



NITI Aayog

Report of Working Group IV Strengthening Skill and Entrepreneurship Landscape in Indian Himalayan Region



Contributing to
Sustainable Development in Indian Himalayan Region

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Contents

Acknowledgements	ii
Acronyms and Abbreviations	iii
Executive Summary	vi
Background	x
Chapter 1: Introduction	1
Chapter 2: Magnitude of the Problem – Major Issues and Challenges	8
Chapter 3: Schemes and Programmes for Skill and Enterprise Development	17
Chapter 4: Present Context and the Way Forward	21
Chapter 5: Key Recommendations	37
Reference	50
Annexure 1: Skill and Entrepreneurship Development schemes of Government of India	52
Annexure 2: Skill and Enterprise Development Initiatives in IHR States	75
Annexure 3: Entrepreneurship Ecosystem and Key Government and Non-Government Stakeholders	83
Annexure 4: IHR State Challenges in Development of State Specific QP and NOS	85

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Joint Secretary,
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Entrepreneurship

Acronyms and Abbreviations

ASEAN	Association of Southeast Asian Nations
ASPIRE	A Scheme for Promoting Innovation in Rural Industry and Entrepreneurship
ATI	Advanced Training Institute
BADP	Border Area Development Programme
BBIN	Bangladesh, Bhutan, India and Nepal
BDS	Business Development Services
BIMSTEC	Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation
BPO	Business Process Outsourcing
BSc	Bachelor of Science
CAGR	Compound Annual Growth Rate
CFC	Common Facility Centre
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CSR	Corporate Social Responsibility
DDU-GKY	Deen Dayal Upadhyaya Grameen Kaushalya Yojana
DGT	Directorate General of Skill Training
EDII	Entrepreneurship Development Institute of India
EDP	Entrepreneurship Development Programme
ENVIS	Environmental Information System
ESD	Education for Sustainable Development
ESDM	Electronics System Design and Manufacturing
ESDPs	Entrepreneurship Skill Development Programmes
GDP	Gross Domestic Product
GER	Gross Enrolment Ratio
GI	Geographical Indication
GoI	Government of India
GSDP	Green Skill Development Programme
HARC	Himalayan Action Research Center
HIMAP	Himalayan Monitoring and Assessment Programme
IBM	Incentive based mechanisms
IC	Incubation Centre
ICIMOD	International Centre for Integrated Mountain Development
ICRIER	Indian Council for Research on International Economic Relations
ICT	Information and Communication Technology
ID	Identification
IHR	Indian Himalayan Region
IIE	Indian Institute of Entrepreneurship

ILO	International Labour Organization
INR	Indian Rupee
IPCC	Intergovernmental Panel on Climate Change
ISDS	Integrated Skill Development Scheme
IT	Information Technology
ITES	Information Technology Enabled Services
ITI	Industrial Training Institute
KVK	Krishi Vigyan Kendra
M/o MSME	Ministry of Micro, Small & Medium Enterprises
MAPs	Medicinal and Aromatic Plants
MDoNER	Ministry of Development of North Eastern Region
MDP	Management Development Programme
MoEF&CC	Ministry of Environment, Forest & Climate Change
MoRD	Ministry of Rural Development
MSDE	Ministry of Skill Development and Entrepreneurship
MSDS	Manipur Skill Development Society
MSE-CDP	Micro and Small Industries Cluster Development Programme
MSME	Micro, Small & Medium Enterprises
NABARD	National Bank for Agriculture and Rural Development
NAPs	National Apprenticeship Promotion Scheme
NASSCOM	National Association of Software and Services Companies
NBTs	National Biodiversity Targets
NCVT	National Council on Vocational Training
NDCs	Nationally Determined Contributions
NEBPS	North East Business Process Outsourcing Promotion Scheme
NEIIP	North East Industrial and Investment Policy
NER	North East Region
NERCORMP	North-Eastern Region Community Resource Management Project
NGO	Non-government Organization
NIESBUD	National Institute for Entrepreneurship and Small Business Development
NIFD	National Institute of Fashion Design
NITI	National Institution for Transforming India
NMPB	National Medicinal Plant Board
NOS	National Occupational Standards
NSDA	National Skill Development Agency
NSDC	National Skill Development Corporation
NSQC	National Skills Qualification Committee
NSQF	National Skill Qualification Framework
NSSO	National Sample Survey Organization
NTFP	Non-timber Forest Produce
NULM	National Urban Livelihoods Mission

OGI	Open General Licensing
OS	Occupational Standards
PAN	Permanent Account Number
PBR	Peoples Biodiversity Registers
PMKK	Pradhan Mantri Kaushal Kendra
PMKVY	Pradhan Mantri Kaushal Vikas Yojana
PMMY	Pradhan Mantri Mudra Yojana
PM-YUVA	Pradhan Mantri Yuva Udyami Vikas Abhiyan
PPP	Public-private partnership
PRADAN	Professional Assistance for Development Action
LIFE-MGNREGA	Livelihoods in Full Employment under Mahatma Gandhi National Rural Employment Guarantee Act
QPs	Qualification Packs
REDD	Reducing Emissions from Deforestation and Forest Degradation
RMSA	Rashtriya Madhyamik Shiksha Abhiyan
RPL	Recognition of Prior Learning
RP	Resource Partners
RSETIs	Rural Self-Employment Training Institutes
SDGs	Sustainable Development Goals
SDI	Sustainable Development Indicators
SEWA	Self Employed Women's Association
SFURTI	Scheme of Fund for Regeneration of Traditional Industries
SIDBI	Small Industries Development Bank of India
SSC	Sector Skills Councils
SSDM	State Skill Development Missions.
TISS	Tata Institute of Social Sciences
ToA	Training of Assessors
ToT	Training of Trainers
TREAD	Trade Related Entrepreneurship Assistance and Development Scheme for Women
UGC	University Grants Commission
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
USD	United States Dollar
USTTAD	Upgrading the Skills and Training in Traditional Arts/Crafts for Development
VC	Value Chain
VGf	Viability Gap Funding
WG	Working Group

Executive Summary

The Indian Himalayan Region (IHR) covers 10 mountain states and four hill districts of India that make up our north and north-eastern borders. It stretches from the mountains in the northern states of Jammu and Kashmir, Uttarakhand, and Himachal Pradesh, to north eastern states of Sikkim, Arunachal Pradesh, Meghalaya, Manipur, Mizoram, Nagaland and Tripura, and the hill districts of Dima Hasao and Karbi Anglong in Assam and Darjeeling and Kalimpong in West Bengal. The IHR is characterised by diverse demographic, economic, environmental, social and political systems.

The IHR presents both challenges and opportunities for skill development and building an entrepreneurial culture. The region has distinct advantages of forest and biodiversity richness, sacred destinations, landscapes of unparalleled beauty, diverse languages and cultures, crafts, agro-ecosystems and niche products that present opportunities for nurturing sustainable development and entrepreneurship. The youth in the IHR aspire for dignified employment. Nevertheless, providing gainful and sustainable employment to these youth continues to be a challenge. Utilisation of mountain specific resources, with a focus on women and youth, can vitalize mountain economies and create new opportunities for entrepreneurship and employment of skilled youth. Skill and enterprise development contribute to achieving the Sustainable Development Goals (SDGs).

It is estimated that only 4.69% of the total workforce in India has undergone formal skill training (MSDE, 2015), and possibly less in the IHR states. Mountain specificities of inaccessibility, fragility and marginality creates several challenges for skill and entrepreneurship development in the IHR. These include the inadequacy of training centres, lack of quality assessors and trainers, variance between quality of training and prescribed industry standards, limited awareness of skill and entrepreneurship development programmes, difficult terrain, weak infrastructure, low economies of scale, limited local demand, and lack of market access. Moreover, the National Occupational Standards and Qualification Packs are yet to be fully developed for many of the emerging priority sectors for the IHR as they fall in non-conventional domains.

The Ministry of Skill Development and Entrepreneurship has an overarching mandate to develop the skill and entrepreneurship landscape in the country. Skill training and entrepreneurship development are also supported by several Central Ministries/Departments. In addition to the support from the Central Government, various State Governments in the IHR have launched skill and entrepreneurship development programmes. This creates challenges for coordination, collaboration, monitoring and assessment at various levels. Skill and entrepreneurship development in the IHR needs to focus on supporting emerging priority sectors and suitably empower the executive committee of Skill India Mission at the Centre and similar committees of the IHR States to ensure convergence of central and state schemes/programmes/projects/missions that could boost skill and entrepreneurial initiatives.

Priority sectors in Himalayas for skill and entrepreneurship development

Based on secondary research and inputs received from IHR states on gaps in skill and entrepreneurship, the working group has identified five priority areas:

- **Agri-entrepreneurship:** This could be developed as a sub-sector within the larger agriculture sector, building on niche mountain products and reinforcing traditional skills with modern technology needs. The products could include off-season vegetables, medicinal and aromatic plants, spices, health food, and mountain handlooms and handicrafts.
- **Sustainable mountain tourism:** Support skill development and entrepreneurship associated with adventure tourism, culture and heritage tourism, wildlife tourism, and rural tourism, including craft circuits and religious/sacred circuits.
- **Ecosystem services based employment:** Afforestation, eco-restoration, use of wood as construction material, new wood based products and assessment of various ecosystem services could provide opportunities to blend traditional skills with state of the art technological innovations to develop an ecosystem services based skill and entrepreneurial landscape.
- **Information Technology enabled services and digital health:** There is a huge potential for creation of skilled employment opportunities for the local youth by promoting ITES in banking, e-commerce, insurance, financial services, healthcare, mobile applications, storage, security and telecommunication.
- **Skilling in construction sector:** Skilled construction workers are needed in large numbers for projects associated with urban development and renewal (e.g. smart cities and public transportation), development of major infrastructure (e.g. hydropower, road transport, power stations and railways), and rapidly expanding real estate sector within the IHR and other parts of India.

Building capacities for skill and entrepreneurship

- **Strengthen network of skill centres across the IHR, including setting up of regional centres:** Develop regional training centres in IHR based on geographical contiguity and standardised training curriculum. Explore strategic partnership between private sector, international development agencies and skill centres in building skills and capacities.
- **Assessors and trainers:** Encourage private and public universities to establish facilities for training of assessors and trainers in the region. Training of trainers in the state-level skill centres will ensure that the trainers are certified for the job roles, which may be either specific to the state or in demand in labour markets that are popular among migrant workers from the state. The States could gain from a structured trainer's programme developed for IHR. The regional training centres could play a key role in developing a training programme for trainers from IHR states.
- **Creating enabling conditions for skilling and entrepreneurship training:** Make relevant Qualification Packs and National Occupational Standards aligned skill based programme as mandatory credits for high school and college students. Increase the number of apprenticeships, scholarships or interest-free loans for the trainees. This would help them to cover training expenses. Promote higher-order skill training on project management (e.g. managers and supervisors) for candidates with diplomas and

graduate degrees. Provide skill training to women – who often find employment in low-skill category – to facilitate their transition to high skilled category.

- **Developing Qualification Packs and National Occupational Standards for mountain specific job roles:** Based on the comprehensive gap assessment, public and private institutions could jointly formulate Qualification Packs and National Occupational Standards for identified priority sectors in IHR. Develop qualified human resources necessary for the development of mountain specific Qualification Packs and job roles.
- **Skilling for migrant workers and returnees:** In places where the local labour absorption capacity is limited, the employment opportunities in other places (i.e. within IHR, other parts of India or abroad) need to be considered. To ensure safe and favourable conditions for workers moving from rural areas to urban centres, it is important to create opportunities for them to transition from unskilled or semi-skilled workers to skilled workers. Moreover, there is often limited scope and several challenges for returnees to use their skills or pursue entrepreneurial ventures in migrant sending communities.

Demand and supply

- Monitor and evaluate training ecosystem on a regular basis to ensure relevance of training curriculum for workers and employers. Conduct a comprehensive gap assessment and forecast of skill and entrepreneurship in the IHR. Strengthen dissemination of labour market information through digital platforms.

Finance

- Raise awareness, strengthen implementation and improve access to schemes such as Skill Development Initiatives of Government of India, Startup India, Pradhan Mantri Mudra Yojana, state level flagship schemes launched by Chief Ministers of Himalayan States, and the schemes of various financial institutions. Incentivize investments in skill and entrepreneurship development by public, private and development organizations, with particular focus on enhancing capacities of vulnerable groups (including smallholder farmers, women headed households and the differently abled) and supporting micro, small and medium enterprises.

Strengthening of institutions, processes and policies

- Empower the executive committee of Skill India Mission at the Centre and similar committees in the IHR states for policy exchange and development, information and knowledge sharing, and concerted support to national actions. This will ensure convergence or leveraging of central and state schemes, programmes, projects or missions that can boost skill and entrepreneurial initiatives. Strengthen cooperation among various stakeholders, including through public-private partnerships, for research and development on skills and entrepreneurship, with particular consideration for priority sectors identified for the IHR and needs of women, youth and marginalized populations.

Planning, implementation and monitoring

- Provide support to IHR states to collect data and establish baselines, in particular disaggregated data. Promote and support gender-sensitive and gender-responsive actions on skill and entrepreneurship development, including improved access to government schemes and programmes. Explore possibility of creating an institutional platform for providing strategic directions and oversight mechanisms for implementation of state action plans.

Background

The Indian Himalayan Region (IHR) is endowed with fertile soils, minerals, water resources, biodiversity rich forests, diverse population groups and their distinguishing crafts, cultural and religious sites and several other territorial specificities. These present opportunities for nurturing sustainable development and entrepreneurship. Despite these obvious advantages, the physical challenges and disadvantages of the mountains far outweigh the advantages. Mountain communities continue to deal with challenges pertaining to disaster risk, agriculture and bio resources management, and environmental degradation, often resulting in migration (both in and out migration), which presents its own challenges.

It is in this context that a meeting on ‘Sustainable Mountain Development’ of Indian Himalayan Region (IHR) was held on 15 June 2016 to identify key areas for intervention. This was followed by SDG consultation for Himalayas at Guwahati from 13-14 December 2016. Following these discussions, NITI Aayog took the decision to constitute 5 Thematic Working Groups (WGs) for sustainable development of the IHR, with terms of reference and lead institutions as convenors of the working groups. The five thematic areas are:

- Revival of Springs
- Sustainable Tourism
- Transforming Shifting Cultivation
- Strengthening Skill and Entrepreneurship Landscape, and
- Data for Informed Decision Making

Among these five working groups, WG 4 deals with ‘Strengthening Skills & Entrepreneurship Landscape in Indian Himalayan Region’. Ministry of Skill Development and Entrepreneurship (MSDE) was identified as the lead institution for this WG under the convenership of Ms. Jyotsna Sitling, Joint Secretary, MSDE and included representatives from:

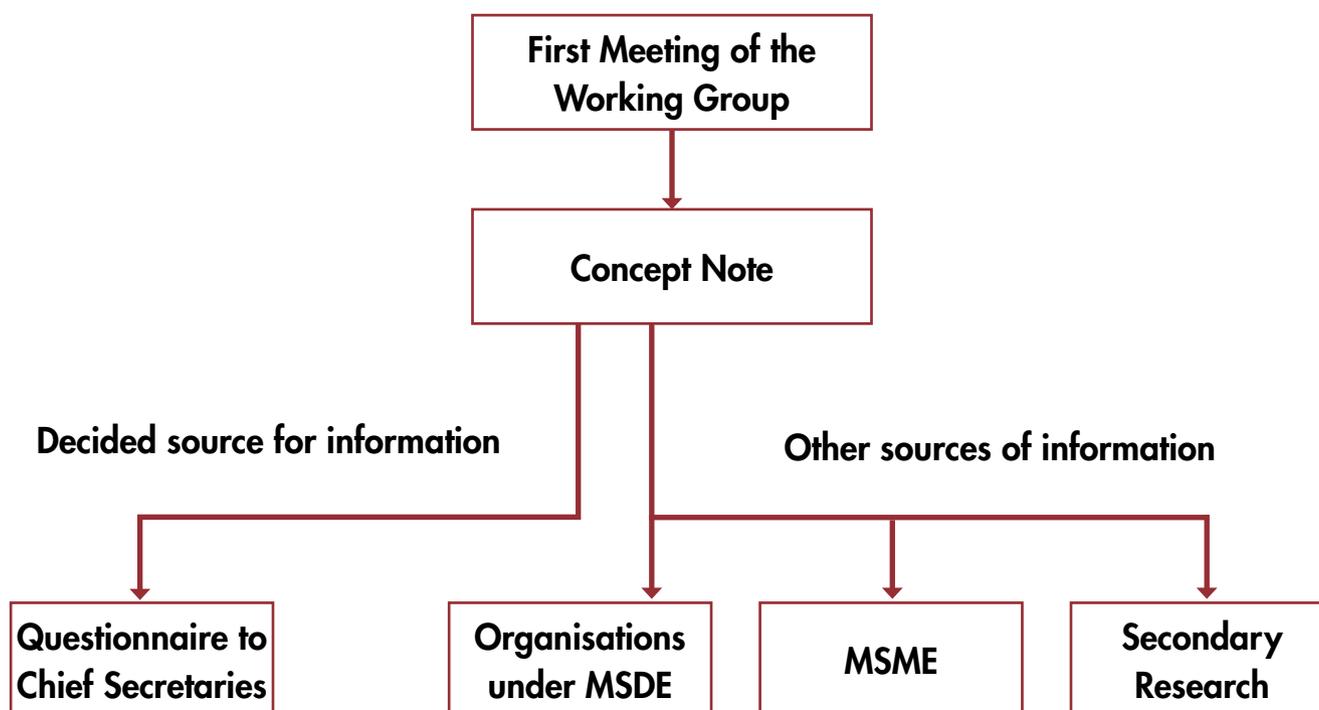
- Ministry of Environment, Forest and Climate Change (MoEF&CC)
- Ministry of Rural Development (MoRD)
- Ministry of Development of North Eastern Region (MDoNER)
- North-Eastern Region Community Resource Management Project (NERCORMP)
- Entrepreneurship Development Institute of India (EDII)
- International Centre for Integrated Mountain Development (ICIMOD)

In order to broaden ownership of the document and make it more inclusive, the following institutions were invited to the working group:

- Tata Trusts
- Integrated Mountain Initiative (IMI)
- Synergy Technofin Private Limited

The terms of reference provided to the working group were:

- To assess magnitude of the problem including youth unemployment and migration, with due consideration for gender.
- To review policy/best practices built around unique/niche mountain goods and services to build entrepreneurship and skills landscape. Also to assess new industrial policy to see how it addresses mountain specificity.
- To identify potential scalable unconventional areas for skilling and entrepreneurship in Himalayas. This may also include software/IT based options in addition to unique mountain goods and services.
- To suggest strategies/actions for development of Qualification Packs (QPs) and National Occupational Standards (NOS) in niche mountain goods and services.
- To identify ways of strengthening Public-Private Partnership and Networks of skill /entrepreneurship centres across Himalayas.



Implementation Process

Following the above guidelines, the working group led by the MSDE under the convenership of Ms. Jyotsna Sitling, Joint Secretary MSDE, held its first meeting on 12 August 2017. Based on the deliberations, the working group agreed to suggest a conceptual framework that allowed for analysis of policy and practice gaps, planning and implementation deficits, and other challenges to promoting enterprise development, so that IHR could benefit from a set of actions and recommendations. A draft concept note was prepared in collaboration with the WG members and a discussion on the same was held on 24 August 2017.

During the meeting, the WG members felt the need for consultations with IHR states in order to develop a comprehensive document. As part of the follow up, a letter and questionnaire was sent to Chief Secretaries of all the IHR States to provide information on key topics including:

- Key policies on skills and enterprise development in the state and how they addresses mountain specificities.
- Investments planned in key portfolios in each state for the next 10 years which could determine the future skill sets required for employment.

Current and future resources and opportunities in each state were also tapped to get maximum possible information on skill and entrepreneurship development.

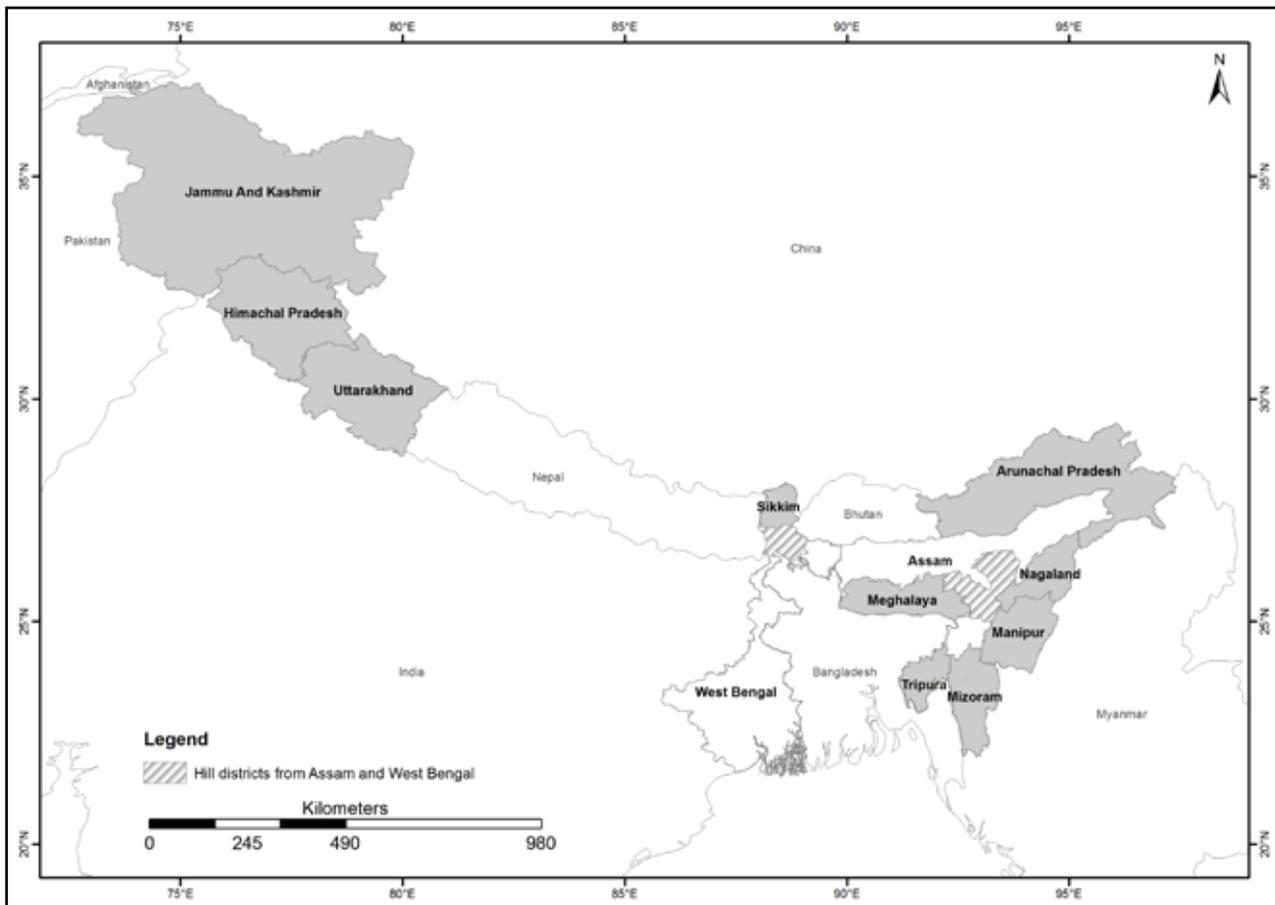
- The inputs of IHR states were received and supplemented with inputs of National Skill Development Agency (NSDA), National Skill Development Corporation (NSDC), Directorate General of Training (DGT), National Institute for Entrepreneurship and Small Business Development (NIESBUD) and Indian Institute of Entrepreneurship (IIE).
- States mostly responded to questions on skill development and little information was received on entrepreneurship development. For additional information, MSDE consulted Ministry of Micro, Small, and Medium Enterprises (M/o MSME) and shared a final questionnaire for inputs on entrepreneurship and industry related development in IHR states.
- Additionally, secondary research was carried out to get more information on the scenarios, challenges, and initiatives undertaken by State or Central government in the IHR.

The responses from various institutions were compiled, analysed and consolidated. The responses from the State Governments have been compiled in the Annexures of this document. Since skill and entrepreneurship are new subjects for the State Governments, information with varying degree of detail was received based on their perception, knowledge and understanding of S&E. The information was analysed to understand the situation in the IHR States.

Chapter 1

Introduction

The Himalayan mountain system is one of the most fragile and complex ecosystems in the world. It is a repository of diverse natural and cultural resources. It provides opportunities not just for those living in the mountains but also for those living in the north and eastern plains of India. However, the IHR, which stretches from Jammu & Kashmir, Uttarakhand, and Himachal Pradesh in north India, to Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Tripura, Sikkim, and the hill districts of Assam (Karbi Anglong and Dima Hasao) and West Bengal (Darjeeling and Kalimpong) in northeast India (see Map 1), is characterized by limited employment opportunities beyond primary sector, slow pace of income growth and challenges to sustainable development.



Map 1: **Map of Indian Himalayan Region**

The communities that inhabit this infinitely tough terrain experience multiple forms of poverty, which is exacerbated by environmental vulnerability and development challenges. Economic stagnation and poverty is widespread, with 30-40% below poverty line and 45% underemployment. These indicate that the pace of development of the IHR has been slower as compared to the rest of the country. Statistics on the status of education and skill training in North East (MDoNER, 2008) show that:

- School dropout rate is higher than the National average of 62.6%, ranging from 80.9% in Meghalaya to 60.5% in Manipur.
- Gross Enrollment Ratio (GER) compares unfavourably with National rate of 9.97%, ranging from 4.7% in Nagaland to 6.94% in Assam.
- Only 1.3% of the youth undertake any formal training.
- Average number of colleges per lakhs population is much lower than the National average.
- The number of ITIs is very low in the region, with the majority of them in Assam.

A large population in the IHR States have limited access to amenities such as electricity, water supply, broadband connectivity, roads, education and sanitation. There are low employment opportunities (particularly in the non-farm based sector) within the region and several communities have limited market access. They continue to be dependent on subsistence agriculture and forest resources and struggle to raise their income and quality of life. Lack of irrigation makes cultivation of cash crops difficult and the produce is sold raw in distant markets with very low returns for the farmers. Limited arable land and small farm sizes constrain agriculture and perpetuate traditional practices. Fragile soils, inadequate water resources, and severe climatic conditions, limit crop productivity. This situation has been further exacerbated by land degradation, deforestation, and deterioration of natural resources increasing the threats to the livelihoods of communities residing in the mountains (Saxena et al., 2001).

Traditional skills and knowledge are facing challenges due to the uncertainties related to climate change and market volatility. There is a limit to what these traditional skills and knowledge can achieve in isolation. These have to be supplemented by customized knowledge and new skills.

This situation is compounded by high under-employment, leading to outmigration from IHR in large numbers to urban and industrial centres in the plains in search of employment (Maikhuri et al., 2011; Negi et al., 2011). The outmigration of men increases the burden on women. It is noteworthy that migration trends and patterns vary from one IHR state to the other.

Internal migrants account for 37 percent (453 million) of the country's population as per the 2011 Census of India (MoHA, 2011). Compared to internal migration, the stock of emigrants was 15.5 million i.e., about 1.2 percent of India's population (UN, 2015a). Increasing urbanization and development of growth centres in urban locations are contributing to internal migration in India. Rural to urban migration has been contributing substantially to urbanization and the rural-urban demographic composition of households. The rural households are increasingly dependent on urban resources and off-farm jobs as urbanization has been shaping rural-urban relationships through the flow of goods and services, financial flows, and movement of people. Several parts of the IHR have been urbanizing rapidly, which influences mobility of labour (Mohanty and Bhagat, 2013; Lesome and Bhagat, 2013). Increasing urbanization is also

accompanied by increase in mobility among women. Although women predominantly migrate due to marriage and family related reasons, a significant proportion of them are now joining the workforce after migration (e.g., domestic work and construction sector). A large number of placement agencies are involved in the recruitment process (Neetha, 2003; Srivastava, 2012)¹.

Table 1: Percentage of households with at least one migrant in Himalayan and Non-Himalayan regions in India

	Himalayan	Non-Himalayan	India
Intra-state	17.58	18.58	18.54
Inter-state	9.13	7.09	7.17
Emigrants	0.32	1.48	1.43

Source: (HIMAP, forthcoming)

Emigration from the IHR is lower compared to that from the plains. The emigration is largely influenced by a higher socio-economic status, emigrant networks and emigration infrastructure (Bhagat, Keshri and Ali, 2013). On the other hand, inter-state migration from the Himalayan region is higher than that from the plains.

India is the world's largest remittance recipient. As per the World Bank, in 2014 India received USD 70 billion, which declined to USD 62 billion in 2016². The survey-based estimates show that household remittances sent by internal migrants in 2007-2008 were twice those sent by international migrants for the same period (NSSO, 2010). Further, in the Indian Himalayan Region, a relatively higher proportion of households (12%) received remittances compared to the non-Himalayan part of the country (9%), according to 64th NSSO conducted in 2007-2008. Despite these patterns of mobility and remittance, very little has been done to improve the potential of migrants to exploit the opportunities in the destination or to tap the remittances for productive use.

Global sustainable development priorities and aspirations for 2030 are enshrined in the 17 SDGs and 169 targets. The SDGs seek to mobilize global efforts to end poverty and hunger, promote prosperity for all human beings, protect the planet from degradation and foster inclusive societies. Skill development and entrepreneurship is linked with several SDGs (see Table 2). The SDGs require all stakeholders to act in collaborative partnerships. Since these goals are interconnected, the success in achieving one target is likely to play an important role in addressing issues that are commonly associated with another. For example, the development of a cadre of para-hydrologists, which is closely associated with SDGs 4 and 8, could support the revival of springs, and in turn contribute to SDGs 6 and 13. Similar reinforcing connections could be identified between different thematic areas in the context of the SDGs. There is a need for an innovative, entrepreneurial and contextualised approach towards skill and entrepreneurship development with respect to the IHR for improving livelihoods and contributing to global sustainable development priorities.

¹ This section is drawn from Chapter 15: Migration in the HKH Region: Governance, Drivers, and Consequences, Himalayan Monitoring and Assessment Programme (HIMAP), ICIMOD.

² <http://data.worldbank.org/indicator/BX.TRF.PWKR.DT.GD.ZS>

Table 2: **SDG targets relevant to skill development and entrepreneurship**

Goals	Relevant targets
SDG 1: End poverty in all its forms everywhere	<p>1.2 By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions</p> <p>1.b Create sound policy frameworks at the national, regional and international levels, based on pro-poor and gender-sensitive development strategies, to support accelerated investment in poverty eradication actions.</p>
SDG 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture	<p>2.3 By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment.</p> <p>2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.</p>
SDG 3: Ensure healthy lives and promote well-being for all at all ages	<p>3.c Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed Countries and small island developing States.</p>
SDG 4: Ensure inclusive quality education and promote lifelong learning opportunities	<p>4.3 By 2030, ensure equal access for all women and men to affordable and quality technical vocational and tertiary education including university</p> <p>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</p> <p>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</p> <p>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</p> <p>4.c By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States</p>
SDG 5: Achieve gender equality and empower all women and girls	<p>5.b Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women</p> <p>5.c Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels</p>
SDG 6: Ensure availability and sustainable management of water and sanitation for all	<p>6.a By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies</p>

<p>SDG 8: Promote sustained, inclusive and sustainable economic growth, full and productive, employment and decent work for all</p>	<p>8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value-added and labour-intensive sectors</p> <p>8.3 Promote development oriented policies that support productive activities decent job creation entrepreneurship creativity and innovation and encourage the formalization and growth of micro small and medium-sized enterprises, including through access to financial services.</p> <p>8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value</p> <p>8.6 By 2020, substantially reduce the proportion of youth not in employment, education or training</p> <p>8.9 By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products.</p>
<p>SDG 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation</p>	<p>9.2 Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries</p> <p>9.3 Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets</p>
<p>SDG 10: Reduce inequality within and among countries</p>	<p>10.1 By 2030, progressively achieve and sustain income growth of the bottom 40% of the population at a rate higher than the national average</p> <p>10.7 Facilitate orderly, safe, regular and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies</p>
<p>SDG 12: Ensure sustainable consumption and production patterns</p>	<p>12.b Develop and implement tools to monitor sustainable development impacts for Sustainable tourism that creates jobs and promotes local culture and products</p>
<p>SDG 13: Take urgent action to combat climate change and its impacts</p>	<p>13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning</p>
<p>SDG 17: Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development</p>	<p>17.18 By 2020, enhance capacity-building support to developing countries, including for least developed countries and small island developing States, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts</p>

Source: UN, 2015b

In the globalized economy, competition has intensified among firms and industries in developing and developed countries alike, requiring their workers to have higher levels of skills. While India has a well-institutionalized system of vocational training, it has not sufficiently prepared its youth with the skills that today's industries require, and its presence in the mountain states remains limited.

Any improvement in access to employment in the formal sector and enhancement of productivity in the informal/unorganized sector would require skill development (Sanghi and Srija 2015). The National Policy on Skill Development 2015 aims to develop skills of around 104.62 million fresh entrants to workforce and reskill, up-skill and skill 298.25 million of existing farm and non farm sector workers by 2022 (MSDE, 2015). It is estimated that only 4.69% of the total workforce in India has undergone formal skill training (MSDE 2015). It is likely that percentage of workforce in many IHR states that has formal skill training is

even less than the national average. The sector wise incremental human resource requirement from 2011-2021 in IHR, as per the study conducted by National Skill Development Corporation (2011), is given below:

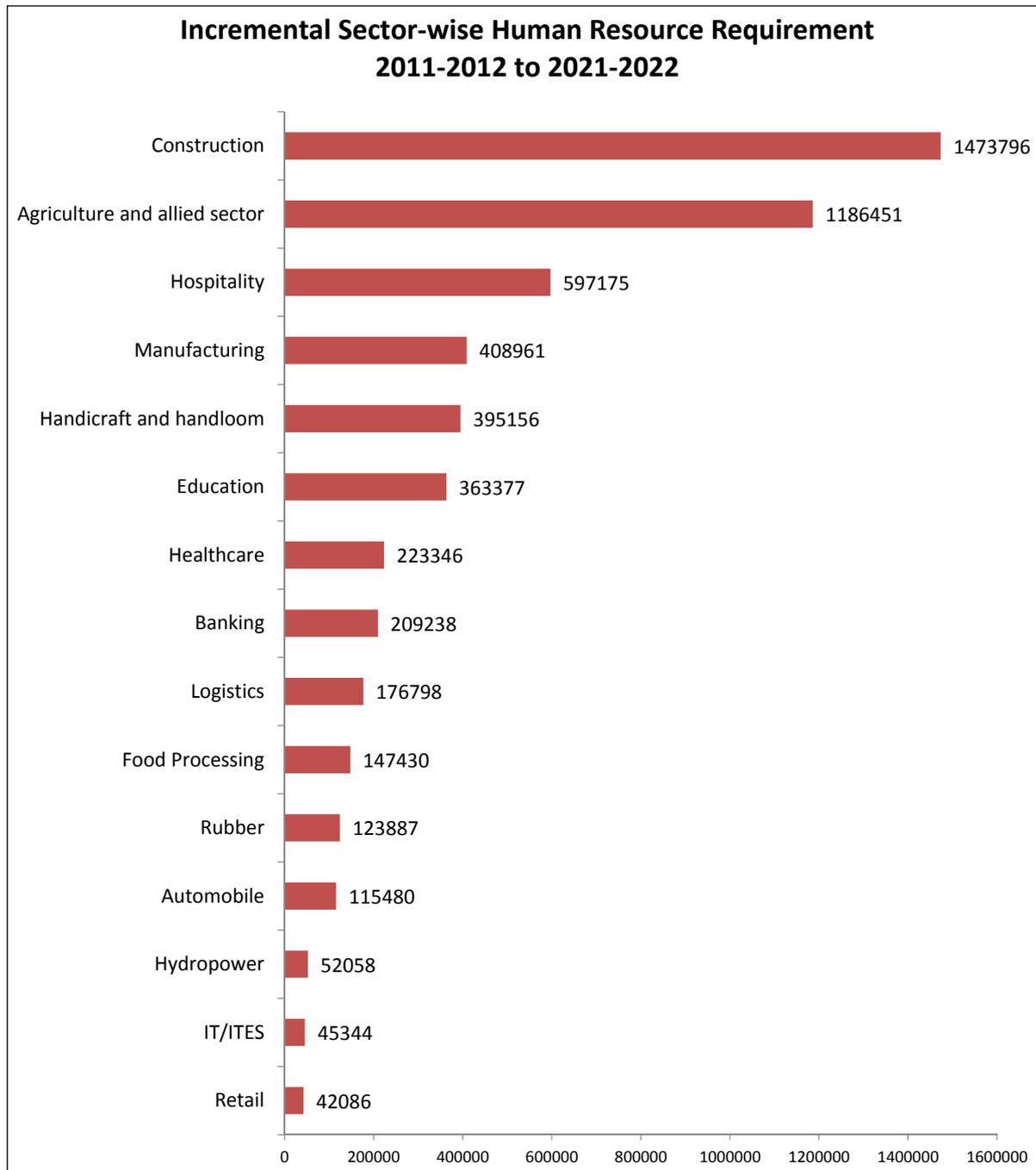


Figure 1: Incremental sector-wise human resource requirement 2011-2012 to-2021-2022 in IHR

Source: National Skill Development Corporation (2011)

The NSDC study shows that construction, agriculture and allied sectors, and hospitality will account for the largest increment in human resources requirement by 2021. Other sectors (e.g., manufacturing, handicraft and handloom, education, healthcare, and banking), would also require a considerable number of skilled workers. Mountain states need to gear up to meet this challenge. Traditional occupations (e.g., agriculture and handloom and handicraft) would also require a great degree of technological and entrepreneurial skills for enabling better productivity, with enhanced competitiveness and better marketing avenues, to provide better returns.

Skill and entrepreneurship development, markets and capital requirement are areas that need critical focus in IHR states, keeping in view the mountain perspective, particularly the outmigration and changing aspirations of people, especially the youth. In this context, aspirational sectors that have higher incremental human resource requirements are tourism, entertainment, horticulture, health care, renewable energy, ecological services, media, construction, agro and food processing, power (especially hydro power), ITES, logistics and transport. These sectors call for stronger public–private partnership and development of QPs and NOS.

There is a need to realize the potential of traditional occupations like handloom, pottery and woodcraft through skill training customised for Indian as well as overseas markets.

Chapter 2

Magnitude of the Problem – Major Issues and Challenges

Compared to the plains, the mountains are characterised by the additional dimension of 'slope and altitude' that obstructs the applicability of developmental or other experiences of plains to the mountains. Because of slope and altitude, and associated conditions and characteristics, mountains are often considered to be relatively difficult environments to live in and in which to replicate development experiences accumulated in the plains (Jodha, 1990).

The remoteness, inaccessibility and fragility of the Himalayan region aggravates poverty. The region is poor in basic infrastructure and services. Road connectivity and communication services are limited. This leads to high inequality of exchange, such as the sale of Himalayan produce at low prices and purchase of commodities from outside the region at far higher prices. Economic enablers for marketing, institutional credit, energy, technologies and information are lacking and place mountain communities at a disadvantage. These factors marginalize mountain communities in mainstream economic processes. Energy inadequacy for instance, disallows processing and value addition through mechanization.

Further, the region is characterized by low population density with villages scattered on steep mountain slopes and in remote, unconnected valleys, which makes it difficult for Himalayan people to participate effectively in the socio-political processes of the nation. Policies tend to be developed for the lowlands and applied in these regions, and therefore fail. Investments in the region are low and there is a lack of industrial development.

Additionally mountain communities are often faced with difficulties in securing tenancy rights over land and forests and gaining access to social services (e.g. credit, education, and health), partly because of the problem of the tough terrain and partly due to their inadequate representation in policy-making bodies.

It is important to note that while these characteristics are interrelated in several ways within the mountains they show considerable variability. For instance, all locations in mountain areas are not equally inaccessible, fragile or marginal. However, a clear understanding of these specificities is a crucial prerequisite for correcting the approach to mountain problems and for developing appropriate interventions to address them.

Developmental constraints and risks resulting from mountain specificities

Mountain and hill states account for roughly 20.3 percent of India's total land mass and about 4 percent of the population. Many of the mountain states have sparse and dispersed populations.

Table 3: State-wise population density for IHR states/districts

States	Area (km ²)	Population	Population Density/km ²
Arunachal Pradesh	83,743	1,382,611	17
Hill Districts of Karbi Anglong and Dima Hasao in Assam	15,322	1,170,415	114*
Hill Districts of Darjeeling and Kalimpong in West Bengal	3,149	1,842,034	586*
Himachal Pradesh	55,673	6,856,509	319
Jammu & Kashmir	222,236	12,548,926	56
Manipur	22,347	2,721,756	331
Meghalaya	22,720	2,964,007	132
Mizoram	21,081	1,091,014	52
Nagaland	16,579	1,980,602	309
Sikkim	7,096	607,688	86
Tripura	10,492	3,671,032	350
Uttarakhand	53,566	10,116,752	189

*Average population density of two hill districts in the respective states (Source: MoHA, 2011)

Moreover hilly and mountainous terrain means that many of the villages in these areas are extremely remote. Tough weather conditions often mean that the villages are cut off from the rest of the country for months at a time.

Factors affecting skill development in mountain states

Nearly two-third of India's population is in the working age group (15-59 years) and more than half is below 25 years of age (MSDE, 2015). Despite the potential labour supply, there is a shortage of skilled workers. A workforce equipped with employable skills and knowledge could contribute to the economic growth of the country and play a vital role in initiatives such as Digital India, Make in India, Smart City, Standup India, Startup India, and Swachh Bharat. There are several factors that influence skilling in India, including IHR states:

Skill training continues to be institutionally scattered: The MSDE has the overarching mandate for developing skills and entrepreneurship in the country. These activities are also supported by 20 Central Ministries/Departments, several State Departments and private sector entities. However, this has resulted in multiplicity of norms, procedures, curricula and certification. Further, it has created challenges for coordination, collaboration, and ensuring coherence in sectoral, macro and skill policies, monitoring and evaluation (Sanghi and Srija, 2015; MSDE, 2015; Sengupta, 2018).

Demand vs. supply driven approaches: The mismatch between type of skills available in educated or trained labour force and those that are required by the prospective employers is a major challenge (Sanghi and Srijia, 2015). This is a result of overall emphasis on supply-driven set of skilling instead of a demand-driven approach. For example, the highly standardised curriculum in ITI provides limited flexibility to address local demands of specific skills or demands in popular labour markets. The changes in skill requirements of labour markets has often outpaced changes in curriculum of vocation training (Okada, 2012). In order to upscale quality skill development, there is a need to build capacity and empower State Skill Development Missions (SSDM) (MSDE, 2015).

Perception about vocational education: Vocational training is often perceived by the society as inferior to general education (ICRIER, *forthcoming*) as the former is considered to be a last option for those who are economically disadvantaged and/or unable to progress or opted out of the formal academic system (Okada 2012; NSDC, 2015). The expected rate of economic return is higher from general education (ICRIER *forthcoming*), which is considered to better prepare students for the government or white-collar jobs, a pre-requisite for upward social mobility (Okada, 2012). These contribute to the lack of demand for some of the courses offered by vocational training institutes. For example, (ICRIER, *forthcoming*) estimated that average utilization of ITIs in northeast India was around 63 percent in comparison to the national average of 69 percent.

Lack of training infrastructure: There is a deficit of good training infrastructure across the IHR. For example, less than half a percent of the ITIs in India are located in northeast India (ICRIER, *forthcoming*). Most of the training centres are located in large urban centres, mainly the state capitals. Inadequate and outdated equipment is a common challenge in most ITIs due to limited budget (Okada, 2012). Moreover, lack of subsidised hostel facilities in the existing centres make them further inaccessible to those coming from remote areas. For example, boarding and lodging is not paid under Pradhan Mantri Kaushal Vikas Yojana (PMKVY) scheme. Also, the ability to upload data, which is essential for regular monitoring of the training centres, is constrained by limited internet connectivity.

Lack of assessors and trainers: Some of the key challenges in building/strengthening the skill landscape pertain to inadequacy of assessors and trainers in most IHR States. It has been observed that there are discrepancies in the assessments of the trainees. Due to remoteness of the areas, the assessors do not always personally carry out the assessments. Hence, the number of genuine certified candidates could be fewer than that reported.

Skill training for workers in the informal sectors: Over 90 percent of the workforce in India is engaged in the informal/unorganized sector (MSDE, 2015). Many of these workers are unskilled, semi-skilled or may have received training through informal means. There are limited opportunities to recognize, skill, reskill and upskill, and certify informally gained skills.

Lack of access to alternative training mechanisms: There is a lack of access to alternative training mechanisms for those who are unable to avail formal skill training due to lack of resources, time or opportunities.

Lack of access among vulnerable and marginalized population groups: The lack of access to training or the low quality or relevance of training among vulnerable and marginalized groups – such as rural poor, the differently abled, migrant workers and women – locks these groups into a vicious cycle of low skills and low productive employment (Sanghi and Srija, 2015).

Gender stereotyping in skill training: Though a key challenge is to increase the participation of women in labour force, there is limited opportunity for formal skill training in IHR for women. There are few training institutes that cater only to women trainees. In some IHR States, few seats in vocational training institutes are reserved for women. At the same time, gender stereotyping is evident in popular courses. Based on an assessment of placement records of State Institute of Capacity Building in Sikkim, Khuntia (2017) reported that hundred percent of placements from courses such as driver, tour guide and security guard were men; while women found placement as beauticians, and in spas, sewing and animal husbandry.

Factors affecting entrepreneurship development in mountain states

For the IHR, with its slower economic growth in comparison to the rest of the country, entrepreneurship development is the key to help alleviate the unemployment problem and to increase the competitiveness and growth of business and industry in the states. But for entrepreneurship development, an enabling ecosystem needs to be in place. The IHR, due to its unique challenges, is yet to experience the impact of entrepreneurship on the economy and the lives of locals. The people in the region are predominantly wage earners with a few job creators. There are several reasons for this, and some of them are linked to the geography and culture of the region or the respective state.

Difficult terrain and lack of infrastructure: Difficult terrain, fragmented land holdings, and weak infrastructure make input and output movement unreliable and expensive, making competitive production difficult. These challenges also increase the cost of manufacturing of the product and its subsequent distribution across the country. The difficult terrain also results in additional transportation costs thus impacting the overall cost of manufactured product.

Limited market: Low population density and physical isolation also means low economies of scale, limited local demand and disconnect with markets. Markets and capital need far greater focus, especially for promoting traditional skills.

Access to finance: Arranging funds for starting or scaling up enterprise is one of the key challenges faced by entrepreneurs in the IHR. Financial institutions are sparse, distantly located and unwilling to support enterprises due to higher transaction costs involved vis-a-vis the plains. Schemes like PMMY and Credit Guarantee schemes promoted by the Government are not reaching the right target groups and thus results are not as positive.

Ease of Doing Business: Basic business formalities and processes such as registration of the enterprise, bank loan application, and other government approvals are complex and extremely slow. This situation is made worse with absence of information and awareness about these formalities.

Shortage of Skilled Resources: Due to shortage of job opportunities in the region, there is significant brain drain of qualified and skilled professionals who emigrate to other states or countries. This has proved to be a major challenge for technology and IT start ups as they are unable to find suitable workforce.

Absence of Big Industries: Maintaining a balance between environmental concerns and development needs often results in dearth of industries primarily because of environmental clearances and logistical/connectivity issues leading to limited business opportunities. All this results in inability of the mountain states to generate sustainable work opportunities (particularly non-farm based opportunities).

Culture of Entrepreneurship: Although IHR states have had resounding border trade in the past with different neighbouring countries, the frugality of the mountain economy, supported by a basket of small and localised livelihood options and limited resources and complemented by a lifestyle rooted in the local ethos, have tended to make the mountain communities in general and North East in particular less entrepreneurial. Families often do not support entrepreneurial ventures as a preferred career option over jobs. This requires a change in the mindset and will take time.

Identification of entrepreneurs: Building entrepreneurship can at best be viewed as identifying and nurturing the attitudes, which lead to entrepreneurial success. Processes for choosing entrepreneurs have to be different from those for other vocations, since the costs of getting misfits are bigger as compared to job oriented programmes. After the first stage, building entrepreneurs has to be sector specific or product-service-market oriented, focussing on practice, supported by appropriate coaches and mentors till they succeed or fail, both of which are equally valuable.

Entrepreneurship is not demand driven: Entrepreneurship has to be pull based and not by pushing students into it. The pull can be of a novel idea, of attractive markets, or of big social/economic returns. How do we help potential entrepreneurs find their niche and the pull? Just financial incentives or free training are unlikely to help.

Need for Government schemes to understand the IHR context: Government schemes to build entrepreneurs are currently not suited to create entrepreneurs as the stages are not fully understood or covered due to various constraints. It cannot be done by the skill providers either, as they are currently configured to government programmes or just as an add-on to existing schemes.

It is therefore recommended that the Government initiatives should be aligned to address these challenges. Special focus should be on effective and efficient implementation of these initiatives.

Skill and entrepreneurship development related challenges faced by state governments in IHR

State-wise challenges as mentioned by their states in their feedback have been compiled in the Table below. While the secondary research revealed that the Mountain States faced almost all the challenges list below, they were not able to acknowledge and articulate them because of varied levels of awareness about skill development and entrepreneurship related challenges and opportunities. This is evident from the Table 4.

Table 4: Skills and entrepreneurship development challenges faced by IHR states/district

Challenges	States	3	4	5	6	7	8	9	10	11	12	13	
1	2	West Bengal	Assam	Arunachal Pradesh	Himachal Pradesh	Jammu & Kashmir	Manipur	Meghalaya	Mizoram	Nagaland	Tripura	Uttarakhand	Sikkim
General challenges													
1	Adverse climatic conditions	(✓)										(✓)	
2	Deficit road and telecommunication		(✓)									(✓)	
3	Norms and standards of centrally sponsored schemes are not matched with the requirements of hill regions											(✓)	
4	Lack of internet connectivity						(✓)	(✓)					
5	High dropout rates					(✓)							
6	High attrition rate among candidates who migrate outside the state for jobs	(✓)					(✓)			(✓)			
7	Mobilization and retention of youth in hill areas	(✓)										(✓)	
8	Low salary levels for placements offered outside the state	(✓)											
9	Non-availability of openings for placement within the state	(✓)											
10	Political disturbances and instability	(✓)											
Challenges specific to Skill Development													
11	Dearth of quality infrastructure, training providers and efficient trainers	(✓)				(✓)		(✓)		(✓)		(✓)	
12	Placement outcomes are rarely achieved	(✓)											

Challenges	2 West Bengal	3 Assam	4 Arunachal Pradesh	5 Himachal Pradesh	6 Jammu & Kashmir	7 Manipur	8 Meghalaya	9 Mizoram	10 Nagaland	11 Tripura	12 Uttarakhand	13 Sikkim
13 Shortage of residential training centres in hill areas			(✓)								(✓)	
14 Need for quality assessors					(✓)							
15 Lack of industry presence for implementing apprenticeship	(✓)	(✓)			(✓)				(✓)			
16 Less number of ITIs compared to vastness of the area			(✓)									
17 No job preference/opportunities for ITI graduates			(✓)									
18 Lack of awareness about skill development programmes among local residents	(✓)	(✓)		(✓)								(✓)
Challenges specific to Entrepreneurship Development												
19 Inadequate market linkages					(✓)							
20 Need for regional entrepreneurship development institute						(✓)				(✓)		
21 Limited awareness among people about government initiative in entrepreneurship			(✓)									
22 Lack of understanding of ground realities and developmental policies related to entrepreneurship			(✓)	(✓)								

Policy and knowledge gaps

The magnitude of the problem is exemplified by the high dependency of IHR populations on local resources, dominated by agrarian communities with a large rural population engaged in subsistence agroforestry-based production on increasingly fragmented landholdings. Agroforestry-based enterprises are considered a primary means of reducing poverty and achieving food security by enhancing economic opportunities in IHR communities. However, strengthening skill and entrepreneurship of local communities is hindered by five principal factors:

- Implementation challenges of skill and entrepreneurship development schemes given the mountain context.
- Eligibility and capacity issues to access financial services for enterprise development.
- QPs & NOS are not customized considering the specific background and needs of the IHR States.
- Practicing of traditional skills and knowledge by mountain communities.
- Niche market challenges.

Gaps in skill development

Issues in the implementation of Skill Development and Entrepreneurship Development schemes: Most skill development initiatives have been incremental rather than institutional and transformational. The focus of policies until recently has been on increasing enrollment rather than looking at how many people are actually getting employed. The major problems of on ground implementation are:

- Lack of convergence among the departments, which leads to lack of monitoring of different skill and entrepreneurship development schemes (e.g. Deen Dayal Upadhya Grameen Kaushalya Yojana, National Urban Livelihoods Mission, and Border Area Development Programme).
- Insufficient quality infrastructure in the district and at subdivision level to impart quality skill and entrepreneurship development training.
- Poor quality of vocational education in school and colleges and lack of regular monitoring.
- Limited post-placement opportunities in IHR region and absence of any post-placement facilitation centre at the placement location outside the state for IHR candidates.

QPs & NOS not customized considering the specific background and needs of the IHR states: The IHR states need to keep in view the mountain specificities, and get the qualification organised around niche products and services that can command better market regionally and nationally.

- Mountain people derive their livelihood from a basket of livelihood options having job roles which do not lend themselves to an industry driven by QPs & NOS. The niche value of the mountain product needs to innovate and evolve constantly to thrive and excel in the niche market. There is a need to skill people for constant product innovation in the informal setting, which the national standardisation drive through National Skill Qualification Framework (NSQF) will not be able to address.
- Emphasis on area specific development of skills and qualifications compatible to ecological and social specificities of an area, rather than a blanket plan for all hills.
- Mainstreaming of informal sector to semiformal and formal needs to be systematically linked with the skilling needs and aspirations of mountain youth for these sectors.

Practicing of traditional skills and knowledge by mountain people of IHR States: Mountain communities are rich repositories of traditional knowledge, practices and resources. Traditional knowledge and practices have evolved through generations of empirical experimentation. It is found that mountain people generally inherit skills at home and not through institutions, which presents challenges in the global market, which are listed below.

- Producing, marketing and selling high-quality, high-value products.
- Weak communication infrastructure.
- Shortage of information, training and expertise in new agricultural and other technologies.
- Lack of knowledge about registration; certification and labelling to protect products.
- Inadequate marketing skills, wider market access and high transport costs.

Gaps in entrepreneurship development

Inadequate access to financial services is another stumbling block for enterprise development. With respect to accessing loans from the banking sector, mountain entrepreneurs identified want of capital and assets as obstacles. Financial institutions are generally unaware of the IHR need and refinancing scheme. These hurdles can be distilled into three main challenges:

- Lack of financial literacy and capability prevents IHR people from using suitable financial products and services.
- Absence of valid identification documents (e.g., Aadhar card, Voter ID, Driving licence and PAN card) to access financial services like social benefits transfers and wages.
Without a proper ID, it is not possible to handle large payment flows. The process to obtain an ID card and to open an account needs to be streamlined.
- Women in Indian Himalayan region score significantly lower on various financial capabilities and are less likely to use financial services or to have borrowed from a formal financial institution.
- Shortage of Microfinance Institutions catering to the need of mountain and northeast region is due to larger transaction costs involved in the mountain context.

Disadvantages of niche markets: The erosion of environmental and social practices is exacerbated by loss of opportunities for mountain people. This can take various forms:

- Open general licensing (OGL) for imports in India, encouraged by global trade policies, marginalize niche opportunities in mountain areas by replacing local products with imports. The niche markets are invaded by large companies and small marketers from IHR states find it difficult to compete.
- Globalization brings new incentives, technologies, infrastructure, and support systems in response to high demand and profitability. These foster man-made facilities for production outside mountain areas, undermining the comparative advantages that these areas previously enjoyed. For example, products such as honey, mushrooms, flowers, herbs, off-season vegetables, and crop seeds, hitherto produced mainly by mountain states such as Himachal Pradesh, are now being produced much more cheaply and in larger quantities in vast greenhouse facilities in the plains of Punjab. The niche marketing strategy may not be suitable for long-term marketing, as niches may not provide adequate business.

Chapter 3

Schemes and Programmes for Skill and Entrepreneurship Development

Providing gainful and sustainable employment to youth continues to remain a priority particularly in developing economies which are witnessing major demographic change. Policies related to skill development and entrepreneurship as well as lifelong learning are viewed as vital instruments to improve employability and employment outcomes for youth.

Government initiatives in skill development in IHR

The bulk of the skills development initiatives are run as a part of the Central government schemes. Most IHR States have started focussing on the skills development activities at the state level as well. The model followed by these states is similar to the central schemes. For instance, some of the states have set up SSDMs. These missions have the flexibility to develop programmes for their state. Similar to the central initiatives, SSDMs engage private training organisations to provide training to priority learners. Most programmes align the certification of their programmes to Sector Skills Councils (SSCs) or the National Council on Vocational Training (NCVT). Independent assessment and certification of candidates is also an important feature of the skills development programmes.

Apart from skill development initiatives, there are several schemes and programmes across various Ministries and Departments at Central Government level to cater to skill and entrepreneurship needs across the country. Apart from the initiatives mentioned earlier, and initiatives of the Ministry of Skill Development and Entrepreneurship, there are about 34 schemes under 15 Ministries of Government of India. Some of the prominent Ministries/Departments in skill development in IHR are:

- Ministry of Textiles.
- Ministry of Rural Development.
- Ministry of Environment, Forest and Climate Change.
- Ministry of Housing and Urban Affairs.
- Ministry of Micro, Small and Medium Enterprises.
- Ministry of Food Processing Industries.

Khuntia (2017) suggests that state governments in the Indian Himalayan region need to expedite the skill development and entrepreneurship development activities in tandem with the national initiatives by proactively involving social partners in the region for providing employable skills to the youth. It also highlights some good practices focused on women workers, which could be studied further to adopt in case of implementation of skill and enterprise development programmes. Majority of the IHR States rely on Central Government schemes for skills development.

There is an increasing thrust on providing vocational skills from Class IX onwards, i.e. at the secondary school stage. One such programme is “Vocationalisation of Secondary and Higher Secondary Education” under Rashtriya Madhyamik Shiksha Abhiyan (RMSA)³. The NER schools have already implemented the programme. The specific objectives of this centrally sponsored scheme are: (i) to enhance the employability of youth through demand-driven competency-based modular vocational courses; (ii) to maintain their competitiveness through provisions of multi-entry multi-exit learning opportunities and vertical mobility/ interchangeability in qualifications; (iii) to fill the gap between educated and employable; and, (iv) to reduce the dropout rate at the secondary level. The programme works on a cost-sharing basis between the Centre and the States. A key feature of the programme is that it integrates vocational education with general education and provides horizontal and vertical mobility to the students to make the vocational route more attractive. Further, it envisages a close partnership with industry in the design, development, delivery, assessment and certification of skills content. Some of the prominent schemes in skill development are given below.

- Pradhan Mantri Kaushal Vikas Yojana (PMKYV).
- National Apprenticeship Promotion Scheme (NAPS).
- Pradhan Mantri Kaushal Kendra (PMKK).
- Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY).
- Rural Self-Employment Training Institutes (RSETIs).
- Project for Livelihoods in Full Employment under Mahatma Gandhi National Rural Employment Guarantee Act (Project LIFE-MGNREGA).
- Integrated Skill Development Scheme (ISDS).
- Entrepreneurship Skill Development Programmes (ESDPs).
- Hunar Se Rozgar Tak Initiative.
- Skill Development in Electronics System Design and Manufacturing (ESDM) for Digital India
- Udaan.
- Seekho Aur kamao.
- Nai Roshini (The Scheme for leadership development of Minority Women).
- Upgrading the Skills and Training in Traditional Arts/Crafts for Development (USTTAD).
- Nai Manzil (Providing Targeted Youth with non-residential integrated education and skill training).

Skill training in some emerging service/industry sectors in IHR States

The mountain states have their unique requirements in skill based training depending on the natural resources, industry and native trades. However the emerging sector had been analyzed through State Government plan for investment in it from now to ten years in terms of short-term, mid-term and long term goals. New age sectors like BPO/IT/ITES, retail, tourism and hospitality, aviation, front office operations and beauty therapy, could contribute to the economy of IHR states as a good proportion of mountain youth are matriculate and speak English. Proper career guidance with appropriate skill training including soft skills can be given to tap the employment opportunities in the light of emerging sectors in the northeast and opportunities outside.

³ <http://rmsaindia.gov.in/en/about-rmsa/vocational-education.html>

Qualification packs and occupational standards at State level for mountain specific job roles

- Occupational Standards (OS) defines one key function in a job role. NOS specify the standard of performance an individual must achieve when carrying out a function in the workplace. These OS are combined to a set, which is called QP.
- QP certifies a person for a specific job role. QPs are approved by National Skills Qualification Committee (NSQC) through a process. As part of the approval, along with the QP, the SSC also has to submit the model curriculum, the notional hours to undergo training, and define the category of the job role. For any government scheme, the common norm is to pay the training fees as per the notional hours and the defined category, which are approved by the NSQC.
- NQSF, QP and NOS provide for the minimum hours of skilling. However, in the case of IHR States it has been felt that deep handholding is required as the level of education, exposure and tribal culture doesn't permit them to be up to speed like regular students from the mainstream. This also means the funds that would be required for deep handholding would need to be more than for the same job role in the mainstream. Making this distinction would be pertinent. There are very specific job roles which are very peculiar to the mountain states and these job roles contribute to the State economy, like tea plantation. For example, in West Bengal, one of the important cash crops is tea. Darjeeling tea is globally recognised as a distinct tea variety with its own Geographical Indication (GI) tag. There is a need to create specific job roles for the IHR States so as to enable the youth of this region undergo training on those standards and their employability as the local economy grows.
- While states of northeast India are often clubbed together each state is different and there is a wide difference between states. These factors define the intensity of trades and transactions which require state specific occupation standards contributing to the state economy.

Policies for promoting self-employment and entrepreneurship in IHR

While some of the NER State Governments identify promotion of entrepreneurship as an important aspect, there are no holistic policies or defined initiatives in the context of mountain specificity. There are 52 schemes from 14 Central Government Ministries /Departments in entrepreneurship operating in IHR. These policies are targeted at self-employment generation for creating "necessity entrepreneurs" and "opportunity entrepreneurs". Entrepreneurship policy's focus is on providing necessary training, creating enabling an environment for entrepreneurs, providing mentorship and nurturing through incubators and accelerators, and improve access to finance by making available the risk capital needed by the entrepreneurs.

Some of the prominent schemes for entrepreneurship in the IHR states are:

- A scheme for Promoting Innovation in Rural Industry and Entrepreneurship (ASPIRE).
- Financial Assistance on Marketing Support under Marketing Assistance Scheme.
- Scheme of Fund for Regeneration of Traditional Industries (SFURTI).
- Trade Related Entrepreneurship Assistance and Development Scheme for Women (TREAD).
- Micro and Small Industries Cluster Development Programme (MSE-CDP).

- Bank Credit Facilitation and Raw Material Assistance.
- Credit Line Schemes and Marketing Assistance Schemes of National Minority Development and Finance Corporation.
- Startup India.
- North East Industrial and Investment Policy (NEIIP).
- Pradhan Mantri Yuva Udyami Vikas Abhiyan (PM-YUVA).
- Stand Up India and other schemes of Small Industries Development Bank of India (SIDBI).
- Rural Godowns, Dairy Entrepreneurship Development and Other Non-farm Schemes of National Bank for Agriculture and Rural Development (NABARD).
- Laghu Vyavsay Yojna.
- Ajeevika Micro Finance Yojna.

Chapter 4

Present Context and Way Forward

The priority sectors in Himalayas for skill and entrepreneurship

The IHR is endowed with fertile soils, minerals, water resources, biodiversity rich forests, diverse population groups and their distinguishing crafts, cultural and religious sites and several other territorial specificities. These present opportunities for nurturing sustainable development through skilling and entrepreneurship development. Also, most states in IHR have a higher literacy than the national average and a large proportion of youth in many of these states speak English. The youth across IHR aspire for employment and entrepreneurship opportunities that require higher-order skill training. These attributes provide opportunities for nurturing sustainable development and entrepreneurship. Use of mountain specific resources can add high-value products to the mountain economies, but this requires minimum standards of development as a pre-requisite for enterprise development to succeed. This includes:

- Harnessing of abundant natural resource in the region could inspire projects in a major way. The most effective strategy for conservation of natural resources lie in incentives for their regeneration through regulation and management. Dis-incentivise indiscriminate exploitation and incentivize sustainable use and regeneration of natural resources.
- Precursor to any effective development intervention are a series of research studies that could identify needs of the local population and industries, gaps in the various factor markets, products that need protection under GI Act, and creation of Business Development Service (BDS). This step is essential for planning holistic development interventions in the IHR.
- The policies should widen the scope and coverage of the definition of enterprise to cover farm-, off-farm, non-farm or service based opportunities.
- The focus could be on comparative advantages and niche products and potential services that mountain areas and communities offer and support for these products and services through special incentive packages. Support should be provided to undertake an extensive exercise for identifying opportunities at regional and sub-regional levels to document new products, processes, technologies and designs, and evolve a system to disseminate the information among potential users.
- Extension and expansion of activity and enterprises is better sustained when the process is 'horizontal', from one or a few entrepreneurs to a larger set of similarly-based individuals or households. Introduction of products with external interventions and their 'vertical' extension has often failed. However, strategic linkages for vertical upgrading should also be harnessed as required, particularly when managing value chain development.
- There needs to be sustained efforts in product development and market promotion in order to establish a strong foothold. This requires strengthening of research and development and widening the market by improving accessibility and promotional efforts.

- A continuous process of adaptation, upgrading and change in packaging is needed to strengthen enterprise development. Development of skills to read the market and the capacity to respond to market signals is the key to success, for which development of human resources at all levels is important.
- Bridge the skill gap between formal education imparted by schools and colleges and requirements of the industry and service sectors.

Against this backdrop, this WG identified six priority areas for strengthening the skill and enterprise landscape in IHR:

- New age agri-entrepreneurship.
- Mountain Handloom and Handicraft.
- Sustainable mountain tourism.
- Ecosystem based employment opportunities.
- ITES and digital health for employment.
- Skilling for construction projects.

New age agri-entrepreneurship

This includes agriculture, horticulture and forestry based value chains. This section includes examples of value chains in off-season vegetables, medicinal and aromatic plants, spices, handloom and handicrafts, and health foods. These value chains have business potential for majority of the mountain states.

Off-season vegetables

Development of improved and need based infrastructure is the key to improve all-weather access to regions that grow produce that has a demand in the market. Improving accessibility to remote areas through construction of pathways and ropeways as well as reducing perishability of produce through construction of 'storage' are essential. Similarly, establishment of collection centres within reachable pockets of growing areas will further boost the value chain.

- Improve collection and packaging practices to further tune to market preference. For example:
- Improve post-harvest treatment of produce with regard to perishability, including cleaning, sorting, storing and grading of the produce.
- Link harvesting schedules to 'off-season' demand (early or late in the season) in nearby markets and pre-planned collection times along set transport routes.
- Promote climate smart agricultural practices among households to enhance their capacities to better manage climate risks.
- Weigh and pack market acceptable quantities in an acceptable packaging form.
- Print appropriate marking to identify the produce indicating grower, region, grade, and fixed quantity.
- Maintain a system of registers and connected "pass book" system to maintain accounts for farmers.
- Maintain a system of registers and connected "pass book" system to maintain accounts for farm labour.
- Monitor payment receipts and outstanding with link to farmer dues.
- Develop a commonly acceptable view on wastage and returns.
- Promote gender-sensitive extension services and ICT based innovations to enhance capacities of households to manage climate and non-climate risks, particularly in remote and rural areas.

Given the challenges involved in integrating with larger markets, efforts should first be directed at supporting crops and horticultural products in which IHR states have a comparative advantage and encouraging production and saturating local markets before moving to external markets that may have higher costs and risks. For example, the NER Vision 2020 identified the crops and horticultural products that have potential in north east India due to favourable climatic conditions and commercial viability: Arunachal (e.g. maize, ginger and pineapple), Assam (e.g. tea, rapeseed and mustard), Manipur (e.g. gladiolus, lilies, chrysanthemum and roses) Meghalaya (e.g. ginger, potatoes, sesamum and pineapple), Mizoram (e.g. ginger, maize, ginseng, citronella oil and sericulture), Nagaland (e.g. small millet, maize, ginseng, citronella oil and sericulture), Sikkim (e.g. ginger) and Tripura (e.g. rubber, coconut, bananas and pineapple) (MDoNER, 2008). Collective marketing needs to be planned carefully right from the stage of input support services to link producers with more distant markets (either wholesale or retail). Improving access to credit is necessary to keep pace with heightened market engagement. A better understanding of the use of ICT to facilitate production and flow of market information and their impact on prices is important. The transition from the system of traders coming to growing area to one where farmers reach the market doorstep with produce gathered and packed in an acceptable manner will help improve the latter's bargaining ability and result in improved returns.

Entrepreneurship to help farmer communities – The HARC way

Over the last 20 years, Himalayan Action Research Center (HARC), an NGO working in Chakrata, Chamoli and Uttarkashi Districts of Uttarakhand has demonstrated successful models of collective production and marketing of agricultural produce from the mountainous regions by promoting more than 35 producers' organizations registered as autonomous co-operatives, and producer's company, by which more than 35,000 growers (directly & indirectly) are able to earn their livelihood.

HARC has linked them with more than 25 supply chains such as vegetable, flowers, spices, medicinal and aromatic plants, value added or processed food products, food from the forest and traditional crops. HARC introduced diversification of the crops, the inclusion of scientific knowledge in agricultural operations and also created awareness among the farming community towards the new market system. This organization has transferred more than 60 technologies and has also built skills and capacities of target farmers on crop production, handling, grading, sorting, aggregation, processing, logistic, certification, branding, product designing, e-commerce, market linkages and business planning.

HARC intervention includes about 3,000 households engaged in production, processing, and packaging of fruit products, pickles, and mixed nuts; 660 households engaged in herbals and aromatics; 950 producers involved in garlic and ginger processing; 500 households engaged in production, and supply of flowers like liliun and chrysanthemum; and, 6123 producers engaged in production, quality control and marketing of vegetables.

In summary, HARC has adopted integrated approaches, customized for each agri-subsector, thus empowering the communities to move up the value chain through decentralized processing of variety of agricultural products. At the heart of this initiative lies the innovations in technology and skill development to harness the niche value of diverse mountain bio-resources in a cost effective and environment friendly manner coupled with the facilitation of a sound platform for collective marketing. This is giving much needed bargaining power to the small and marginal farmers in the marketplace. Such models are worth emulating in other mountain states.

Medicinal and aromatic plants

The forests and hills of IHR contain a wealth of medicinal and aromatic plants that have a high value to weight ratio and are generally not perishable. Hence, these could be brought to market from distant production areas. Inability to harness abundant natural resource through proper regulation and management could lead to failure in capitalizing on this opportunity. There is little evidence of success from the efforts of state or non-state agencies to scale up production, processing and trade in Medicinal and Aromatic Plants (MAPs). This is partly because the extraction of most profitable MAPs, which are endangered, was banned after India became a signatory to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) convention on trafficking in endangered species of plants and animals. However, over-regulation also led to widespread flouting of these regulations, which keeps a large segment of activity in the informal or illegal sector. It is important to dis-incentivise indiscriminate exploitation and incentivise sustainable use and regeneration of MAPs.

Traditionally, MAPs are collected from the wild, and they support and supplement farm income. Moreover, women and children are predominantly involved in MAP collection during lean periods of agriculture. As MAPs are critical to livelihoods of the poorest and most marginalized sections of society, particularly those living close to forests, they are important in terms of poverty reduction. Hence, sustainable production of MAPs could legally supply the market while providing a good income to the communities involved.

Common Facility Centre (CFC) and Incubation Centre (IC) – as part of enterprise development infrastructure

The small operating scales of the mostly household based units are not profitable and in a majority of cases the artisans are subsistence workers. The concept of CFC based infrastructure development is identifying the critical common operating bottleneck amongst a cluster of MSMEs and creating a public good – a CFC, which will provide common services to a cluster of MSMEs in the region. The positive impacts of CFCs are many. Some examples are generating social capital, innovations in marketing, common bargaining platform through associations, access to BDS, raw material bank, common warehouse, and showroom. The need is the driver of a CFC based solution for an MSME cluster.

An IC is a platform which gives opportunities to start-up entrepreneurs to set up a business, under controlled and supportive environment. The operating costs of business are reduced due to common sharing of infrastructure, facilities, Management Development Programme (MDP) and Entrepreneurship Development Programme (EDP) trainings add value to the entrepreneurial mind set, and counselling and mentoring are valuable services to the budding entrepreneurs. The concept will be essential in the IHR, which lacks a systemic support for entrepreneurial development infrastructure.

The thrust areas identified by National Medicinal Plant Board (NMPB) could be aligned with and their support can be tapped through centrally sponsored schemes formulated for MAP activities. A cluster based approach will allow MAPs of substantial value to be cultivated and supplied on a viable scale. This would interest buyers and make the operation economic. Once supply lines have been established over a few seasons, buyers may be approached to establish value addition facilities closer to growing areas. However,

it has been found that this serves little purpose unless community members set up their own market channels. Since the produce has high value and can bear transport costs, an organised processor could better utilise a plant than the grower-processor who may not be able to utilise the plant to the same extent.

The buyer community functions on cartel principle. The rules of the game may need adapting and care would have to be taken in managing commitments and relationships. It is important that the growers first increase their stakes and organise themselves, and be in a better position to deal with market players.

Spices

The IHR has a rich diversity of spices, which are already recognised and sought after in the market. For example, bay leaf, cinnamon, green and black pepper, Sichuan pepper, turmeric and ginger. These spices could be easily be grown in home gardens, rainfed upland farms and agro-forestry systems. These are non-perishable, have high value and low volume, provide both a competitive and comparative advantage (volume and scale required in other crops can be dispensed with or takes less importance), and offer a viable model for upland farming that could overcome the constraints of mountain specificities (e.g. limited land, fragility and slopes). The promotion of spices requires skill enhancement at different levels, starting from sorting and grading to sophisticated processing of high value products extractable from the spices, to branding and marketing of the processed spices. The spices could play a significant role in the new age agri-enterprises. With little investment, it would be possible to process the spices by sorting, drying, converting to powders or pastes, and finally packaging in bulk or consumer packs for sale to markets as a generic or branded product. It may, therefore, be best if such an enterprise carried out intermediate processing (e.g. drying) and spices are sold in bulk to a company with an established brand and experience in managing consumer products. Key interventions in spices include:

- As spices are grown on a limited scale, seasonality of production and place within the overall cropping calendar needs to be planned.
- Specific efforts need to be directed at seed preservation and storage. Ginger in particular needs a lot of care as damaged seed fingers are bound to impact growth of the crop.
- While the varieties grown locally may cater to local tastes, there may exist an opportunity to test improved or new varieties. They could offer a shorter growth cycle, be more tolerant to agro-climatic conditions, offer improved adaptability to intercropping, or cause less damage to soil (as in the case of ginger).
- Demand needs to be assessed to supply spices in a whole dried or powdered form. Later, depending on growing interest and establishment of quality (primarily taste) parameters, potential to market beyond the region could be explored and production up-scaled if found remunerative.
- Packaging needs to be addressed as currently a large quantity of spices that enters the market system is wasted. For example, green coriander is just bundled into large lots leading to damage. Ginger, when sold with fingers intact, commands a higher price than when fingers are damaged. As spices in their primary form are preferred by consumers when fresh, planning a regular supply could help minimise waste and loss of value.
- Adulteration is an acknowledged problem with dried spice powder. A partnership with a private sector processor or marketer of spices could allow dried spices to be supplied in bulk by a community or

producer organisation with milling and consumer packaging being the responsibility of the private sector company.

- As long as bulk or intermediate packing is involved, packaging does not need much attention beyond complying with buyer's requirements. However, there will be a need to evolve packing and distribution systems to reduce waste and cost if consumer sales develop.

Branding challenges of mountain niche products

Establishing a brand requires resources and ability to compete and cope with uncertainties of the market. Without a strong brand image, mountain niche products may not be able to take advantage of the value that an organic product from the mountains may bring. It is difficult for community or producer enterprises to establish strong brands, especially in distant markets.

GI Tag for protecting intellectual property rights and promoting local products could be used effectively to overcome some of the challenges related to branding. According to 2 (3) (e) of the Geographical Indications of Goods (Registration and Protection) Act, 1999, which has come into force with effect from 15 September 2003 in India, GI is "an indication which identifies such goods as agricultural goods, natural goods or manufactured goods as originating, or manufactured in the territory of a country, or a region or locality in that territory, where a given quality, reputation or other characteristic of such goods is essentially attributable to its geographical origin and in case where such goods are manufactured goods one of the activities of either the production or of processing or preparation of the goods concerned takes place in such territory, region or locality, as the case may be." The tag ensures that no individual other than those living in the particular geographical region may use the GI tag for their products. For example, 'Darjeeling Tea', which is a product of the Indian Himalayas Region, was the first product to be registered and protected with the GI status. The IHR is rich in products and commodities that are renowned around the world for their geographical identity. Few examples are Chamba Rumal, Kangra paintings, Uttarakhand Dann (carpets), Uttarakhand Tejpat, and Tripura Pineapples. Local livelihoods and industries depend on these products. Therefore, it would be desirable to protect the geographical identities of these products and protect local livelihoods. Promotion of these products with their GI may boost the local industries considerably.

Mountain goods and products such as MAPs, other non-timber forest products (NTFPs), mountain crafts, and ecotourism hold special values and have niche markets. Research organization may be involved in marketing and brand positioning of mountain products could benefit IHR. Distinctive features and values of mountain products could be highlighted in novel ways such as through green certification and eco-labelling, access and benefit sharing initiatives, green marketing, and fair trade of mountain products.

Traditional mountain crops as 'health food'

Many of the traditional mountain crops are known to be highly nutritious and are increasingly sought after in the niche markets in urban centres. For example, mountain buckwheat, millet, legumes, upland rice and tubers hold tremendous potential as 'health food'. Promotion of this sub-sector within agriculture can be extremely rewarding, offering opportunities for business partnerships with the private sector while providing the much required impetus for agricultural development in upland areas. Skill development in this regard

requires the development of high end products, and therefore, capacity building in processing, product development and marketing. Traditional mountain crops can also be linked to tourism and the promotion of local cuisine in restaurants and hotels.

Mountain handloom and handicrafts

Mountain communities in IHR, especially women, have been traditionally adept in handicrafts and handlooms. These communities are a repository of traditional knowledge on natural fibres and dyes. Khuntia (2017) reports that north east region accounts for nearly 20 percent of the handicraft units operating in India. These units employ 22 percent of the total handicraft artisans in India. With the advent of technology, industrially produced yarn and dyes have resulted in commercial non-viability of natural fibres and dyes. This has resulted in a disregard for natural fibres and yarn. Over the past few decades, with a growing consciousness of the adverse effects of synthetic fibres and dyes, there is a growing interest in natural fibres and dyes. Consequently, traditional handloom and handicrafts, particularly those that are naturally dyed, are becoming highly sought after with a rapidly increasing market value for such products. Traditional mountain fibres, natural dyes and handloom products, therefore, need immediate support for catering to this growing market. There could be a profitable link between conservation of natural resources, promotion of niche products, skills of mountain women and economic empowerment of mountain women. While traditional skill sets already exist with the communities, an infusion of modern skills, particularly in upgrading of dye extraction techniques, modern looms, product designing and marketing are required. Partnerships with the private sector and National Institute of Fashion Design (NIFD) and their regional branches could be developed to promote this sector. In addition, a strong focus on promotion (and management) of natural dyes (plant and animal resources) could be the focus of Forest Development Corporations of state governments, thus broadening their perspective from a narrow focus on MAPs to other high potential NTFPs in the process.

Sustainable mountain tourism

Tourism is considered an instrument for economic development and employment generation, particularly in remote and backward areas. Moreover, the 12th Five-Year Plan clearly recognizes pro-poor tourism for inclusive growth. Tourist arrivals in IHR are expected to touch 240 million by 2025, which is nearly 150 percent increase over the current arrivals of about 100 million. The potential for tourism varies across the region, and includes:

- Adventure tourism include camping, hiking, rock climbing, kayaking, rafting, mountaineering, winter sports, paragliding, trekking, and other adventure sports.
- Heritage tourism include historical, archaeological and cultural tourism (e.g., local festivals, music festival and winter festival).
- Wildlife tourism include tiger circuit, wildlife safari, bird watching and angling.
- Religious circuits include the Char Dham Yatra and Buddhist circuit.
- Craft weave circuits.

IHR represents one of the most sensitive and fragile human-environment systems, meaning that ecological carrying capacities are a critical factor that limit certain forms of tourism in IHR. The current model of

tourism in IHR is associated with environmental damage and pollution, and is viewed as a threat to the socio-cultural heritage, a heavy user of scarce resources, and a potential cause of negative externalities in society. The tourism sector is also known to be fostered by business investment and profits that do not have equitable outreach to service and goods providers in the IHR landscape. Particularly communities in the remote areas are not benefiting enough to promote sustainable tourism based on entrepreneurship, sustained and all-season employment, and other opportunities such as local handicrafts /self-employment linked to tourism value chain. Hence, the development of tourism sector in IHR should be built around the principles of sustainable tourism. It is necessary to promote local skills and entrepreneurship and create an enabling environment that generates local employment, and in turn creates interest and ownership of interventions among state or local stakeholders for fostering sustainable tourism.

Ensuring that economic benefits are secured at the place where costs are incurred is an important principle of sustainable development. As local communities have to meet a number of external costs associated with tourism, it is important that policies seek to maximize the economic returns to the local community. This is partly about securing reliable tourism growth, but equally about processes to maximize visitor spending per head locally and to reduce leakages, as well as developing long term linkages in the local economy. The tourists and enterprises that serve them make a large number of purchases from a range of suppliers (e.g. tour operators, food and drink producers, transport services, guides, and craftsmen). There are often many opportunities to strengthen the level of local income. At the same time, it is also important to avoid over-dependency on tourism, while ensuring that it can provide a consistent and reliable source of income. Tourism projects that engage local communities directly in their planning and implementation are much more likely to be successful in delivering local benefits and to be sustained over time. Policy in this area is not, however, just about engagement through consultation processes, it is also about empowering communities to influence decisions about the developments that will affect their future while considering the needs of other legitimate interests.

Despite the importance of human resources in tourism and the sector's contribution to IHR economy, tourism jobs are often quite lowly paid, with poor conditions, little security of employment (e.g. seasonality factor and family business), linked to external investments and influenced by externalities (e.g. disease, disasters, economic downturn, conflicts and terrorism). In a region as vulnerable to climate-change and disasters such as IHR, many local communities engaged in tourism work in harsh, unpredictable conditions that sometimes result in terrible mishaps. Governments and businesses have often been caught unprepared to deal with such events (for example, Uttarakhand disaster in 2013).

The part-time and family-based employment often leads to service industry jobs that are non-professional or just casual work that require limited skills. There is a high turnover of workers in some sub-sectors of the tourism sector. Many workers including, but not only, the high numbers of part-time or casual workers may have no rights or benefits or support when jobs are withdrawn. An improvement in conditions for workers could lead to better performance, increased staff retention, and greater efficiency and productivity. An improvement in financial security in the event of a mishap or sudden unemployment such as through medical insurance, better compensation for loss of life, and unemployment allowance could pave the way for inclusive and sustainable development. There is a need to improve the position of women and the

income earning options open to them. There are many reasons why tourism is well placed to reach disadvantaged people, mainly because it is a labour intensive service industry with relatively low entry barriers and an activity that takes place in situ within communities. The resulting changes in staff-customer relationships could lead to greater satisfaction.

The interventions to develop skills and enhance local entrepreneurship in tourism sector need to consider the following:

- Reduce leakages and make community interfaces transparent for equitable benefit sharing.
- Strengthen links with private sector to find convergence between financial investments and sustainability.
- Influence levels of visitor spending and its outreach to destination communities.
- The initial losses need to be sustained to stay the course and states could provide incubation funding.
- Through the governance of tourism enterprise development the quality of employment for local population, particularly involvement of under-represented sectors of society, could be ensured.
- Engage and empower local communities (e.g. indigenous communities and women) in planning and decision making about the management and future development of tourism in their area.
- While some local enablers exist, they need to be supported by networking, branding or marketing inputs. Establish a support system of networked volunteers or consultants specifically mentored to ensure quality control (guest managers) or marketing support (social media champions).
- A support system of experts (e.g. hospitality professionals, accountants and legal experts) who ensure good operational protocols and processes in required. In today's world compliances are multi-dimensional and it would be necessary to create some enablers for this purpose.
- Identify gaps and opportunities in skills and entrepreneurship in the context of socio-cultural and climate change aspects.
- Ensure employment safeguards through improved norms and unemployment allowance mechanisms (e.g. based on voluntary contributions such as provident funds and part-time bonus).
- Adopt inclusive value chain (VC) approach to seek a widespread and fair distribution of economic and social benefits from tourism throughout the recipient community, including improving opportunities, income and services available to the poor. (Pro-poor tourism).
- The amount of solid waste being generated in IHR is a matter of great concern. Solid waste generated in the higher elevation areas have to be treated with utmost care. Therefore, green practices at both the destination and site scale must be put in place based on the principle of reduce, reuse and recycle. This management practice can be then linked to the concept of 'waste to gold', which has showcased that waste can be linked to local economy based on best practice entrepreneurship already being practiced at a few places in IHR.
- Working with communities on the sensitive presentation and promotion of culture and traditions based on "Incentive based mechanisms (IBM)" (e.g. for good stewardship) need to be designed based on the tested eco-labelled or any other feasible sites.

Ecosystem services based employment opportunities

Mountain ecosystem are among the most diverse on earth. These consists of wetlands, forests and alpine grasslands, rich with biodiversity. However, this ecosystem is threatened by factors ranging from pollution to

climate change and population pressure (MOEF&CC). The Himalayan region is blessed with some of the most productive ecosystems. For example, among all the States, Uttarakhand have highest growing stock of 440 million cum in forests, followed by Arunachal Pradesh with 413 million cum (FSI, 2015). At a time when the focus of the global community has shifted to sustainable development, green skilling is critical for adaptation and mitigation measures. It would prepare people for green jobs and also strengthen our commitment towards restoring the quality of the environment for the well-being of all.

Sustainable management and use of ecosystem services from IHR presents huge opportunities for creating employment and supporting entrepreneurship. The soft green skills would help to understand these changes and develop an economically and environmentally sound mountain ecosystem, which would improve the living standards of mountain populations as well as sustain the flow of vital ecosystem services.

Opportunities for developing ecosystem services based skills and enterprises are abound in assessment of various ecosystem services (e.g., biodiversity, water and carbon) and use of technology for their sustainable management.

At various levels of the environment, forest and climate change sectors in India, there is a huge gap between the demand and supply of cognitive and practical skill sets. Rather than focusing on 'soft' skills or 'green' skills, most of the vocational training programmes focus on mechanical or technical skills. Through specially designed curricula and on-the-job training in long-term and short-term education programmes, former set of skills could be acquired. The MoEF&CC in association with the NSDA and MSDE has developed the Green Skill Development Programme (GSDP), which is a part of the ENVIS scheme, to address the skill gaps in the aforementioned sectors. ENVIS network, which comprises of Hubs in State departments and Resource Partners (RPs) in recognised institutes or organisations across States, is being used for this purpose (MoEF&CC).

The larger goal of the initiative is to enable India's youth to get gainful and/or self-employment in the environment sector as well as contribute to attainment of the Nationally Determined Contributions (NDCs), SDGs, National Biodiversity Targets (NBTs) and frameworks under the Waste Management Rules. Based on the skill levels identified in the NSQF, trainees will be awarded nationally recognized certificates from MoEF&CC on successful completion of GSDP training. Areas of employment includes institutions associated with MoEF&CC and Biodiversity Management Committees, wildlife and bird sanctuaries, zoos, national parks, wetland sites and eco tourism among others (MoEF&CC).

IT enabled services and digital health for employment

IT enabled services

One of the biggest job generators for the Indian economy is the IT industry, which directly employs 3 million people and indirectly provides employment to another 9 million people.⁴ There is a potential for creation of skilled employment opportunities for the IHR youth by promoting ITES associated with banking, e-commerce, insurance, financial services, healthcare, mobile applications, storage, security and telecommunication. Rural e-commerce sector, which could connect wholesalers and retailers with rural

⁴ <http://www.financialexpress.com/jobs/skill-shortage-a-big-opportunity-for-it-sector/103898/>

customers through mobile applications, could be highly relevant for IHR (e.g. Storekey). It could create employment in the form of domestic IT helpdesk attendant, customer relation management, customer relation management domestic voice, collections executive, domestic biometric data operator, and domestic data entry operator.

The NSDC suggested that there is a lack basic knowledge and skills in information technology among engineering graduates who join the IT and ITES sector⁵. For example, a report by NSDC indicated that executives (voice based) showed inadequate process compliance, lack of attention to detail, lack of understanding of basic quality initiatives, lack of understanding of information security and privacy issues (NSDC). To equip fresh graduates with necessary skill-sets, the employers invest significant time and effort⁶. Under the pilot phase of PMKVY, NIIT Yuva Jyoti, a joint venture of NIIT and NSDC, has enrolled 1,550 students across three sectors — telecom, retail and IT — in Northeast, Jammu and Kashmir and Jharkhand⁷.

Despite the huge opportunity for creation of employment opportunities in the IT/ITES industry, poor data connectivity and low private sector engagement in IHR, particularly NER, continue to be impediments to the realization of business opportunities. Though NER is one of the fastest-growing markets for online retailers⁸, efforts to build roads and improve airline connectivity have been constrained by the region's difficult terrain⁹. Despite the incentives and relaxation in norms of the BPO promotion scheme, inadequate civil infrastructure, poor connectivity and security-related issues have been identified as major challenges for private sector investment in NER¹⁰.

Opportunity of skilling in digital health

Innovations in health technology have been growing rapidly, increasing the pace of growth in consumer and institutional healthcare delivery. Some prominent innovations are telemedicine, biosensors, electronic health records and wearable technology. Some innovative ways in addressing these opportunities are

Tele-health assistant: Tele-health is an example of the deployment of information and communication technology in providing remote healthcare. Tele-health is now increasingly being deployed by more hospitals in the public and private sectors. Most institutions having tele-health infrastructure are unable to recruit personnel with the necessary blend of technical healthcare and basic managerial skills.

Apollo Medskills and Apollo Telemedicine Networking Foundation will impart the Tele health assistant course endorsed by the NSDC of the Government of India (GOI). This will provide entry-level formally trained personnel with skills to deliver and manage these new e-healthcare delivery systems. The present time provides ample opportunity for creating a formal cadre of tele health care facilitators. This programme is intended for students who have completed Class 12 and consists of 11 weeks of online classes and one week of contact programme.

⁵ ibid

⁶ ibid

⁷ ibid

⁸ <https://retail.economictimes.indiatimes.com/news/e-commerce/e-tailing/online-retailing-on-the-rise-in-north-east-india/32582545>

⁹ <https://economictimes.indiatimes.com/industry/services/retail/north-eastern-states-fast-emerging-as-growing-markets-for-indias-e-commerce-players/articleshow/46126640.cms>

¹⁰ <https://economictimes.indiatimes.com/tech/ites/indias-ambitious-north-east-bpo-plan-turning-into-a-flop-show/articleshow/49805220.cms>

The North East Business Process Outsourcing Promotion Scheme (NEBPS)#

The NEBPS, envisaged under Digital India Programme, has generated employment opportunities in NER by setting up the BPO/ITES operations and promoting investment in this sector. NEBPS seeks to incentivize establishment of 5,000 seats for BPO/ITES operations in NER. It provides financial support with overall ceiling of ₹ 1 lakh/seat in the form of Viability Gap Funding (VGF) to eligible companies based on performance, i.e. generation of new employment and economic activity in IT/ITES sector in the NER through BPO/ITES operations. This scheme also provides incentives for training, diversity and inclusion, employment generation beyond target, and promoting local entrepreneurs. For example, NEBPS provides up to 50% of training expenditure with a cap of ₹ 6,000/employee for total regular employees up to 1.5 times (employment target) the number of approved seats of BPO/ITES operation (e.g. for 100 seats BPO/ITES operation, training incentive can be availed for max. $1.5 \times 100 = 150$ regular employees). It also provides special incentive (per cent of eligible financial support) to units that provide employment to women and the differently abled. NEBPS provides a special incentive (per cent of eligible capital support) for units providing employment beyond employment target (1.5 times the number of seats). This scheme provides a special incentive (5% of eligible financial support) for units setting up BPO/ITES operations as a consortium with local entrepreneur (domicile of the State where BPO/ITES operations are being established).

<http://meity.gov.in/nebps>

Medical coding: Medical coding and billing profession provide opportunities with a unique set of job duties for medical and paramedical students across the globe. Maintaining the electronic health record of patients so that they get paid off seamlessly by the insurance company is increasingly becoming a critical component of the healthcare industry. With the growth of insurance sector in India, the healthcare industry requires trained professionals with in-depth knowledge of medical coding. Any life science graduate or pharmacy graduate is eligible for the programme of three months duration with one week of contact programme

Medical record technician: Health care providers rely on the information in the patient's medical records in order to diagnose and treat the patient successfully. The position does not require any hands-on patient care. A six-month course is available for students after completion of 12th standard.

Healthcare informatics: Healthcare informatics is the science that underlies the fusion of healthcare, information technology, and business administration. It focuses on the implementation and optimisation of the information systems that support clinical practice. Healthcare information takes in the rapidly developing scientific field that deals with the storage, retrieval and use of biomedical data, information and knowledge for problem solving and decision-making. The course is available to any graduate with six months online study and a three-day contact programme.

Skilling for construction projects

In comparison to 12.3 percent increase in rural population between 2001 and 2011, the urban population increased by 31.8 percent (MoHUA, 2018). It is estimated that urban population of India would be 575

Skill development allowance scheme by government of Himachal Pradesh

The youth whose family income is less than Rs. 2 lakhs per annum receive a Skill Development Allowance of Rs.1000 per month to undertake skill training. Differently abled youth are provided Rs.1500 per month as allowance. The duration of most of the skill development courses ranges from three months to two years. If an unemployed youth intends to take up self-employment upon completion of skill training then s/he is eligible to apply for a loan from a bank or the Scheduled Castes, Scheduled Tribe and Other Backward Classes Corporation. The Government of Himachal Pradesh provides an interest subvention of 4% up to project cost of Rs.1.5 lakhs for five years. The scheme has been significantly liberalized to bring maximum youth under its ambit. For example, Himachal youth who have passed 8th standard, and are above 16 years and below 36 years, are eligible to avail benefits under this scheme. Moreover, the condition of registration in the employment exchange for at least two years has been waived off. For training in masonry, carpentry, blacksmith and plumbing, the minimum educational requirement has also been waived off. Further, the Government has decided to provide the Skill Development Allowance to eligible students who are enrolled in B.Sc. Nursing course in Government and private nursing institutions in the State (Source: NITI, n.d.).

million by 2030 and 875 million by 2050 if the current growth rate persists (MoHUA, 2018). This rapid expansion of urban areas would be accompanied by a demand for housing, electricity supply, sanitation, transportation infrastructure, waste management facilities and water supply. The Act East Policy and growing emphasis on development of critical infrastructure in the IHR, which includes sensitive international borders in north and north-east India, had led to the initiation or planning of major infrastructures projects (e.g. airports, bridges and roads, hydropower, power stations, railways, sanitation, telecommunication and water supply) by public and private sector entities. For example, 2,000 kms of border roads is planned to be constructed under the Bharatmala Pariyojana to bridge critical gaps in border infrastructure. Similarly, the North East Road Network Connectivity Project – Phase 1 in Meghalaya and Mizoram is envisaged to enhance the connectivity with inter-state roads and international borders. These initiatives in the real estate and infrastructure sub-sectors have created a demand for skilled construction workers. However, there is a shortage of construction workers with formal skill training and certification.

The construction sector is the entry point to paid labour for many workers (ILO, 2015), particularly those from rural areas. This sector provides employment opportunities for unskilled labour, seasonal and women workers. Over the past two decades, the construction sector has been a pillar of non-farm jobs in India. A recent article in the *Hindustan Times* estimated that the Compound Annual Growth Rate (CAGR) in construction sector employment was 9.1% between 2000-01 and 2010-11¹¹. During the same period, the CAGR was estimated to be 2.7% in non-farm employment excluding construction¹². However, the same article highlighted that value added per worker had started to decline for the construction sector from the middle of the last decade¹³. Moreover, the value added per worker in the construction and agriculture sectors was heading for a convergence¹⁴.

¹¹ <https://www.hindustantimes.com/india-news/construction-sector-jobs-have-let-down-peasants/story-o3LR2tIGWpjx3FSY2A4NBM.html>

¹² <https://www.hindustantimes.com/india-news/construction-sector-jobs-have-let-down-peasants/story-o3LR2tIGWpjx3FSY2A4NBM.html>

¹³ Ibid.

¹⁴ Ibid.

The occupations in this sector includes clerks, engineers, foremen, technicians and skilled and unskilled workers. However, there is a shortage of skilled construction workers in India, including in IHR. Kakkar (2014) suggests that most workers available for key construction activities (e.g. masonry, carpentry, brick work) are either unskilled or have crude skills with limited relevant knowledge. Many workers also lack knowledge of machine operations (ILO, 2015). As a result of a lack of formal training centres, there is a shortage of trained and certified mechanics and machine operators. The SDG 11 aspires to build cities and human settlements that are inclusive, safe, resilient and sustainable. There is a limited availability of trades connected with emerging technologies that are required for developing smart cities, solar energy and next generation of transportation projects. Neither are new technologies and work methods utilised nor are the benefits of research and development absorbed in the traditional system of skill formation (Kakkar, 2014). Generally, there is a lack of safety orientation, general workplace skills and the ability to follow technical instructions among unskilled workers (ILO, 2015). A large section of the construction workers – including most women workers – are in the unorganized sector and are daily wage earners (Ernest and Young LLP, 2016; SEWA, 2002). The educational attainment of most workers in this sector is 10th standard or below. Their career prospects remain limited in the absence of formal skill development and certification (Ernest and Young LLP, 2016).

On some construction sites in India, women may represent up to 50% of the workforce (SEWA, 2002). Generally, these women construction workers are load carriers, helps or perform semi-skilled work (including plastering or concrete mixing) (Kakkar, 2014; SEWA, 2002). It is less likely that women construction workers get an opportunity to receive training in any trade (Kakkar, 2014).

Apart from up-skilling of the existing workforce, it has been suggested that the skills and knowledge gained by individuals outside the formal learning system could be recognized and certified (Recognition of Prior Learning). The worker's ability to secure advanced employment and social recognition is hindered by the absence of an accepted certification of knowledge and skills (Ernest and Young LLP, 2016). Besides, there are also skill gaps at the management level. For example, the NSDC identified the weak capacity to estimate project costs at the planning stage. The management skills could be a potential area for skill development among educated youth from rural areas who aspire for white-collar employment or mid-career construction workers with entrepreneurial competencies. Also, it is necessary to develop a guide on gender inclusive strategies to increase the participation of women in those areas within construction sector, which traditionally did not recruit women and assist women to make the transition from unskilled to skilled workers.

Building skills and supporting entrepreneurship development among migrant workers and returnees

Labour migration is likely to remain a significant part of rural livelihoods in IHR, well into the future. In places where the local employment generation capacity is limited, particularly in the non-farm sector, seeking employment elsewhere is a common household strategy. Interactions between demographic, economic, environmental, political, and social drivers shape migration patterns (IPCC, 2014). However, migration as an outcome is not ensured by mere existence of these migration drivers. Along with the migration drivers, intervening factors, household characteristics and personal characteristics influence the

decision to migrate (Black et al., 2011). Through various flows of goods and services, financial flows, and movement of people, urbanization has been shaping rural-urban relationships. Rural households are increasingly dependent on urban resources and non-farm jobs (Siddiqui et al., *forthcoming*).

According to the National Policy for Skill Development and Entrepreneurship 2015, nearly three-fourths of 14 million overseas Indians are unskilled or semi-skilled labourers (MSDE, 2015). The National Policy for Skill Development and Entrepreneurship envisages that national standards and quality for skilling need to be globally aligned so that Indian youth can aspire to national and international jobs. The process of skill development of emigrant workers and equipping them with the basic knowledge about laws, language, and culture of the destination countries for the purpose of overseas employment would be institutionalized through the Human Resource Mobility Partnership (HRMP) scheme (MSDE, 2015).

Though the percentage of total workers employed in agriculture sector in India has steadily declined since 1980s, this sector continues to employ nearly three fourth of workers in the rural areas. At the same time, there have been increases in employment share of the construction and tertiary sectors (Srivastava, 2012). Even for poor rural households, the low entry threshold in the informal sector in urban areas provides an opportunity to earn and diversify their livelihoods (Deshingkar, 2008). It is noteworthy that remittances from internal migrant workers account for a considerable proportion of the inflow into the savings accounts opened under the Pradhan Mantri Jan Dhan Yojana¹⁵. Despite the contribution that migrant workers make to the national economy, they have little influence on their working and living conditions, especially where they migrate to other states (Deshingkar et al., 2008). Migrants to urban areas experience different forms of exclusion, particularly the less educated, less skilled, and those employed in the informal sector. They lack access to social security such as the public distribution system and public healthcare. Due to the lack of housing entitlement at the destination, because they lack proofs of identity and residence, many migrant workers and their families end up living in informal settlements that have limited access to public amenities (e.g. healthcare, sanitation, transportation and water) (UNESCO, 2013). Such exclusion not only limits benefits of rural to urban migration, but creates new risks for internal migrants and their families (Siddiqui et al., *forthcoming*).

There is a need to develop appropriate policies to maximize benefits from migration and reduce risks associated with it. At an operational level, institutions could extend support to these migrant workers and their families to better plan for migration and its consequences. This could involve supporting the migrant workers and/or their households to:

- Assist migrant workers to identify employment opportunities that guarantee decent working conditions.
- Disseminate information about skill training and certification, employment opportunities, living and working conditions in popular destinations, recruitment agencies, travel documents and work permits through media (e.g. vernacular newspapers, FM radio channels and television).
- Orientation sessions and language training for the migrant workers could increase their acceptability in destination communities and make it easier for the workers to adapt to new conditions.
- Skilling in government and non-government institutions could consider market demand in nearby urban centres, other parts of IHR and elsewhere. Based on market survey in popular destinations and feedback

¹⁵ <https://blogs.timesofindia.indiatimes.com/toi-editorials/janata-likes-jan-dhan-the-past-year-has-seen-a-rapid-growth-of-active-pmjd-accounts-across-all-geographies/>

from migrant workers and returnees, the skill development curriculum could be updated on a regular basis. The skill training could provide certification that would be recognized by prospective employers within and outside the country of origin.

- Government could prioritize financial inclusion and literacy of migrant workers, women left-behind and youth. This could include easy access to financial institutions (especially in remote areas), simplified paperwork and customized financial products to encourage savings and long-term investment among migrant workers and remittance-recipient households.
- There is also a need to introduce programmes to reintegrate returnee migrants – for example, policies could support entrepreneurship development programmes for the family left-behind as well as returnees. Such a programme could include access to credit, access to professional networks, entrepreneurial training, business advisory services, access to market information and other incentives. It could have a special focus on marginalized populations and women.

Building skills for emerging industry and service sectors*

The Manipur Skill Development Society (MSDS) was established by the Government of Manipur. MSDS has collaborated with reputed companies and institutions to impart skill training courses outside the State. These courses include retail, aviation (cabin crew), front office operations, hospitality, beauty therapy, wellness and spa, travel and tourism, BPO/IT/ITES, banking and financial insurance. The duration of training across various courses ranges from six months to one year. The candidate has to bear the hostel and food costs. MSDS sponsors the course fee. The selection criteria includes a minimum educational qualification of 10th or 12th pass depending upon the course, communication skills, positive attitude, readiness to relocate outside of the state, and a written test and interview.

* Khuntia (2017)

Chapter 5

Key Recommendations

The IHR presents both challenges and unique opportunities for skill development and building an entrepreneurial culture. The region has distinct advantages of forest and biodiversity richness, holy/sacred destinations, landscapes of unparalleled beauty, multiple tribes and their distinguishing culture, crafts, agro ecosystems and niche products, and several other territorial specificities, which present opportunities for nurturing sustainable development and entrepreneurship. Literacy rate in most of the IHR States is well above the national average. The youth of IHR aspire for dignified employment. Nevertheless, an increasing trend of migration of men/families provides both challenge as well as opportunities. Utilisation of mountain specific resources, with focus on women and youth can add high-value products to the mountain economies while opening up new opportunities for skilled employment.

However, in general, there are challenges of mountain specificity such as remoteness and inaccessibility, fragile mountain environment, climate change and disaster risks, infrastructural issues and investment challenges. Low population density and physical isolation also means low economies of scale, limited local demand and disconnect with the markets. Markets and capital need far more focus especially in the case of traditional skills.

Entrepreneurship Development should be targeted through a multipronged approach by targeting entrepreneurs at different levels of the socio economic pyramid.

These challenges as well as opportunities need to be factored in while building/strengthening the skill and entrepreneurship landscape in IHR. The action agenda focuses on key priority sectors, capacity building needs, and institutional and policy imperatives. The action points build on the magnitude of the problem (chapter 2), analysis of existing schemes and programmes (chapter 3), and discussion on emerging areas (chapter 4).

The priority sectors in IHR for skill and entrepreneurship

Skill and entrepreneurship development in the IHR need to harness the strengths of unique mountain goods and services with a focus on the principles of sustainability and resilience. Strengthening skilling and entrepreneurial opportunities on the principles of sustainability and resilience could contribute to harnessing the immense potential of niche mountain products as well as address uncertainties, such as adverse impacts of climate change. Moreover, new opportunities in ITES could be appealing to aspiring mountain youth. However, the bottlenecks in terms of value chain infrastructure, markets, technological upgrading, connectivity, and private sector investment need to be addressed. Skill and entrepreneurship landscape in IHR needs to focus on emerging sectors while continuing to support conventional ones.

Promote new age agri-entrepreneurship culture by reinforcing traditional skills with modern technology:

Many of the traditional mountain crops are known to be highly nutritious and are increasingly sought after in the niche markets of metropolitan India. For example, mountain buckwheat, millets, legumes, upland rice, and tubers have tremendous potential as 'health foods'. Similarly, there are immense opportunities in enterprises associated with in organic farming, horticulture, floriculture, forestry, medicinal and aromatic plants, spices, off-season vegetables, production of seeds, organic dye from tea and cardamom, and food processing. Moreover, traditional skills of mountain people in weaving and traditional arts and crafts provides ample opportunities to develop skilled jobs and entrepreneurship opportunities. However, such development in IHR has been hindered due to lack of infrastructure, poor connectivity with national, regional, and international markets, poor power supply and inadequate supply chains. As the new age farming requires a new mind set, skills and ability to integrate both farm and non-farm livelihood options, there may be a need to mobilise the youth engaged in other professions for such entrepreneurship. Some of the key actions to address this situation could include:

- Identify two to three priority value added products or services for each mountain state. Based on their unique position and where technologies could add further value, document these for the opportunities, challenges and niche value they offer to a particular state in IHR.
- Based on the most suited products and services identified, promote the new age agri-entrepreneurship sub-sector within agriculture by developing end-to-end value chains.
- Reinforce traditional skills with modern technology. For example, women in IHR are adept at weaving and are a repository of traditional knowledge on natural dyes. A holistic entrepreneurship development scheme could upgrade dye extraction techniques, promote modern looms, support innovations in product design, and explore e-commerce and ICTs to market products. Facilitate a strong partnership with the private sector (including e-commerce companies) and the NIFD to promote this sub sector.
- Identify skilling requirements for different sub-sectors within value chains, including non-farm skills such as those related to inventory, finance, management, marketing, product design, quality assurance, storage and transport. Develop packages of practices and training modules for developing or upgrading these skills.
- Develop specialized management skill modules for next generation of farmers or home based entrepreneurs who may not be keen to work on a farm. Develop special modules, including pedagogy, curriculum, and content, that could be used to impart training on how to run a producer company. For example, the curriculum could include financial literacy (e.g., Sa-Dhan, Manndeshi, and ICIMOD), inventory or logistics (e.g., Toyota Lean Management), marketing (e.g., HARC, TISS and SEWA), packaging and branding (e.g., Amul and Innovative Challenge Cooperative), climate-smart practices (e.g., NABARD and ICIMOD), entrepreneurship (inputs from PRADAN), and technology (e.g., NASSCOM organizations and Reuters Market Light). It is important to develop skills of the next generation to run these entrepreneurships.
- Facilitate collaboration between agri-entrepreneurs, state- and district-level skill centres, and private sector to identify products and services that have a demand in IHR, other parts of India and neighbouring countries (e.g. Bangladesh, Bhutan, Myanmar, and Nepal). For example, ASEAN and

BBIN countries could be promising export markets for products and services offered by agri-entrepreneurs in northeast India.

- Address infrastructural issues, particularly, connectivity to national and regional markets (roadways, railways and digital connectivity), power supply and value chain infrastructure to make new age agri-entrepreneurship a sunrise zone in the IHR.

Promote sustainable mountain tourism

Tourism has become one of the fastest growing sectors in India, particularly in the IHR. Tourist arrivals in IHR are expected to touch 240 million by 2025, which is nearly a 150 percent increase over current arrivals of about 100 million. This sector mainly consists of micro, medium and small enterprises. It provides opportunities for semi-skilled and skilled employment and entrepreneurship to Himalayan youth. The North East Vision 2020 identified intra-state tourism, multi-state tourism circuits, pan-regional tourism and international tourism for tourism circuit development. However, tourism also brings immense challenges. The resident population of IHR is about 60 million and many of its existing tourist destinations are already bursting at the seam with serious environmental and socio cultural consequences. Also, economic gains are lopsided due to inadequate skills and the seasonal nature of jobs. Some of the key actions to address this situation could include:

- Document best practices on sustainable tourism, particularly from the aspects of sustainable entrepreneurship, skill development and social security to develop and strengthen tourism circuits that focus on adventure sports, heritage, wildlife, religious/spiritual, wellness/yoga/aroma therapy/naturopathy, handicrafts and handloom, and cultural festivals.
- Facilitate collaboration between tourism entrepreneurs, state- and district-level skill centres, and private sector to assess shortfall in human resources and their capacities in different levels of tourism value chain such as travel and planning (e.g. tour operators and travel agents), accommodation (e.g. hotels, resorts and homestays), local transportation, food and culture (e.g. restaurants, food courts, handicraft and handloom, and market) and other services (e.g. internet cafes, laundry). Based on this analysis, promote potential collaboration among private sector, state skill centres, and government departments to develop skills, support local entrepreneurs and improve infrastructure in promising tourist circuits on a priority basis.
- Improve curriculum and delivery of skill development packages in sub-sectors such as travel and tourism services planning, accommodation, local transportation, and food and culture in partnership with local communities, private sector and public institutions.
- Develop or improve standards and certifications for the tourism sector (including branding and environmental and social auditing). This will also enhance new opportunities of entrepreneurship for youth as “service providers”, which will require specific competencies.
- Integrate the capacity building packages on sustainable tourism in the curriculum of various institutions (e.g. schools, vocational centres and universities).
- Support veterans from the Indian Army, Assam Rifles and Indo Tibetan Border Police to establish adventure tourism based entrepreneurships. These veterans are specially trained to be deployed in difficult terrain (e.g. high altitude areas) and have specialized skills (e.g. mountaineering and jungle survival). These skills could help to promote safe adventure tourism in the country.

- Provide subsidy support to home stays in identified destinations, particularly in cases where they can be a role model for others. They can also be developed as on-the-job training hubs.

Ecosystem services based employment opportunities

Himalayan States are blessed with some of the most productive ecosystems. Uttarakhand have highest growing stock of 440 million cum in forests, followed by Arunachal Pradesh with 413 million cum (FSI, 2015). However, in the development discourse, these are often seen as “development disability” for which compensation is the only recourse. This discourse needs to change. Sustainable management and use of ecosystem services from Himalayan States presents a huge opportunity for creating employment and support entrepreneurship. Despite plenty of sunshine and other growing conditions, India has continued to import wood and wood products worth over 300 billion INR¹⁶ annually. Nursery raising, afforestation, eco-restoration, use of wood as construction material and new wood-based products provide an opportunity to blend traditional skills with state of the art technological innovations. Also, skilling in assessment of various ecosystem services (most common being biodiversity, water and carbon) and technology for their sustainable management provides opportunities to create an ecosystem services based skilling and entrepreneurial landscape. Some of the key actions to address this could include:

- Commission a comprehensive assessment of various ecosystem services and their potential to provide skilling and entrepreneurial opportunities to mountain youth, having different educational profile. For example, Mission for Green India has estimated that it will require 100,000 community youth as foresters to meet Mission targets (MoEF&CC, 2011). Similarly, there are opportunities for carbon sequestration assessment under REDD plus. Peoples Biodiversity Registers (PBR) needs handholding by college graduates. There are local area planning /micro-planning opportunities for educated youth with necessary skill sets for sustainable management of these services as part of local area plan/sectoral plan.
- Identify policy and institutional bottlenecks and suggest ways to overcome the same in order to harness ecosystem based employment opportunities.
- Identify institutions/organisations (both public and private sector) to provide ecosystem services based skilling and entrepreneurship training.
- Build a cadre of para-hydrogeologists in each mountain state who understand the basics of hydro-geology and could use principles of geology to identify recharge areas of springs. They could be trained from among local communities, so that local employment is created. For example, a programme/mission on spring rejuvenation in IHR¹⁷ will require a cadre of para hydrogeologists
- Develop “Green” standards and certifications that aim to make operations of identified priority sectors more sustainable by providing participating businesses with an action plan for improvement which is linked to market incentives. This can be backed up by a services sector that helps build new entrepreneurship.
- Conduct environmental auditing based on environment efficiency and carbon generation and certification that can enhance application of environmental safeguards in identified priority sectors. This

¹⁶ <https://www.statista.com/statistics/625460/import-value-of-wood-india/>

¹⁷ NITI Aayog draft report of Working Group on Inventory and rejuvenation of Himalayan Springs (2018)

provides opportunity to raise a service-oriented entrepreneurship where educated/trained youth from communities can build enterprises.

Harness potential of IT enabled services and digital health for employment

There is a huge potential for creation of skilled employment opportunities for the IHR youth, who are either pursuing or have completed a graduation degree, by promoting ITES (e.g. setting up BPO or IT services). These ITES could focus on banking, e-commerce, insurance, financial services, healthcare, mobile applications, new age agri-entrepreneurship, security, storage, telecom and tourism. However, poor data connectivity in Himalayan States/North East India continues to be an impediment to business opportunities. Some of the key actions to address this situation could include:

- Promote establishment of BPO or ITES operations using incentives under Digital India programme. States may use cable based or wireless system for BPOs in remote area of IHR to overcome connectivity issues. A good option for mountainous region could be cloud computing which allows for setting up of small units in the remote areas and transferring of data to large servers in lowland areas where large servers can help and where uninterrupted power supply is also ensured.
- Key skill requirements for ITES job roles include accounting, customer/call centre relations, customer relation management, domestic biometric data operator, domestic data entry operator, human resources, domestic IT helpdesk attendant, collections executive, and software engineers.
- Document and disseminate best practices (e.g. North East Business Processing Outsourcing Promotion Scheme), which have been envisaged under Digital India Programme and other such initiatives.
- Introduce “Data Dissemination Service” under Digital India Initiative, which can provide opportunities to youth to be trained to access and download the data from data.gov.in and charge for providing these services at local level. For example, a person trained under Digital India Initiative gets a licence to open a “Data Dissemination Service Centre” in his/her village and starts providing service for local villagers as well as to local Government agencies at costs defined by the scheme.
- Harness emerging employment opportunities in digital health such as tele-health assistant, medical coding staff, medical record technicians, and health care informatics.

Skilling in construction projects

Act East policy and focus on development of infrastructure in border areas by Gol is supporting the creation of major infrastructure in various sectors (e.g. hydropower, road transport, power stations and railways) by public and private sector entities in the IHR. These infrastructure projects have the potential to generate skilled employment opportunities. Skilled construction workers are also a major requirement of projects associated with urban development and renewal such as smart cities, solar energy and public transportation. Moreover, the rapid expansion of urban areas has created a need to provide affordable housing not only in IHR but also in other parts of India. The real estate sub-sector requires skilled construction workers. However, in the absence of formal skill development and certification, the career prospects of construction workers remain limited. It is important to target this segment for skilling and certification by building up their technical knowledge and upgrading their skills.

- Mandate Border Roads Organisation and other public sector infrastructure undertakings to hire workers from the skilled pool of certified workers from the state- or district-level skill centres.
- Recognition of Prior Learning (RPL) and up skilling of those engaged in the construction sector should be key plank of the skilling strategy with clearly identified job roles.
- Provide training on new technology (e.g. plastering techniques, operating heavy vehicles, pre-fabricated construction and sustainable architecture). The new technology could be jointly identified by the skill centres and major construction entities (both private and public sectors) on a regular basis to ensure that the trades keep pace with emerging needs of the industry.
- Promote mobile training facility that could impart training at the construction sites and train workers in different trades (e.g. bar bending, brick-laying, carpentry, concreting, electrical, machine operations, servicing of machines, masonry, padding, plumbing and tiling) to increase employability of those with minimal education.
- Promote higher-order skill training on project management in construction sector (e.g. managers and supervisors) for candidates with diplomas and graduate degrees.
- Promote partnership with the private sector to train informal construction workers and masons in affordable techniques for constructing resilient infrastructure, which could contribute to the requirements of smart cities, solar energy projects, water projects and public transportation projects.

Building capacities for skill and entrepreneurship

Some of the key challenges in building/strengthening of skill and entrepreneurship landscape pertain to inadequacy of assessors, trainers and training centres in most of the Himalayan states. Lack of quality training centres in remote areas, coupled with lack of affordable hostel facilities in the existing centres, make them less appealing to the youth from remote areas. There is an overall supply-driven set of skill-building/training courses that are not in sync with the emerging opportunities in IHR. Also many of the emerging priority sectors identified for the Indian Himalayan Region fall in non-conventional domains for which the NOS and QPs are yet to be fully developed. The following action points address these core concerns:

Strengthen network of skill centres across the IHR, including setting up of regional centres

- Conduct a comprehensive gap assessment of skill and entrepreneurship development in IHR (e.g. availability and quality of assessors, availability and quality of trainers, demand for skills and services, number of placements, potential employers, resource requirement for emerging priority sectors and conventional sectors, scope and content of curriculum, skill centres, and type of certification). This assessment could identify skill-specific target populations based on age, gender, educational qualification and geographical location. This assessment should cover major labour markets within IHR, other parts of India and abroad.
- Align skill training centres in mountain states with regional focus on curriculum development.
- Based on the comprehensive gap assessment, develop a network of skill centres in IHR, including ATI, ITI, Krishi Vigyan Kendra (KVK), and Multi Skill Institutes on PPP mode and others, to facilitate regular exchange of human resources (e.g. assessors and trainers), knowledge and good practices.

- Review existing norms and standards for the establishment of the skill centres in IHR. This is important given the fact that many of the remote mountainous regions have low population densities.
- Explore strategic partnership between private sector, international development agencies and skill centres in building skills and capacities. For example, harness partnerships with private sector in establishing skill development centres and preparing customized training modules for workers with varying levels of competency and expertise. This could help to enhance the 'marketability' of skilled workers from the IHR.
- Develop guidelines and tools on skill and entrepreneurship development for IHR that are inclusive, comprehensive and provide actionable recommendations to the stakeholders.
- Explore possibility of setting up of India International Skill Centre to prepare youth of IHR states to work in other parts of India and the world.

The assessors and trainers

- Develop a structured programme for assessors and trainers for the IHR. The regional training centres could play a key role in developing a training programme for trainers from IHR states. Ensure that trainers participate in a refresher course after every 2 years of training. The Training of Trainers (ToT) could be conducted in the state level skill centres.
- Establish facilities to train assessors and trainers in the region. Since creation of new infrastructure would be time and resource intensive, private and public universities could be encouraged to establish facilities for ToT and Training of Assessors (ToA). These universities already have good infrastructure and relevant human resources.
- Facilitate collaboration between skill training institutes, educational institutes and relevant Sector Skill Councils. Relevant faculties could be identified as Master Trainers, who could be further trained by Sector Skill Councils, or new recruitments could be undertaken to address specific gaps in human resources. It is important to enhance capacities of the Master Trainers for deep hand holding with quality pedagogy and content, virtual classrooms, mobile based training content, and imparting job specific curriculum.
- ToT in the state-level skill centres will ensure that the trainers are certified for the job roles, which may be either specific to the state or in demand in labour markets that are popular among migrant workers from the state. The former would be critical to support mountain-specific job roles (e.g. arts, handicrafts and handloom). It will also ensure that traditional job roles are preserved and passed on from one generation to another through a sustainable mechanism. The focus on skill requirements in external labour markets will help the workers from the state to take an advantage of emerging opportunities and address some of the challenges due to slow growth of employment opportunities in the IHR in the medium-term. The trainers should also be able to impart domain-specific skills, languages skills, and knowledge of financial and market linkages.
- Identify local trainers who are familiar with local language, accustomed with the difficult terrain and have the necessary credibility within the communities to manage skill and entrepreneurship development.

Creating enabling conditions for skilling and entrepreneurship training

- Develop a course that involves a series of short-term (3-6 months) certifications, which could be completed over a period of 3-4 years. In between each short-term certification, organize apprenticeship for the students in the private sector.
- Integrate vocational education as part of the regular school curriculum from Class 8 onwards and make relevant QPs/NOS aligned skill based programmes as mandatory credits. Provide opportunities to students of Class 12 to enrol in the apprenticeship scheme of the Govt.
- Make relevant QPs/NOS aligned skill based programme as mandatory credits (which is already notified by UGC under the Choice Based Credit System) for college going students in their area of study.
- Introduce Education for Sustainable Development (ESD) in primary and secondary school curriculum and teacher training so that future job seekers are trained and ready for entrepreneurship/employment.
- Monitor and evaluate the training ecosystem on a regular basis to ensure relevance of training curriculum for workers and employers. For example, it is important to monitor and evaluate the performance with metrics of number of certified trainees/absenteeism /drop outs/placements/livelihoods. Annual calendar of training to be defined and updated on website.
- Ensure that skill training in IHR is recognized in other parts of India and major international labour markets.
- Initiate programmes like Prime Minister or Chief Minister's Fellows for Skill and Entrepreneurship Development, which could be integrated with a reputed University Degree whereby the state can attract professionals or students from different parts of the country to work in the state.
- Provide targeted residential training programmes with stipend to improve outreach among the marginalized populations and women.
- The programme should be grant based and not reimbursement based with higher amount of student fee to be paid as grant (equalling SDI, per hour if possible).
- Pay boarding and lodging costs for students from remote areas to the training provider. Pay one time travel support for the journey from home town to training centre.
- Provide placement/entrepreneurship incentive to students such as reimbursement of travel cost to participate in an interview/join an organization.
- Increase the number of apprenticeships, scholarships or interest-free loans for the trainees. This would help them to cover training expenses.
- Increase employment opportunities and wages for skilled and certified workers, including international opportunities.
- Strengthen formal linkages to EDP programmes and incentivize training provider to ensure the student goes through an EDP programme with a reputed institute or by the training provider.
- Ensure skill training for differently abled persons (e.g. Sikkim).
- Provide skill training to women – who often find employment in low-skill category – to facilitate their transition to high skilled category.
- Promote higher-order skill training on project management (e.g. managers and supervisors) for candidates with diplomas and graduate degrees.

- Emphasize the potential of self-employment and entrepreneurship in the different skill development training programmes and opportunities provided by PMMY, Startup India and other government schemes. Explore the possibility of providing seed funds to budding female entrepreneurs.

Building QPs and NOS for mountain specific job roles

- Based on the comprehensive gap assessment, public and private institutions could jointly formulate QPs and NOS for identified priority sectors in IHR.
- Develop qualified human resources necessary for the development of mountain specific QPs and job roles.

Skilling for migrant workers and returnees

- Ensure that the certification of skill training would be recognized by prospective employers in other states of India as well as in major destination countries (e.g. Middle East, South East Asia, BBIN and BIMSTEC). Better coordination among destination and sending communities on skill development, certification and recognition of migrant workers throughout the employment cycle will reduce the likelihood of skills mismatch, reduce vulnerability and maximize benefits for migrant workers, and enhance development outcomes for the host and sending communities, including the family left behind. Explore systematic mechanisms for upgrading skills of migrant workers in the destination.
- Organize skill training for the migrant workers – who have limited formal education – for occupations that have the highest likelihood of future recruitment (e.g. domestic workers, general mason, carpenter, commercial vehicle operator, retail sales associate, unarmed security guard and welder) in major labour markets within IHR, other parts of India and abroad.
- Formulate programmes to upgrade the skills of low-skilled migrant workers (e.g. agriculture, dairy farming and domestic work).
- Provide language courses (to facilitate communication in the place of destination) along with skill training.
- Conduct information campaigns to raise awareness about skill demands in major destinations, benefits of skill training and certification, opportunities for skill training, travel documents and work permits.
- Promote investment of financial remittances to diversify the livelihoods of family left-behind by imparting knowledge and skills related to financial literacy, easy access to formal financial institutions, simplified paperwork, customized financial products, and improved outreach among migrant workers and family left behind.
- Promote entrepreneurship development programmes for return migrants and women left behind. The programmes could have a special focus to include the marginalized populations, poor, and women.
- Provide counselling services for return migrants.
- Explore systematic mechanisms for certification of skills acquired at the destination in sending areas.

Demand and supply

Lack of information or awareness about market requirements and available resources could prove to be a serious road block.

- Conduct long-term skill forecasts on a regular basis at the national level with appropriate consideration for dynamic nature of the labour markets due to globalization and informal sector. At the IHR or state level conduct short-term forecasts through the network of Employment Exchange Centres.
- Institutionalize periodic Hyper Local Market¹⁸ scans that provides short, medium and long term job projections in the local economy. Create a repository of Hyper Local Self-employment trades with market potential.
- Strengthen Employment Exchanges into a public-private institution in facilitating job melas, Hunar Haats, counselling centres and one stop shop for local and migratory employment.
- Create a directory of self-employment opportunities specific to the region.
- Develop mobile phone apps to provide platform for connecting skilled workers and providing skilled services for public/business at large. A cue may be taken from Kushal Uttarakhand app developed by Uttarakhand Skill Development Mission.
- Facilitate Public Private Partnership platform that provides marketplace (digital and offline) for service or product seekers and producers and for buyers and sellers with market and financial linkages.
- Strengthen dissemination of labour market information by creating a digital platform that would provide (i) information on outflow and inflow of migrant workers by age, sex, destination, skills and employment sector; and, (ii) emerging demand for skills in the major destinations by sector. This would assist the employers and employees to match job opportunities with skill availability.
- Tie up with major institutions or universities for getting professionals to work in IHR states for minimum period of 1 year.

Market knowledge and making in-roads

Due to limited accessibility, artisans and entrepreneurs do not have the knowledge of the latest market trends and the standard sizes acceptable in the national and international market. Due to this, often buyers do not buy such products. Mentoring through existing entrepreneurship institutions/organisations, training camps, and exposure visits should be organised for such entrepreneurs. Subsequently, measures should be taken to connect the entrepreneurs to the market through various distribution channels such as digital marketing and exhibitions.

Finance

- Based on financial and technical evaluations of new age agri-entrepreneurs in the IHR, create a pool of the entrepreneurs and accord them special status.
- Analyse public and private investments on skill and entrepreneurship development to better understand investments in these initiatives and to mobilise resources, including through engaging with development funds, banks, private foundations and other stakeholders.

¹⁸ The process of targeting prospective customers in a highly specific, geographically restricted area

- Raise awareness, strengthen the implementation and improve accessibility to ongoing schemes such as Skill Development Initiative of Gol, Startup India, PMMY, state level flagship schemes launched by Chief Ministers of Himalayan States, and the schemes of various financial institutions.
- Explore incentive mechanisms to encourage private sector (e.g. retail chains and e-commerce companies) to source products and services from the agri-entrepreneurs.
- Encourage private sector entities (including international ones) to invest a percentage of the contract value to support entrepreneurial ventures in IHR ('offsets').
- Make it mandatory for all contractors implementing infrastructure projects, which are valued at more than 100 crores, to either initiate programmes or financially support state- or district-level skill centres for enhancing skills of their workers to higher NSQF levels.
- Explore incentive mechanisms and investments in skill and entrepreneurship development in identified priority sectors by public, private and development organizations with particular focus on enhancing capacities of vulnerable groups (including smallholder farmers, women headed households and differently abled) and supporting micro, small and medium enterprises.
- Explore the use of CSR funds to support skill and entrepreneurship development for the priority areas for IHR.
- Explore possibility of securing funds from multi-lateral funds associated with climate change (e.g. Adaptation Fund, Adaptation for Smallholder and Green Climate Fund) for skill building and entrepreneurship development in identified priority sectors.

Promoting Entrepreneurship to bring a mind-set change

- The State and Central Government should organise an aggressive publicity campaign to promote entrepreneurship in the region. The campaign should be organised to promote a culture of entrepreneurship and encourage youth to take up entrepreneurship as a preferred career option.
- Entrepreneurship is a competence and a combination of traits such as innovative thinking, risk taking, persistence and leadership. Therefore, to develop an entrepreneurial mind-set, children should be introduced to the subject at a young age, preferably at the primary and secondary education level. The Government should take necessary steps to make entrepreneurship education mandatory at the school (9th- 12th class) and college level. Students should also be given incentives like grace marks/attendance for participating in entrepreneurial activities.
- The State Government in association with Entrepreneurship Development Organisations should organise activities such as roadshows, entrepreneurship orientation programmes, hackathons and boot camps in every district and village across the region.

Co-ordination and convergence

- To create a holistic and flourishing entrepreneurship ecosystem, convergence of all the stakeholders such as entrepreneurs, academia, industry, mentors, research organisations, entrepreneurship development institutes, incubation centres, co-working spaces, financial institutes and business service providers is essential. The State Government should create a digital and physical platform to bring these stakeholders together. The platform will act as a one stop shop for reaching out to stakeholders and for

information related to entrepreneurship, including basics of starting a business, business regulations, clearances, registration, and so on.

Strengthening of institutions, processes and policies

Inadequate coordination across multiple institutions running skill and entrepreneurship schemes and programmes, limited convergence across government schemes and programmes as well as for public-private partnership, and inadequate awareness of schemes and programmes are some of the key challenges in strengthening skill and entrepreneurship landscape in IHR. National Policy on Skill Development and Entrepreneurship of 2015 is a strategic document laying out a pan-India roadmap to improve the skill and entrepreneurship landscape in the country. However, given the specificities within IHR, it is important to develop state specific policies.

- Empower the executive committee of skill mission at the Centre and similar committees in the IHR states for policy exchange and development, information and knowledge sharing, and concerted support to national actions. This will ensure convergence or leveraging of central and state schemes, programmes, projects, or missions that can boost skill and entrepreneurial initiatives. These committees are mandated to solicit convergence of skilling activities across all the sectors in the context of mission objectives and skill gap findings.
- Strengthen cooperation and facilitate exchange of leading practices and lessons learned with private sector organizations and chambers of commerce, especially on forming successful public-private partnerships for skill and entrepreneurship development. It must foster private sector partnership for win-win situation.
- While the skill development programme must be implemented by the respective State government, given the unique challenges of the Himalayan states, a larger role of the Central government is required to ensure that the critical issues of connectivity, infrastructure, and skill centres are taken care of on priority basis.
- Since every IHR state is already working on tourism as a high potential area, it is important to bring tourism departments of different states and role model entrepreneurial ventures in these states together to a common platform to share their learning on entrepreneurship, skills, marketing, and operations. This can be the basis for developing collaboration, best practices, quality systems and common marketing platform or a brand. This will provide a great fillip to the entire effort. Promote the Sustainable Tourism Criteria for India and indicators recently announced by the Ministry for accommodation sector and tour operators for ratification by the industry associations in the entire IHR.
- Establish institutional mechanisms for inter-state coordination on governance of labour migration.
- Explore possibility of creating an institutional platform for exchange of learning on skill building and entrepreneurship between IHR states. Strengthen cooperation among various stakeholders with an emphasis on public-private partnerships for research and development on skills and entrepreneurship, with particular consideration for the priority sectors identified for the IHR and the needs of women, youth and marginalized populations.

- Strengthen exchange of knowledge through forums for sharing of good practices, data and technology, and facilitate peer-to-peer sharing and cooperation between IHR states, complemented by cooperation between central and state level institutions.
- Encourage all IHR states to develop state policy on skill and entrepreneurship building on uniqueness of mountain states.
- Explore ways to better utilize the cess collected from contractors and real estate developers under the Building and Other Construction Workers' Welfare Cess Act of 1996 in skilling of unskilled and semi-skilled workers. This cess is meant to be spent on the welfare of workers and utilizing a portion of it to enhance skill of workers will improve quality of output and productivity of workers. For example, this fund could be used to sponsor mobile training facilities, on-the-job training, audit of skills, training of trainers, improving infrastructure in existing training centres, training workers in new technology, and providing stipend to trainees. Incentivize construction companies that provide opportunities to their employees, particularly informal workers, to pursue skill training.
- The Government should also create a digital platform for 'Single Point Registration' to provide an opportunity for capable entrepreneurs to market their products and services. State governments should also mandate their Departments and organisations to purchase products or services from the registered enterprises.

Planning, implementation and monitoring

Planning, implementing and monitoring are essential components of flagship schemes. Some of the actions to overcome the specific challenges in the IHR would include:

- Central and State Government should make an effort to draft policies and schemes that are tailor-made keeping in view the needs, challenges and opportunities of the IHR. The schemes should also accommodate sector specific interventions.
- There is a need to have focussed sector specific entrepreneurship programmes which are innovatively funded for mobilisation, skilling, providing practice grounds, funding, initiating operations, and handholding. Such a solution can only be provided by an integrated network which has entrepreneurship development as its mission and partners at all stages to improve the chances of success on the ground.
- MSDE through National Skill Mission at Centre and State Missions could ensure data collection and establishment of baselines, in particular disaggregated data (by age, sex, disability, certification, placement and formal or informal nature of employment) at the local level, to report on progress of skill and entrepreneurship development. Encourage state governments in IHR to use a consistent methodology to monitor, evaluate and report on progress.
- Promote and support gender-sensitive and gender-responsive actions on skill and entrepreneurship development, including improved access to government schemes and programmes.
- Explore possibility of creating an institutional platform for providing strategic directions and oversight mechanisms for implementation of state action plans.

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Annexure 1

Skill and Entrepreneurship Development Schemes of the Government of India

Annexure 1 is divided into two sections, wherein, in the first, all the Government of India's key Skill Development Schemes are briefly described and in the second section all Entrepreneurship Development schemes described.

Schemes on skill development¹⁹

Ministry of Skill Development and Entrepreneurship (MSDE)

Pradhan Mantri Kaushal Vikas Yojana (PMKVY)

Under this scheme, the trainees will be offered a financial reward and a government certification on successful completion of training and assessment. This scheme is applicable to any candidate of Indian nationality who undergoes skill development training in an eligible sector by an eligible training provider; receives certification during the span of one year from the date of launch of the scheme by approved assessment agencies; and avails the monetary reward for the first and only time during the operation of this scheme. Average reward amount for fresh training is Rs. 8,000 per candidate and for recognition of prior learning candidate is Rs. 2,200. The scheme will be implemented through the National Skill Development Corporation (NSDC). Target is to benefit 24 lakhs youth at an approximate total cost of Rs. 1,500 crores.

National Apprenticeship Promotion Scheme (NAPS)

The main objective of the scheme is to promote apprenticeship training and to increase the engagement of apprentices from present 2.3 lakhs to 50 lakhs cumulatively by 2020. This scheme will cover all categories of apprentices except the Graduate, Technician and Technician (Vocational) apprentices, which are covered by the schemes administered by Ministry of Human Resource Development. An employer will be eligible for this scheme if the person/entity engage apprentices in a band of 2.5 percent to 10 percent of the total strength of the establishment; is registered with EPFO/ESIC/LIN/UDYOG AADHAR; has a TIN number, and is registered on apprenticeship portal. An apprentice must have completed 14 years of age and fulfils other requirements of the Apprentice Act 1961; has registered on the portal; has an aadhaar number; and must possess minimum age, educational and physical qualification prescribed for the trade. Government/Private

¹⁹ For more details on the scheme kindly refer the 'Skill Development Schemes' section in National Skill Development Agency's website <http://www.nsda.gov.in/skill-development-scheme.html>

ITI will automatically get selected as a Basic Training Provide if they have spare seats (within the overall affiliation) for running the basic training. RDAT will organize physical inspection of BTP by a committee constituted for this purpose.

Craftsmen Training Scheme (CTS)

This scheme is offered through a network of 13,104 Government and Private Industrial Training Institutes (ITIs). Candidates with minimum of 14 years could apply for this scheme.

Craftsmen Instructor Training Scheme (CITS)

This scheme aims to train instructors in the techniques of transferring hands-on skills, in order to train semi-skilled/skilled manpower for industry. It is offered through one Central Training Institute, ten Advanced Training Institutes (ATIs), two Advance Training Institutes for Electronics for Process Instrumentation (ATI-EPI), Foremen Training Institute (FTI), fifteen Regional Vocational Training Institutes (RVTI) exclusively for women and twelve private institutes for Training of Trainers (IToT).

Pradhan Mantri Kaushal Kendra (PMKK)

Each PMKK will have an assured training mandate for three years, under the PMKVY scheme, subject to capacity and utilization of the centre. Trades chosen should reflect the local employer's manpower requirements. The centre shall not be allowed to operate any other central- or state-government sponsored skill training programme apart from those under the purview of MSDE. These centres are intended to be established in every district of the country. The PMKK shall accept a trainee who meets eligibility criteria of the applicable skill programme like PMKVY, or any scheme of MSDE at the time of admission.

Ministry of Rural Development

Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY)

This scheme aims to provide skill training opportunities to the poor rural poor in the age group of 15-35 years. The upper age-limit for women candidates, candidates belonging to Particularly Vulnerable Tribal Groups (PVTGs), Persons with Disabilities (PwDs), Transgender and other Special Groups (e.g. rehabilitated bonded labour, victims of trafficking, manual scavengers, trans-genders, and HIV positive persons) will be 45 years. It identifies a guaranteed placement of a minimum of 75% of trained candidates and moving towards minimum mandatory certification as outcomes. It also envisages to establish a larger ecosystem that supports trained candidates secure a better future (e.g. post-placement support, migration support and alumni network). Under this scheme, there will be special regional focus on Jammu and Kashmir (HIMAYAT), northeast states and 27 left wing extremist districts (ROSHINI). Furthermore, there will be mandatory coverage of socially disadvantaged groups (SC/ST 50%, Minority 15%, Women 33%).

The HIMAYAT project under DDU GKY programme have the objective to train and place unemployed youth of Jammu and Kashmir. It is 100% funded by central government unlike others where the Central- State funding patterns are at 60:40 The project is unique as it covers youth across rural and urban areas including BPL and non-BPL category. MoRD has approved Action Plan of Jammu and Kashmir for skilling

190,000 candidates under DDU-GKY during 2016-19 and the approved total outlay for the same is Rs. 1581.10 crores. As on June 2017, 7509 candidates have completed training, of which 80% are gainfully employed.

There are special provisions under DDU-GKY for North-Eastern region; 10% of DDU-GKY budget is earmarked for North-east States including Sikkim; and the funding pattern between Central and State governments is 90:10 unlike other states where it is 60:40. This region has a total target of 140,000 youths to be skilled and placed in productive employment between 2016 -2019. In addition, MoRD plans to launch a special scheme under DDU-GKY in collaboration with Ministry of Development of North Eastern Region (MDoNER) for skilling projects specific to the needs, requirements and the special characteristics of States in the north east.

Rural Self-Employment Training Institutes (RSETIs)

This scheme promotes self-employment among the unemployed rural youth, particularly those below the poverty line. RSETIs are promoted and managed by banks with active cooperation from state governments. Each RSETI offer 30 to 40 Skill Development programmes in a financial year. All the programmes are of short duration ranging from 1 to 6 weeks. The trainees are provided free food and accommodation.

Barefoot Technicians (BFT)

Under this programme, 10th passed youth identified among MGNREGA workers are trained in basic engineering subjects related to measurements of works, construction technology, estimation of works, watershed concepts etc. This programme has two main objectives. First, it intends to address the issues of quality of assets and the existing skills gap in MGNREGA. Second, skills enhancement results into horizontal and vertical mobility. Barefoot technicians are involved in identification of permissible works and in assisting Junior Engineer/Technical Assistance in conducting technical survey and in preparation of estimates under MGNREGA.

Project for Livelihoods in Full Employment under MGNREGA (Project LIFE-MGNREGA)

This is an initiative of the MoRD to link MGNREGA with skill development. It was launched in April 2015 with an objective to improve the skills of the MGNREGA workers. Under Project LIFE-MGNREGA, candidates who have completed 100 days of work can go for (i) skilling for wage (ii) skilling for self-employment, and (iii) livelihood up gradation. As on March 2017, 71 candidates in Assam and 460 candidates in Tripura have completed training under Project LIFE-MGNREGA.

Ministry of Housing and Urban Affairs

National Urban Livelihoods Mission (NULM)

The Employment through Skills Training & Placement (EST&P) Component under NULM provides skills to the unskilled urban poor as well as upgrades their existing skills. Out of the total beneficiaries, minimum 30% should be women, minimum 15% should belong to the minority community and minimum 3% of the candidates should be differently abled. The maximum cost support provided for training under EST&P is Rs.

15,000 per candidate (Rs. 19,000 per candidate for north-east and Jammu & Kashmir). The cost of training includes cost of candidate mobilization, curriculum design, trainer's fee, raw materials required for training, assessment & certification, placement linkage, MIS and post-placement tracking of the candidates.

Ministry of Textiles

Integrated Skill Development Scheme (ICDS)

This scheme aims to address the manpower requirement of the diverse textile industry. Funding is granted to the implementing agency to the extent of 75% of the cost of the project within an overall ceiling of Rs. 10,000 for each trainee who successfully completes training get assessed and certified and get employed in the textile industry as per the scheme guidelines. The implementing agency contributes the rest 25% in cash or kind. Preference given to marginalized social groups (i.e. women, SC/ST and handicapped persons, minorities and persons from BPL category). But all are eligible. Around 76 projects has been sanctioned under the scheme with the total training target of more than 11 lakhs candidates across India. Around 3,250, training centre are spread across different Indian states, cities and rural areas including remote location, backwards areas, left wing extremist area etc. Out of the more than 5 lakhs trainees trained so far, around 64% beneficiaries are women.

Ministry of Agriculture

National Food Security Mission – Farmer Field School

The objective of FFS is to provide first-hand information to the farmers in their fields to enable them to evaluate, fine tune and adopt the best crop production and crop protection technologies suitable to their location and resources for higher production and productivity. There will be a season long training of the farmers in their fields for a single day in a week or fortnight, organized on the various aspects of crop production technologies of rice, wheat and pulses. The financial assistance will be limited to Rs. 17,000 per training per FFS in the identified districts.

Agri-Clinic and Agri-Business Centres Scheme

Under this scheme, selected trainees are provided agri-entrepreneurship training for a period of two months in identified Nodal Training Institute, free handholding support is also provided for one year to trained agriculture graduates in obtaining bank finance and setting up their business in their area. Thus, scheme is available to agriculture graduates, diploma/post-graduate diploma holders in agriculture and allied subjects, biological science graduates with post-graduation in agriculture and allied subjects; degree courses recognized by UGC having 2 Revised Agri-clinics and Agri-business Centres Scheme -2010; diploma/post-graduate courses with more than 60% of course content in agriculture and allied subjects, after B.Sc. with Biological sciences; and agriculture related courses at the intermediate level with at least 55% marks. The training component is looked after by MANAGE. The credit linked capital subsidy @25% if the capital cost of the project funded through bank loan is also eligible under the scheme. This subsidy is 33.33% in respect of candidates belonging to SC, ST, Women and other disadvantaged section and those from north-eastern and hill states.

Extension Reforms – Farm School

Farm school is operational at Block/Gram Panchayat level. Demonstration in the farm school focus on Integrated Crop Management. These schools provide season long technical backstopping/training to target farmers by having an interactive session once at least during each of the 6 critical stages in a cropping season.

Ministry of Micro, Small and Medium Enterprises

Entrepreneurship Development Programmes (EDPs)

These programmes are organized to train youth on various aspects of industrial activity required for setting up MSEs. The courses are designed to provide useful information on product/process design, manufacturing practices, testing and quality control, selection and usage of appropriate machinery and equipment, project profile preparation, marketing techniques, product/service pricing, export opportunities and finance and financial institution. Duration: 2 weeks. Fee: Rs. 100 for general candidate. No fees for SC/ST and 50% fee from women and physically handicapped.

Entrepreneurship Skill Development Programmes (ESDPs)

These programmes are organized to upgrade skills of prospective entrepreneurs, existing workforce and also to develop skills of new workers and technicians of MSEs. The course conducted are in machine shop practice, heat treatments, electroplating, sheet metal, welding, tool & die making, glass & ceramics, industrial & art wares, herbal cosmetics, fashion garments, hosiery, food & fruit processing industries, information technology, hardware maintenance, soap & detergents, leather products, servicing of household electrical appliances & electronic gadgets, gem cutting & polishing and engineering plastics. Duration: 6 weeks. Fee: Rs. 200 for general candidate. No fees for SC/ST and 50% fee from women and physically handicapped.

Management Development Programmes (MDPs)

These programmes are devised for owner-cum-manager and supervisory level personnel of small-scale industries. Duration: One week for full time and two weeks for part time. Fee: Rs. 400 for general candidate. No fees for SC/ST and 50% fee from women and physically handicapped. Rs. 100 for candidates from Andaman & Nicobar, Lakshadweep, NE States, Jammu & Kashmir and Sikkim.

Assistance to Training Institutions Scheme

Scheme for providing establishment of new institutions (EDIs), strengthening the infrastructure for EDIs under ATI scheme. The assistance is provided in the form of capital grant for creation/strengthening of infrastructure and programme support for conducting entrepreneurship development and skill development programmes. For the North Eastern region (including Sikkim), Andaman and Nicobar and Lakshadweep, maximum assistance on matching basis would be Rs. 270 lakhs or 90% of project cost, whichever is less.

Maximum assistance per trainee per hour for entrepreneurship development and skill development programmes is Rs. 60 for North Eastern region (including Sikkim), Andaman & Nicobar and Lakshadweep.

Ministry of Tourism

Scheme of Capacity Building of Service Providers

Training programmes under the guidelines – skill development in general for fresh candidates, specialized skill development, including language courses for fresh as well as existing service providers, training of teachers, administrators and planners, basic skill-upgradation in general for existing service providers, training of trainers programmes, awareness programmes, and awareness of tourism benefits in rural areas. This training is provided free of cost. Wage loss compensation is given to the trainees (i.e. Rs. 300 per day).

Hunar Se Rozgar Tak Initiative

Training effort specific to only four hospitality trades, namely food production (eight weeks), food & beverage service (six weeks), bakery (eight weeks) and housekeeping (six weeks), was opened up for implementation by private bodies. The following programmes are offered in non-hospitality trades: a six-weeks training programme for event facilitators, tour assistants, transfer assistants and office assistants, golf assistants/caddies, and tourist facilitators; an eight-weeks programme for security guards for the travel/tourism/hospitality industry; a 35 working days training programme of training to impart skin care & spa therapy; a 45 hours duration training programme for driving; and a four weeks training programme for stone masons. Prospective candidates should be in the age group of 18 to 28 years with course specific minimum educational qualification.

Ministry of Human Resource Development

Apprenticeship Scheme

This scheme provides opportunities for practical training to graduate engineers, diploma holders (technicians) and 10+2 vocational pass outs in about 10,000 industrial establishment/organizations. The apprentices are paid monthly stipend, which is shared between the Central Government and the Employer on 50:50 basis.

Vocationalization of School Education

It provide for diversification of educational opportunities so as to enhance individual employability, reduce the mismatch between demand and supply of skilled manpower and provides an alternative for those pursuing higher education. The scheme provides for financial assistance to the states to set up administrative structure, area vocational survey, preparation of curriculum, text book, work book, curriculum guides, training manual, teach training programme, strengthening technical support system for research and development, and training and evaluation.

Scheme of Community Development through Polytechnics

It aims to provide non formal, short term, employment oriented skill development programmes, to various sections of the community, particularly the rural, unorganized, and disadvantaged sections of the society by

harnessing the technological infrastructure available with Polytechnics. The selected polytechnics receive financial assistance from MHRD to run short duration non-formal skill development courses. There is no restriction of age and qualification for the applicants from local communities.

Ministry of IT and Communication

Scheme for Financial Assistance to States for Skill Development in Electronic System Design and Manufacturing (ESDM) Sector

This scheme aims to facilitate skill development in ESDM sector focusing on students/unemployed youth at 9-10th standard onwards, ITI certificate holders, Diploma holders, non-engineering graduates to increase their employability to work in 'Manufacturing' and 'Service support' functions. Jammu and Kashmir and Uttarakhand are among selected states in which this scheme is implemented.

Skill Development in ESDM for Digital India

This scheme aims to facilitate creation of an eco-system for development of ESDM sector in the entire country for facilitating skill development for 3, 28,000 persons in ESDM sector. The target segment includes Class 8 onwards, school dropouts from 8th pass onwards, ITI certificate holders, diploma holders, and non-engineering graduates.

Ministry of Tribal Affairs

Vocational Training for Tribal Youth

This scheme aims to upgrade the skills of the tribal youth in various traditional/modern vocations depending upon their educational qualification, present economic trends and the marked potential, which would enable them to gain suitable employment or enable them to become self-employed. This scheme is exclusively for benefit of the Scheduled Tribes as well as PTGs and can be taken up anywhere in the country but priority will be given to remote tribal areas. A maximum assistance of Rs. 30,000 per annum per ST trainee. Non-recurring expenses @ Rs. 0.48 lakhs per trade for five years is admissible under the scheme.

Ministry of Women and Child Development

Support to Training and Employment Programme for Women (STEP)

The STEP scheme aims to provide skills that give employability to women and to provide competencies and skill that enable women (age group 16 years and above) to be self-employed/entrepreneurs. Assistance is available in any sector for imparting skills related to employability and entrepreneurship, including agriculture, horticulture, food processing, handlooms, tailoring, stitching, embroidery, Zari, handicrafts, computer and ITES along with soft skills (e.g. spoken English). Training courses/modules will necessarily be of shorter duration, with a maximum of 6 months for a course in exceptional case, and typically of 3 months duration.

Ministry of Development of North Eastern Region

Capacity Building and Technical Assistance

This scheme aims to provide funding for skill development, enhancing employability and competencies and promotion of self-employment and entrepreneurship amongst youth. Various trades covered under this scheme includes hospitality & tourism, welding electronics, electrical, plastic engineering and computer aided designs & products. Duration: 3/6/12 months courses. Assistance includes course fees, boarding and lodging, and travel costs of trainees. This scheme has special focus on girls, women, disabled persons and youth from BPL background and from remote and backward districts.

Ministry of Home Affairs

UDAAN

The scheme aims to provide skills training and enhance the employability of unemployed youth of Jammu and Kashmir. It covers graduates, post-graduates, professional degree holders and three year engineering diploma holders. The scheme will be implemented through the National Skill Development Corporation (NSDC). Udaan trainees will be paid minimum Rs. 2,500 per month as stipend during the training period.

Ministry of Minority Affairs

Seekho aur Kamao

The scheme aims to upgrade the skills of the minority youths in various modern/traditional vocations depending upon their educational qualification, present economic trends and the market potential. It is a 100% centrally sponsored scheme. The trainee should belong to minority community, be between 14-35 years of age, and have a minimum qualification of Class V.

Nai Roshini (The Scheme for leadership development of Minority Women)

This scheme aims to empower and instil confidence among minority women, including their neighbours from other communities living in the same village/locality by providing knowledge, tools and techniques for interacting with government systems, banks and other institutions at all levels. It is a 100% centrally sponsored scheme. Any minority woman/parent or guardian of woman having annual income not exceeding Rs. 2.50 lakhs from all sources would be given preference in selection. However, there will be no annual income bar. They should be between the age group of 18 years to 65 years.

USTAD (Upgrading the Skills and Training in Traditional Arts/Crafts for Development)

The scheme will be helpful in this effort as the ensuring growth of lakhs of traditional artisans and traditional arts/crafts and silk weavers in India. There is a large section of the minority community in India is engaged in traditional arts/crafts for several generations. The scheme has been launched to preserve the rich heritage of traditional arts/crafts of minorities and build capacity of traditional artisans/craftsmen. This scheme will also establish linkages of traditional arts/crafts with the national and international market and ensure the dignity of labour. The scheme, which will be funded by the Central

Government, will prepare skilled and unskilled artisans and craftsmen to compete with big companies. The “USTTAD” scheme is for all areas of the country.

Nai Manzil (Providing Targeted Youth with non-residential integrated education and skill training)

Nai Manzil aims to engage constructively with poor minority youth and help them obtain sustainable and gainful employment opportunities that can facilitate them to be integrated with mainstream economic activities. Specific objectives of the project are as follows:

- Mobilise youth from minority communities who are school drop-outs and provide them with formal education and certification up to level 8th or 10th through National Institute of Open Schooling (NIOS) or other State open schooling systems.
- As part of the programme, provide integrated skill training to the youth in market driven skills. Page 2 of 20
- Provide placements to at least 70% of the trained youth in jobs, which would earn them basic minimum wages and provide them with other social protection entitlements like Provident Funds, Employee State Insurance (ESI) etc.
- Raise awareness and sensitization in health and life skills.

Ministry of Social Justice and Empowerment

Financial Assistance for Skill training of Persons with Disabilities

This scheme aims to provide financial assistance for skill training for persons with disabilities. The financial assistance is provided by the way of grant-in aid to the training institutions for organizing training programmes.

Schemes on Entrepreneurship Development

A summary of Entrepreneurship Development schemes by Government of India is as under.

Ministry of Skill Development and Entrepreneurship

Pradhan Mantri YUVA Yojana (PM YUVA Yojana)

Presently, Ministry of Skill Development & Entrepreneurship (MSDE) is implementing one scheme dedicated to entrepreneurship development ‘Pradhan Mantri Yuva Udyami Vikas Abhiyan (PM-YUVA)’. The scheme aims to create an enabling ecosystem for Entrepreneurship Development through entrepreneurship education and training in select Institutes of Higher Learning (Universities, Colleges and Premier Institutes), schools, Industrial Training Centers (ITIs) and Entrepreneurship Development Centers (EDCs) – total 3050 in number, for over a period of five years (2017-18 to 2021-22). Additionally, students will get easy access to a robust network of peers and mentors and business services through an online platform. Under this scheme, over all at least 30% students enrolled would be women. So far, 239 Institutes of Higher Learning been empanelled to impart entrepreneurship education throughout the country and entrepreneurship courses have started in more than 200 Institutes of Higher Learning.

National Entrepreneurship Awards (NEA)

The National Entrepreneurship Awards (NEA) was to encourage a culture of entrepreneurship across the country. These Awards seek to recognize the efforts and achievements of exceptional young entrepreneurs along with individuals and organisations working for entrepreneurship development. These Awards also seek to highlight models of excellence for others to emulate and improve upon.

This Award Scheme is implemented by seven premier academic institutes from across the country. Twenty-four (24) Awards are presented under the two tracks – Award Track (18 Awards) and Recognition Track (6 Awards). Winners receive a cash award of Rs. 5 lakhs (enterprises and individuals) and Rs. 10 lakhs (organizations/institutes) along with a certificate and trophy. The applicants will undergo a three-level rigorous evaluation process, wherein, in the last step the National Jury of eminent persons drawn from academia/research, industry, social sector, banking etc., selects the winners. To ensure excellence of the National Award, the Jury has the power to not award any applicant in a given category, if applications are found unsatisfactory.

Ministry of Micro, Small, & Medium Enterprise²⁰

Credit Linked Capital Subsidy Scheme (CLCSS)

Under the scheme DC MSME provides subsidy at the rate of 15% of the investment in plant and machine to micro and small manufacturing enterprises (MSEs). Maximum amount of subsidy is Rs. 15 lakhs and maximum ceiling of investment in plant and machinery is Rs. 1 crores.

A Scheme for Promotion of Innovation, Rural Industry & Entrepreneurship (ASPIRE)

ASPIRE is a Livelihood Business Incubators and Technology Business Incubators scheme. Objective of the scheme are as follows:-

- Create new jobs and reduce employment
- Promote entrepreneurship culture in India
- Grassroots economic development at district level
- Facilitate innovative business solution for unmet social needs, and
- Promote innovation to further strengthen the competitiveness of MSME sector

80 Livelihood business incubators (2014-2016) to be set up by NSIC, KVIC or Coir Board or any other Institution/agency of Gol/State Government on its own or by any of the agency/Scheme for promotion of Innovation, Entrepreneurship and Agro-Industry organisation of the M/o MSME, one-time grant of 100% of cost of Plant & Machinery other than the land and infrastructure or an amount up to Rs.100 lakhs, whichever is less to be provided

In case of incubation centres to be set up under PPP mode with NSIC, KVIC or Coir Board or any other Institution/agency of Gol/State Government, one-time grant of 50% of cost of Plant & Machinery other than the land and infrastructure or Rs. 50.00 lakhs, whichever is less to be provided. Total budget plan is Rs. 62.50 crore for 2014-2016.

²⁰ Other msme schemes are given on the MSME website http://dcmsme.gov.in/scheme_a.html

Assistance to Training Institutions (ATI)

The assistance is provided to National level training institutions operating under the Ministry of MSME, namely, NIMSME, KVIC, Coir Board, Tool Rooms, NSIC & MGRI in the form of capital grant for the purpose of creation and strengthening of infrastructure and support for entrepreneurship development and skill development training programmes. Assistance is also provided to those State level EDIs that enter into partnership with NIMSME for capacity development for undertaking studies & research on MSME issues. The scheme also provides research grant upto Rs. 15.00 lakhs on MSME issues. MSME chair are also sanctioned in premier National academic institutions. Revenue grant is provided to institutions on annual basis for the MSME chair. State level EDIs that enter into partnership with NIMSME are provided total grant upto Rs. 2.5 crore.

Scheme of Fund for Regeneration of Traditional Industries (SFURTI)

The main objectives of the scheme are to:

- To organize the traditional industries and artisans into clusters to make them, competitive and provide support for their long term sustainability.
- To provide sustained employment for traditional artisans and rural entrepreneurs.
- To enhance marketability of products of such clusters by providing support for new products, design intervention and improved packaging and also the improvement of marketing Infrastructure.
- To equip traditional artisans of the associated clusters with the improved skills and capabilities through training and exposure visits.
- To make provision for common facilities and improved tools and equipments for artisans;
- To strengthen the cluster governance systems with the active participation of the stakeholders, so that they are able to gauge the emerging challenges and opportunities and respond to them in a coherent manner.
- To build up innovative and traditional skills, improved technologies, advanced processes, market intelligence and new models of public-private partnerships, so as to gradually replicate similar models of cluster- based regenerated traditional Industries.
- The Scheme would cover three types of interventions namely 'soft Interventions', 'hard Interventions' and 'thematic interventions'. The project outlay for various clusters is as follows:
 - Heritage cluster (1000-2500 artisans *): Rs. 8 crore
 - Major cluster (500-1000 artisans*): Rs. 3 crore
 - Mini cluster (Up to 500 artisans*): Rs. 1.5 crore

*For NER/J&K and Hill States, there will be 50% reduction in the number of artisans per cluster.
- Soft Interventions: Maximum Rs. 25.00 lakhs (100% scheme funding).
- Hard Interventions: As per project requirement (75% scheme funding).
- Cost of Technical Agency: 8% of Soft and Hard interventions (100% scheme funding).
- Cost of Implementing Agency/Cluster Executive: Maximum Rs. 20.00 lakhs (100% scheme funding).

Marketing Development Assistance (MDA)

A flexible, growth stimulating and artisan oriented Market Development Assistance (MDA) scheme has been introduced in place of the erstwhile system of Rebate. Under the MDA, financial assistance is provided to institutions @ 20% of the value of production of Khadi and Polyvastra, to be shared among the artisans producing Institutions and selling Institutions in the ratio 25:30:45. MDA allows the Institutions flexibility to use the assistance for improving the outlets, products and production processes, besides giving incentive to customers, etc.

Prime Minister's Employment Guarantee Scheme (PMEGP)

The scheme is implemented by Khadi and Village Industries Commission (KVIC) as the nodal agency at the national level. At the state level, the scheme is implemented through State KVIC Directorates, State Khadi and Village Industries Boards (KVIBs) and District Industries Centres (DICs) and banks. The Government subsidy under the scheme is routed by KVIC through the identified banks for eventual distribution to the beneficiaries/entrepreneurs into their bank accounts

The maximum cost of the project/unit admissible in manufacturing sector is Rs. 25 lakhs and in business/service sector is Rs. 10 lakhs. Levels of funding under PMEGP:

Categories of beneficiaries under PMEGP	Beneficiary's contribution (of project cost)	Rate of subsidy (of project cost)	
		Urban	Rural
Area (location of project/unit)			
General category	10%	15%	25%
Special (including SC/ST/OBC/Minorities/Women, Ex-servicemen, Physically handicapped, NER, Hill and Border areas, etc.)	05%	25%	35%

The balance amount of the total project cost will be provided by the banks as term loan and working capital.

Trade Related Entrepreneurship Assistance & Development Scheme for Women (TREAD)

Experience has revealed that apart from counseling and training, delivery of credit poses the most serious problem for the poor women. There is also dearth of information with regard to existing status of women and their common needs for providing necessary support. Since such women are not able to have an easy access to credit, it has been envisaged that the credit will be made available to women applicants through NGOs who would be capable of handling funds in an appropriate manner. These NGOs will not only handle the disbursement of such loans needed by women but would also provide them adequate counseling, training and assistance in developing markets.

- Credit to Projects:** Government Grant up to 30% of the total project cost as appraised by lending institutions, which would finance the remaining 70% as loan assistance to applicant women, who have no easy access to credit from banks due to their cumbersome procedures and the inability of poor & usually illiterate/semi-literate women to provide adequate security demanded by banks in the form of collaterals.

- **Training organizations** viz. Micro, Small and Medium Enterprises (MSMEs), Entrepreneurship Development Institutes (EDIs), NISIET and the NGOs conducting training programmes for empowerment of women beneficiaries identified under the scheme would be provided a grant upto maximum limit of Rs. 1.00 lakhs per programme provided such institutions also bring their share to the extent of minimum 25% (10% in case of NER) of the Government grant.
- **Eliciting Information on Related Needs:** Institutions such as Entrepreneurship Development Institutes (EDIs), NIMSME, NIESBUD, IIE, MSME-DIs EDIs sponsored by State Government and any other suitable institution of repute will be provided need based Government grant primarily for undertaking activities aiming at empowerment of women such as field surveys, research studies, evaluation studies, designing of training modules, etc. etc. covered under the scheme. The grant shall be limited up to Rs. 5 lakhs per project.

Micro & Small Enterprises – Cluster Development Programme (MSE-CDP)

The Ministry of Micro, Small and Medium Enterprises (MSME), Government of India (GoI) has adopted the Cluster Development approach as a key strategy for enhancing the productivity and competitiveness as well as capacity building of Micro and Small Enterprises (MSEs) and their collectives in the country. A cluster is a group of enterprises located within an identifiable and as far as practicable, contiguous area and producing same /similar products /services. The essential characteristics of enterprises in a cluster are (a) Similarity or complementarity in the methods of production, quality control and testing, energy consumption, pollution control, etc.; (b) Similar level of technology and marketing strategies/practices; (c) Similar channels for communication among the members of the cluster; and (d) Common challenges and opportunities.

- **Setting up of CFCs:** Creation of tangible “assets” as Common Facility Centers (CFCs) like Common Production/Processing Centre (for balancing/correcting/improving production line that cannot be undertaken by individual units), Design Centres, Testing Facilities, Training Centre, R&D Centres, Effluent Treatment Plant, Marketing Display/Selling Centre, Common Logistics Centre, Common Raw Material Bank/Sales Depot, etc. The GoI grant will be restricted to 70% of the cost of project of maximum Rs. 15.00 crore. GoI grant will be 90% for CFCs in NE & Hill States, Clusters with more than 50% (a) micro/village (b) women owned (c) SC/ST units.
- **Infrastructure Development:** Consist of projects for infrastructural facilities like power distribution network, water, telecommunication, drainage and pollution control facilities, roads, banks, raw materials storage and marketing outlets, common service facilities and technological backup services for MSEs in the new/existing industrial estates/areas. The GoI grant will be restricted to 60% of the cost of project of Rs. 10.00 crore. GoI grant will be 80% for projects in NE & Hill States, industrial areas/estates with more than 50% (a) micro (b) women owned (c) SC/ST units.

Credit Linked Capital Subsidy Scheme for Technology Upgradation

The objective of the Scheme is to facilitate technology up-gradation in MSEs by providing an upfront capital subsidy of 15% (on institutional finance of upto Rs. 1 crore availed by them) for induction of well-

established and improved technology in the specified 51 subsectors/products approved. In other words the major objective is to upgrade their plant & machinery with state-of-the-art technology, with or without expansion and also for new MSEs, which have set up their facilities with appropriate eligible and proven technology duly approved under scheme guidelines. List of Technologies is available at www.dcmsme.gov.in. The Scheme is a demand driven one without any upper limit on overall annual spending on the subsidy disbursal.

The revised scheme aims at facilitating technology up-gradation by providing 15% up front capital subsidy to MSEs, including tiny, khadi, village and coir industrial units, on institutional finance availed by them for induction of well established and improved technologies in specified sub-sectors/products approved under the scheme.

Credit Guarantee Fund Scheme for Micro and Small Enterprises (CGTMSE)

The Credit Guarantee Fund Scheme for Micro and Small Enterprises (CGS) was launched by the Government of India (GoI) to make available collateral-free credit to the micro and small enterprise sector. Both the existing and the new enterprises are eligible to be covered under the scheme. The Ministry of Micro, Small and Medium Enterprises, GoI and Small Industries Development Bank of India (SIDBI), established a Trust named Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE). The scheme was formally launched on August 30, 2000. The corpus of CGTMSE is being contributed by the GoI and SIDBI in the ratio of 4:1 respectively and has contributed Rs. 2477.78 crore to the corpus of the Trust up to May 31, 2016. As announced in the Package for MSEs, the corpus was to be raised to Rs.2500 crore by the end of 11th Plan.

The credit facilities, which are eligible to be covered under the scheme are both term loans and/or working capital facility up to Rs.100 lakhs per borrowing unit, extended without any collateral security and /or third party guarantee, to a new or existing micro and small enterprise. For those units covered under the guarantee scheme, which may become sick owing to factors beyond the control of management, rehabilitation assistance extended by the lender could also be covered under the guarantee scheme. Any credit facility in respect of which risks are additionally covered under a scheme, operated by Government or other agencies, will not be eligible for coverage under the scheme.

Scheme of Micro Finance Programme

The Government launched a Scheme of Micro Finance Programme in 2003-04. The scheme has been tied up with the existing programme of SIDBI by way of contributing towards security deposits required from the MFIs/NGOs to get loan from SIDBI. The scheme is being operated in underserved States and underserved pockets/districts of other States. 2. The Government of India provide funds for Micro-Finance Programme to SIDBI, which is called 'Portfolio Risk Fund' (PRF). At present SIDBI takes fixed deposit equal to 10% of the loan amount. The share of MFIs/NGOs is 2.5% of the loan amount (i.e. 25% of security deposit) and balance 7.5% (i.e. 75% of security deposit) is adjusted from the funds provided by the Government of India.

Market Development Assistance Scheme for Micro/Small manufacturing enterprises/Small & Micro exporters (SSI-MDA)

The scheme offers funding for:

- Participation by manufacturing Small & Micro Enterprises in International Trade Fairs/Exhibitions under MSME India stall.
- Sector specific market studies by Industry Associations/Export Promotion Councils/Federation of Indian Export Organisation.
- Initiating/contesting anti-dumping cases by SSI Associations.
- Reimbursement of 75% of one time registration fee (w.e.f. 1st January 2002 (Under MDA Scheme) and 75% of annual fees (recurring) (w.e.f. 1st June 2007) (Under NMCP Scheme) paid to GSI (Formerly EAN India) by Small & Micro units for the first three years for bar code. For Women/SC/ST Entrepreneurs & Entrepreneurs from North Eastern Region Government of India will reimburse 100% of space rent and economy class air fare.

Single Point Registration Scheme

The Government is the single largest buyer of a variety of goods. With a view to increase the share of purchases from the small-scale sector, the Government Stores Purchase Programme was launched in 1955-56. NSIC registers Micro & small Enterprises (MSEs) under Single Point Registration scheme (SPRS) for participation in Government Purchases.

The units registered under Single Point Registration Scheme of NSIC are eligible to get the benefits under "Public Procurement Policy for Micro & Small Enterprises (MSEs) Order 2012" as notified by the Government of India, Ministry of Micro, Small & Medium Enterprises, New Delhi vide Gazette Notification dated 26.03.2012

- Issue of tender sets free of cost.
- Exemption from payment of Earnest Money Deposit (EMD).
- In tender participating MSEs quoting price within price band of L1 + 15% shall also be allowed to supply a portion upto 20% of requirement by bringing down their price to L1 Price where L1 is non MSEs.

Seed Money Scheme

The objective of the scheme is to encourage unemployed person to take up self-employment ventures through industry, service and business, by providing soft loans to meet part of the margin money to avail institutional finance. Project cost upto Rs. 25 lakhs for industry, service and business activity.

- Seed Money assistance at 15% of the project cost approved by financial institutions is offered. In case of projects costing up to Rs. 10 lakhs, the quantum of assistance ranges upto 15% for General category and 20% for SC/ST and OBC/NT/VT/Handicapped upto 20%.
- Seed Money component up to 3.75 lakhs maximum.
- Bank loan 75% of the project cost.

- The rate of interest on seed money is 6% and if the borrower pays the repayment of installment regularly and within scheduled time, then the borrower will get rebate of 3% in interest. So he has to pay only 3% interest.
- If the installment is not repaid in time, it will attract 1% penal interest.
- The repayment of loan starts after three years in four yearly installments for industry cases. In other cases repayment starts after six months of loan availment

Ministry of Commerce, Department of Industrial Policy and Promotion

Startup India

Startup India is a flagship initiative of the Government of India (launched January 2016), intended to build a strong eco-system for nurturing innovation and Startups in the country that will drive sustainable economic growth and generate large scale employment opportunities. The Government through this initiative aims to empower Startups to grow through innovation and design. In order to meet the objectives of the initiative, Government of India announced Startup India Action Plan that addresses all aspects of the Startup ecosystem. With this Action Plan the Government hopes to accelerate spreading of the Startup movement: The Action Plan is divided across the following areas:

- Simplification and Handholding.
- Funding Support and Incentives.
- Industry-Academia Partnership and Incubation.

Special Package schemes for Himalayan and North East States

Transport Subsidy Scheme

Government of India had introduced Transport Subsidy Scheme (TSS) on 23.7.1971 to develop industrialization in the remote, hilly and inaccessible areas. The scheme was applicable to all industrial units (barring plantations, refineries and power generating units both in public and private sectors irrespective of their size). Under the scheme, subsidy on the transport cost for transportation of raw material and finished goods to and from the location of the unit and the designated rail-head was reimbursed for a period of 5 years from the date of commencement of commercial production. For North Eastern states, subsidy is 90%. However, for the movement of goods within NER, the subsidy is 50% on finished goods and 90% on raw material.

Package-II for Special Category State of Jammu & Kashmir; Himachal Pradesh and Uttarakhand

The Scheme of Package for Special Category States is under implementation for providing concession/ subsidy to boost industrial investment in the States of Jammu & Kashmir, Himachal Pradesh and Uttarakhand in order to reduce regional imbalance.

The scheme is applicable to all new industrial units and existing industrial units on their substantial expansion in notified areas and also to specified Thrust Industries outside the notified areas.

Central Sector Scheme for Special Category State of Jammu & Kashmir

For the State of Jammu & Kashmir, the modified Special Package Scheme is valid upto 14.06.2017. Under this Scheme following financial assistance is provided:

- Capital Investment subsidy for all new units and to the existing units on substantial expansion- for MSME @ 30% of investment in plant and machinery with a ceiling of Rs. 3 crore for Manufacturing units and Rs. 1.5 crore for Service Units, whereas for other units it is @ 15% of investment in plant and machinery with a ceiling of Rs. 30 lakhs.
- Interest subsidy @ 3% on the average daily working capital loan for a period of five years from the date of commencement of commercial production.
- Insurance subsidy for all new units and to the existing units on substantial expansion to the extent of 100% for a period of five years from the date of commencement of commercial production.

Central Sector Scheme for Special Category States of Himachal Pradesh & Uttarakhand

- Government of India had announced the modified package of industrial incentives for promoting industrialization in the States of Himachal Pradesh and Uttarakhand on 07.01.2013. Under the modified package, Capital Investment Subsidy is provided for all new units and to the existing units on substantial expansion @15% of investment of plant & machinery subject to a ceiling of Rs. 50 lakhs for MSME units and Rs. 30 lakhs for others.

Package-III for Special Category State of Jammu & Kashmir; Himachal Pradesh and Uttarakhand

Under Package-III, the Government of India announced the:

- Industrial Development Scheme for the States of Himachal Pradesh & Uttarakhand to boost industrialization.
- Industrial Development Scheme for Himalayan States - Jammu & Kashmir.

North East Industrial & Investment Policy (NEIIP) for promoting industrial development of North East

The objective of the scheme is to boost industrialization in North Eastern Region. NEIIP, 2007 covers the entire North East Region comprising States of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura and Sikkim. NEIIP, 2007 is applicable to all industrial units in manufacturing sectors, select service sector, biotechnology and power generating units (up to 10 MW) (barring the units producing tobacco and manufactured tobacco substitutes, pan masala and plastic carry bags of less than 20 microns, refineries, Calcined Petroleum Coke & Bitumen Emulsion and units engaged in peripheral activities like preservation during storage, cleaning operations, packing, re-packing, labeling or re-labeling, sorting, alteration of retail sale price etc.).

Benefits available under NEIIPP, 2007 are:

- **Central Capital Investment Subsidy Scheme, 2007:** The Scheme provides for subsidy @ 30% of the investment in plant and machinery or additional investment in Plant and Machinery by way of substantial expansion to all new units as well as existing units which go in for substantial expansion. The scheme has been revised w.e.f. 22.11.2016 and the subsidy is now limited to Rs. 5.00 crore per industrial unit operating in manufacturing sector and Rs. 3.00 crore per industrial unit operating in services sector.
- **Central Interest Subsidy Scheme:** The Scheme provides for interest subsidy @ 3% on the working capital loan availed by an eligible unit from scheduled banks or Central/State financial institutions for a maximum period of 10 years from the date of commencement of production. The scheme has been revised w.e.f. 22.11.2016 and now the interest subsidy will be available only on term loans of 5-10 years maturity taken to finance capital expenditure on setting up of industrial units or for capital expansion on substantial upgradation/modernization. The interest subsidy will be limited to term loans up to Rs. 10.00 crore to subsidize cost of borrowing above Prime Lending Rate (PLR) to the extent of up to 3% p.a. so as to ensure that post-subsidy interest rate does not fall below the PLR of the concerned bank or financial institution.
- **Central Comprehensive Insurance Scheme:** The Scheme provides for reimbursement of 100% insurance premium for a maximum period of 10 years from the date of commencement of production.
- **100% Income Tax exemption** for a period of 10 years from the date of commencement of commercial production.
- **Excise Duty exemption on value addition basis.**

Scheme for facilitating start-ups Intellectual Property Protection

A strong IPR regime could also influence the inflows of FDI, technology transfers and trade that may have a bearing on the growth of country. Hence, a strengthened IPAB will certainly directly contribute to the growth of a stronger IPR regime and indirectly in the growth of economic development. Since its establishment in 2003, work has increased manifold.

NITI Aayog

Atal Innovation Mission (AIM)

AIM is the Government of India's endeavour to promote a culture of innovation and entrepreneurship, and it serves as a platform for promotion of world-class innovation hubs, grand challenges, start-up businesses and other self-employment activities, particularly in technology driven areas. In order to foster curiosity, creativity and imagination right at the school, AIM recently launched Atal Tinkering Labs (ATL) across India. ATLs are workspaces where students can work with tools and equipment to gain hands-on training in the concepts of STEM (Science, Technology, Engineering and Math). Atal Incubation Centres (AICs) are another programme of AIM created to build innovative start-up businesses as scalable and sustainable enterprises. AICs provide world class incubation facilities with appropriate physical infrastructure in terms of capital equipment and operating facilities. These incubation centres, with a presence across India, provide access

to sectoral experts, business planning support, seed capital, industry partners and trainings to encourage innovative start-ups.

Ministry of Science and Technology

Technology Development Programme

The mandate of Technology Development Programmes (TDP) is to convert proof-of-concepts for development of pre-competitive/commercial technologies/techniques/processes. The commercialization of these technologies needs further assessment/incubation, which does not fall in the scope of the Technology Development Programme. Transfer of technology developed under the project to the industry should ideally be the onus of the host institutions. Proposals of incremental R&D over the existing technologies may be considered for support. Theme based concept proposals for proof of feasibility will not be considered under TSDP-DST. Only full fledged complete proposals for development of technology/process/product will be considered under TSDP. Projects related to design and development of Software/IT, as required for products and processes, as a part of technology development project shall be considered. Pure software development does not fall in the scope of the programme. Technology upgradation of industry clusters in select areas should be taken up under TSDP. The proposals where in all/most of the comments are negative will be considered by the Committee, in absentia. The proposal where in the project cost is less than Rs. 30 lakhs will be considered, in absentia.

Science for Equity Empowerment & Development (SEED)

Science For Equity Empowerment and Development (SEED) has the broad objectives of providing opportunities to motivated scientists and field level workers to take up action oriented and location specific projects aiming towards socio-economic upliftment of poor and disadvantaged sections of the society through appropriate science and technology interventions especially in the rural areas. Under this programme efforts have been made to associate concerned National Labs or other specialist S&T institutions with each major programme so as to build-in expert input, utilize national S&T infrastructure and link it up with grassroots S&T interventions/initiatives.

National Science & Technology Entrepreneurship Development Board (NSTEDB)

The Entrepreneurship Development Center ('Venture Center') is hosting a seed fund with a corpus of Rs. 2 crore under the scheme "Seed Support System for Start-ups in Incubators" of the National Science & Technology Entrepreneurship Development Board (NSTEDB), Department of Science & Technology. The Seed Support is for incubatees (physical resident units within STEP/TBI). The funds are meant for early stage funding for indigenous ideas and technologies requiring up-scaling and related work. Incubatees of Venture Center are encouraged to contact Venture Center for further information. Quantum of financial assistance to the incubated entrepreneur:

- Minimum: Rs. 2 lakhs.
- Maximum: Rs. 50 lakhs.

Broad Areas to be covered under the financial assistance include: Product development; Testing and trials; Test Marketing; Mentoring; Professional Consultancy (To attract Professors of institutions to work with small firms); IPR issues; Man power for day to day operations; Any other area as deemed necessary and recommended by the Management Committee.

Biotechnology Parks/Incubators in India by Department of Bio-Technology (DBT)

DBT has supported the following biotechnology parks and incubation centres located in different states for the promotion of Biotech start-up companies and the promotion of Public Private Partnerships. So far, 7 such parks have been established across the country, one of these parks is in the State of Assam.

Guwahati Biotech Park Incubation Centre (GBPIC), Assam: The project of setting up of Guwahati Biotech Park Technology Incubation Centre has been sanctioned by the DBT at a total cost of Rs. 27.99 crores in 2009 for a period of three years.

- Government of Assam (GoA) has recently allotted a land measuring 17 acres to Guwahati Biotech Park in proximity to IIT Guwahati for setting up of GBPIC. Another 7.5 acres of land near the allotted land has been identified and likely to be allotted soon to GBP. GoA has given a budgetary support of Rs. 3.82 cror for procurement of land and 2.2 cror for construction of perimeter fencing and land development cost for the permanent campus of Guwahati Biotech Park in the F.Y. 2013-14.
- Existing building of IITG has been renovated to make it suitable for housing the sophisticated instruments (purchased with the funding from GBPIC project). Facilities include 8 Modular Laboratories, and Specialized & Support Facilities. NECTAR N/E Application Centre-Nest programme is being proposed. Ecosystem needs to be created using natural products built on strengths. The progress of the park is regularly monitored by GBPIC Management Committee and Technical Advisory Committee.
- 9 incubatees are currently associated and 6 are graduated. The Incubator has 94 common facilities.

Department of Financial Services

Pradhan Mantri Mudra Yojana (PMMY)

Pradhan Mantri Mudra Yojana will refinance the banks as well as MFI (Micro Finance institutions) so that the banks can disburse loan to micro-entrepreneurs without any collateral security.

Main Objective of the PMMY loan is:

- To facilitate micro-entrepreneurs to have access to institutional credit.
- To promote entrepreneurship at the grass root level.
- To foster self employment among the downtrodden populace.
- To emancipate the micro-entrepreneurs from the clutches of the illegal money-lenders.

PMMY loan is applicable for Individuals, Proprietorship concerns, Partnership firms, Private Ltd. Companies and Any other legal form. It is applicable for units engaged in Manufacturing, Trading, and Service delivery

Types of Loan:

- Sishu Loan: Up to Rs. 50,000
- Kishore loan: Rs. 50,000 to 500,000
- Tarun Loan: Rs. 5,00,000 to 10,00,000

Stand-up Policy

The fundamental objective of this scheme is to finance the Women Entrepreneurs as well as the Entrepreneurs belonging to Scheduled Caste & Schedule Tribe. Under this scheme SC/ST, women entrepreneurs are eligible to borrow 10 lakhs to 1 crore from banks for executing Greenfield Projects. Green Field project implies first time/unprecedented initiative of the entrepreneur in manufacturing trading or service sector. In case of non-individual applicants, at least 51% of the stake should be in the name of woman entrepreneur or a SC/ST entrepreneur.

The minimum age of the entrepreneur belonging to the above category should be at least 18 years. The entrepreneur should not be a defaulter to any bank or financial institution. Apart from primary security, the bank may demand collateral security or security under Credit Guarantee Fund. The borrower will have to contribute 10% of the project cost. Repayment will have to be made within 7 years with a maximum moratorium period of 18 months. There is the provision of 25% of margin money.

Other key schemes of SIDBI for Entrepreneurship Development

- **National Equity Fund Scheme**, which provides equity support to small entrepreneurs setting up projects in Tiny Sector.
- **Technology Development & Modernisation Fund Scheme** for providing finance to existing SSI units for technology upgradation/modernisation.
- **Single Window Scheme** to provide both term loan for fixed assets and loan for working capital capital through the same agency.
- **Composite Loan Scheme** for equipment and/or working capital and also for worksheds to artisans, village and cottage industries in Tiny Sector.
- **Mahila Udyam Nidhi (MUN) Scheme** provides equity support to women entrepreneurs for setting up projects in Tiny Sector.
- **Scheme for financing activities relating to marketing** of SSI products which provides assistance for undertaking various marketing related activities such as marketing research, R&D, product upgradation, participation in trade fairs and exhibitions, advertising branding, establishing distribution networks including show room, retail outlet, wears-housing facility, etc.
- **Equipment Finance Scheme** for acquisition of machinery/equipment including diesel generator sets, which are not related to any specific project.
- **Venture Capital Scheme** to encourage SSI ventures/sub-contracting units to acquire capital equipment, as also requisite technology for building up of export capabilities/import substitution including cost of total quality management and acquisition of ISO-9000 certification and for expansion of capacity.

- **ISO 9000 Scheme** to meet the expenses on consultancy, documentation, audit, certification fee, equipment and calibrating instruments required for obtaining ISO 9000 certification.
- **Micro Credit Scheme** to meet the requirement of well managed voluntary agencies that are in existence for at least 5 years; have a good track record and have established network and experience in small savings-cum-credit programmes with Self Help Groups (SHG) individuals.

Apart from the above key schemes, following are the new Schemes by SIDBI:

- To enhance the export capabilities of SSI units.
- Scheme for Marketing Assistance.
- Infrastructure Development Scheme.
- Scheme for acquisition of ISO 9000 certification.
- Factoring Services.
- Bills Re-discounting Scheme against inland supply bills of SSIs.

Ministry of Rural Development

Aajeevika

Aajeevika - National Rural Livelihoods Mission (NRLM) - aims at creating efficient and effective institutional platforms of the rural poor, enabling them to increase household income through sustainable livelihood enhancements and improved access to financial services.

NRLM set out with an agenda to cover 7 crore rural poor households, across 600 districts, 6000 blocks, 2.5 lakhs Gram Panchayats and 6 lakhs villages in the country through self-managed Self Help Groups (SHGs) and federated institutions and support them for livelihoods collectives in a period of 8-10 years.

In addition, the poor would be facilitated to achieve increased access to rights, entitlements and public services, diversified risk and better social indicators of empowerment. DAY-NRLM believes in harnessing the innate capabilities of the poor and complements them with capacities (information, knowledge, skills, tools, finance and collectivization) to participate in the growing economy of the country.

Apart from the above main Ministries working in the field of Entrepreneurship Development, other Ministries/Departments are also implement schemes to promote or support entrepreneurship with respect to their allocation of business rules. A summary of these schemes is given below:

Ministry	Scheme
Ministry of Minority Affairs	<ul style="list-style-type: none"> • Credit Line Schemes & Marketing Assistance Schemes of National Minority Development & Finance Corporation • Bank Credit under Priority Sector Lending to Minorities
Ministry of Social Justice & Empowerment	<ul style="list-style-type: none"> • Laghu Vyavsay Yojna • Ajeevika Micro Finance Yojna • Micro Financing Scheme • Scheme for Disabled Young Professional of National Scheduled Castes Finance & Development Corporation (NSCFDC), National Backward Classes Finance & Development Council (NBCFDC) and National Handicapped Finance & Development Corporation (NHFDC)
Ministry of Agriculture	<ul style="list-style-type: none"> • Assistance to NCDC Programmes for Development of Cooperatives • Dairy Entrepreneurship Development • Development Strengthening of Agricultural Marketing Infrastructure • Scheme for Establishment of Agri-Clinics and Agri-Business Centres • Small Farmers' Agriculture-Business Consortium – Agriculture-Business Development
Ministry of Tourism	<ul style="list-style-type: none"> • Hunar-Se-Rozgar Tak - Sena Ke Sahyog Se • Marketing Development Assistance (MDA) • Publicity and Marketing • Rahul Sankrityayan Paryatan Puraskar Yojna

Annexure 2

Skill and Enterprise Development Initiatives in IHR States

State	Resource investment planned in key sectors		Existing policies and projects	Emerging sectors with incremental job requirements	Unconventional areas for skill development
Assam		Skills	<p>State Institute of Panchayat and Rural Development has implemented the self-employment oriented projects.</p> <p>Assam Rural Infrastructure and Agriculture Services Society (ARIAS) had formally launched the World Bank funded Assam Agri-Business and Rural Transformation Project (APART) on 10 January, 2018.</p> <p>Assam State Urban Livelihoods Mission Society: National Urban Livelihoods Mission is to reduce poverty and vulnerability of the urban poor households by enabling them to access gainful self-employment and skilled wage employment opportunities.</p> <p>Assam Skill Development Mission (ASDM) aims to extend its reach to the youth residing in the remotest of the areas. To achieve the same attempt has been made to establish Pradhan Mantri Kaushal Kendra (PMKK) in every district of Assam in collaboration with NSDC in PPP mode. Further attempts has also been made to set up training centres in each block. ASDM has made provisions to provide specific incentives to the Training Partners who have their skilling facilities in these areas.</p> <p>There are about 25 private VTPs who are currently providing short term skill training with a minimum 35 days training to maximum 3 months training. The courses are Industrial Sewing Machine Operator (SMO), Sales & Retail, BPO, Welding, House/Domestic Wiring, Driving, Spa Training, Oil Rig Drilling Training, Private Security Guard training, Hospitality, Industrial Fitter and Machinist, Motor Mechanic, Bed Side Assistant (BSA), Electronics Service Engineer, VFX-Pro (Animation), Capacity building in Urban Organic Gardening, Diploma in Reporter cum Photo Journalist, Media Sales Executive, Diploma in Beauty Care, Domestic House Keeping, Skill Up gradation of Existing Domestic Helpers, Child Care, Geriatric Care, Drivers (LMV) training, Front Office, Food & Beverage Service, Housekeeping and Food Production, Bakery and Confectionery.</p>	<p>ITI in Karbi Anglong offer the following trades under National Council for Vocational Training and State Council for Vocational training: Mechanic Diesel Engine, Welder, Stenography, Computer Operator and Programming Assistant, Mechanic Motor Vehicle, Fitter, Electrician, Wireman, Draughtsman (Civil), and Food Processing Sector.</p> <p>Industrial training Institute in NC Hills offers training courses for Electrician, Wireman, Mechanic Motor Vehicle, Welder, Plumber, Mechanic Diesel Engine, Pump Operator cum Mechanic, Dressmaking, Mechanic Electronics, Computer Operator and Programming Assistant.</p>	<p>Unconventional areas of skill development in the hill districts of Assam – Food Processing, Livestock, Poultry, Pig Rearing, Handloom and Handicraft, Forestry including forest products like timber, cane and bamboo.</p> <p>Unconventional areas for skill development in Karbi Anglong includes minerals like limestone, china clay, feldspar, coal, rubber plantation, citronella and alternative system of agriculture for Jhum cultivation, Horticulture, Forestry including the major forest products consisting of timber, cane, bamboo. Rainwater harvesting.</p> <p>The agro-climatic condition of Dima Hasao suitable for sericulture. A total of 180 villages in the district are involved in sericulture activities. The district has favourable agro climatic conditions for the development of various horticulture crops. The district has high potential for growth of citrus fruits, pineapple, areca nut, lemon, banana and coconut besides rubber and bamboo plantation.</p>

State	Resource investment planned in key sectors		Existing policies and projects	Emerging sectors with incremental job requirements	Unconventional areas for skill development
		Enterprise	Entrepreneurship Development training is being conducted by Bharatiya Yuva Shakti Trust (BYST) under the ambit of the Skill Mission.	Karbi Anglong: Motor Mechanic, DTP Operator, and Semi-skilled Workers. Dima Hasao: Mechanic Electrician, Motor Mechanic, Carpenter, and Computer Operator.	*
Arunachal Pradesh		Skills	MES under Skill Development Initiative. Capacity Building and Skill Development Programme under International Border Areas Development Programme. Industrial Training Institute (ITI) under Craftsmen Training Scheme (CTS).	National Skill Development Corporation and North Eastern Development Financial Corporation Limited (NEDFi) has conducted a comprehensive study on skill development in the state but no further information has been provided.	Construction; Hydropower/power; Tourism and Hospitality; Retail; Security Guard; Information Technology; Healthcare; Food Processing.
		Enterprise	No information available.	Traditional craft can be promoted so to move towards entrepreneurship development in the state.	*
Himachal Pradesh		Skills	Skill Development Policy of Himachal Pradesh. Himachal Pradesh Kaushal Vikas Nigam (HPKVN) is the skill mission of the state. HPKVN is implementing ADB financed project for training of 65,000 youth.	The top five sectors which have been identified as per aspirational survey are education, automobile, banking, defence and healthcare.	Solar energy; green jobs; and organic farming.
		Enterprise	No exclusive entrepreneurship development policy has been framed by industries department. Industrial Policy and Package of Incentive for Himachal Pradesh.	The state has identified 5-6 major sectors based on survey for training youth towards entrepreneurship development. These are tourism and hospitality; banking and financial services; healthcare; apparel; agriculture; retail; and IT/ITES.	State Specific and traditional craft like Kangra painting; cutting/pruning of apple orchard; plucking grading and marketing of apples & other fruits and vermicompost producer.

State	Resource investment planned in key sectors		Existing policies and projects	Emerging sectors with incremental job requirements	Unconventional areas for skill development
Jammu & Kashmir		Skills	<p>National Policy for Skill Development 2009 by Ministry of Labour and Employment, Govt. of India.</p> <p>National Policy for Skill Development and Entrepreneurship, 2015.</p> <p>The Udaan Project, which is the Special Industry Initiative (SII) for J&K is funded by Ministry of Home Affairs and implemented by National Skill Development Corporation (NSDC), started in 2011. The target was to reach out to 40,000 youth in J&K over a period of 5 years so as to bridge the gap between, youth from J&K who are unable to find employment in many companies as either they are unaware of the opportunity in the companies or the companies which are unaware of the talent pool that exists in J&K.</p> <p>Himmayat scheme is specific to the youth of J&K, which is implemented by the Ministry of Rural Development.</p>	<p>Skill requirements would be ascertained through micro level skill requirement mapping by a professional agency.</p>	*
		Enterprise	<p>Jammu and Kashmir Entrepreneurship Development Institute (JKEDI) had been established by the Government of Jammu and Kashmir in March 1997. The institute started its regular activities from February 2004 and has positioned itself as a learning centre par excellence with state of the art regional centers across Jammu, Kashmir and Ladakh.</p> <p>The schemes implemented by JKEDI are Seed Capital Fund Scheme (SCFS), Youth Start up Loan Scheme (YSL) and NMDFC.</p>		<p>Potential unconventional entrepreneurship sectors could be traditional heritage craft like Kani Shawl tapestry, Cheshmish shawl weaving and wood craft.</p>
Manipur		Skills	<p>State Skill Development Mission was constituted in 2015 for formation of an action plan for skill development. However, no meeting of the mission has been organized. State Government introduced vocational training courses in 40 Colleges. It was a part of 100 days programmes of Government of Manipur, under Rashtriya Uchchattar Shiksha Abhiyan (RUSA), Ministry of Human Resources Development, (MHRD) Government of India.</p>	<p>Handloom and Handicraft, Agriculture, Construction, Beauty-Wellness, IT & ITES, Automotive, Healthcare, Tourism and Hospitality and Telecom.</p>	<p>Domestic IT Helpdesk attendant; Customer relation Management - Domestic Non-voice; Customer relation Management - Domestic Voice; Collections Executive; Domestic Biometric Data operator; and Domestic Data entry Operator.</p>
		Enterprise	<p>Industries department has taken initiative to promote entrepreneurship through PMeGP, linking Mudra Scheme with the Handloom and Handicrafts sector to indirectly promote entrepreneurship. A new Textile Policy and Mineral Policy, 2017 have been revised taking into consideration the current aspirations of investors and entrepreneurs.</p>	<p>Emerging sectors include Health and Paramedical Sector, Information Technology Services, Forestry Sector, Plantations Industry, Apparel, Handloom and Handicrafts, Furniture Making and Bamboo Fabrication.</p>	<p>Food Processing EDP Training, FPI Sector Awareness programme, and Fruit and Vegetables Preservation.</p>

State	Resource investment planned in key sectors		Existing policies and projects	Emerging sectors with incremental job requirements	Unconventional areas for skill development
Meghalaya		Skills	<p>Meghalaya State Skill Development Society (MSSDS), some centrally sponsored schemes is under VTIP with world bank assistance, upgrading of 1396 government ITI under PPP, Skill Development Initiative (SDI) based on Modular Employable Skills (MES) PMKVY (State Managed).</p> <p>Special projects run in the State Meghalaya: The EST&P under National Urban Livelihood Mission (NULM) formerly known as the SJSRY (Swarna Jayanti Shahari Rozgar Yojana) was launched during 1997 to provide gainful employment to the urban unemployed or underemployed through the setting up of self-employment ventures or provision of wage employment. It is now part of National Urban Livelihoods Programme (NULP).</p> <p>Skill Development Initiative (SDI) of the Gol was designed to impart skills relevant to the industry to school-leavers at various levels by using existing vocational training and skill development infrastructure in the country.</p>	<p>Tourism, healthcare, education, handloom & handicrafts, food processing and IT. Also beauty and wellness sector is considered to be satisfactory in terms of retention and placement linked skill development.</p>	<p>State has not conducted any study on youth unemployment and migration. It is felt that ICT related services will be potential skill development areas in state.</p>
		Enterprise	<p>Meghalaya Industrial Investment Promotion Policy (MIIPP) 2012.</p>	<p>The following areas have been declared as the potential area in the promotion of industrial activities:</p> <p>Agro and horticulture processing unit; processing of plantation crops; development of traditional handlooms and Handicrafts; tissue culture and bio-technology; spices oleoresin and other essential oils unit; animal husbandry and meat processing industries; development of mineral based industries; electronics and information technology; and bamboo/reclaimed woods based products.</p>	<p>Tourism Sector, Health Sector, Agro and Horticulture related services as per MIIPP.</p>

State	Resource investment planned in key sectors		Existing policies and projects	Emerging sectors with incremental job requirements	Unconventional areas for skill development
Mizoram		Skills	<p>The State is yet to formulate the State Skill development Policy.</p> <p>The State utilised Skill Development Initiative Scheme (SDIS) of the Gol, apart from the Craftsmen Training Schemes (CTS) undertaken in the existing 3 ITIs.</p>	<p>IT sector, Forest Based Products, and Food Processing.</p> <p>Under PMKVY 2.0, the State specific job roles proposed are in the Agriculture Sector and Traditional Arts and Crafts.</p>	<p>The State can leverage software, which can be used for training in communication. Skills in Hindi or English.</p> <p>Food Processing- to develop e-marketing for agriculture products.</p>
		Enterprise	<p>New Land Use Policy (NLUP), New Economic Development Programme (NEDP), North East Industrial and Investment Promotion Policy (NEIIPP).</p> <p>Moreover Centrally sponsored schemes (under of Ministry of Textiles) ISDS for weavers under which 749 weavers completed training.</p>	Handloom and Tourism.	Traditional Mizo Garments (Puan) and other Weaving Trades.
Nagaland		Skills	<p>Skill Development Initiative Scheme (SDIS) of Gol has been implemented successfully.</p> <p>State Government has plans to revive skill development by "re-energising" its partnership with colleges and schools that have vocational education as part of its curriculum.</p> <p>Skilling of youth of Nagaland has been made possible under Centrally Sponsored state managed component of the PMKVY Scheme to allocate 25% of the total training targets to the state government.</p> <p>The State Skill Mission under the nomenclature "Nagaland Skill Development & Entrepreneurship Society" has been formed to execute the skill development and entrepreneurship programmes. Nagaland has a target to train 33, 021 youths by 2020 under the State Manages Component of PMKVY.</p> <p>The 1st District Level Skill Gap Study for Nagaland has been prepared by National Skill Development Corporation (NSDC) during 2015-16.</p>	<p>Wood and bamboo carpentry units; iron and steel fabrication; micro level food processing units; micro level coal mining and stone craft units; micro tourism industry like cultural tourism, traditional, food, medicine and eco- and adventure tourisms.</p>	<p>Repairing of machinery required for road construction activities, masonry will enhance the employment potential of this sector. Finance, insurance and communications. Manufacturing and Construction Sector. IT training for better expansion of Proper GPS mapping of areas with industry scope.</p>
		Enterprise	<p>Implementation of rural livelihood programme in each block of every district in Nagaland.</p> <p>Establishing multi-disciplinary food processing training cum food testing laboratory as per standards specified by the Ministry of Food Processing, Gol, at Dimapur.</p>	<p>Development of Bamboo as an enterprise, organic Tea cultivation and processing units, handicraft and handloom sector.</p>	<p>Nature/wildlife tourism, adventure tourism, cultural/ heritage tourism, agriculture tourism, leisure tourism, international border tourism, traditional delicacies, and processing of medicinal plant.</p>

State	Resource investment planned in key sectors		Existing policies and projects	Emerging sectors with incremental job requirements	Unconventional areas for skill development
Sikkim		Skills	Support to skill development in Sikkim through 42 Government Livelihood Schools, Sikkim Institute of Capacity Building, Community College Scheme(CCS), Vocationalization of Higher Secondary Schools(VHSS), Polytechnics, NULM (EST&P), MSME-EDP through Dev Institute, Capacity Building and Technical Assistance Scheme, NERLP, Directorate of Handicraft & Handloom, Multi Sectoral Development Programme, VKY (Vanbandhu Kalyan Yozna), SCA to SCSP (Special Central Assistance (SCA) to Scheduled Castes Sub Plan), SCP to TSP (Special Component Plan (SCP) and Tribal Sub-Plan), Capacity enhancement Plan, Digital India Scheme, Schemes of CDAC, SUTP, Cap Building for Youth, Innovation centres, Comprehensive RPL process, Removing barriers for skilled workers who want to migrate overseas or returnee migrants who want to be recognized for skills gained overseas, Skill training for persons with disabilities, Equity Programme, Chief Minister's Employment Scheme and Chief Minister's Self-Reliant Mission.	Horticulture – 74,159; Hospitality – 24,180; Construction - 13,956. Hydropower – 13500; Pharmaceuticals – 13,253. Homestays & Taxi operation. Cultivate medicinal plant (eucalyptus, lemon grass lavender) also extraction of the essential and medicinal oil in association of Indian Institute of Integrative Medicine (CSIR, Govt. of India), Jammu and FFDC, and Kannauj. Organic farming.	Potential unconventional skill development – Adventure based tourism (e.g. rock climbing; paragliding; trekking and mountaineering).
		Enterprise	Chief Minister Start-up Scheme (CMSS) for providing employment opportunities to unemployed youth. State government will give 25% to 35% up front promoter's contribution on sanction of a loan to a viable project up to 20 lakhs for development of entrepreneurship. Department of Skill Development and Entrepreneurship is also providing Hand holding support to Entrepreneurship and functioning in development of organic manure, microbial bio-fertilizer and microbial bio-pesticide by imparting training and giving financial assistance to local entrepreneurs/farmers. Development of organic dye from tea and cardamom as good quality of tea and cardamom is produced in Sikkim.	The emerging sectors in entrepreneurship – Organic farming (Organic manure, microbial bio-fertilizer and microbial bio-pesticide); tourism (including adventure sports) and hospitality; breweries and distilleries; development of organic dye from tea and cardamom; handloom and handicraft.	
Tripura	Transport sector is identified as a priority for investment (e.g. railway infrastructure, inland water transport, and airport modernization).	Skills	State government has approved a stipend of RS. 150 per day per trainee during the course of the training programme to ensure retention.	Construction sector is anticipated to be the largest sector in terms of estimated incremental employment and will also fuel growth of allied industry of real estate. Power sector is the thrust area within industry followed by education, banking and financial services, transportation and storage.	Panchkarma masseur; GST; Bamboo utility handicraft assembler; fishery and animal husbandry.

State	Resource investment planned in key sectors		Existing policies and projects	Emerging sectors with incremental job requirements	Unconventional areas for skill development
		Enterprise	<p>Directorate of Skill Development is in the process of signing MoU with National Backward Classes Finance and Development Corporation (NBCFDC) to access funds for providing training to youth from backward class and establish linkages between banks and the skilled candidates.</p> <p>Swavalamban (Self Employment generation Scheme by Govt. of Tripura): Through this scheme a maximum subsidy of Rs. 1 lakh. Trained & Certified candidates can apply to nearest DIC office or BDO office will have to undergo mandatory EDP training.</p> <p>Tripura Bamboo Mission (TBM): TBM, an initiative of the Department of Industries & Commerce, Government of Tripura to promote and develop the bamboo based industries and enable livelihood generation through bamboo based activities. TBM centres are equipped with modern machinery which are owned and managed by a team of highly skilled local craftsmen.</p>	<p>The bulk of employment is expected to arise from Construction and Real Estate sector Within agriculture, thrust areas in entrepreneurship include horticulture, food processing, floriculture, bamboo, rubber and tea. In Services sector, sub sectors expected to show higher workforce demand include education (4.5%), banking and financial services (3.8%) and transportation and storage (3.4%).</p>	
Uttarakhand	<p>Agriculture and allied sectors (agriculture, horticulture/animal husbandry, and medicinal and aromatic plants). Tourism (adventure, nature, hospitality). Cottage industries (handicraft, handloom, traditional food and beverages). Ecological products and services. IT, logistics, and manufacturing. Cross border trade.</p>	<p>Skills</p> <p>State skill development policy – in progress Projects: Deen Dayal Upadhyay Grameen Kaushalya Yojana(DDGUKY). Pradhan Mantri Kaushal Vikaas Yojana 2.0 (PMKVY). UKSDM-Entrepreneurship and Placement Linked Skill Training Programme (EPLSTP). EST&P-UTTHAN Skill Development Training programme by Urban Development Department. PMeGP- Pradhan Mantri Employment Generation Programme. AAJEEVIKA- Rural Development department training programme. Integrated Livelihood Support Project under Rural Development Department. Vir Chandra Singh Garhwali Scheme for Self Employment.</p> <p>Enterprise</p> <p>MSME Policy 2015. Mahila Uyai Vishesh Pratsahan Yojana 2015. Chief Minister Self-Employment Policy. Special Integrated Industrial Incentive Policy 2011. Mega Textile Park Policy 2014. Start-up Policy. Hill Industrial Policy. Mega Industrial Policy 2015. Udyamita Vikas Prashikshan Karyakram.</p> <p>State Government has integrated courses on entrepreneurship education in formal education and skill training curriculum in the state with inclusion in curriculum of ITI, Polytechnics and other higher educational institutions (General & Technical) course(s) on entrepreneurship education and skill training.</p>	<p>Infrastructure Development w.r.t Char Dhamall weather road, Panchewar Dam, Dehradun-Rishikesh-Haridwar Metro Rail, Rishikesh-Karnprayag Railway Line, and Dehradun Smart City Project.</p> <p>Incremental job requirement by sector – food processing, tourism and hospitality, wellness and yoga, medicinal & aromatic plants, organic farming, handicrafts and handlooms.</p>	<p>APARN - Traditional Art from Kumaon region. Thulma - Carpet making from sheep wool. The state is in the process of identifying other unconventional/traditional areas (e.g. High altitude fruits and vegetables, and traditional art and crafts).</p> <p>Agriculture and allied sector (Horticulture/animal husbandry/medicinal & Aromatic plants) , Tourism (Adventure Tourism , Nature based Tourism , Hospitality, Tours and travel).</p>	

State	Resource investment planned in key sectors		Existing policies and projects	Emerging sectors with incremental job requirements	Unconventional areas for skill development
West Bengal		Skill	<p>a) Technical Education, Training and Skill Development (TET&SD) is the nodal department in West Bengal for technical education, industrial training, and skilling interventions.</p> <p>b) Employment Directorate in collaboration with the Ministry of Overseas Employment has been implementing skill up-gradation and pre-departure orientation of emigrant workers, wherein subsidized skill development training is provided by the state government.</p> <p>c) Utkarsh Bangla 2016 under the purview of the PBSSD for the entire non-institutional, non-project mode, short term Skill Development interventions to provide wage/self-employment linked skills training to the residents of the State.</p> <p>d) West Bengal has been approved as an AP (Action Plan) state by the MoRD (Ministry of Rural Development) by the EC (Empowered Committee) to operate project-mode trainings under the DDU-GKY (Deen Dayal Upadhyaya – Grameen Kaushalya Yojana) scheme. PBSSD would act as the implementing arm for executing the scheme. As a part of the same, a training target of 73,514 has been sanctioned by MoRD to be achieved through this scheme over 3 financial years 2016-17 to 2018-19.</p> <p>e) The directorate of Vocational Education & Training has rolled out the CSS-VHSE scheme in 289 schools pan West Bengal in PPP mode. Under this scheme the interested students from class IX to class XII can opt for QP-NOS courses of Level 1 to Level 4. In addition to the 289 schools, operationalization of another 211 schools is in the process.</p> <p>f) Departmental Schemes: In collaboration of various departments the Paschim Banga Society for Skill Development (PBSSD) has rolled out multiple schemes for skilling. MsDP with a target of 26,000 has been operationalized in collaboration with MAME department. Pranisebee training has commenced as an initiative of ARD department.</p>	<p>Emerging sectors are as follows: Tourism and Hospitality: catering; bartending; housekeeping; tour guide; cooking, etc.; Security: armed and unarmed security guard; security and CCTV supervisor; certified training assessor; physical security trainer; Domestic Worker: child and elderly care; general housekeeping/ cooking; Retail: Cashier; stores operations; distributor salesman; Healthcare: General duty assistant; emergency medical technician; Beauty and wellness; Electronics; Furniture and fitting.</p>	<p>Unconventional areas of skill development are as follows tour guide ,certified training assessor; physical security trainer.</p>
		Enterprise	Data Not Available	<p>Beauty & Wellness: Beauty and wellness therapy including spa treatment; Hair styling; makeup artist; tattoo artist; Electronics: mobile phone hardware repair technician; Furniture & Fittings: carpenter wooden furniture; Micro-retail entrepreneur.</p>	<p>Tattoo artist & micro retail entrepreneur.</p>

Annexure 3

Entrepreneurship Ecosystem and Key Government and Non-government Stakeholders

An enabling ecosystem in the form of culture, financing, infrastructure, skills and regulation is required for successful entrepreneurship. In India, various government ministries, departments and agencies are playing enabling roles across different parts of this enabling ecosystem. These are summarized in the Table below.

Ecosystem element	Key Government (Central and State) & Non-Governmental organisations
<p>1. Entrepreneurial Finance</p> <p>Availability of financial resources – equity and debt – for entrepreneurial activities (including grants and subsidies)</p>	<p>Government of India: Department of Financial Services, Govt. of India, through specialized institutions such as SIDBI, MUDRA Bank, DIPP, DST, MHRD, DBT. Different credit based schemes like LaghuVyavsayYojna, Ajeevika Micro Finance Yojna & various term loans, and micro financing Scheme. Atal Innovation Mission (supporting businesses being incubated therein), Tinkering Labs, Sustainable Development Goals (supporting entrepreneurial initiatives there under). Special Package schemes for J&K, HP & Uttarakhand for grant of incentives to new & existing industrial units for boosting industrialisation in these states. Credit Line Schemes & marketing Assistance Schemes of National Minority Development & Finance Corporation, and Bank Credit under Priority Sector Lending to Minorities. Trade Related Entrepreneurship Assistance & Development Scheme for women (TREAD).</p> <p>Others: Non-Governmental Organizations, such as DeAsra, Venture Capitalists, Angel Investors, Impact Investors.</p>
<p>2. Government Policy</p> <p>Extent to which public policies support entrepreneurship as a relevant economic issue and provide a tax and regulatory regime that is either size-neutral or encourages new enterprises and SMEs</p>	<p>Government of India: Ministry of Finance; NITI Aayog; Ministry of Skill Development and Entrepreneurship (MSDE); Ministry of Micro and Small Enterprises (MSME); Department of Industrial Policy and Promotion (DIPP), Government of India.</p> <p>State Government: Related State Government Departments.</p>
<p>3. Government Entrepreneurship Programmes</p> <p>Presence and quality of programmes directly assisting SMEs at all levels of government (national, regional, municipal)</p>	<p>Government of India: Several Ministries/Departments of the Government of India including DFS, NITI Aayog, MSDE, MSME, DIPP, DBT, DST, Swarnjayanti Gram Swarozgar Yojana, etc.</p> <p>State Government: Related State Government Departments.</p> <p>Others: Regional and Local bodies and Institutions; Mentor Retired Entrepreneurs, Researchers, and Bankers.</p>

<p>4. Entrepreneurship Education</p> <p>Extent to which training in creating or managing SMEs is incorporated within the education, training system at school level and higher education level (including vocational education and training) and for other potential entrepreneurs</p>	<p>Government of India: Department of School Education and Literacy, Ministry of HRD, Government of India; Department of Higher Education, Ministry of Human Resource Development, Government of India (bodies such as UGC, AICTE); Ministry of Skill Development and Entrepreneurship. 'Pradhan Mantri Yuva Udyami Vikas Abhiyan (PM-YUVA) in select Institutes of Higher Learning (Universities, Colleges and Premier Institutes), schools, Industrial Training Centres (ITIs) and Entrepreneurship Development Centres (EDCs). The Central Government Entrepreneur schemes for Tourism are Capacity Building for Service Providers (Institutes) and Hunar-Se-Rozgar Tak – Sena Ke Sahyog Se (Creating Employable Skills). Entrepreneurship Orientation Programme (EOP) has been integrated into the flagship skill development training PMKVY 2.0 under course module 'Entrepreneurship and soft skills.'</p> <p>Others: Academia-Schools and Colleges; Non-Governmental organisations & other bodies, such as Wadhvani Foundation, Entrepreneurship Development Institute of India (EDII), Ahmedabad, The Indus Entrepreneurs (TiE), etc.</p>
<p>5. R&D Transfer</p> <p>Extent to which national research and development will lead to new commercial opportunities and is available to SMEs</p>	<p>Government of India: Department of Science & Technology (DST); Department of Scientific and Industrial Research (DSIR); Department of Biotechnology (DBT); Department of Electronics & IT (DeITy) (Bodies such as NSTEDB, BIRAC, GITA, etc).</p> <p>State Governments: Related State Government Departments.</p>
<p>6. Commercial and Legal Infrastructure</p> <p>Presence of property rights, commercial, accounting and other legal and assessment services and institutions that support or promote SMEs.</p>	<p>Government of India: Department of Corporate Affairs, Ministry of Land Resources.</p> <p>State Government: Related Departments of the State Governments.</p> <p>Others: Non-Governmental Organizations, such The Indus Entrepreneurs (TiE), Bharatiya Yuva Shakti Trust (BYST), etc.</p>
<p>7. Entry Regulation</p> <p>Market Dynamics: the level of change in markets from year to year, and Market Openness: the extent to which new firms are free to enter existing markets</p>	<p>Government of India: Entry regulations are, to some extent, subject to regulatory environment of related govt. ministries/departments.</p>
<p>8. Physical Infrastructure</p> <p>Ease of access to physical resources-communication, utilities, transportation, land or space—at a price that does not discriminate against SMEs</p>	<p>Government of India: All transport, communication and energy ministries at both the national and state level.</p>
<p>9. Cultural and Social Norms</p> <p>Extent to which social and cultural norms encourage or allow actions leading to new business methods or activities that can potentially increase personal wealth and income</p>	<p>Government of India: Ministry of Skill Development and Entrepreneurship (MSDE), NITI Aayog, DIPP.</p> <p>Others: Non-Governmental Organizations & other bodies, such as Entrepreneurship Development Institute of India (EDII), Bharatiya Yuva Shakti Trust (BYST), Sambhavami Foundation.</p>

Annexure 4

IHR State Challenges in Development of State Specific QP and NOS

State	QP and NOS developed	Challenges
Tripura	<p>The state has prepared state specific course curriculum and shared with Sector Skills Council (SSC). These include:</p> <ul style="list-style-type: none"> Domestic electrician Panchkarma Masseur Pump operator Basic course of computer accounting and GST, Advanced course of computer accounting and GST Bamboo utility handicraft assembler) State Government has entrepreneurship development module in the curriculum for all the students who gets them enrolled in it. 	<p>The state is willing to develop QPs and NOS for skills on niche mountain good and services with required support from relevant SSCs. Considering that the state requirements for job role are specific certain packages can be developed which recognizes the work of various tribes and communities.</p> <p>One of the major challenges in getting the approval of the State Specific QP's will be the validation from the 10 Large Scale, Medium Scale and Small Scale Industries. There is a possibility that Large Scale industries may not be present in the state.</p>
Jammu & Kashmir	<p>The department of technical education has identified in collaboration with respective associations the qualification packs for the following mountain specific heritage craft sector:</p> <ul style="list-style-type: none"> Finger magic shawl and Kani Shawl Cheshmish shawl weaving Crewal work Phulkari Arts (paintings) Kaleen Bafi GabaSazi and NamdaSazi Tapestry Staple work Chain stich Kari kalamdan Khatamband Wood carving Willow wicker 	<p>No challenges have been identified. New challenges will emerge when the skill survey is conducted.</p>
Sikkim	<p>The state has not developed any QPs. But the state is NSQF compliant and NSDC/SSCs/ QP/NOS are being followed.</p>	<p>No challengers have been identified. Since Sikkim is a small state it looks at the competency of other states in development of QP and NOS which they are willing to follow.</p>

State	QP and NOS developed	Challenges
Himachal Pradesh	<p>The state has identified 11 mountain specific job roles. These are – Kinnauri caps and jacket making Laholy socks Gloves and sweater making Handloom shawls weaving Woodcarving Chamba rumal embroidery Kangra paintings Himachali metal craft Kinnauri shawls Planting growing cutting pruning apple orchard Plucking grading packing and marketing of apple and other fruits Vermin compost producer The concerned SSC has been requested QP/ NOS for this job roles.</p>	<p>The state has recently initiated the process of developing QP/Job rolls with SSC for Agriculture Handicrafts and apparel Made-up and Furnishing with sector skills council. Currently, there are no challenges as the process has just begin.</p>
Uttarakhand	<p>QP-NOS for mountain specific job role to be developed.</p>	<p>The state mission had proposed to NSDA to create a job role for tourist guide in 2015.</p>
Nagaland	<p>No QP and NOS developed. However, the state has already constituted a core committee for NSQF for the purpose. At the University some colleges have entrepreneurship Development Programme in the course curriculum. At present the state has Agriculture college which have Job oriented courses.</p>	<p>Lack of resources, especially in the area of skilled mentorship, infrastructure, technical know-how, and capital and the lack of innovation.</p>
Meghalaya	<p>The state has not developed any QP and NOS for any mountain specific job roles.</p>	<p>The main challenges being faced by the state to develop QP and NOS for mountain specific job role is shortage of human resources .They will hire devoted personnel for developing QPs and NOS for skills on niche mountain goods and services.</p>
Mizoram	<p>The State needs to develop Qualification Pack and National Occupational Standards in regard to Agriculture Sector & Traditional crafts, under the PMKVY 2.0, the State specific job roles proposed are: Agriculture (e.g. Dragon fruit, protected cultivation of vegetables, off-season cabbage and tomato, oil palm). Traditional Crafts (e.g. traditional bamboo hats, sieves, and baskets, cane flower vase maker and coat hanger maker).</p>	<p>The main problem faced in Mizoram is infrastructure development like land development, Building Connectivity, Power Supply and water Supply which ultimately results in Lack of skilled and qualified man power.</p>

State	QP and NOS developed	Challenges
Arunachal Pradesh	<p>No QP developed in the state as yet. The state is following the guidelines of the Union Ministry of Skill Development and Entrepreneurship (MSDE).</p>	<p>Initiatives are yet to be taken in the state for development of QP and NOS for the mountain specific job roles.</p> <p>Centralization of various skill development schemes to avoid duplicities, redundancies and inefficiencies present in skill development ecosystem of the state.</p> <p>Formulation of state specific comprehensive skill development policies.</p> <p>Creation of state council for skill development, an advisory and regulatory body to look into the regulatory and quality aspects of various issues facing Skill development ecosystem.</p>
Assam	<p>The states are encouraged to develop their own qualifications and align existing qualifications to NSQF as per NSQF gazette notification.</p> <p>Assam is running skill development various courses certified by SSC/NCVT and self. However, there is no report of development of particular course/qualification specifically for Hilly Areas.</p> <p>However, as the society is agrarian specifically growth of citrus fruits, development of such qualifications like pineapple growers under agriculture sector, canned fruit and vegetable processors under food processing, silk worm growers under sericulture would be encouraged.</p>	<p>Main challenge faced by State in development of qualifications is shortage of human resources.</p>
Manipur	<p>The Department of University and Higher Education, Government of Manipur has introduced Vocational Training Courses. It was a part of 100 days programmes of Government of Manipur, under Rashtriya Uchchattar Shiksha Abhiyan (RUSA), Ministry of Human Resources Development, (MHRD) Government of India.</p> <p>The Department has identified 11 trades in collaboration with 13 Industrial Partners.</p> <p>At the initial stage, Level 4 is being introduced in the third Semester from the Academic Session of 2017-18 with the intake capacity of 30 each in all the 40 Colleges and Level 5 will be introduced in the fifth Semester from the Academic Session 2018-19.</p>	<p>The State Govt. trying to rejuvenate the SSDM (State Skill Development Mission) as it has been lying defunct.</p> <p>The state has asked the SSC to prepare state specific qualification under the state component.</p>

State	QP and NOS developed	Challenges
West Bengal	No mountain specific QP and OS is developed in the state for Hill Districts so far.	<p>Difficult geographical terrain & harsh weather.</p> <p>Limited number of months available to impart skill development training.</p> <p>Low level of awareness among the citizens about the various training programmes.</p> <p>Enrollment of candidates are low.</p> <p>Limited presence of industry in the hill districts of West Bengal.</p>



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