food Policy. Palgrave Macmillan, Cham

67. Banerjee, Abhijit, Rukmini Banerji, James Berry, Esther Duflo, Harini Kannan, Shobhini Mukerji, Marc Shotland, and Michael Walton. (2017). From Proof of Concept to Scalable Policies: Challenges and Solutions, with an Application. Journal of Economic Perspectives, 31 (4): 73-102

Annexure 1
List of trainings provided under KVKs

1. Assistant plumber

2. Basic beauty & hair dressing

3. Basic cultivation of cereal crops

4. Basic electrical training

5. Basic welding arc

6. Basic welding gas

7. Basic wood work

8. Beauty therapist

9. Bridal makeup artist gcvt

10. Computer fundamental, ms office & internet

11. Cook fast food

12. Cultivation of oil seed & pulses

13. Dairy entrepreneur gcvt

14. Designer cum maker decorative items

15. Desk top publishing

16. Digital camera photograph

17. Drip irrigation gcvt

18. Fashion designing gcvt

19. Food processing (fruits & vegetables) gcvt

20. Fruits and vegetable production gcvt

21. Garment checker

22. Garment making gcvt

23. Hair stylist

24. Hand embroider

25. Handicraft items from fibre gcvt

26. Honey bee keeping gcvt

27. Integrated crop management gcvt

28. Integrated pest and disease management gcvt

29. Irrigation methods gcvt

30. Machine embroidery operator

31. Make-up artist

32. Mason

33. Massage therapist

34. Mushroom cultivation

35. Nursery management gcvt

36. Nursery management of vegetables gcvt

37. Organic farming gcvt

38. Plumber

39. Repair & maintence of irrigation equipment

40. Repair maintance & operation of post harvesting equipment

41. Repair of home appliance

42. Scientific massage trade for persons with blindness and low vision gcvt

43. Seed production

44. Soil sampling & analysis gcvt

45. Solar electric system installer & service provider

46. Special sewing machine operator

47. Spoken english and communication skill

48. Tailor (basic sewing operator)

49. Tailor ladies

50. Tally 9.0

51. Value addition in soyabean gcvt

52. Vermi-compost producer gcvt

53. Cultivation practices of commercial crops

54. Ethno veterinary practices for cattle

55. Chilli production technology

Source: http://talimrojgar.gujarat.gov.in/2014/PDF/12Feb2020043356PM.PDF

Annexure 2
Survey questionnaire: Self Employed

Date: _____

Investigator/Surveyor details
(સર્વે કરનાર ની વિગતો)

Name:
(નામ)

Signature:
(સહી)

Contact no.:
(સંપર્ક માટેની વિગતો)

_____

Respondent details
(પ્રતિસાદ આપનાર વિગતો)

Types of Survey
- □ Employed (કાર્યરત)
- □ Self-employed (સ્વ રોજગાર)

Personal profile (વ્યક્તિગત વિગતો)

1. Name : _____
   (નામ)

2. Contact number (Mobile/Landline): _____
   (સંપર્ક માટેની વિગતો)

3. Village Name (with address) : _____
   ગામનું નામ (સરનામું સાથે)

4. Age (in years) : _____
   ઉંમર (વર્ષોમાં)

5. Gender : Male □   Female □

   લિંગ   પુરુષ   સ્ત્રી

6. Religion : □ Hindu   □ Muslim   □ Christian   □ Jain   □ Other _____
   ધર્મ   હિન્દુ   મુસ્લિમ   ખ્રિસ્તી   જૈન   અન્ય

7. Community: □ General □ Scheduled tribes □ Scheduled castes □ Other backward castes
   સમુદાય   સામાન્ય   અનુસૂચિત જનજાતિ   અનુસૂચિત જાતિ   અન્ય પછાત જાતિ

8. Education   : _____
   શિક્ષણ

     In which field   : _____
     કયા ક્ષેત્રમાં

9. Do you want to take higher education in the same field or other? ☐ Yes (હા)   ☐ No (ના)
   શું તમે સમાન ક્ષેત્રમાં અથવા અન્યમાં ઉચ્ચ શિક્ષણ મેળવવા માંગો છો?

     If yes (specify) _____
     જો હા હોય તો, (વિગતો જણાવવી)

     If No (specify) _____
     જો ના હોય તો, (વિગતો જણાવવી)

10. How long have you been residing in the village (years) _____
    તમે ગામમાં કેટલા સમયથી રહો છો (વર્ષો):

11. Does you/your family own the house?   ☐ Yes (હા)   ☐ No (ના)
    શું તમારે કે તમારા પરિવારનું ગામ માં મકાન છે?

Economic Profile આર્થિક વિગતો:

12. Occupation or Main source of livelihood:
    વ્યવસાય અથવા આજીવિકાનો મુખ્ય સ્રોત

S. No	Occupation (વ્યવસાય)	Please Tick	Years
1)	Industry laborer (ઔધોગિક મજૂરી)		
2)	Animal Husbandry (પશુપાલન)		
3)	Agriculture (ખેતી)		
4)	Construction Work (Labour/Mason) (બાંધકામ કાર્ય; મજૂર / કડિયો)		
5)	Stitching / Tailoring/Weaving (સીવણ/દરજી કામ/વણાટ)		
6)	Vending (Vegetable/Fish/Fruits) (વેપારી (શાકભાજી/માછલી/ફળો)		
7)	Embroidery (ભરતકામ)		
8)	School (Principal/Teacher) or Hospital support staff (શાળા (આચાર્ય / શિક્ષક) અથવા હોસ્પિટલ સપોર્ટ સ્ટાફ)		
9)	Government Job (સરકારી નોકરી)		
10)	Govt Informal Work (ANW, Mid Day Meal, etc) (સરકારી અનૌપચારિક ક્ષેત્ર- આંગનવાડી, મધ્યાહ્ન ભોજન, વગેરે)		

11)	Technical/Administrative/Clerical work in Industry (ઉધોગમાં તકનીકી / વહીવટી / કારકુની કાર્ય)		
12)	Service Delivery (Plumbing/Electrician/Carpenter/Parlor/other) (સેવા વિતરણ) (પ્લમ્બિંગ / ઇલેક્ટ્રિશિયન / સુથાર / પાર્લર / અન્ય)		
13)	Shop (Grocery/ Stationery/Hardware/Other Consumables) દુકાન (કરિયાણા / સ્ટેશનરી / હાર્ડવેર / અન્ય વપરાશપત્રો)		
14)	Brick Kiln worker (ઇંટ ભઠ્ઠા કામદાર)		
15)	Not working (બિન કર્યરતઃ)		
16)	Others (specify) અન્ય (વિગતો જણાવવી):		

13. Name of the workplace (જે જગ્યા એ કામ કરતા હોય તેનું નામ):

    a. Company name (કંપનીનું નામ):

    b. Place(સ્થાન):

14. How many members are there in your family? _____
તમારા કુટુંબમાં કેટલા સભ્યો છે?

15. Are you single earner in your family?   □ Yes (હા)   □ No (ના)
શું તમે તમારા કુટુંબમાં એકલા કમાનાર છો?

    If no, How many members are working? _____
જો ના, તો કેટલા સભ્યો કામ કરી રહ્યા છે?

16. What is your average income per month (INR):
તમારી સરેરાશ માસિક આવક કેટલી છે (રૂપિયા માં)

    □ Below 5000   □ Between 5000 to 10000   □ Between 10000 to 20000   □ Above 20000
    5000 ની નીચે   5000 થી 10000 ની વચ્ચે   10000 થી 20000 ની વચ્ચે   20000 થી ઉપર

17. Do you like your present job: □ Yes (હા)   □ No (ના)
શું તમને તમારી વર્તમાન નોકરી ગમે છે?

    If No, (જો ના હોય તો)

    a. How long do you wish to continue the current job? _____
તમે તમારી વર્તમાન નોકરી કેટલો સમય કરવા માંગો છો?

    b. Which job/sector is preferred? _____
કઇ નોકરી / ક્ષેત્ર પસંદ છે?

    c. What additional skills you will require for the change? _____
જો તમારે બીજી નોકરી કરવી હોય તો તમારે કઇ વધારાની કુશળતા વિકસાવવી પડશે?

d. Are you interested to take training for the same?   □ Yes (હા)   □ No (ના)
    શું તમને તે માટે તાલીમ લેવાનું રસ છે?

If yes (જો હા હોય તો)

Are you interested to take training in the same field where you are working for self
development?   □ Yes (હા)   □ No (ના)
સ્વ વિકાસ માટે તમે જ્યાં કામ કરી રહ્યા છો તે જ ક્ષેત્રમાં તાલીમ લેવાનું તમને રસ છે?

Skill Development કૌશલ્ય વિકાસ

For villagers (ગ્રામજનો માટે):

18. Do you think trainings are required for enhancement of skills in the village?
    શું તમને લાગે છે કે ગામમાં કુશળતા વધારવા માટે તાલીમ જરૂરી છે?

    □ Yes (હા)   □ No (ના)

    If yes, If yes (જો હા હોય તો)

    a. Specify which training will helpful for the villagers? _____
        કઈ તાલીમ ગામલોકોને મદદરૂપ થશે તેનો ઉલ્લેખ કરો?

19. Who will the organizer of these trainings?
    આ તાલીમ નું આયોજન કોણ કરશે?

Government સરકાર	Private Company ખાનગી કંપની	NGO એન.જી.ઓ.	Others (અન્ય)
Has participated but can't remember content તાલીમ લીધેલ છે પણ વિગતો યાદ નથી		Don't know ધ્યાનમાં નથી	

20. What should be the period of training? _____
    તાલીમનો સમયગાળો કેટલો હોવો જોઈએ?

    How many hour spend for the training per day? _____
    દિવસ દીઠ તાલીમ માટે કેટલા કલાકનો સમય આપશો?

    Prefer time for training?   □ Morning   □ Afternoon   □ Evening
    તાલીમ માટે સમય પસંદ કરો છો?   સવારે   બપોરે   સાંજે

21. Where you want such training? _____
    તમારે આવી તાલીમ ક્યાં જોઇએ છે?

For Self (સ્વયં માટે):

22. Have you attended any trainings?   □ Yes (હા)   □ No (ના)
    શું તમે કોઇ તાલીમ લીધી છે?

23. Who was the organizer of the trainings attended?
તાલીમના આયોજક કોણ હતા?

Government સરકાર	Private Company ખાનગી કંપની	NGO એન.જી.ઓ.	Others (અન્ય)
Has participated but can't remember content તાલીમ લીઘેલ છે પણ વિગતો યાદ નથી		Don't know ધ્યાનમાં નથી	

24. Which kind of training did you taken? _____
તમે કયા પ્રકારની તાલીમ લીધી હતી?

25. How long the training was? _____
કેટલા દિવસની તાલીમ હતી?

26. Did you receive any certificate for the training?   □ Yes (હા)   □ No (ના)
તમે તાલીમ માટે કોઈ પ્રમાણપત્ર પ્રાપ્ત કર્યું છે?

27. Were these trainings helpful?   □ Yes (હા)   □ No (ના)
શું આ તાલીમ મદદરૂપ થઇ?

    a. What do you liked about these trainings? _____
        તમને આ તાલીમ ની કઈ બાબતો ગમી?

    b. What were the issues with these trainings? _____
        તમને આ તાલીમ ની કઈ બાબતો ન ગમી?

    c. How these training were helpful? _____
        આ તાલીમ તમને કઈ રીતે મદદરૂપ થઇ?

28. Are you currently undergoing any training?   □ Yes (હા)   □ No (ના)
શું તમે અત્યારે કોઈ તાલીમ લઇ રહ્યા છો?

    If yes, _____
    (જો હા હોય તો, વિગતો જણાવવી)

29. How long the training period is? _____
તાલીમનો સમયગાળો કેટલો છે?

    How many hours spend for the training per day? _____
    દિવસ દીઠ તાલીમ માટે કેટલા કલાકનો સમય આપો છો?

    Prefer time for training?   □ Morning   □ Afternoon   □ Evening
    તાલીમ માટે સમય પસંદ કરો છો?   સવારે   બપોરે   સાંજે

30. Who is the organizer of the trainings?
તાલીમના આયોજક કોણ છે?

Government સરકાર	Private Company ખાનગી કંપની	NGO એન.જી.ઓ.	Others (અન્ય)
Has participated but can't remember content તાલીમ લીધેલ છે પણ વિગતો યાદ નથી		Don't know ધ્યાનમાં નથી	

31. will you getting certificater of the training?   ☐ Yes (હા)   ☐ No (ના)
શું તમને તાલીમનું પ્રમાણપત્ર મળશે?

32. Will these trainings helpful to you?   ☐ Yes (હા)   ☐ No (ના)
શું આ તાલીમ તમને મદદરૂપ થશે?

    a. How these training were helpful? _____
       આ તાલીમ તમને કઈ રીતે મદદરૂપ થઇ?

33. Trainings required/wanted for further growth (specify): _____
તમારા વિકાસ માટે કઈ કઈ તાલીમ જરૂરી છે (સ્પષ્ટ કરો)

34. What should be the period of training? _____
તાલીમનો સમયગાળો કેટલો હોવો જોઇએ?

35. How many hours spend for the training per day? _____
દિવસ દીઠ તાલીમ માટે કેટલા કલાકનો સમય આપી શકો?

36. Prefer time for training?   ☐ Morning   ☐ Afternoon   ☐ Evening
તાલીમ માટે સમય પસંદ કરો છો?   સવારે   બપોરે   સાંજે

37. Where you want such training? _____
તમને આવી તાલીમ ક્યાં જોઇઍ છે?

38. Which training provider will you prefer in future?
તમે ભવિષ્યમાં કેવી તાલીમ આપનારને પસંદ કરશો?

Government સરકાર	Private Company ખાનગી કંપની	NGO એન.જી.ઓ.	Others (અન્ય)
Has participated but can't remember content તાલીમ લીધેલ છે પણ વિગતો યાદ નથી		Don't know ધ્યાનમાં નથી	

39. Does certificate at the end of the trainings helpful?   ☐ Yes (હા)   ☐ No (ના)
તાલીમના અંતેનું પ્રમાણપત્ર ઉપયોગી છે?

40. How this training will helpful to you? _____
આ તાલીમ તમને કેવી રીતે મદદ કરશે?

Migration (સ્થળાંતર):

41. Do you wish to shift/migrate for a new job: □ Yes (હા)   □ No (ના)
શું તમે નવી નોકરી માટે સ્થળાંતર કરવા માંગો છો.

If Yes, (જો હા હોય તો)

    a.   What would be your preferred location? _____
          તમારૂં પસંદ કરેલું સ્થાન શું હશે?

    b.   Why would you like to migrate? _____
          તમે સ્થળાંતર કેમ કરવા માંગો છો?

42. Has any of your family member migrated for a job?   □ Yes (હા)   □ No (ના)
શું તમારા પરિવારના કોઇ સભ્યએ નોકરી માટે સ્થળાંતર કર્યું છે?

If Yes, , (જો હા હોય તો)

    a.   Which place have they migrated to? _____
          તેઓ કયા સ્થળે સ્થળાંતર થયા છે?

    b.   Why do you think they have migrated? _____
          તમને શું લાગે છે કે તેઓ કેમ સ્થળાંતર થયા છે

    c.   Which job they are currently doing? _____
          તેઓ હાલમાં કઇ નોકરી કરી રહ્યા છે?

43. How do you think these migrants could be retained in the village?
તમારા પ્રમાણે ગામમાંથી અન્ય જગ્યાએ નોકરી માટે સ્થાનાન્તર ન થાય તે માટે શું કરવું જોઇએ?

44. What are the major jobs people are mostly engaged in the village?
ગામલોકો કઇ નોકરી સૌથી વધારે કરી રહ્યા છે

_____
Signature of participant
(માહિતી આપનારની સહી)

Annexure 3
Survey questionnaire: Students/Unemployed

Date: _____

Investigator/Surveyor details
(સર્વે કરનાર ની વિગતો)

Name:
(નામ)

Signature:
(સહી)

Contact no.:
(સંપર્ક માટેની વિગતો)

Respondent details
(પ્રતિસાદ આપનાર વિગતો)

Types of Survey   □   Employed (કાર્યરત)

                            □   Self-employed (સ્વ રોજગાર)

Personal profile (વ્યક્તિગત વિગતો)

1. Name   : _____
    (નામ)

2. Contact number (Mobile/Landline): _____
    (સંપર્ક માટેની વિગતો)

3. Village Name (with address)   : _____
    ગામનું નામ (સરનામું સાથે)

4. Age (in years)   : _____
    ઉંમર (વર્ષોમાં)

5. Gender   : Male □   Female □

    લિંગ   પુરુષ   સ્ત્રી

6. Religion : □ Hindu   □ Muslim   □ Christian   □ Jain   □ Other
    ધર્મ   હિન્દુ   મુસ્લિમ   ખ્રિસ્તી   જૈન   અન્ય _____

7. Community: □ General   □ Scheduled tribes □ Scheduled castes □ Other backward castes
    સમુદાય   સામાન્ય   અનુસૂચિત જનજાતિ   અનુસૂચિત જાતિ   અન્ય પછાત જાતિ

8. Education   : _____
    શિક્ષણ

9.   In which field   : _____
    કયા ક્ષેત્રમાં

10. Do you want to take higher education in the same field or other? □ Yes (હા)   □ No (ના)
    શું તમે સમાન ક્ષેત્રમાં અથવા અન્યમાં ઉચ્ચ શિક્ષણ મેળવવા માંગો છો?

    If yes (specify) _____
    જો હા હોય તો, (વિગતો જણાવવી)

    If No (specify) _____
    જો ના હોય તો, (વિગતો જણાવવી)

11. Do you have any technical knowledge?
    શું તમને કોઈ તકનીકી જાણકારી છે?

12. In which field are you interested after education job/self-employed?
    તમે અભ્યાસ પછી નોકરી કે સ્વરોજગારી કયા ક્ષેત્રમાં રુચિ ધરાવો છો?

13. Expected
    અપેક્ષિત પગાર તમે કેટલો ઇચ્છો છો?

14. How long have you been residing in the village
    તમે ગામમાં કેટલા સમયથી રહો છો (વર્ષો):

15. Does you/your family own the house?   □ Yes (હા)   □ No (ના)
    શું તમારે કે તમારા પરિવારનું ગામ માં મકાન છે?

16. Are you interested to work in village/city/out of the state for employment?
    તમને રોજગાર માટે ગામ / શહેર / રાજ્યની બહાર કામ કરવામાં રસ છે?

Skill Development કૌશલ્ય વિકાસ

For villagers (ગ્રામજનો માટે):

17. Do you think trainings are required for enhancement of skills in the village? □ Yes (હા) □ No (ના)
    શું તમને લાગે છે કે ગામમાં કુશળતા વધારવા માટે તાલીમ જરૂરી છે?

    If yes, If yes (જો હા હોય તો)

    b.   Specify which training will helpful for the villagers? _____
         કઈ તાલીમ ગામલોકોને મદદરૂપ થશે તેનો ઉલ્લેખ કરો?

18. Who will the organizer of these trainings?
    આ તાલીમ નું આયોજન કોણ કરશે?

Government સરકાર	Private Company ખાનગી કંપની	NGO એન.જી.ઓ.	Others (અન્ય)
Has participated but can't remember content તાલીમ લીધેલ છે પણ વિગતો યાદ નથી		Don't know ધ્યાનમાં નથી	

19. What should be the period of training? _____
તાલીમનો સમયગાળો કેટલો હોવો જોઇએ?

How many hour spend for the training per day? _____
દિવસ દીઠ તાલીમ માટે કેટલા કલાકનો સમય આપશો?

Prefer time for training?   □ Morning   □ Afternoon   □ Evening
તાલીમ માટે સમય પસંદ કરો છો?   સવારે   બપોરે   સાંજે

20. Where you want such training?
તમારે આવી તાલીમ ક્યાં જોઇએ છે?

For Self (સ્વયં માટે):

21. Have you attended any trainings? ?   □ Yes (હા)   □ No (ના)
શું તમે કોઇ તાલીમ લીધી છે?

22. Who was the organizer of the trainings attended?
તાલીમના આયોજક કોણ હતા?

Government સરકાર	Private Company ખાનગી કંપની	NGO એન.જી.ઓ.	Others (અન્ય)
Has participated but can't remember content તાલીમ લીધેલ છે પણ વિગતો યાદ નથી		Don't know ધ્યાનમાં નથી	

23. Which kind of training did you taken? _____
તમે કયા પ્રકારની તાલીમ લીધી હતી?

24. How long the training was? _____
કેટલા દિવસની તાલીમ હતી?

25. Did you receive any certificate for the training?   □ Yes (હા)   □ No (ના)
તમે તાલીમ માટે કોઇ પ્રમાણપત્ર પ્રાપ્ત કર્યું છે?

26. Does certificate at the end of the trainings helpful?   □ Yes (હા)   □ No (ના)
શું તાલીમના અંતેનું પ્રમાણપત્ર ઉપયોગી છે?

a. How these training will helpful to you? _____
આ તાલીમ તમને કેવી રીતે મદદ કરશે?

27. Are you currently undergoing any training?   □Yes (હા)   □ No (ના)
શું તમે અત્યારે કોઇ તાલીમ લઇ રહ્યા છો?

If yes,
જો હા હોય તો (વિગતો જણાવો)

28. How long the training period is?
તાલીમનો સમયગાળો કેટલો છે?

    How many hours spend for the training per day?
    દિવસ દીઠ તાલીમ માટે કેટલા કલાકનો સમય આપો છો?

29. Who is the organizer of the trainings?
તાલીમના આયોજક કોણ છે?

Government સરકાર	Private Company ખાનગી કંપની	NGO એન.જી.ઓ.	Others (અન્ય)
Has participated but can't remember content તાલીમ લીધેલ છે પણ વિગતો યાદ નથી		Don't know ધ્યાનમાં નથી	

30. will you get certificate of the training?   □ Yes (હા)   □ No (ના)
શું તમને તાલીમનું પ્રમાણપત્ર મળશે?

31. Will these trainings helpful to you?   □ Yes (હા)   □ No (ના)
શું આ તાલીમ તમને મદદરૂપ થશે?

    a.   How these training will helpful? _____
         આ તાલીમ તમને કઈ રીતે મદદરૂપ થશે?

32. Which trainings required/wanted for further growth (specify): _____
તમારા વિકાસ માટે કઈ કઈ તાલીમ જરૂરી છે (સ્પષ્ટ કરો)

33. Will these training helpful to you?   □Yes (હા)   □ No (ના)
શું આ તાલીમ મદદરૂપ થશે?

    a.   How these training will be helpful to you? _____
         આ તાલીમ તમને કઈ રીતે મદદરૂપ થશે?

34. How long the training period will? _____
તાલીમનો સમયગાળો કેટલો હોવો જોઇએ?

    How many hour spend for the training per day? _____
    દિવસ દીઠ તાલીમ માટે કેટલા કલાકનો સમય આપી શકો?

    time for training?   □ Morning   □ Afternoon   □ Evening
    તાલીમ માટે સમય પસંદ કરો છો?   સવારે   બપોરે   સાંજે

35. Where do you want to take such trainings? _____
આવી તાલીમ ક્યાં લેવામાં આવે છે?

36. Which training provider will you prefer?
તમે કેવી તાલીમ આપનારને પસંદ કરશો?

Government સરકાર	Private Company ખાનગી કંપની	NGO એન.જી.ઓ.	Others (અન્ય)
Has participated but can't remember content તાલીમ લીઘેલ છે પણ વિગતો યાદ નથી		Don't know ધ્યાનમાં નથી	

Migration (સ્થળાંતર):

37. Do you wish to shift/migrate for a new job: ☐ Yes (હા)   ☐ No (ના)
શું તમે નવી નોકરી માટે સ્થળાંતર કરવા માંગો છો.

    If Yes, (જો હા હોય તો)

    c.   What would be your preferred location? _____
         તમારું પસંદ કરેલું સ્થાન શું હશે?

38. Has any of your family member migrated for a job?   ☐ Yes (હા)   ☐ No (ના)
શું તમારા પરિવારના કોઇ સભ્યએ નોકરી માટે સ્થળાંતર કર્યું છે?

    If Yes, , (જો હા હોય તો)

    a.   Which place have they migrated to? તેઓ કયા સ્થળે સ્થળાંતર થયા છે?

    b.   What do you think why they have migrated? તમને શું લાગે છે કે તેઓ કેમ સ્થળાંતર થયા હતા?

    c.   Which job they are currently doing? તેઓ હાલમાં કઇ નોકરી કરી રહ્યા છે?

39. How do you think these migrants could be retained in the village?
તમારા પ્રમાણે ગામમાંથી અન્ય જગ્યાએ નોકરી માટે સ્થાનાન્તર ન થાય તે માટે શું કરવું જોઇએ?

40. What are the major jobs people are mostly engaged in the village?
ગામલોકો કઇ નોકરી સૌથી વધારે કરી રહ્યા છે

_____

    Signature of participant:
    (માહિતી આપનારની સહી)

Annexure 4
Questionnaire for Focus Group Discussions

Village Name:

Stakeholder type:

□ Sarpanch/Talati _____ □ Government training institutes (ITI, DIC, KVK, E.O. etc)_____

□ SHG Name _____ □ School, Teacher/Principal _____

□ Industry _____

Name of respondents:

Question	Response
What is the major occupation of the village	Male
	Female
What type of jobs are most preferred by the people?	Male
	Female
In your opinion what is to be done to increase the employment/skill at village level?	Male
	Female
What are your expectations in establishing a skill development centre/ vocational training centre? In terms of facilities, Location, Fees, and types of training that could be offered?	
Skill needs for or by the nearby employers/industries.	
What is the current demand for trained manpower in village/districts?	
What kind of jobs do people migrate for from the village?	
Why do you think such migration happens?	
What could be done to prevent/reduce this migration?	
What do you think are villagers' expectations from the nearby industries/employers?	Male Female
What are your expectations from the Govt and the employers to increase the employment?	
What should be the preparedness of the villagers for skill development?	Male
	Female
What types of skills are available in the village?	Male
	Female
Is there any other idea you would like to implement?	

Questions for SHGs:	
How many SHGs in the village?	
What is the major focus area of the group?	
What are the major activity of the group?	
How many families are depending on the SHGs activity?	
What is the earning of each member from such activity?	
How the village is benefitted by such activities?	
What are your future views for the sustainable development?	

Annexure 5
Village-wise views of stakeholders

1 Parodiya

Total Population: 1872; Male: 971 and Female: 901
Major Occupation: Agriculture/Animal husbandry
Literacy rate: 52.21%

Sarpanch/Talati views:

- More than 50% deficit of teachers in primary school. No secondary and higher secondary school within 10 km area.

- No healthcare facility in the village

- The conservative nature of some communities, economic condition of the family and early age marriage are the major issues for further education of girls

- Coal dust is one of the major issues for the farmers whose farms are near to the conveyer belt for handling of coal.

- The villagers felt jobs to eligible youth in nearby villages should be prioritized so that it could provide motivation students for higher education.

Farmers' views:

- Major crops: cumin, coriander, Chana, white, ground nut and vegetables

- Coal dust is one of the major issues

- Lower water table is another issue of the village

- The farmers do not have adequate knowledge of water recharging

- Due to economic issues majority of the farmers can not adopt drip irrigation or other less water consuming practices

- The villagers are not fully aware about the different government schemes related to agriculture.

Teacher/Principal/SMC's views:

- Need help for strengthening the primary education system by increasing number of teachers

- At present Nayara is doing wonderful job for providing teachers with computer classes and science for strengthening primary education but frequency of the classes is very low which is required to be increased to a sufficient level.

- More efforts could provide motivation for the higher education.

- Frequent and regular field visits of the students to the industries

- Requirement of the regular trainers for sports, yoga, music and other extra-curricular activities

- Soft skill training (English speaking, Basic Computer, etc)

2 Vadaliya Sihan

Total Population: 1695; Male: 875 and Female: 820
Major Occupation: Agriculture/Animal husbandry
Literacy rate: 62.85%

Sarpanch/Talati views:

- Training for the villagers as per the requirements of nearby industries could be imparted
- Train the farmers with economically sustainable and geologically suitable different farming practices to increase their annual income
- Establish cooperative model for value addition of dairy and agro products
- Priority to give jobs to qualified youth
- Appreciated the work of CEE/Nayara regarding the NSUI.
- At present there isn't any issue regarding the migration, but will be increased of pollution and groundwater contamination prevails

Farmers' views:

- Major crops: cumin, coriander, Chana, wheat, ground nut and vegetables
- Decreased ground water table and increasing the salinity issues
- Ground water is not potable
- Decrease in the production of crops
- Subsidy for the drip irrigation through BAIF is very slow
- Require Information center for farmers
- Government subsidy for the drip irrigation is limited up to 2 acre land only
- Farmers require financial help for reverse canal of 2.5 to 3.0 km length from main check dam to the agricultural land

Teacher/Principal/SMC's views:

- Need help for strengthening or adopting the management of the mid-day mill i.e. providing helpers
- Field visits of the students to the industries for motivation for higher education and bright future
- Requirement of the trainers for sports, yoga, music and other extra-curricular activities
- Soft skill training (English speaking, Basic Computer, etc)

3   Modpur

Total Population: 3967; Male: 2212 and Female: 1855
Major Occupation: Agriculture/Animal husbandry
Literacy rate: 69.71

Sarpanch/Talati views:

- More than 50% deficit of teachers in primary school

- Because of the conservative nature of some communities, economic condition of the family and early age marriage is major issue for further education of girls

- Training for the villagers as per the requirements of nearby industries could be imparted

- Train the farmers with economically sustainable and geologically suitable different farming practices to increase their annual income

Farmers' views:

- Major crops: cumin, coriander, Chana, wheat, ground nut and vegetables

- Lowering of ground water table and increased salinity issues

- Not aware of water recharging structures

- No ground water pollution issues

- No coal dust issue

Teacher/Principal/SMC's views:

- Need help for strengthening the primary education system by increasing number of teachers

- Field visits of the students to the industries for motivation

- Govt may arrange to appoint a suitable person to share the work load of the Principal who in turn will be available for teaching the students

- Requirement of the trainers for sports, yoga, music and other extra-curricular activities

- Soft skill training (English speaking, Basic Computer, etc)

4   Rasangpar

Total Population: 1208; Male: 623 and Female: 585
Major Occupation: Agriculture/Animal husbandry
Literacy rate: 62.5

Sarpanch/Talati's views:

- Nayara may focus on the pre-primary and primary education

- Exploring possibilities to get job on the basis of short term trainings in nearby industries

- Priority to give jobs to qualified youth

Farmers' views:

- Major crops: cumin, coriander, Chana, wheat, ground nut and vegetables

- Water table is the major issue for agriculture

- Lack of knowledge about horticulture farming

5   Mithoi

Total Population: 1395; Male: 721 and Female: 674
Major Occupation: Agriculture/Animal husbandry
Literacy rate: 56.83

Sarpanch/Talati's views:

- Focus on the pre-primary and primary education to motivate students for higher education

- Priority to give jobs to qualified youth

- In some trades the women are already trained but need facilities/financial support these can be encourage

- Marketing the products is also required

- Training for villagers as per industrial requirements nearby

Farmers' views:

- Major crops: cumin, coriander, Chana, wheat, ground nut and vegetables

- High TDS in groundwater is major issue

- Lack of knowledge about horticulture farming and economic viability for small farmers

6   Kajurda/Vijay nagar

Total Population: 1673; Male: 876 and Female: 797
Major Occupation: Agriculture/Animal husbandry
Literacy rate: 60.56%

Sarpanch/Talati's views:

- Training for villagers based on requirements of nearby industries.

- Nayara/Essar has approx. 25 km long conveyor belt and require technician for maintenance of it.

- Priority to give jobs to qualified youth

- Focus on strengthening of pre-primary & primary education

- Addressing health issues of the surrounding villages

- Migration will increase if pollution issues are not addressed

Farmers' views:

- Major crops: cumin, coriander, Chana, wheat, ground nut and vegetables

- Ground water quality is the major issue, high TDS and chemicals

- Loss of soil fertility due to reverse boring of wastewater containing chemicals

- Decrease in the crop production

- Government subsidy for drip irrigation is limited up to 2 acre land only

- Health issues, increase in the case of skin diseases, cancer etc.

Teacher/Principal/SMC's views:

- At present Nayara is doing wonderful job for providing teachers with computer classes and science for strengthening primary education but frequency of the classes is very low which is required to be increased to a sufficient level.

- Requirement of trainers for sports, yoga, music and other extra-curricular activities

- Soft skill training (English speaking, Basic Computer, etc)

SHGs views:

- Because of the conservative nature of some communities, the SHGs require trainings close to their homes

- Saturation of the skilled workers for specific trades is also an issue

7 Vadinar

Total Population: 8946; Male: 4726 and Female: 4220
Major Occupation: Fishing, Agriculture/Animal husbandry
Literacy rate: 70.48%

Sarpanch/Talati's views:

- Non-existence of government secondary and higher secondary school affects the education

- No underground sewerage pipeline

- Majority of the population is fishing business and need training for the value addition products in line with their business.

- Train the farmers with economically sustainable and geologically suitable different farming practices to increase their annual income

- Requirement of general hospital

Farmers' views:

- High TDS and chemically contaminated water

- Coal dust deteriorating the soil fertility

- During the monsoon, flooding with high TDS and chemical water in surface water bodies deteriorates its quality.

Teacher/Principal/SMC's views:

- Frequency of computer and English classis is low

- Kitchen garden, advance library and smart class teaching concept is appreciable.

- Requirement of the trainers for sports, yoga, music and other extra-curricular activities

- Soft skill training (English speaking, Basic Computer, etc)

- Facilitate school field visits to industries for motivation

SHGs views:

- Saturation within skilled workers for specific trades

8 Bharana

Total Population: 5287; Male: 2705 and Female: 2582
Major Occupation: Fishing, Agriculture/Animal husbandry
Literacy rate: 60.16%

Sarpanch/Talati's views:

- Train the farmers, youth, and woman in different trades to increase their annual income and sustainable livelihood

- Need to focus on primary education

- Large industries of the area may adsorb the educated youth according to their capacity or education

- The fishermen in the area can be trained for fishing and also for the value addition products in line with their business.

- Requirement of high school and health care center

Teacher/Principal/SMC's views:

- Kitchen garden, advance library and smart class teaching concept is appreciable.

- Requirement of the trainers for sports, yoga, music and other extra-curricular activities

- Soft skill training (English speaking, Basic Computer, etc)

SHGs' views:

- Requirement of trainings pertaining to the sea food preservation techniques

- Providing them wtith market linkage opportunities

9 Timbadi

Total Population: 911; Male: 465 and Female: 446
Major Occupation: Agriculture/Animal husbandry
Literacy rate: 77.72%

Sarpanch/Talati's views:

• Training farmers, youth and woman on different trades to increase their annual income

• Need to focus on primary education

• Training for the villagers as per the requirements of nearby industries

• Migration tend to increase if the existing situation is not addressed fully

Farmers' views:

• Major crops: cumin, coriander, Chana, wheat, ground nut and vegetables

• High TDS and contaminated ground water is major issue

Teacher/Principal/SMC's views:

• Kitchen garden, advance library and smart class teaching concept is appreciable.

• Requirement of trainers for sports, yoga, music and other extra-curricular activities

• Soft skill training (English speaking, Basic Computer, etc)

10 Nana Mandha

Total Population: 1934; Male: 993 and Female: 941
Major Occupation: Agriculture/Animal husbandry
Literacy rate: 59.63%

Farmers' views:

• Major crops: cumin, coriander, Chana, wheat, ground nut and vegetables

• High TDS and contaminated ground water is major issue

• Coal dust deteriorates the soil fertility

• Decrease in crop production

• Need to address the issues regarding the land acquisition

• Health issues

• Issues of ground water and animal health

11 Mota Mandha

Total Population: 2005; Male: 1042 and Female: 963

Major Occupation: Agriculture/Animal husbandry
Literacy rate: 60.97%

Sarpanch/Talati's views:

• In some trades the women are already trained but need facilities/financial support and market linkages

• Training for the villagers as per requirements of nearby industries

• Train the farmers with economically sustainable and geologically suitable farming practices to increase their annual income

• Priority to give jobs to qualified youth in nearby villages

Farmers' views:

• Major crops: cumin, coriander, Chana, wheat, ground nut and vegetables

• Water availability issue

• Issues of high TDS and contamination in the ground water

• Unavailability of workers during sowing and harvesting season

• Eligible candidates are not being adsorbed by nearby companies

SHGs' views:

• Need some financial support for starting the gruh udhyog

12 Zakhar

Total Population: 3872; Male: 1999 and Female: 1873
Major Occupation: Agriculture/Animal husbandry
Literacy rate: 72.23%

Sarpanch/Talati view:

• In some trades the women are already trained but need facilities/financial support

• Training for the villagers as per requirements of nearby industries

• Train farmers with economically sustainable and geologically suitable farming practices to increase their annual income

• Establish cooperative model for value addition of dairy and agro products

Farmers' views:

• Major crops: cumin, coriander, Chana, wheat, ground nut and vegetables

• High TDS and contaminated ground water is major issue

• Coal dust deteriorating the soil fertility

- Decrease in the production of crops

- Ground water is not potable

- During the monsoon, flooding from the industries deteriorates water quality of surface water bodies

- Health issues (skin infection, cancer, etc)

- Issues of ground water and animal health

- Driving license issued with the village name of Zakhar and is not allowing to work as driver for transportation from Nayara.

SHGs' views:

- The widows in some communities need financial assistance for livelihood

13 Singach

Total Population: 4681; Male: 2392 and Female: 2289
Major Occupation: Agriculture/Animal husbandry
Literacy rate: 63.76

Farmers' views:

- Major crops: cumin, coriander, Chana, wheat, ground nut and vegetables

- High TDS and contaminated ground water is major issue

- Coal dust deteriorating the soil fertility

- Decrease in the crop production

- Ground water is not potable

- Health issues (skin infection, cancer, etc)

- Issues of ground water and animal health

Teacher/Principal/SMC's views:

- Requirement of trainers for sports, yoga, music and other extra-curricular activities

- Soft skill training (English speaking, Basic Computer, etc)

- Technical courses likerepairing of computer, mobile, fridge etc could be part of higher secondary school curriculum

Annexure 6
Key Informant Interviews details and views

Industries' interviewed

1. Rajhans Metals Pvt. Ltd.
2. GEB, PGVCL, Sikka unit
3. GSFC, Sikka unit
4. Tata chemicals, Essar power
5. Dig-Vijay cement
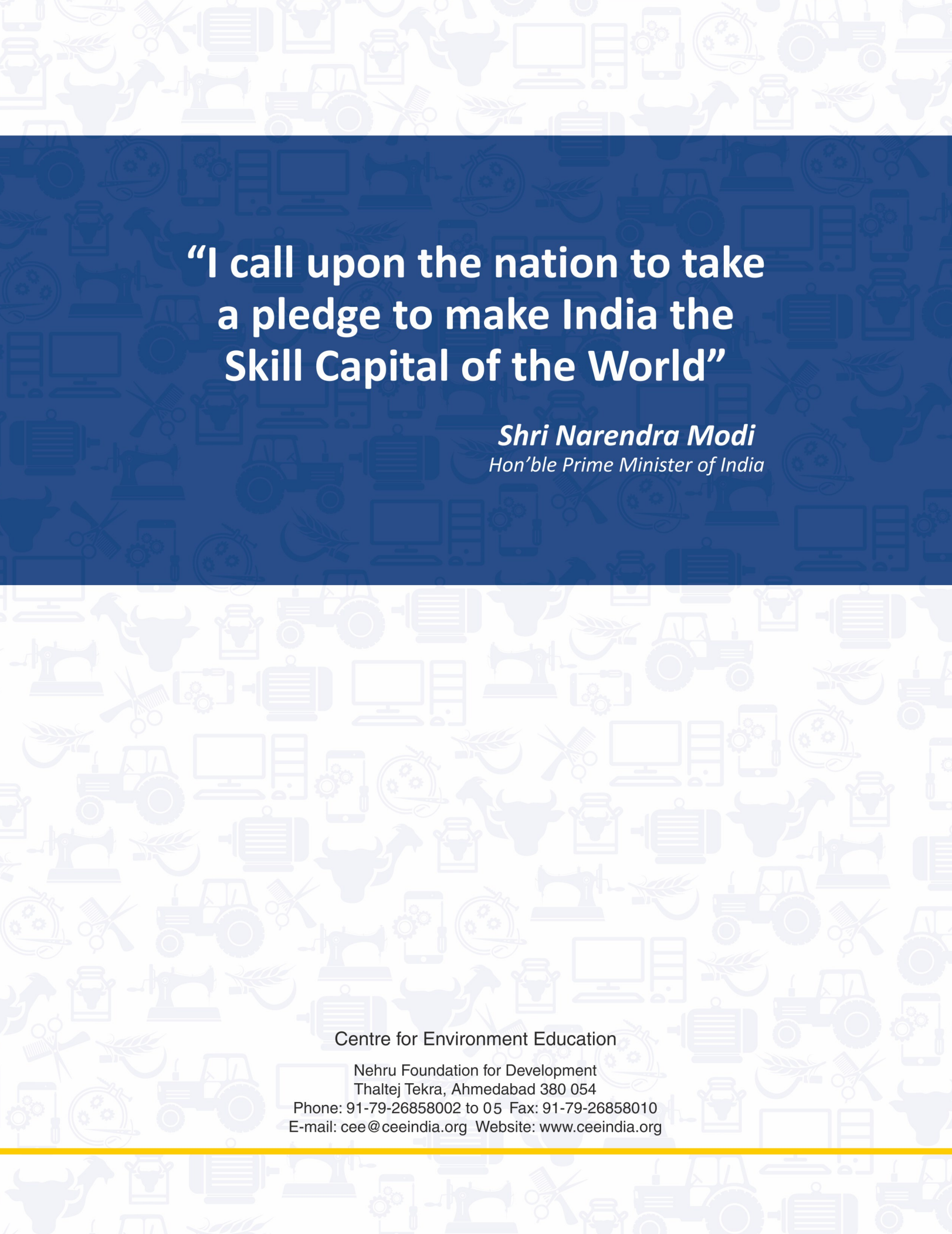6. Nayara Energy Ltd, Ultratech Salt
7. Pidilite Industries

Views:

- Private sector: Need not require trained manpower having education below 12th standard but the recruiters shall have willingness to work hard.
- Large industries have their own criteria for the selection of fresh or experience candidate
- Government Industries have their own central procedure for the recruitment and provide suitable training after selection of the candidates. For hiring labors it is done by contractors
- Provide apprentice as per government norms but some time did not got suitable candidate of local area due to the lack of the awareness about the education
- Local people do not have willingness to do hard/strenuous work, motivation in this respect will assist in job employment to the nearby villagers.

Government training institutes/ NGOs interviewed

1. Industrial Training Institute, Khambhaliya
2. District industrial center, Khambhaliya
3. District Mineral Foundation, Jamnagar
4. District Employment Office
5. ICICI Foundation, Bhanvad
6. KVK, Khambhaliya
7. BAIF Development Research Foundation
8. Aga Khan Rural Support Programme (India) - AKRSP(I)

Views:

- Need gap analysis of skills and the demand of the area continuously on regular basis
- Continuously update/upgrade the training/information center
- Establish the mobile vocational training and information center to provide information related to the agriculture, education, jobs, etc.
- The villagers can be trained for jobs in military and police department and jobs can be given to them as trainers are experienced and qualified
- Risk of saturation of the skilled workers is very high.

"I call upon the nation to take
a pledge to make India the
Skill Capital of the World"

Shri Narendra Modi
Hon'ble Prime Minister of India