Green Energy Initiatives to Promote Green Jobs: A Case of Rajasthan

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V.V. Giri National Labour Institute

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Preface

The present study 'Green Energy Initiatives to Promote Green Jobs: A Case of Rajasthan' provides insights into the field survey conducted at the Bikaner and Jaisalmer districts of Rajasthan. Various aspects of initiatives pertaining to developing a green economy are discussed in this report. The government of India has undertaken several initiatives with the aim of promoting clean energy following its sustainable development goals.

Present study is an attempt to investigate developments, in this direction, at a grass-root level in the state of Rajasthan.

This study is divided into six chapters that describes the Field where the study is conducted, provides a review of existing literatures pertaining to green jobs in the context of G20, discussion regarding, awareness in the concerned region in terms of a green consciousness and green economy, highlights some of the policy initiatives of the Indian government that promotes green employment and sustainable growth and brings attention to some of the initiatives in the Jaisalmer and Bikaner districts of Rajasthan pertaining to green energy and green jobs.

The present study will help various stake-holders and policy makers in the framing of policies. It would also help researchers who are interested to work in this direction.

I congratulate the research team for their endeavor.

Dr. Arvind
Director General
V. V. Giri National Labour Institute, Noida

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Finally, I would like to express my heartfelt gratitude to my family, which has always motivated me and supported my work and professional needs.

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Glossary

Green Jobs – As per the ILO, green job is a job that can be characterized as a decent job, produces environment-friendly products and services and employs environment-friendly processes.

Green Economy – Economy that improves human well-being and builds social equity while reducing environmental risks and scarcities (UNEP)

Green Growth – 'growth that is efficient in its use of natural resources, clean in that it minimizes pollution and environmental impacts, and resilient in that it accounts for natural hazards and the role of environmental management and natural capital in preventing physical disasters' (World Bank).

Green Energy – Type of energy that is generated from natural sources and which can be produced without causing harm to the environment.

Circular Economy – An economy that is based on the reproduction and reuse of materials, and discourages the extraction of limited resources.

Chapter 1 : Introduction

1.1 Overview

Changing climatic conditions is a topic of grave concern considering its effects on human lives and the entire ecosystem in which we live. Heat waves, melting of glaciers and ice sheets result in an increase in the sea levels which further accelerates the chances of flooding and erosion. Further, ecosystems could become inhabitable which might force the wildlife to migrate outside their regular living patterns eventually causing their deaths.

Incidences of frequent natural disasters in the form of floods, landslides and erratic weather being reported from all over the globe, which has affected agriculture, wildlife as well as human lives, underscore the urgent need of holding environmental sustainability at the centre stage and adopting 'green' practices at every front of life. To this concern, the concept of green jobs offer a hope and a possibility of ensuring that economic growth and environmental sustainability can be achieved together, without having to compromise on one for the sake of the other.

The Skill Council for Green Jobs defines green jobs as jobs that are contributing towards sustainable development and mitigation of climate change.

1.2 Objectives of the Study

The specific objectives of this research are to study:

1. Awareness pertaining to Green Jobs
2. Business sectors exhibiting green jobs
3. Look at different Government policies and programmes in terms of support and access for green jobs
4. To assess the potential of existing green jobs in creating a circular economy
5. Recommendations for increasing sustainability and promoting green energy sector
6. To examine the sectors where green jobs are ongoing and further understand the green jobs potential in the future of India's economy.

1.3 Research Methodology

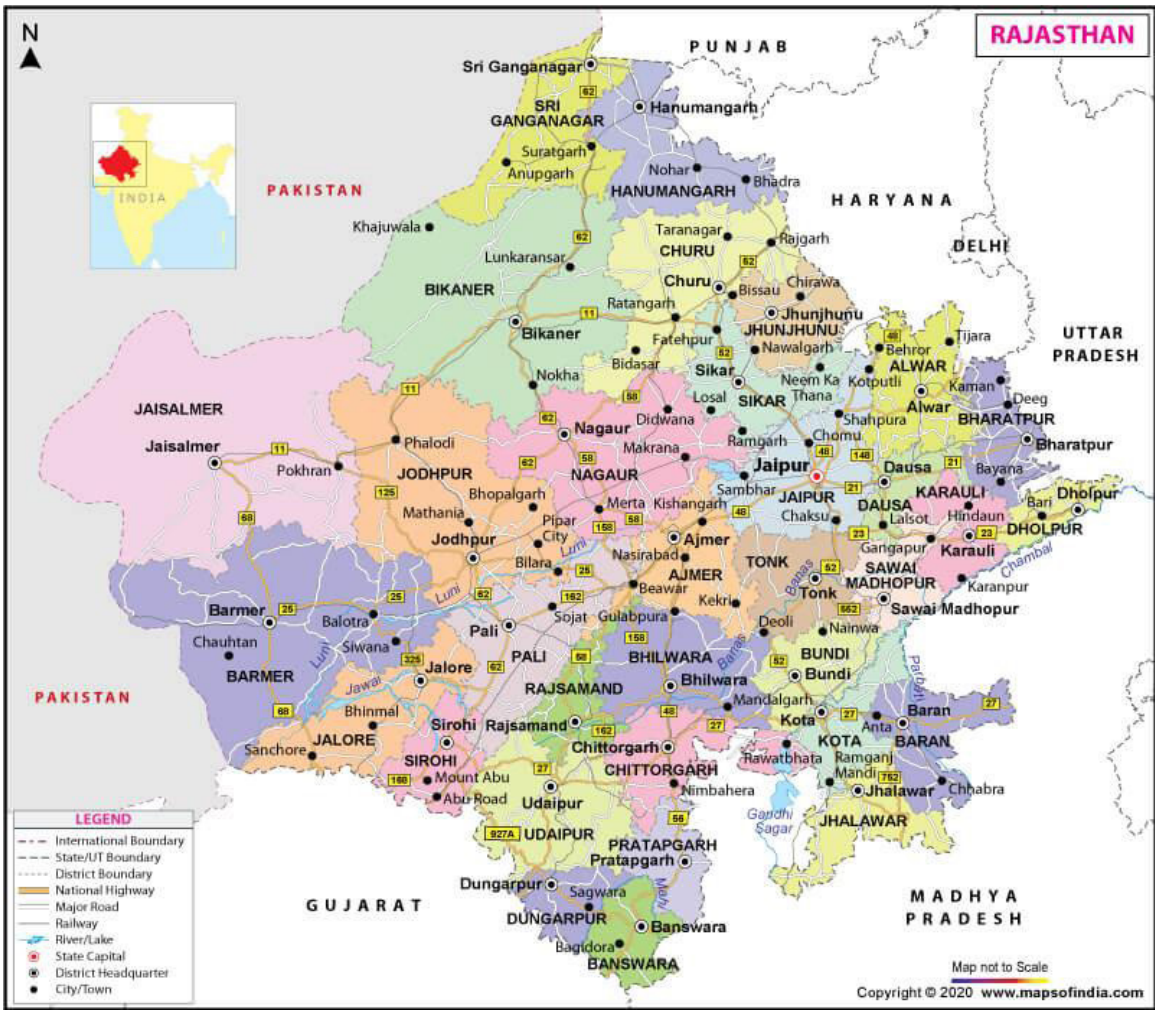
The research has adopted a mixed methodology using a combination of quantitative and qualitative techniques of data collection and analysis. Survey method has been used primarily, based on questionnaires using Google forms, which allows a wide coverage of population for the study. A sample size of 1892 respondents from Bikaner and 1804 Respondents from Jaisalmer participated in the survey, thus forming an overall survey sample of 3696 respondents.

Further, the interview method was used for specific case studies to make a deeper inquiry regarding people's awareness pertaining to the concept of green jobs and the potential in existing green jobs.

1.4 The field of study: Rajasthan

1.4.1 Geographical and Demographic Profile

Rajasthan lies in the north-western part of India. In the north, Rajasthan is bordered by the states of Punjab, Haryana and Delhi and to its south there is Gujarat. Towards its west and northwest lies Pakistan and to its east there is Uttar Pradesh and Madhya Pradesh. The state faces severe water scarcity and poor rainfall conditions. Thus it has been classified as arid/ semi- arid region. The three major rivers flowing in Rajasthan are Chambal, Tapi and Luni.



Source *https://www.mapsofindia.com/maps/rajasthan/*

Bikaner is one of Rajasthan's dessert districts located in the state's northwest. It is bordered on the north by Ganganagar, the Jaisalmer district, and Pakistan; on the west by Churu; on the east by Nagaur; and on the south by Nagaur and the Jodhpur district.

Rajasthan is the largest state in India in terms of area, with a total land area of 342,239 square Kilometers. It is home to nearly 5.5% of the total population. A large percentage of the state is covered by the Thar desert. It is the seventh largest by population, making it an area with intensive energy consumption. In 2011, the sex ratio of female was 928 per 1000 males in Rajasthan.

1.4.2 Economic Profile

Rajasthan's economy is primarily agricultural and rural, with fluctuations in the growth rate of the NSDP (Net State Domestic Product) due to the uncertainties in agriculture, which is totally dependent on rainfall. Rajasthan increased its overall SDG score from 57 in 2019-20 to 60 in 2020-21, while remaining in the Performer group. Rajasthan achieves the highest possible score in Goal 7 (Affordable and Clean Energy) out of the 16 SDGs that were quantitatively analysed between 2019-2020 and 2020-21.

	Achiever – SDI score is equal to 100
	Front Runner – SDI score is less than 100 but greater than or equal to 65
	Performer – SDI score is less than 65 but greater than or equal to 50
	Aspirant – SDI score is less than 50

Source *https://sdg.rajasthan.gov.in/Upload%20Attachment/fe0c6e45-0300-4124-90ce-eb4b1da7c63e/Rajasthan%20SDG%20Index.pdf*

Rajasthan is the leading producer of solar energy. During the "Invest in Rajasthan summit" major focus was on the use of solar energy and to make it as a more dependable power and increase the process of battery manufacturing and green hydrogen.

1.4.3 Initiatives related to Renewable Energy

Rajasthan has undertaken numerous initiatives to develop a supportive political environment for the Renewable Energy sector. The simplification of the approval procedure, tax breaks, loosening of land acquisition regulations, encouragement of rooftop and decentralised solar projects, and construction of costly solar parks in Bhadla, Phalodi-Pokhran, and Nokh have all contributed to a healthy current installed solar capacity of more than 3 GW. A deal signed by the Rajasthan government with NTPC and Rajasthan Solar Park Development Corporation will result in the construction of another Mega Solar Park at Nokh. The Jaisalmer Wind Park, with 1,064 MW, is one of the largest in the world and the second largest in India. Bhadla Solar Park, the world's largest solar park at the moment, is located in Rajasthan's Jodhpur area and has a 2.5 GW capacity potential.

The Rajasthan Investment Promotion Scheme 2019, Solar Energy Policy 2019, and Wind & Hybrid Energy Policy 2019 provide a range of incentives and relaxations with the purpose of establishing Rajasthan as a major centre for renewable energy.

Further to take into account there is a provision for major players and investors, they also have solar-powered farm pumps, manufacturing sector, storage technology for renewable energy, and the re-powering of ageing wind turbines with new ones. The state's cost of producing electricity from renewable sources has decreased as a result of the regulations. The state government aims at transforming 33 district offices into "Green Energy Cities" over the course of the next five years by constructing 300 MW of solar rooftop systems.

1.5 Survey Sample

Table No. 1.1: Gender-wise distribution of Respondents (in %)

Area of Study	Percentage of Respondents	
	Male	Female
Bikaner	36.9	14.3
Jaisalmer	33.0	15.8
Total	**69.9**	**30.1**

Source: *Field Survey*

The total study sample was composed of 69.9 per cent men and 30.1 per cent women. Since the study's objective was to draw a general understanding of the awareness regarding green jobs and the potential of the existing green jobs in the concerned region, balancing male-female ratio in the sample was not taken as an objective. Moreover, the misbalance in the composition also points towards a higher male presence in the sectors.

Table No. 1.2: Classification of respondents on the basis of age and gender (in numbers)

Age Group	Percentage of Respondents		
	Bikaner	Jaisalmer	Total
15-21 years	1.8	0.4	2.2
22-28 years	20.7	16.4	37.1
29-35 years	11.0	25.6	36.6
36-42 years	10.9	5.2	16.1
43-49 years	4.8	0.8	5.6
50-56 years	1.4	0.2	1.6
57-64 years	0.5	0.1	0.6
Prefer not to answer	0.2	0	0.2
Total	**51.2**	**48.8**	**100**

Source: *Field Survey*

A majority of the respondents in this survey, are found to be in the age group of 22-28 years (37.1 %) and 29-35 age group (36.6 %), which means that about 73.7 per cent of the sample are between 22 to 35 years of age. This shows that the study is more representative of a youthful population of individuals who are in their 20s and early 30s.

Table No 1.3: Classification of respondents on the basis of educational qualification (in %)

Level of Education	No. of Respondents		
	Bikaner	Jaisalmer	Total
Primary schooling	0.2	0	0.2
Middle school	0.7	0.4	1.1
Secondary schooling	1.1	1.5	2.5
Higher Secondary	4.2	2.2	6.4
Diploma/Certificate Course	1.9	5.1	7.0
Graduate	25.6	34.5	60.1
Post Graduation (PG)	16.7	5.0	21.7
Vocational Training	0.2	0.1	0.3
Not literate	0.6	0	0.6
Total	**51.2**	**48.8**	**100**

Source: *Field Survey*

As indicated in Table 1.3, a majority of the respondents are graduates forming 60.1 per cent of the sample. Among the rest, 21.7 per cent are post-graduates, 10.2 per cent have not attended higher education and 0.6 per cent is not literate.

Table No. 1.4: Employment Sector-wise distribution of respondents (in numbers)

Employment Sector		No. of Respondents		
		Bikaner	Jaisalmer	Total
Primary Sector	Agriculture	6.6	3.4	10.0
	Renewable Energy or Energy Efficiency	42.3	27.3	69.6
Secondary Sector	Construction	0.9	1.6	2.5
	Manufacturing	1.0	4.4	5.4
Tertiary Sector	Transportation	0.2	5.2	5.4
	Water and Waste Management	0.2	5.2	5.4
Quaternary Sector	Financial Planning	0	0.5	0.5
	Consultancy	0	0.5	0.5
	Research and development	0	0.7	0.7
Total		**51.2**	**48.8**	**100**

Source: *Field Survey*

Based on the objective of the study, the survey mostly included green sectors like agriculture and renewable energy. Thus, majority of the participants are workers of the primary sector, particularly in the field of Renewable Energy composing 69.6 per cent of the sample and 10 per cent are from the Agricultural sector. About 7.9 per cent of the respondents are workers of the secondary sector and 10.8 per cent from the tertiary sector. Only 1.7 per cent of the respondents are workers of the quaternary sector.

Chapter 2 : Review of Literatures

2.1. 'Green Jobs' in the context of G20

In recent years the concept of 'green jobs' or 'green growth' policies has gained popularity as a possible solution to the environmental issues brought on by global climate change as well as the ongoing unemployment issues seen in many developed nations. According to an ILO report (2018), rising of atmospheric temperature, if continues at the recorded rate, by 2030, G20 countries are to experience about 1.9 per cent of reduction in work hours as a result of heat stress, and also, about 34 per cent of jobs in G20 countries depend directly on the ecosystem and therefore face threat due to events related to climate change (ILO, 2018). In this context the idea of green jobs is believed to be the necessary path to bring a balance between needs of the economies and as well as the environment, which has come to occupy a prominent position in the G20 summits and recent policies of different G20 countries.

The ILO report talks about various 'ecosystem services' that face threat due to environmental degradation and outlines some adaptation measures like protection and restoration of natural environment, infrastructural projects to limit environmental risks, capacity building activities like skill development programs for the green economy and social protection mechanisms to help victims of environmental disasters. Importance of involving vulnerable groups like women, youth, migrants and indigenous and tribal peoples in activities related to management of environment and natural resources is also highlighted. Further, the report mentions about two significant initiatives by Argentina and South Africa towards managing environmental crises and creating more employment in environment-related works like Argentina's National Water Plan ("Plan Nacional de Agua Potable y Saneamiento") and South Africa's Working for Water (WfW) programme, and mentions about available methodologies for the assessment of green jobs such as that of the Green Jobs Assessment Institutions Network (GAIN).

At the G20 seminar on green growth, jointly organized by the Mexican G20 Presidency and the OECD, in May 2012, attempts were made to identify some of the key challenges in transitioning to a green economy and the types of labour market and skill policies that are required to maximize job creation under green growth. Two of the major of challenges that were identified involve skill development of low and medium skilled "brown job" workers (those engaged in mining, fossil fuel-based energy generation, manufacturing, forestry and agriculture) who are at the risk of losing jobs as economies undergo a transition towards greening, and, the lack of coordination and gaps that exist between national planning and labour policies. Some of the policy recommendations that emerged from the discussions include, integration of green skill development into wider skill development policies and trainings, development of green skills that allow greater occupational mobility instead of limiting a worker to a specific green job, encouraging individuals and companies to invest in the development of green skills, undertake frequent revision of educational curricula and strengthening career guidance to ensure better employability of students and to make them more adaptable to the needs of a green economy, framing of labour market programs for the re-employment of workers displaced by structural economic changes for green growth, etc (ILO et al., 2013).

With India heading the G20 summit 2023, Green Development, Climate Finance & Lifestyle for Environment (LiFE), accelerating progress on Sustainable Development Goals (SDGs) constitute some of its listed priorities. The term LiFE (Lifestyle for Environment) has been coined by India with the objective of encouraging a behavior-based movement for the adaptation of market practices that are environmentally conscious. The idea is said to be inspired from sustainability-based traditions of ancient India.

The inception meeting of L20 held in Amritsar, India on March 18-20, 2023 has formed five Task Forces to address various pressing issues of contemporary times with regard to social

security, women's employment, international migrations, new forms of work and skill development. 'Changing World of Work: New employment opportunities and challenges in G20 countries', which constitutes one of the five Task Forces, addresses the urgent need for skill development policies and initiatives in terms of the new forms of work and employment such as care work, work in the digital economy, green jobs, etc. Incorporation of green skills in skill training curricula and enabling global recognition of skills form two of the important recommendations under this issue.

In the recent G20 summit of 2023, India has made a commitment to work towards tripling its renewable energy capacity by 2030.

2.2. Green Job initiatives in G20 nations

In a study 'Green economy and green jobs: Myth or reality? The case of China's power generation sector' Cai et al. (2011) conduct an assessment of direct and indirect impacts of policies in the power generation sector, for GHG reduction, on the job market in the period 2006-2009. The study finds that while the first category of policies 'replacing inefficient small generating units with large ones' had led to a rise in net indirect jobs, the other category of policies 'developing renewable and new energy' resulted in more job losses. Further the authors suggest that investments made on Solar PV would have more job creating potential than nuclear power or wind power (Cai et al., 2011). Therefore the study shows that different kinds of green job initiative scan have different impact on the labour market which needs to be carefully assessed and accordingly planned.

In another study on China, the country's policy initiatives with regard to a green transition and its adoption of environment liability insurance is discussed as an effective initiative to ensure higher responsibility among companies and organizations in managing environmental risks and to safeguard the rights and interests of victims of environmental pollutions (Weng et al, 2015). Since the introduction of the insurance policy in 2007 more such insurance schemes have been encouraged to come up. Another notable green initiative in China exists in the form of 'People's Republic of China Circular Economy Promotion Law' (2009), which, conceptualizes a four-leveled circular economy consisting of a small cycle which involves various regulations and engagements at an intra-organisational level such as processes within a company, a middle cycle involving efforts among different companies, a larger cycle involving initiatives at the level of society, and a fourth estate involving the recycling industry that deals waste management and encourages a wider cyclical utilization of resources (Weng et al, 2015). In its conclusion the paper calls attention to the issues of social equity and inclusion in China's green development policies.

The American Recovery and Reinvestment Act of 2009 carried on the suggestions made in the Green Jobs Act of 2007, which was a part of the 2007 Energy Independence and Security Act. It was found that the American Recovery and Reinvestment Act of 2009 secured financing for green programmes, particularly for investments in energy efficiency and renewable energy as well as for related R&D, despite the fact that the Green Jobs Act was never made into law. Although significant public investments have been made and are being considered to support green growth and green jobs, it is unclear how these efforts will affect labour market outcomes. This is due to the dearth of easily accessible microdata and the emphasis on long-term simulation analysis rather than programme. Evaluation-style empirical investigations, as well as the heterogeneity of the policy scenarios and study environments. Beyond the effects on the labour market, it is important to carefully consider the enhancements in environmental quality brought about by green legislation. It is suggested that Future study in each of these areas will help gain an in-depth perspective of this complex scenario (Deschenes, 2013).

In another study from USA by Sonti et al.(2013), the researchers used a qualitative method of case study to explain the impact of green jobs. The findings of the study describe that every

year, more cities make investments in sustainability initiatives and green infrastructure, which will increase demand for a skilled green workforce. To ensure that the greening of the cities creates chances for a vulnerable population unemployed minority young adults green jobs training initiatives like the Million Trees NYC Training Program (MTTP) are crucial.

The study 'Civil society perspectives on green jobs in sustainable energy' based on Malta, an island country of the European Union, discusses the significance of civil societies in contributing to development of greens jobs for achieving sustainability and propounds that policy initiatives, to foster coordination between diverse civil society organizations, are required to enable a 'decentralized discourse and democratized engagement' with regard to energy sustainability and green jobs (Briguglio & Brown, 2019).

Another study from the European Union, highlights Romania's perspective on sustainable economic development and the role of green jobs in achieving it. It can be said that in order to deal with the worldwide concerns of environmental protection, economic development, and social inclusion, green jobs play an integral role to sustainable development. (Aceleanu,2015). This study has helped to understand that first and foremost the less advanced countries should consider establishing a system that will help promote green skillstraining. It is of utmost importance to establish a green skills training system focusing on companies and their employees based on the demand for a market-friendly skills development system and customized skills development systems.

Highlighting the importance of a green economy for South Africa, the report from a study that was undertaken by 17 major researchers from the three prominent organizations such as IDC, the Development Bank of South Africa, and Trade and Industrial Policy Strategies, states that despite the fact that there uncertainties revolving around the key findings green economic activity does appear to support a greater number of local jobs than sectors dependent on fossil fuels. Data presented in the report brings attention to the need for additional study and policy participation in South Africa's greening of the economy (Borel-Saladin &Turok, 2013).

Based on a study in Ontario, Canada, Bohringer et al. (2012) have brought out another work that shows how green job policies do not necessarily result in employment generation. Using a 'standard computable general equilibrium framework with electricity market disaggregation and labour market detail to examine employment impacts associated with renewable energy support policies' approach the study shows that while such renewable energy support policies may increase employment in the green sector, they have a negative net impact on the labour market.

A study from Korea that was conducted on a sample of 100 organisations in 15 industry sectors and covers green energy businesses countrywide, suggests that formal curricula, which can be seen in colleges, should be used more often to solve the gap of professional technical talent and short-term programmes need to be designed to bridge the gap for trained technical labour. As far as the quality component is concerned, training programmes should be developed for qualified technical personnel. (KRIVET, 2012).

2.3 Summary

Although the need for skill development with regard to Green Jobs has been a part of the international discourse for over a decade now with studies emerging from several G20 countries proposing or falsifying the employment generating potential of green jobs and echoing the issue of green skill deficiencies, empirical data on policy implementations and result-based evidences of green initiatives is still very scarce. Based on studies that highlight the failures of existing green job policies in fulfilling the promise of employment generation, it is understood that whatever approach is being pursued in terms of manifesting a 'green growth', policy makers and economic planners need to engage in broader assessments of the possible consequences of a particular policy, also keeping note of a greater goal of inclusiveness.

Chapter 3: Awareness Regarding Green Jobs

3.1 Overview

Green Jobs can manifest in the form of a useful strategy, to achieve the goal of sustainable growth, only when there is sufficient awareness in society regarding the importance of these jobs in the contemporary environmental context.

3.2 Awareness on Green Jobs

To find out the spread of awareness regarding green jobs, an objective item in the questionnaire asked respondents whether they had heard of 'Green Jobs' which was to be answered in yes or no. Following table depicts the responses to this question from the two sites of study.

Table 3.1: Table showing distribution of responses to the question 'Have you heard of Green Jobs?'

Types of Responses	Distribution of Responses (%)	
	Jaisalmer	Bikaner
Yes	48.3	98.8
No	51.7	1.2
Total	100	100

Source: *Field Survey*

Table 3.1 shows that in terms of awareness regarding green jobs, the patterns of responses from the two districts of Rajasthan are very different from each other. While in the case of Jaisalmer, there is only a marginal difference in the share of Yes and No responses as 48.3 per cent of the sample have claimed that they have heard about green jobs while the remaining 51.7 per cent have not. In the case of Bikaner, however, an overwhelming majority of 98.8 per cent have answered with a 'yes' and only 1.2 per cent have said 'no'. This shows that there is a much wider level of awareness on green jobs in Bikaner than in Jaisalmer.

To have a deeper understanding of how people working in different occupational sectors perceive the concept of green jobs, the study undertook some interviews which were designed to investigate people's awareness and perceptions on the matter of green jobs. Following is an excerpt from an interview with the Branch Manager of State Bank of India, Bikaner:

Field Investigator: *What is the benefit of creating green jobs?*

Interview Participant: *Many people have the will to improve the environment. But till a few years ago working on preserving and restoring the environment was more like charity and could be afforded by few. But now, with the proliferation of green jobs, anyone with the necessary skills can get a paid job improving the quality of the environment. This will help reverse climate change and, as a result, make the Earth a better place for future generations.*

Field Investigator: *What are the employment opportunities in terms of Green Jobs in the Banking Sector?*

Interview Participant: *Employment in renewable energy sector, construction of eco-friendly buildings, and conversion of existing companies into eco-friendly companies will also create green jobs. In the banking sector, creating policies and roles for providing financial support for such activities will promote green jobs in Banking.*

Field Investigator: *What more measures can be taken to increase the green job prospects?*

Interview Participant: *Organizing awareness programs on green employment and green economy. Encouraging and supporting companies to create green jobs.*

The interview excerpt, given above, projects the level of awareness and opinion of a bank employee on how a green employment growth can be created under different occupational sectors and how the banking sector, by providing financial assistance to green business activities, and by creating specific job post of a green finance employee can promote green employment within its own field as well as in the economy, in general.

3.3 Transition towards Greener Energy

Table 3.2: Table representing responses to questions aimed at checking energy-saving habits among people

Questions to check Energy Saving Habits	Bikaner		Jaisalmer	
	Yes	No	Yes	No
Do you use LED lighting?	99.2	0.8	98.6	1.4
Do you leave your electrical appliances on standby mode?	98.4	1.6	95.2	4.8
Do you procure renewable electricity?	97.9	2.1	85.6	14.4

Source: *Field Survey*

Table 3.2 presents responses to questions that were aimed at understanding the spread of awareness regarding energy conservation and to find out patterns of activities among people in terms of energy consumption. The results reveal that there is a wide awareness among the population regarding energy conservation as approximately 85-99 per cent of the respondents in both the cities have answered in affirmative to all the three questions. The data, however, cannot be taken as a representation of actual behavior pattern to assess carbon footprint.

Table 3.3: Table showing responses pertaining to factors that affect decision of moving towards green energy (in %)

Factors	Very Much		Somewhat		Little		Not at all	
	Jaisalmer	Bikaner	Jaisalmer	Bikaner	Jaisalmer	Bikaner	Jaisalmer	Bikaner
Cost of Purchasing	56.1	46.5	30.0	14.1	8.3	36.3	0.25	3.2
Maintenance Cost	24.2	20.1	65.2	35.5	10.1	38.6	0.41	5.8
Ease of Switching	30.7	17.7	52.8	38.6	14.9	34.7	1.5	9.1
Opinion of Peers/ Seniors / Friends and Family	19.6	13.3	55.1	30.0	19.1	43.9	6.0	12.9

Source: *Field Survey*

Table 3.3 represents share of responses from Jaisalmer and Bikaner in terms of different factors that affect people's decision of switching to green energy. Figure 1 and Figure 2 illustrate the data given in this table.

Figure 1. Diagram representing responses from Bikaner pertaining to factors that affect decision of switching to Green Energy

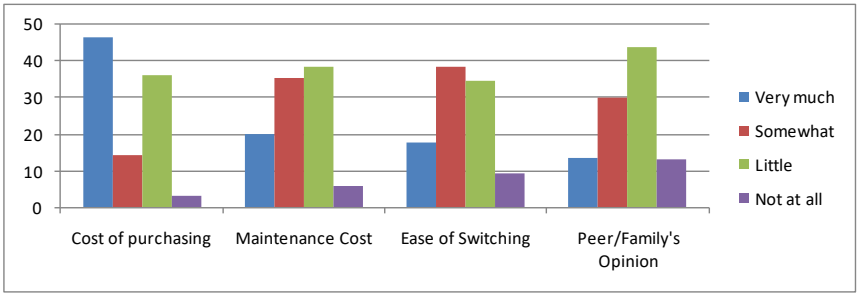
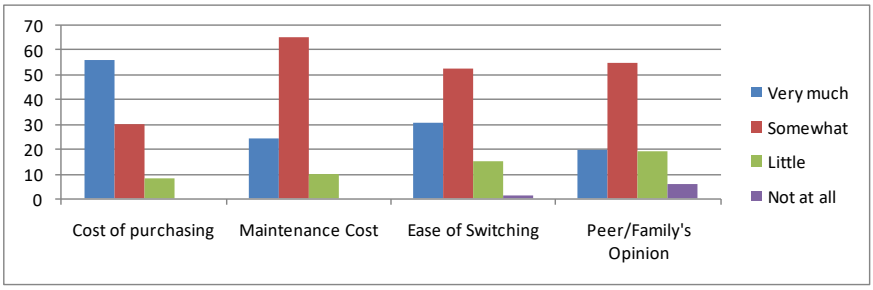


Figure 1 represents the percentage of responses (Male+Female), from Bikaner, with regard to different factors that affect one's decision of moving towards green energy.As indicated in the diagram, factor that highly affects the decision of moving towards green energy is Cost of Purchasing, having received highest number of 'very much' responses, i.e. 46.5; and the factor 'Peer/Family's Opinion' has received highest number of 'Little', highest number of 'Not at all' and lowest number of 'Very much' responses meaning that it is the least affecting factor. However, all the four factors have received a high and almost equal share of 'Little' responses, which signifies how all these factors, although in varying degrees, are relevant for all the respondents.

Figure 2. Diagram representing responses from Jaisalmer pertaining to factors that affect decision of switching to Green Energy



Source: *Field Survey*

Figure 2 shows that, in terms of respondents from Jaisalmer, the factor that dominantly affects the decision of moving towards green energy is Cost of Purchasing as this factor has received the highest number of 'very much' responses constituting 56.1 per cent of respondents and the least number of 'Not at all' responses. Maintenance cost is found to be another important factor having received 65.2 per cent of 'somewhat' responses. The third factor also seems to be relevant as 30.7 per cent respondents consider Ease of Switching to be 'very much' influential. Opinion of Peers/Seniors/Family and Friends seem to be the least relevant factor as it has received lowest 'very much' and highest 'not at all' responses.

3.4 Summary

This chapter has shown that environmental awareness is widespread in the public consciousness and with that the concept of green economy and green jobs are also gaining widespread popularity. This rise in awareness offers signs of a high potential in India for the expansion of green activities within and across different. While people are mostly willing and ready for a transition towards green energy use, high cost of purchase, installation and maintenance of renewable energy technologies for use at individual level creates constraints on this regard.

Chapter 4: Government Policies and Programmes

4.1 Overview

Adhering to the global sustainable development goals, and combined pursuit of SDG#7 Affordable and Clean Energy and SDG#8 Decent work and Economic Growth, has given shape to a number of policies and programmes of the Indian government that are directed towards building and strengthening a green economy. These initiatives are imperative to the development of public consciousness towards sustainable living and the growth of green jobs. In the following sections, some of the prominent government initiatives are listed.

4.2 National Action Plan on Climate Change (NAPCC)

Launched in the year 2008, the NAPCC consists of eight National Missions: 1. National Solar Mission 2. National Mission for Enhanced Energy Efficiency 3. National Mission on Sustainable Habitat 4. National Water Mission 5. National Mission for Sustaining the Himalayan Eco-system 6. National Mission for a Green India 7. National Mission for Sustainable Agriculture 8. National Mission on Strategic Knowledge for Climate Change. By targeting different action areas, these missions aims towards preventing further degradation of the natural environment and contribute to the global agenda of balancing climate changes.

4.3 National Urban Sanitation Policy *(2014)*

Objective of this policy is to ensure an efficient management of sanitation and wastes in urban areas and involves promoting proper sanitation system, construction of toilets, solid waste management, etc.

4.4 Skill Council for Green Jobs

The Skill Council for Green Jobs (SCGJ) was launched by the Ministry of Skill Development and Entrepreneurship (MSDE) and promoted by the Ministry of New and Renewable Energy and Confederation of Indian Industry in 2015. Activities of the SCGJ include 'all stages of training design and delivery including, performing skills gap analysis, occupational mapping, development of qualifications based on industry requirements, affiliating suitable training partners and assessment agencies, training for trainers and assessors, training and certification of candidates in various subsectors supported with creation of centres of excellence, improving industry linkages in all sub-sectors, undertaking consultancy assignments and implementing externally sponsored projects'[1]. The organization, in its recent annual report (2021-2022), states that it has imparted training to over 504,000 trainees in different domains of renewable energy.

4.5 Atal Bhujal Yojana (ABHY)

This scheme was launched in 2018. The scheme envisages a community-led management of ground water resources. Some of the water-stressed states are identified for this purpose viz. Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Uttar Pradesh. Sustainable management of ground water is targeted through convergence among various on-going schemes with the active involvement of local communities and stakeholders.

4.6 The Galvanizing Organic Bio-Agro Resources Dhan (GOBARdhan) Scheme

This scheme was first announced in 2018. It is an umbrella initiative of the Government of India, intrends to promote a circular economy by converting waste to wealth. A wide range of programs, and policies are designed under this scheme to facilitate the conversion of organic

1 As mentioned in the Skill Council for Green Jobs Annual Report 2021-2022.

wastes like cattle dung and agricultural residues into Biogas, Compressed Biogas (CBG) or Bio-Compressed Natural Gas (CNG).

4.7 PM-KUSUM Yojana

PM-KUSUM (Pradhan MantriKisanUrjaSurakshaevamUtthaanMahabhiyan) Scheme is aimed at ensuring energy security for farmers in India and commits to increasing the share of installed capacity of electric power from non-fossil-fuel sources to 40% by 2030.

4.8 Mission LiFE

'Mission LiFE' (Lifestyle For Environment) was introduced by Prime Minister NarendraModi at COP26 in Glasgow on 1st November 2021,which is being promoted as a 'mass movement for environmental conscious lifestyle'. The framework for LiFE involves three important phases of creating a change in demand by raising the demand for environment-friendly practices (Phase1), change in supply of goods and services to provide for the emerging demands (Phase 2) and Change in Policy (Phase 3) to support sustainable consumption and production.

4.9 Green Credit Program

The Union Government in its annual budget 2023 has announced a Green Credit Program and allotted Rs 35,000 crore to achieve energy transition and net zero emissions. The Green Credit Program proposes to incentivize environment friendly actions by various stakeholders at the level of individuals, companies and local bodies.

4.10 Summary

Through its various policy initiatives, is addressing multi-faceted issues of environmental concerns and are working on areas like urban sanitation, water management, reduction of fossil fuel usage and increasing renewable energy procurement, encouraging and supporting sustainable practices for agricultural sector as well as in the overall economy. All these efforts mark the three important components of the governments green growth strategy, which are, reduction of fossil-fuel usage, increased production of renewable energy and transition towards a gas-based economy.

Chapter 5: Business Sectors Exhibiting Green Jobs

5.1. Overview

As discussed in the previous chapter, the pursuit of green growth has taken a prominent place in the recent policy frameworks of the Indian government. The country's business sector has received an impetus through the support of the government and rising public demand for green developments. This has led to a mushrooming of business initiatives incorporating environment-friendly ideas in various ways.

Apart from the larger projects in areas like renewable energy and resource management that can be seen as the more direct outcome of government initiatives, several privately driven micro initiatives in the form of 'eco-friendly start-ups' or green business initiatives are now sprouting up all over the country and form significant instances of green jobs in India. Present chapter brings attention to such activities.

5.2. Use of Solar PVs in Organisations

The state of Rajasthan has been a major investor in terms of Solar energy and has been identified as the leading solar energy generating state in the country generating about 17,839 MW of solar power (The Economic Times, 2023).

To further asses the outreach of this initiative, the study sought to find out the extent of Solar PV use at the level of organizations. Following tables demonstrate the findings on this regard:

Table 5.1: Solar PV in the office buildings surveyed

Type of Response	Distribution of Responses	
	Bikaner	Jaisalmer
Yes	3.4	80.6
No	96.6	19.4
Total	100	100

Source: *Field Survey*

The data represented in Table 4.1 indicates that there is a prominent gap between the two cities selected for this study, in terms of installation of Solar panels in organizations. While 80.6 per cent of respondents from Jaisalmer have responded with a 'yes' to having Solar PVs installed in their office buildings, 96.6 per cent respondents from Bikaner have responded with a 'no'. This shows that the potential for solar energy utilization is very high in Jaisalmer while in Bikaner this available resource is yet to be tapped to its potential.

5.3 Green business initiatives in Rajasthan

Further, to learn about the existing prospects of green jobs in Rajasthan, a probe was done to find out what kind of organizational/business initiatives have come up in Bikaner and Jaisalmer, pertaining to 'greening' of workplaces and operations. Consequently, the study has come across some very interesting instances of green initiatives which will be discussed in the following sections.

5.3.1 Case Study from Bikaner

Jay Construction Pvt Ltd, Bikaner

With an intention of finding out the existing potential for green jobs in the region's construction sector, interviews were attempted with Engineers and Management employee of some of the

local construction firms. The transcript of one such interview is as follows:

(Field investigator of this study visited Jay Construction Pvt. Ltd in Bikaner and met with the firm's owner who is also a Civil Engineer. After a brief introduction with the concerned person regarding the purpose of the study, an interaction was initiated where a series of questions were asked to the Owner).

Interviewer: When was this firm started?

Interviewee: This Company was started in 2017.

Interviewer: How many employees do you have here?

Interviewee: Not much, there are about 14 to 15 employees in my company who work well and we have divided everyone's work.

Interviewer: Have you undertaken any green construction work? Tell me something about the raw materials you use and what kind of measures you take to reduce harmful effects on the environment.

Interviewee: We have constructed some buildings that are eco-friendly, my company has used such bricks as materials which are environment friendly and we have used clay as well as bamboo in our work.

Interviewer: Have you taken any help from the government to do green constructions?

Interviewee: Till now I have not got any help from the government, let's see what happens in future.

Interviewer: Can you please tell me what is meant by 'Greenbuilding'?How many green building projects have you taken up so far?

Interviewee: Green Buildings mostly are made using techniques to reduce energy usage by employing water conservation techniques, use of solar power, re-use waste construction materials, use natural materials for construction like clay, bamboo, etc. Planning and designing of this type of buildings is done in such a way that reduces the use of electricity by installing designs for natural lighting and cooling. Till now I have constructed about 6 to 7 buildings.

Interviewer: Is there any special education and skill requirement to work in green constructions? I would like to know if your company has any specific 'green-skills' position.

Interviewee: Yes, what work can be done without skill, skill is very important to do any work and we have separate employees for each category of work. We employ special artisans for this kind of work.

Interviewer: What types of obstacles or difficulties do you experience with green construction projects?

Interviewee: Not getting the benefits of government schemes quickly and difficulty in finding skilled workers, inadequacy of raw materials is the main reason according to me in green building construction projects.

This interview brings attention to some very important factors pertaining to green construction works which can be summed up into the following points: (i) relevance of green constructions in preventing further degradation of the natural environment through the use of environment-friendly, biodegradable and recycled substances as raw materials for constructions, (ii) difficulties in availing the raw materials, (iii) need for financial assistance and other forms of support from the Government (iv) need for encouraging and imparting green skill trainings among construction workers. The Civil Engineer of the firm reports that so far he has managed to build about 6-7 green buildings, without any specific support from the government, since the firm's opening in 2017. This means that if governmental support for this kind of work is

strengthened, the popularity and efficiency of green constructions can get better.

5.3.2 Case Studies from Jaisalmer

The Date Farm, Jaisalmer

This business claims that it has been developed as an eco-friendly farm resort for tourist attraction and for maintaining a healthy ecosystem. Environmental-friendly techniques are being implemented on the farm, for instance, using solar energy to dry the dates.

Source: *Field Investigator*

An informal interaction was initiated with the farm Manager who gave some relevant information regarding the farm's operations. He informed that this business was developed with support from the state government as the government of Rajasthan has taken up initiatives under to turn barren land into productive land, further contributing to employment generation.

> *The Rajasthan government gives barren or unproductive land on lease to private companies to set up farms and solar energy plants and create employment. Similarly, this land has been given on lease to a private group (Vertex Group) for managing all activities here. They are using solar energy to dry the dates. They use organic manure to increase the productivity of soil and plants. We use organic manures and solar energy to run all the farm's activities. We avoid activities that could be harmful to the environment.*
>
> ***-Farm Manager***

This case illustrates how initiatives of the government such as the PM-KUSUM Yojana and Rajasthan Government's Saur Krishi Aajeevika Yojana (SKAY) are imperative for the growth of green jobs.

Use of Solar Water pump on agricultural land

Source: *Field Investigator*

This is an instance from an agricultural land located in Mohangarh, Jaisalmer. The farm owner, Atmaram, uses a 5HP solar water pump for irrigation. Solar water pumps have emerged as a reliable cost effective technology to increase energy access for sustainable agriculture. It is a

better alternative to electric and diesel pump. It, however, involves a high upfront cost despite subsidy and also runs a risk of over-use, threatening further depletion of ground water.

Impact of Renewable Energy Projects on DegRai Mata Oran (sacred grove)

Source: *Field Investigator*

Orans are sacred groves. Protected by surrounding villages, every oran hosts a water-body that fuels the rich biodiversity.The DegRai Mata Oran shelters a variety of trees and wildlife. High-tension cables from renewable energy projects have now occupied the sky. This place serves as a shelter for several Migratory and endangered bird species. Several birds and wildlife animals collide with these cables and get electrocuted. Life has changed for the people and the wildlife of the oran.

5.4 Summary

This chapter has highlighted some of the areas where green jobs are emerging and shows the potential of green jobs in the state of Rajasthan. It is however, evident that the development of this green growth is not uniform and the results of this study show that green initiatives are developing more rigorously in Jaisalmer than in Bikaner.

The construction, have a huge potential for the development of green jobs, if provided with proper guidance, training and support. The illustration brought in from the Deg Rai Mata Oran point at the importance of careful and integrated planning of renewable energy projects so that they don't end up causing harm to the surrounding ecosystem.

Chapter 6: Conclusion

The current study has thrown light on the existing scenario of green jobs in the state of Rajasthan. Various findings of the study indicate a high level of awareness in the region regarding the need for an environmental-conscious lifestyle and the relevance of green jobs for supporting that.

Various policy initiatives and the language of sustainability adopted by the Government of the country has shown positive results in terms of inculcating a pro-environment mindset in the society which also reflects through the growth of green businesses and the adoption of environment-friendly techniques in other business and work activities as well.

People, however, have expressed apprehensions in adopting renewable energy systems for use at household level, due to a concern over high costs of purchase, installation and maintenance of Renewable energy systems. While the union as well as certain state governments are promoting and facilitating the use of renewable energy sources, policy frameworks also need to encompass strategies for promoting household-level.

Policy Recommendations

Learning gained from the current study can be used to make a few policy recommendations, which are as follows-

1. Existing Industrial Training Institutes (ITIs) need to be linked with the Skill Council for Green Jobs (SCGJ) to increase the human resource potential for green jobs.
2. Building an efficient employer to employer chain in the green job sector to ensure employment continuity for green skill workers.
3. ITIs need to incorporate new areas of trades pertaining to green jobs.
4. Providing a separate heading for green jobs under the National Career Service (NCS) portal would help in mainstreaming the concept of green jobs.
5. School curriculums should incorporate the concept of green jobs.
6. On the job trainings need to be provided for the existing green job employees at the entry level, middle level and top level of employment.
7. Training of trainers (ToT programs) may be conducted to increase awareness on green jobs.
8. Encouraging more in-depth research in this area to understand the challenges and develop policy framework for creating more green jobs for sustainable growth.

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Annexures

Annexure 1

Questionnaire

Objective 1: To study the sectors where green jobs are ongoing and sectors where green jobs can be introduced
उद्देश्य 1: उन क्षेत्रों का अध्ययन करना जहां हरित रोजगार चल रहे हैं और ऐसे क्षेत्र जहां हरित रोजगार शुरू किए जा सकते हैं

Objective 2: To understand the future scenario of Green Jobs in India considering the net zero emission target 2070
उद्देश्य 2: शुद्ध शून्य उत्सर्जन लक्ष्य 2070 को ध्यान में रखते हुए भारत में ग्रीन जॉब्स के भविष्य के परिदृश्य को समझना

Your precious responses are required for this research study. Please tick the appropriate box in the given grid or circle and provide your appropriate response. Some questions may have multiple responses. The data provided will be kept confidential and will be used solely for the purpose of research.
इस शोध अध्ययन के लिए आपकी कीमती प्रतिक्रियाओं की आवश्यकता है। कृपया दिए गए ग्रिड में उपयुक्त बॉक्स पर टिक करें या उचित प्रतिक्रिया दें। कुछ सवालों के कई जवाब हो सकते हैं।प्रदान किया गया डेटा गोपनीय रखा जाएगा और अनुसंधान के उद्देश्य के लिए पूरी तरह से उपयोग किया जाएगा।

Date / दिनांक

Section 1 : Demographic analysis	
1. Name/ नाम	
2. Gender/ लिंग	1. Male/ पुरुष 2. Female/ महिला 3. Other/ अन्य 4. Prefer not to answer
3. Age/ आयु	1. 15-21 years 2. 22-28 years 3. 29-35 years 4. 36-42 years 5. 43-49 years 6. 50-56 years 7. 57-64 years 8. Prefer not to answer
4. Place	
5. Highest Education/ उच्चतम शिक्षा	1. Primary schooling/ प्राथमिक शिक्षा 2. Middle school/ माध्यमिक विद्यालय 3. Secondary schooling/माध्यमिक 4. Higher Secondary/उच्च माध्यमिक 5. Diploma/Certificate Course डिप्लोमा/सर्टिफिकेट कोर्स 6. Graduate/ स्नातक 7. Post Graduate/ स्नातकोत्तर 8. PG and Above/ स्नातकोत्तर और ऊपर 9. Vocational Training 10. Not literate / साक्षर नहीं
6. Designation/ पदनाम	

7. Type of Employment/ रोजगार का प्रकार	1. Part-time/ अंशकालिक 2. Full- time/ पूर्ण कालिक 3. Self-employed/ स्वरोजगार 4. Homemaker/ गृहिणी 5. Student/ विद्यार्थी 6. Retired/ सेवानिवृत्त
8. Annual Income/ वार्षिक आय	1. Up to Rs. 2,50,000 2. Rs. 2,50,000- Rs. 5,00,000 3. Rs. 5,00,000 - Rs. 7,50,000 4. Rs. 7,50,000 - Rs. 10,00,000 5. Rs. 10,00,000 - Rs. 12,50,000 6. Rs. 12,50,000 and above
Section 2 : To understand the sector	
1. Have you heard of Green Jobs?/ क्या आपने ग्रीन जॉब्स के बारे में सुना है?	1. Yes हाँ 2. No नहीं
2. Please tell the business sector of your organisation कृपया अपने व्यवसाय का प्राथमिक कार्य/क्षेत्र बताएं।	1. Primary Sector/ प्राथमिक क्षेत्र 1.1 Agriculture/ कृषि 1.2 Renewable Energy or Energy Efficiency/ नवीकरणीय ऊर्जा या ऊर्जा दक्षता 2. Secondary Sector/ माध्यमिक क्षेत्र 2.1 Construction / निर्माण 2.2 Manufacturing / विनिर्माण 3. Tertiary Sector/ तृतीयक क्षेत्र 1.1 Transportation / परिवहन 1.2 Water and Waste Management/ जल और अपशिष्ट प्रबंधन 4. Small Scale Industries (SSI) 5. Other Industry/ अन्य उद्योग
Section 3 : To understand the climate change	
3.1 How much do you agree or disagree with the following statements/ निम्नलिखित कथनों से आप कितने सहमत या असहमत हैं?	Select on a scale of 1-5, where 1. Strongly Disagree/ पूरी तरह असहमत 2. Disagree / असहमत 3. Neither Agree nor Disagree/ न सहमत न असहमत 4. Agree/ सहमत 5. Strongly Agree/ पूरी तरह सहमत
3.1.1 Renewable energy is unlimited/ नवीकरणीय ऊर्जा असीमित है?	1. Strongly Disagree/ पूरी तरह असहमत 2. Disagree / असहमत 3. Neither Agree nor Disagree/ न सहमत न असहमत 4. Agree/ सहमत 5. Strongly Agree/ पूरी तरह सहमत
3.1.2 Not enough is being done to reduce climate change/ जलवायु परिवर्तन को कम करने के लिए पर्याप्त प्रयास नहीं किये जा रहे हैं?	1. Strongly Disagree/ पूरी तरह असहमत 2. Disagree / असहमत 3. Neither Agree nor Disagree/ न सहमत न असहमत 4. Agree/ सहमत 5. Strongly Agree/ पूरी तरह सहमत

3.1.3 Natural Gas is more environment friendly than coal/ कोयले की तुलना में प्राकृतिक गैस अधिक पर्यावरण अनुकूल है?	1. Strongly Disagree/ पूरी तरह असहमत 2. Disagree / असहमत 3. Neither Agree nor Disagree/ न सहमत न असहमत 4. Agree/ सहमत 5. Strongly Agree/ पूरी तरह सहमत
3.4 How much do the following points affect your decision of moving towards green energy? हरित ऊर्जा की ओर बढ़ने के आपके निर्णय को निम्नलिखित बिंदु कितना प्रभावित करते हैं?	Select on a scale of 1-4 1. Very much/ बहुत कुछ 2. Somewhat/ कुछ हद तक 3. Little/ थोड़ा 4. Not at all/ बिल्कुल नहीं
3.4.1 Cost of purchasing/ क्रय करने की लागत	1. Very much/ बहुत कुछ 2. Somewhat/ कुछ हद तक 3. Little/ थोड़ा 4. Not at all/ बिल्कुल नहीं
3.4.2 Maintenance Cost/ अनुरक्षण लागत	1. Very much/ बहुत कुछ 2. Somewhat/ कुछ हद तक 3. Little/ थोड़ा 4. Not at all/ बिल्कुल नहीं
3.4.3 Ease of Switching/ स्विचिंग में आसानी	1. Very much/ बहुत कुछ 2. Somewhat/ कुछ हद तक 3. Little/ थोड़ा 4. Not at all/ बिल्कुल नहीं
3.4.4 Opinion of Peers/ Seniors / Friends and Family / दोस्तों और परिवार की राय	1. Very much/ बहुत कुछ 2. Somewhat/ कुछ हद तक 3. Little/ थोड़ा 4. Not at all/ बिल्कुल नहीं
3.5 Please rate how strongly you feel each one is responsible for the climate change. कृपया मूल्यांकन करें कि आप कितना दृढ़ता से महसूस करते हैं कि प्रत्येक व्यक्ति जलवायु परिवर्तन के लिए जिम्मेदार है।	Select on a scale of 1-5 where, 1. Least Responsible/ सबसे कम जिम्मेदार 2. Slightly Responsible/ थोड़ा जिम्मेदार 3. Neutral/ तटस्थ 4. Moderately Responsible/ मध्यम रूप से जिम्मेदार 5. Most Responsible/ सबसे ज्यादा जिम्मेदार
3.5.1 Public/ सार्वजनिक	1. Least Responsible/ सबसे कम जिम्मेदार 2. Slightly Responsible/ थोड़ा जिम्मेदार 3. Neutral/ तटस्थ 4. Moderately Responsible/ मध्यम रूप से जिम्मेदार 5. Most Responsible/ सबसे ज्यादा जिम्मेदार
3.5.2 Government/ सरकारी	1. Least Responsible/ सबसे कम जिम्मेदार 2. Slightly Responsible/ थोड़ा जिम्मेदार 3. Neutral/ तटस्थ 4. Moderately Responsible/ मध्यम रूप से जिम्मेदार 5. Most Responsible/ सबसे ज्यादा जिम्मेदार

3.5.3Businesses / Industries व्यवसाय / उद्योग	1. Least Responsible/ सबसे कम जिम्मेदार 2. Slightly Responsible/ थोड़ा जिम्मेदार 3. Neutral/ तटस्थ 4. Moderately Responsible/ मध्यम रूप से जिम्मेदार 5. Most Responsible/ सबसे ज्यादा जिम्मेदार
3.5.4 Nature itself/ प्रकृति ही	1. Least Responsible/ सबसे कम जिम्मेदार 2. Slightly Responsible/ थोड़ा जिम्मेदार 3. Neutral/ तटस्थ 4. Moderately Responsible/ मध्यम रूप से जिम्मेदार 5. Most Responsible/ सबसे ज्यादा जिम्मेदार
Section 4 : Solar panel	
4.1 Is there a Solar PV/ Thermal systems in your office building? क्या आपके कार्यालय भवन में सोलर पीवी/थर्मल सिस्टम की परिभाषा है?	Yes हाँ No नहीं
4.1.1 If yes, where is this energy being utilised. यदि हां, तो इस ऊर्जा का उपयोग कहां हो रहा है।	
Section 5 : Wind Energy	
5.1 Are there any wind - powered energy systems located on municipal - owned land? क्या नगरपालिका के स्वामित्व वाली भूमि पर स्थित कोई पवन-ऊर्जा ऊर्जा प्रणालियाँ हैं?	Yes हाँ No नहीं
5.1.1 If yes, where is this energy being utilised. यदि हां, तो इस ऊर्जा का उपयोग कहां हो रहा है।	
Section 6 : To understand the Carbon footprint	
6.1 Do you use LED Lighting?	Yes हाँ No नहीं
6.2 Do you leave your electrical appliances on standby mode?	Yes हाँ No नहीं
6.3 Do you procure renewable electricity?	Yes हाँ No नहीं
6.4 How do you dispose of your waste?	1. All in general waste 2. Recycle all your waste 3. Segregate waste as dry, wet and hazardous 4. Mixture of both general and recycling
Section 7 : Government Schemes	
7.1Are you aware of the energy saving schemes offered by the Government? क्या आप सरकार द्वारा प्रस्तावित ऊर्जा बचत योजनाओं से अवगत हैं?	Yes हाँ No नहीं
7.1.1If Yes, Please Specify/ यदि हां, तो कृपया निर्दिष्ट करें	

Annexure 2

Table No. 1(a): Gender-wise distribution of Respondents- Bikaner (in numbers)

No. of Respondents		Total
Male	Female	
1364	528	**1892**

Source: *Field Survey*

Table No. 1(b): Gender-wise distribution of Respondents- Jaisalmer (in numbers)

No. of Respondents		Total
Male	Female	
1218	586	**1804**

Source: *Field Survey*

Table No. 2(a): Classification of respondents on the basis of age and gender- Bikaner (in numbers)

Age Group	No. of Respondents		Total
	Male	Female	
15-21 years	40	26	**66**
22-28 years	556	211	**767**
29-35 years	296	109	**405**
36-42 years	286	116	**402**
43-49 years	124	53	**177**
50-56 years	41	9	**50**
57-64 years	16	3	**19**
Prefer not to answer	5	1	**6**
Total	**1364**	**528**	**1892**

Source: *Field Survey*

Table No. 2(b): Classification of respondents on the basis of age and gender- Jaisalmer (in numbers)

Age Group	No. of Respondents		Total
	Male	Female	
15-21 years	12	4	**16**
22-28 years	391	214	**605**
29-35 years	603	345	**948**
36-42 years	173	20	**193**
43-49 years	27	02	**29**
50-56 years	08	01	**9**
57-64 years	04	0	**4**
Prefer not to answer	0	0	**0**
Total	**1218**	**586**	**1804**

Source: *Field Survey*

Table No. 3(a): Classification of respondents on the basis of educational qualification – Bikaner (in numbers)

Level of Education	No. of Respondents		Total
	Male	Female	
Primary schooling	4	3	**7**
Middle school	17	10	**27**
Secondary schooling	24	16	**40**
Higher Secondary	86	69	**155**
Diploma/Certificate Course	60	10	**70**
Graduate	694	253	**947**
Post Graduation (PG)	455	162	**617**
Vocational Training	6	1	**7**
Not literate	18	4	**22**
Total	**1364**	**528**	**1892**

Source: *Field Survey*

Table No. 3(b): Classification of respondents on the basis of educational qualification- Jaisalmer (in numbers)

Level of Education	No. of Respondents		Total
	Male	Female	
Primary schooling	0	0	**0**
Middle school	14	1	**15**
Secondary schooling	42	12	**54**
Higher Secondary	65	18	**83**
Diploma/Certificate Course	141	47	**188**
Graduate	829	445	**1274**
Post Graduation (PG)	123	63	**186**
Vocational Training	04	0	**4**
Not literate	0	0	**0**
Total	**1218**	**586**	**1804**

Source: *Field Survey*

Table No. 4(a): Employment Sector-wise distribution of respondents – Bikaner (in numbers)

Employment Sector		No. of Respondents		
		Male	Female	Total
Primary Sector	Agriculture	144	100	**244**
	Renewable Energy or Energy Efficiency	1157	409	**1566**
Secondary Sector	Construction	28	6	**34**
	Manufacturing	26	10	**36**
Tertiary Sector	Transportation	5	1	**6**
	Water and Waste Management	4	2	**6**
Quaternary sector	Financial Planning	0	0	**0**
	Consultancy	0	0	**0**
	Research and development	0	0	**0**
Total		1364	528	1892

Source: *Field Survey*

Table No. 4(b): Employment Sector-wise distribution of respondents-Jaisalmer (in numbers)

Employment Sector		No. of Respondents		Total
		Male	Female	
Primary Sector	Agriculture	88	37	125
	Renewable Energy or Energy Efficiency	719	291	1010
Secondary Sector	Construction	52	8	60
	Manufacturing	86	78	164
Tertiary Sector	Transportation	188	4	192
	Water and Waste Management	44	148	192
Quaternary sector	Financial Planning	12	6	18
	Consultancy	11	7	18
	Research and development	18	7	25
Total		**1218**	**586**	**1804**

Source: *Field Survey*

Table No. 5(a): Table showing distribution of responses in terms of awareness regarding Green Jobs- Bikaner (in numbers)

Responses	No. of Respondents		Total
	Male	Female	
Yes	1348	522	**1870**
No	16	6	**22**
Total	**1364**	**528**	**1892**

Source: *Field Survey*

Table No. 5(b): Table showing distribution of responses in terms of awareness regarding Green Jobs- Jaisalmer (in numbers)

Responses	No. of Respondents		Total
	Male	Female	
Yes	635	236	871
No	583	350	933
Total	1218	586	1804

Source: *Field Survey*

Table 6(a): Table showing responses pertaining to factors that affect decision of moving towards green energy- Bikaner (in numbers)

Factors	Very Much			Somewhat			Little			Not at all		
	M	F	T	M	F	T	M	F	T	M	F	T
Cost of Purchasing	653	226	879	189	77	266	478	209	687	44	16	60
Maintenance Cost	261	119	380	492	180	672	536	194	730	75	35	110
Ease of Switching	241	93	334	537	193	730	467	189	656	119	53	172
Opinion of Peers/ Seniors / Friends and Family	175	77	252	425	141	566	594	235	829	170	75	245

Source: *Field Survey*

Table No. 6(b): Table showing responses pertaining to factors that affect decision of moving towards green energy- Jaisalmer (in numbers)?

Factors	Very Much			Somewhat			Little			Not at all		
	M	F	T	M	F	T	M	F	T	M	F	T
Cost of Purchasing	764	250	1014	366	270	636	85	65	150	3	1	4
Maintenance Cost	319	118	437	760	417	1177	133	49	182	6	2	8
Ease of Switching	381	174	555	620	333	953	192	77	269	25	2	27
Opinion of Peers/ Seniors / Friends and Family	243	111	354	610	385	995	265	80	345	100	10	110

Source: *Field Survey*

Table No. 7(a): Questions to assess Carbon Footprint- Bikaner (in numbers)

Parameters for Carbon Footprint	Yes			No		
	Male	Female	Persons	Male	Female	Persons
Do you use LED lighting?	1350	526	1876	14	2	16
Do you leave your electrical appliances on standby mode?	1341	520	1861	23	8	31
Do you procure renewable electricity?	1330	522	1852	33	7	40

Source: *Field Survey*

Table No. 7(b): Questions to assess Carbon Footprint – Jaisalmer (in numbers)

Questions to check energy use	Yes		No		Total
	Male	Female	Male	Female	
Do you use LED lighting?	1203	576	15	10	1804
Do you leave your electrical appliances on standby mode?	1152	566	66	20	1804
Do you procure renewable electricity?	988	555	230	31	1804

Source: *Field Survey*

Table No. 8(a): Table showing responses pertaining to the question 'Do you have Solar PV in your office building?'- Bikaner

Type of Response	Number of Responses		
	Male	Female	Persons
YES	52	12	64
No	1312	516	1828
Total	1364	528	1892

Source: *Field Survey*

Table No. 8(b): Table depicting responses to the question 'Is there a Solar PV in your office building?'- Jaisalmer

Type of Response	Number of Responses		
	Male	Female	Persons
YES	947	507	1454
No	271	79	350
Total	1218	586	1804

Source: *Field Survey*

Table No. 9(a): Table representing awareness regarding energy saving schemes provided by Government (in numbers)- Bikaner

Type of Response	Number of Responses		
	Male	Female	Total
Yes	10	3	13
No	1352	523	1875
Maybe	2	2	4
Total	**1364**	**528**	**1892**

Source: *Field Survey*

Table No. 9 (b): Awareness regarding energy saving schemes provided by Government (in numbers)- Jaisalmer

Type of Response	Number of Reponses		Total
	Male	Female	
Yes	450	201	651
No	763	385	1148
Maybe	5	0	5
Total	**1218**	**586**	**1804**

Source: *Field Survey*

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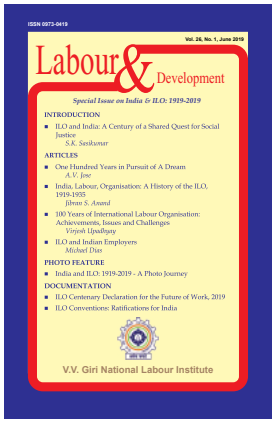

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