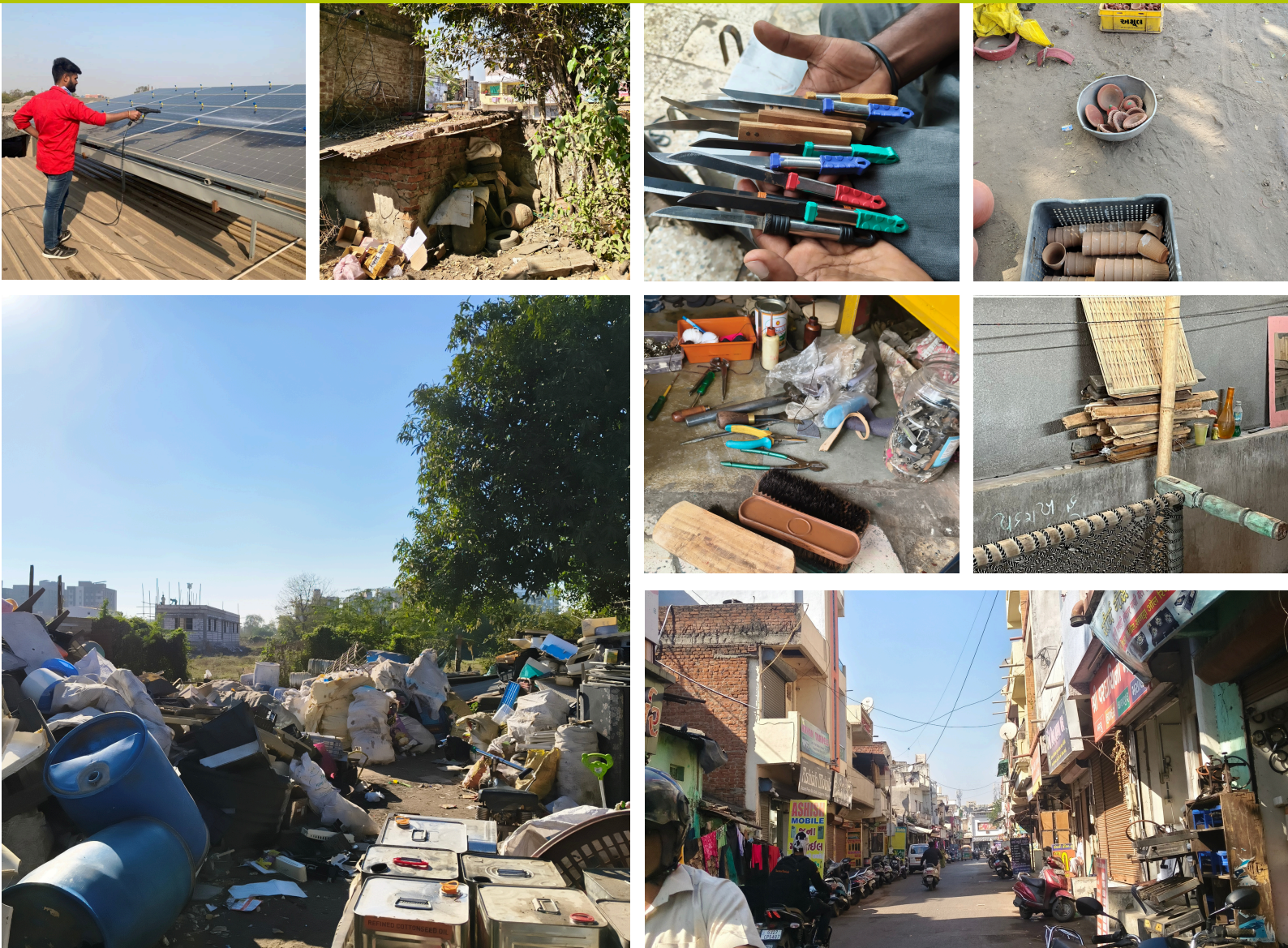




SAATH
Creating Inclusive Societies

A Study on Green Livelihoods in the Informal Economy



Guide: Prof. Chetan Vaidya, Author: Ms. Vandita Rajpal, Supported By: Mr. Rajendra Joshi, Mr. Abid Hira

Trustee's Note

At Saath Charitable Trust, we have always believed that the informal sector is not a peripheral part of the economy, it is its backbone. This study on green livelihoods reaffirms that many informal workers are already contributing meaningfully to climate mitigation and environmental sustainability, often without formal recognition or structured support.

From solar technicians and scrap collectors to mechanics, repairers, and urban greening workers, these micro-entrepreneurs are quietly reducing emissions, extending product life cycles, and strengthening the circular economy. Their contributions demonstrate that climate action and livelihood security are not separate agendas, they are deeply interconnected.

This report highlights not only the environmental impact generated by these green livelihood earners but also the urgent need to strengthen capacity-building, market linkages, financial inclusion, and institutional support systems for them. As India moves toward its net-zero commitments, the informal sector must be positioned at the center of the green transition.

Saath remains committed to enabling dignified, resilient, and climate-responsive livelihoods for marginalized communities. We hope this study contributes to broader conversations on inclusive green growth and inspires collaborative efforts to scale such models.

Mr Rajendra Joshi
Managing Trustee
Saath Charitable Trust



Acknowledgments

This report was conceptualized and guided by **Prof. Chetan Vaidya**, whose strategic vision and deep expertise in urban development, climate-responsive planning, and policy frameworks laid the intellectual foundation of this study. His guidance ensured that the research remained analytically rigorous while staying closely connected to field realities and the larger discourse on sustainable urban transformation.

The report has been written by **Vandita Rajpal**, who led the research design, documentation, analysis, and compilation of findings with diligence and clarity. Her commitment to capturing the lived realities of green livelihood earners has been central to shaping the narrative and insights presented in this study.

We extend our sincere appreciation to **Abid Hira** and **Rajendra Joshi** for their continuous institutional support, strategic direction, and encouragement throughout the process. Their leadership and commitment to strengthening green livelihoods within the informal economy have been instrumental in shaping the purpose and depth of this report.

This research would not have been possible without the invaluable field engagement and data support from Saath's Micro-Entrepreneur (ME) Mentors; **Manoj Prajapati**, **Mahesh Maheriya**, and **Gautam Solanki** and interns, **Somdatta Dasgupta** and **Dev Desai**. Their close coordination with green livelihood earners, facilitation of interviews, and on-ground insights ensured authenticity, accuracy, and richness in the findings.

The study was mainly possible due to the willingness of Saath's green micro-entrepreneurs. We are deeply grateful to them for generously sharing their time, experiences, and aspirations. Their voices form the heart of this study and continue to inspire Saath's commitment to building resilient and sustainable livelihoods.

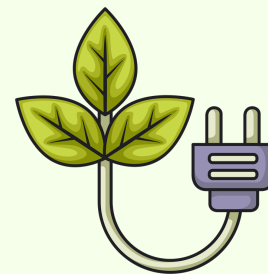


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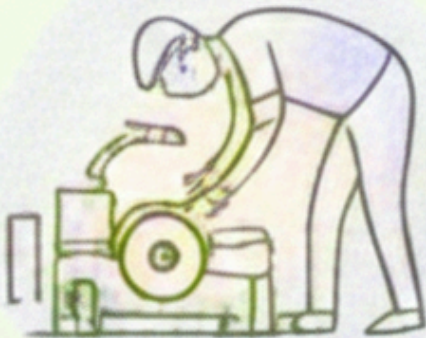
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साथ



Executive Summary



Green Livelihoods



Repair and Reuse



Reduced Emissions



Urban Sustainability

92% of India's workforce is employed in the informal economy, with no access to health insurance, pension, or employment contracts, making their employment unstable and prone to exploitation. Almost all of these workers support a family on less than 10,000 rupees a month.

Many jobs in the informal economy help their surroundings become more environmentally sustainable. These jobs are called green livelihoods. A few examples are scrap collectors, clay potters, plumbers, solar technicians, sewage cleaners, and repair workers. People in these jobs reduce carbon emissions by dealing in materials that leave a smaller carbon footprint. They repair what the rest of us throw away, extending the lives of shoes, wires, pipes, cars, and other such objects. Often pursuing repair work which is foundational to sustainability.

At the same time, informal workers are among the most vulnerable to climate impacts. Nearly 75% of India's workforce is exposed to heat-intensive labour, with informal workers bearing the greatest burden, often without protective equipment or any institutional support.

Amidst which, Saath Charitable Trust has supported 812 green livelihood micro-entrepreneurs seeking to uplift exploited and marginalised communities. In a green-livelihoods study conducted by Saath, we interviewed 22 green livelihood micro-entrepreneurs who have benefitted from Saath's work.

They learnt how to apply for government schemes and loans, make digital payments using UPI, design and print business cards and banners, and communicate effectively to build long-lasting rapport with customers.

Interviewees mentioned working 12 to 13 hours every day while undertaking a risk of injury that could unexpectedly stop their income. A mechanic, for example, had to abandon work for a month after a vehicle cylinder blasted on his fingers. The study also reveals that many uneducated young people inherit these low-paying livelihoods often, due to a lack of alternatives.

To mitigate the nature of the informal economy, micro-entrepreneurs are pushed to innovate like the cobbler who learned to repair bags and purses to add to his income, a mechanic who bought an auto-rickshaw to set up a moving repair shop, and a plumber who learned telemarketing to find more customers.

Despite these, what green livelihood workers really need is action that safeguards them from their financial constraints and harmful working conditions. India does have policies like the Unorganised Workers' Social Security Act which was passed in 2008 but their poor enforcement has not led to substantial reform.

Green livelihood earners sustain cities and support climate action, the bare they deserve in return is recognition and policies that protect both their work and their lives.

1. Background

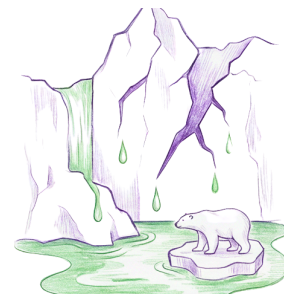
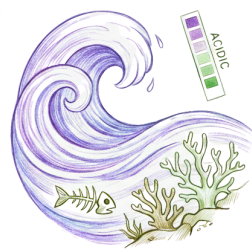
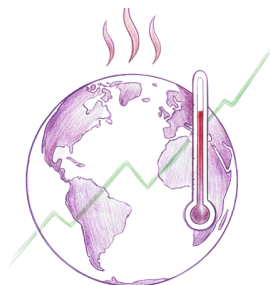
Exploring green livelihoods has been a growing inclination lately due to the inevitability of our world to move away from traditional employment and resources that further damage our earth. The term 'green livelihoods' accounts for income-generating activities that contribute to environmental sustainability while supporting the social and economic well-being of individuals and communities. These sustainable or green livelihoods help in reducing ecological harm, promoting climate resilience, supporting circular economy practices, and improving the quality of life for all, especially of vulnerable communities. Saath Charitable Trust is a grassroots development organization working in urban informal settlements to enable dignified livelihoods, access to essential services, and inclusive community development. Through its focus on skill-building, entrepreneurship, and community-led interventions, Saath supports vulnerable populations in transitioning toward resilient and sustainable livelihood pathways. This study aims to understand the significance of green livelihoods, document existing green livelihood roles with reference to Saath's beneficiaries, assess current support mechanisms, and identify future opportunities for intervention.

1.1 Climate Indicators

The last passing years have been recorded as the warmest years on record. 2024, after 2023 was the warmest so far in the 175-year observational record, as per the World Meteorological Organization (WMO). The following four crucial climate indicators explain the acceleration in the climate change:

a. Global Temperature

One of the staunch indicators of climate change which notes both land and ocean temperatures has been rising to its all time levels, that is, approximately 1.51°C above pre-industrial levels (before the large-scale burning of fossil fuels, 1850-1900 period) in 2024.



b. Heat and Acidity of Oceans

Due to human activities producing greenhouse gases, the resultant heat and carbon dioxide in the air are absorbed by the oceans, which are heated, forming carbonic acid in the water. Further, sea levels rise, storms become stronger, and ice melts. Acidity of the ocean which is measured through the global average surface ocean pH is approximately 8.1, this year, which represents a roughly 30% increase in acidity since the pre-industrial era with the oceans having absorbed over 90% of the excess heat in the Earth's climate system.

c. Melting of Ice

The heat and acidity of oceans cause the rise in sea level and melting of glaciers and polar ice, the other two indicators of climate change. Sea level, which is measured through the global mean sea level, has risen approximately 8-9 inches (that is, 21-24 cm) since 1880, with the rate of rise accelerating significantly in recent decades. In 2023, the highest sea level year in the satellite record is 2023, which had the highest annual average global sea level, which was about 4 inches (10.1 cm) above 1993 levels.

d. Melting of Glaciers

Likewise, the melting of glaciers is occurring at a very alarming rate. All glaciated regions worldwide are experiencing ice melting, including the major ice sheets of Greenland and Antarctica, and mountain ranges on every continent except Australia. Resulting in glaciers around the world having lost well over 9,000 gigatons (nine trillion tons) of ice since 1961 to 2019, raising sea level by 27 mm.

Since 2000, glaciers have lost an estimated 6.5 trillion tonnes of ice, contributing 18 mm to global sea levels. Ice loss has accelerated by 36% in the last decade (2012-2023) compared to the previous one (2000-2011). Recent records show unprecedented annual ice mass loss, with 2023 being the highest on record, leading to the largest annual contribution to sea level rise since satellite records began in 1976. Some regions have experienced particularly dramatic melting. For example, about 39% of glacier ice has disappeared from central Europe since 2000.

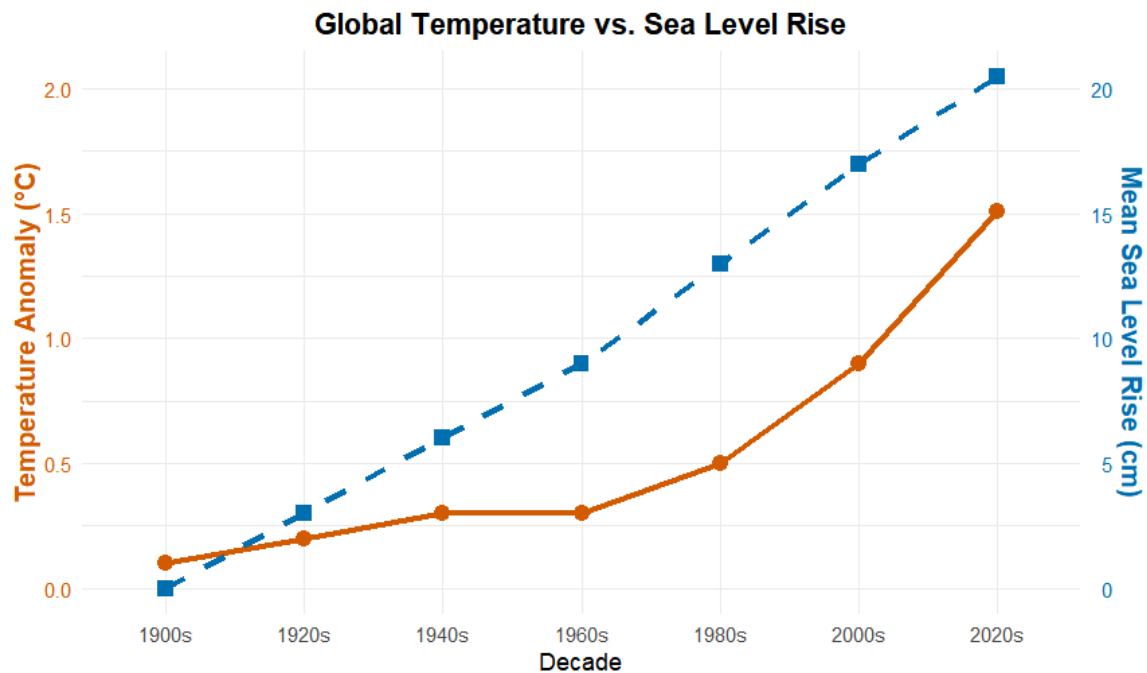


Fig. 1.1: Visualization of Climate Change Trends; Rise in Global Temperature and Sea Level

Note: [See the high resolution image](#)

1.2 Green Livelihoods' Contribution in Lessening Global Emissions

The existing status quo makes green livelihoods inevitable to adapt to and conserve the ones already in practice due to its advocacy for activities generating income while aiding the environment. Currently, only 6% of the existing livelihood activities are green in India while India tops as the world's third-largest emitter of greenhouse gases (GHG) after China and the US.

Sectors related to green livelihoods have shown considerable evidence in reducing emissions. One such example is of a region in China which adapted renewable energy and was able to establish a correlation stating that a 1% increase in renewable energy led to an expected decrease in carbon dioxide emission by 0.103%. Uruguay attained a massive success towards its sustainability goals switching to 98% renewable energy, mainly biomass, solar and around 50 wind parks replacing the grid's oil for its energy needs. As a result, it reduced its reliance on fossil fuels imports while becoming an exporter of its surplus renewable energy, created 50,000 green jobs and anticipates to create up to 34,000 green jobs by 2040 as part of its green hydrogen generation plan positioning Uruguay as a worldwide exporter in exports of green hydrogen.

An input-output, cross-country analysis revealed that every USD 1 million invested in renewable energy projects creates approximately 15 jobs, which is three times the employment effect of investing the same amount in fossil fuels (approximately 5 jobs). This demonstrates that capital expenditure in green transition directly impacts creation of green livelihoods. Furthermore, Organisation for Economic Co-operation and Development (OECD)'s employment trends showed that employment in clean energy sectors rose by about 15 % globally, while fossil fuel jobs fell by about 1 % over the 2019-2023 period.

As climate change accelerates every year, India's green economy is gaining momentum. With an increase in global demand for sustainable solutions, investments in green technologies have also risen. India's green investments are projected to grow fivefold, to over US \$358 billion by 2030. This growth can boost local and national economies, leading to increased tax revenue and decreased reliance on fossil fuels. The Skill Council for Green Jobs (SCGJ), under the framework of the National Skill Development Mission, has initiated multiple interventions aimed at promoting green skills and employment, identifying the skilling needs of manufacturers and service providers within the green business sectors like renewable energy, environment, forest and climate change, and sustainable

development. The SCGJ has initiated multiple interventions aimed at developing a skilled workforce for India's green economy through training, skill gap analysis, and promoting sustainable practices in renewable energy, waste management, and green construction, till day training upwards of 6 lakh candidates, having promoted solar panel installation, provided clean cookstoves, water purifiers, e-rickshaws, and solar lighting in villages to reduce pollution and create jobs. As per a collaborative study between SCGJ and Sattva Consulting, it was found that an estimated 35 million jobs could be created by 2047 across several sectors like renewable energy, green construction, sustainable textiles, and green transportation. Moreover, a national assessment by the Council on Energy, Environment and Water (CEEW) projected that India's green economy could attract \$4.1 trillion in cumulative investments.

1.3 Formal and Informal Green Jobs

Green jobs, include not only new roles that emerge due to the green transition like that of a solar PV installer, but also existing ones whose required skills and tasks will be modified because of the transition, like a construction worker getting trained to use green building techniques, as well as those involved in the production of goods and services essential to lower-emission activities like that of an electronic repair job. Green jobs are both high-skilled jobs, often formal jobs, as well as low-skilled jobs intersecting as informal jobs. A World Bank study stated that only 5.9% of all Indian jobs are currently green. Formal green jobs contribute to national climatic goals and offer financial stability to a range of families worldwide. These jobs are government-registered with employment contracts, legal protection, have fixed salaries, and have non-monetary benefits, such as a pension fund; for example, renewable energy engineers. Across the green livelihood categories, key formal jobs include green building engineers and certified masons, electric vehicle technicians and mobility planners, solar and wind energy engineers, sustainable agriculture and natural resource management officers, urban landscape architects and forestry managers, circular economy project managers and recycling plant supervisors, and solid waste management engineers and environmental compliance officers.

The percentage of workers involved in the informal sector is overwhelmingly high, more than 90%, emphasizing the significance of supporting and strengthening the informal green livelihoods amidst rampant urbanization. Informal green jobs are unregulated and appear to be diametrically opposed, with no government registration, no legal protection, no

fixed hours, no fixed wages, no additional benefits and no necessary compliance with labour laws; for example, scrap collectors, clay pot makers and plumbers. Informal green jobs contribute immensely to climate preservation but are barely recognised. They lack social protection, formal recognition and financial security, and face the brunt of climate change impacts with little to no assistance from the state.

1.4 Informal Sector's Significance and Challenges

Despite the focus on sustainability, green low-skilled or informal workers aren't acknowledged enough for their contributions and the challenges incurred by them makes it an unattractive job alternative for many, often drawn by financial necessity rather than a chosen career. The informal sector makes up 92% of India's current workforce, substantially contributing to around 50% of India's GDP. Informal sector's importance can especially be realized during the economic downturns wherein the sector absorbs millions of workforce including surplus labour. In late 2025, the share of rural workers in agriculture rose from 53.5% to 57.7% during the Kharif sowing season, highlighting the sector's role in absorbing seasonal labor. Informal workers' low-production and service cost ensure affordability for poor consumers and fosters informal micro-entrepreneurs' innovations using minimal resources. In a few cases, informal work becomes a pathway for developing skills and further switching to formal work. Informal work also entails traditional artisanal and handicrafts' work as they are produced in small units, thus, they contribute in cultural preservation. Notwithstanding the sector's contribution, informal workers face multiple challenges that undermine the sustainability and security of their livelihoods, they are mentioned below;

a. Lack of Social Protection

Informal workers do not have access to formal contracts, health insurance, pensions, or unemployment benefits, leaving them vulnerable to financial hardship and health problems. India's Unorganised Workers' Social Security Act (2008) provides a framework for social security measures, creating schemes related to life insurance, health and maternity benefits, although its enforcement hasn't been at par with what was envisaged. Social protections like insurance become particularly critical in protecting them against the high risk of accidents and the inherent vulnerabilities related to their work.

b. Unsafe Working Conditions

The nature of informal work is unregulated, often exposing workers to physical hazards, even chemical pollutants, resulting in accidents or illnesses, like, informal e-waste

workers recycling or reconditioning batteries, can involve handling hazardous materials that pose serious health risks to workers. Workers engaged in such hazardous activities are necessitated to wear PPE kits inclusive of hand gloves, safety boots, eye and face shields but urban studies like in Lucknow reveal that only about 2% of waste pickers reported using and being provided gloves, while roughly 13.75% used shoes, mainly during winter seasons. In Nellore, India, 48.3% of municipal waste collection workers suffered an injury in the past 12 months, 1,760 manual scavengers lost their life in a year as per Safai Karamchari Andolan in India and 9 gig economy's bike riders die every hour in India. Construction, mining, chemical manufacturing and waste management are the most hazardous informal work with figures reporting an average of 1,109 deaths and more than 4,000 injuries in registered factories, each year in India.

With increase in heat and humidity due to climate change, workers' injuries and casualties have increased. Approximately 75% of India's 380 million workforce is exposed to heat-intensive work, majorly informal workers getting affected. Across the globe, India ranks 9th among the countries most affected by climate-related extreme weather events from 1995 to 2024. A study by Duke University has reported that India lost around 259 billion hours of labor annually between 2001 and 2020 due to the impacts of humid heat. That means the loss of those productive hours cost India \$624 billion (Rs 46 lakh crore), which is equivalent to almost 7 percent of a year's gross domestic product (GDP). Informal work, including informal green activities, often lacks acknowledgement for its contribution, resulting in workers getting overlooked, not receiving adequate training, equipment or infrastructural support to make their work safer and more efficient.

Low and Irregular Wages

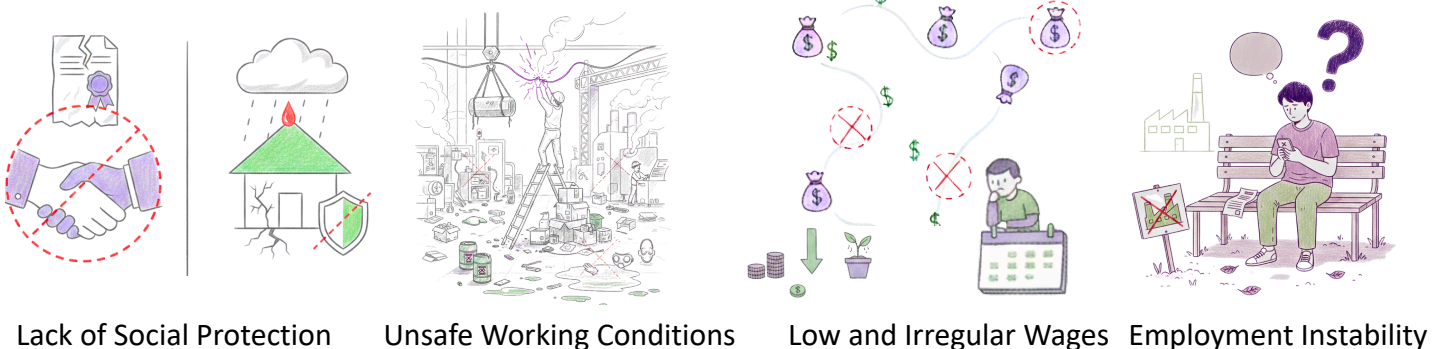
Informal earnings are found to be 47% lower (IMF) or casual wages around 30% lower in India, while formal workers earn substantially more due to better social

benefits and human capital, creating a large wage differential. In some cases, even with similar skills, informal workers are paid far lower wages than formal workers, which is evident in how a delivery person in the gig economy is more likely to get exploited than a driver employed formally by an institute. Over 94% of informal workers registered on the e-Shram portal as of 2025 report a monthly income of ₹10,000 or less and have multiple dependents on them. For women in informal work, 87% in urban areas and 81% in rural areas report receiving exploitative wages below the national minimum wage. Informal workers, unlike the formal workers, are prone to receive irregular due to the instability of their employment.

Instability in Employment

Informal workers even if they are micro-entrepreneurs are vulnerable to cyclical and seasonal unemployment. Most informal workers work on an ad-hoc basis and have temporary stretches of employment. Informal workers and micro-enterprises often have limited access to capital and credit, making it difficult to sustain their work in cleaner technologies or expand their operations, which also leads to the job instability loop. Moreover, well-intentioned regulations if not implemented consulting the informal workers can end up harming the informal workers like the privatization of waste management can displace the informal waste pickers despite the informal sector being more efficient at recycling. The volatility experienced by the urban informal workforce is more than the rural informal workforce, reflected in the rural unemployment remaining low at 3.9% due to high agricultural demand, than urban unemployment, which was higher at 6.7% in December 2025. This illustrates the greater economic instability in urban areas and emphasizes the need for focused attention on mitigating these issues in the cities.

The challenges faced by the informal economy can be addressed by public policies enabling an effective reallocation of the workforce which would make green jobs an appealing choice.



Lack of Social Protection

Unsafe Working Conditions

Low and Irregular Wages

Employment Instability

1.5 Saath's Capacity Building Interventions

Saath Charitable Trust works to empower marginalized urban communities through education, skill-building, livelihoods, health, and financial inclusion programs. Saath has trained 70,000+ youth and supported 7,000+ micro-entrepreneurs in livelihoods, enabled governance and financial access for 50,000+ people, strengthened education outcomes for more than 16,000 children, and reached over half a million individuals in health and sanitation. The training programs through which Saath has been able to assist its micro-entrepreneur beneficiaries are explained below.

a. Self-Identity and Business Interventions

These interventions enabled green livelihood earners to recognise their work as a formal economic activity, learning basic information on getting their enterprises registered. Most respondents participated in business identity sessions, where they learned practical aspects such as maintaining basic documentation for applying for government schemes and loans. They were assisted in obtaining their ABHA card, Aadhaar card, and Aayushman card. These interventions boosted their confidence and their sense of legitimacy as micro-entrepreneurs.

b. Marketing and Communication Interventions

This supported the micro-entrepreneurs in developing effective communication to establish long-term relationships with customers, training the beneficiaries in customer engagement, negotiations, and service expansion, making it particularly valuable for informal green workers who relied on local customer networks. The micro-entrepreneurs also learnt to design business cards and banners, increasing their customer base and incomes.



c. Financial Literacy and Planning Interventions

The beneficiaries were made aware of income management, savings, and ways to access formal credit. Most respondents reported gaining familiarity with digital financial tools such as UPI and learnt how to manage financial records required for loans and state schemes. While income levels remained limited and thus hampered the ability to save, their financial awareness helped cope with income uncertainty and supported the other household members getting advantaged by welfare schemes.

d. Technical Skills Interventions

Technical skills training related to specific professions, like those of tailoring, mechanics, electric work, and solar technical training, was held. These included programmes such as Saath's Solar Mitra training. Technical upskilling improved service quality, micro-entrepreneurs' efficiency, and safety practices, enabling beneficiaries to adopt improved technologies, thus enhancing the environmental impact of their green livelihoods.

Saath, with over three decades of experience in providing capacity-building support, including training, financing, and technical assistance to the urban informal sector, is well-positioned to contribute to the emerging green employment landscape. Given the increasing significance of green jobs in addressing both livelihood security and climate change, there is a need to systematically document existing green livelihood roles, assess current support mechanisms, and identify future opportunities for intervention, which this study seeks to do.



2. Objectives of this Study

This study is a consolidation of the lived realities of the green livelihood earners' in the informal economy and the interventions laid by Saath to support them and what other green jobs Saath could support further. The study is guided by the following objectives;

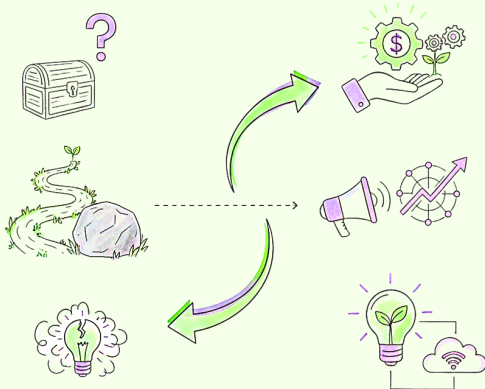
- To compile an exhaustive list of informal green livelihoods based on secondary literature to serve as a potential resource to guide Saath's future actions.
- To identify and develop profiles of the green livelihood categories within the urban informal sector where Saath has already provided capacity-building support, finding the number of micro-entrepreneurs in these categories
- supported over these years, type of support provided, achievements, and challenges faced.
- To document the lived experiences of green livelihood earners from multiple sectors through in-depth interviews and to attempt to estimate the environmental benefits generated by informal livelihood activities through emissions reduction calculations.
- To identify ways through which Saath can extend capacity-building support in the yet to explore green livelihood categories in the future.
- To assess opportunities and limitations in existing training and capacity-building programmes for green livelihoods.



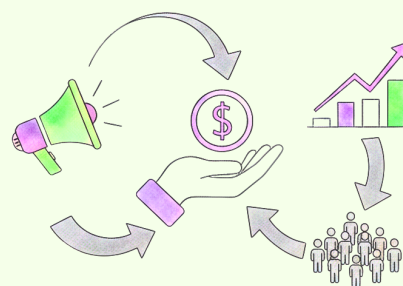
Categorising Green Livelihoods in the Informal Economy



Documenting Green Livelihood Earners' Experiences



Exploring Micro-Entrepreneurs' Challenges and Innovations



Understanding the Impact of Saath's Interventions



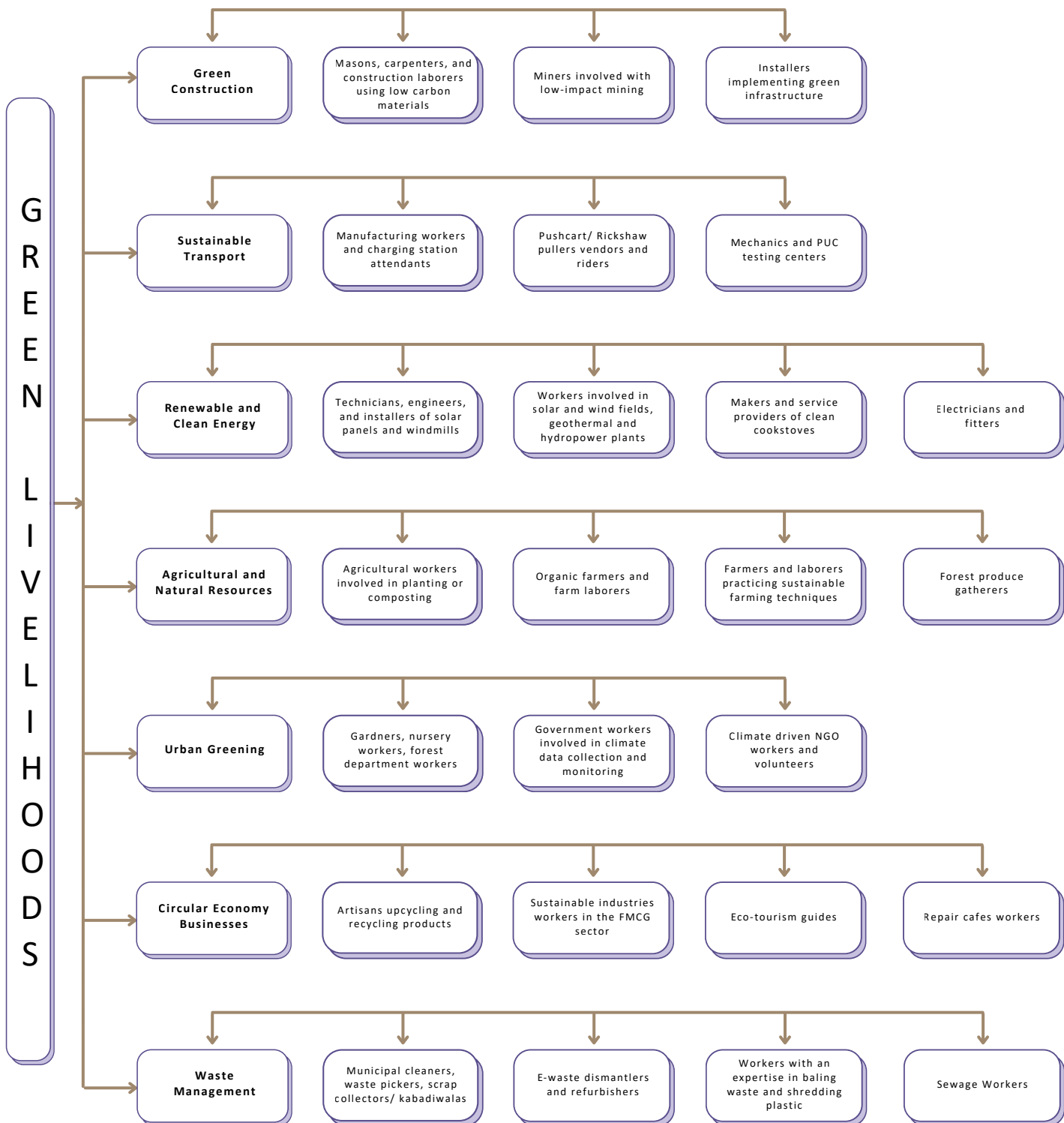
Planning Future Interventions





3. Exhaustive List of Informal Green Livelihoods

Fig. 3.1: Flow chart classifying various categories of green livelihoods in the informal economy
Note: See the high resolution image



The green economy is evolving to take a larger share of the global economy, with its current market capitalization at 8 trillion USD and promised investments of up to hundreds of trillions of USD globally, accounting for 8.6% of global listed equities. Although the jobs under the green economy are yet widely acknowledged as those of the innovators of sustainable technologies. Despite being the backbone for all the sectors, certainly, including the green sector, the informal sector is often not given enough recognition since it lacks structure in terms of safety, social benefits, and training. Here is a comprehensive sectoral classification of green jobs practiced in the informal sector, many of which have prevailed even before the imminent need for the green economy was realized;

3.1 Green Construction

Masons, carpenters, and construction laborers using low carbon materials like bamboo for furniture instead of hardwoods, recycled asphalt to build pavements, rubberized asphalt, waste plastic, recovered debris from construction sites, fly ash, and recycled concrete to build roads and green highways, and constructing cycle pavements

Miners involved with low-impact mining, like selective, underground, solution mining, and phytomining, further supplying raw materials for construction, manufacturing, energy production, and technology

Installers or fitters implementing green infrastructure by establishing rainwater harvesting tanks, grey water systems, green roofs covered with plantation and vegetation, blue-green systems to reduce floods, sun shading, and natural ventilation designs to allow lower energy consumption, painters using biodegradable and sustainable paints like reflective paints

3.2 Sustainable Transport

Manufacturing workers and charging station attendants of bicycles, EVs, CNG auto rickshaws and tuk-tuks

Pushcart/ Rickshaw pullers vendors and riders like, EV delivery gig workers and electric public transport drivers

Mechanics and PUC testing centers' workers maintaining vehicles' batteries and keeping vehicles' emissions in check

3.3 Renewable and Clean Energy

Technicians, engineers, and installers of solar panels and windmills for energy consumption as an alternative to thermal energy consumption in residential, commercial and public settings

Workers involved in solar and wind fields, geothermal and hydropower plants supporting logistics, site plannings and manufacturing

Makers and service providers of clean cookstoves like LPG, biomass, biogas and electric stoves

Electricians and fitters providing energy-efficient devices like LEDs, hydropowered machineries, and thermostats to maintain temperature and thus decreasing the carbon footprints of appliances like air conditioners, refrigerators, and washing machines

Agricultural workers involved in planting or composting, and harvesting feedstock to collect biomass, resulting in the production of clean and renewable biomass energy

3.4 Agricultural and Natural Resources

Organic farmers and farm laborers harvesting food while keeping the soil nutrients intact and further enhancing them via composting the organic food waste into the soil

Farmers and laborers practicing sustainable farming techniques like crop rotation, intercropping, using organic fertilizers, vermicomposting, agroforestry, water management through drip irrigation, or rainwater harvesting

Forest produce gatherers of honey, bamboo, fruits, nuts, medicinal plants, and gum (non-timber forest produce) without depleting forest resources

3.5 Urban Greening

Gardners, nursery workers, forest department workers responsible for forest conservation via reforestation and afforestation

Government workers involved in climate data collection and monitoring of air and water quality at the community level

Climate driven NGO workers and volunteers professing kitchen gardening, terrace farming, the use of sustainable products like reusable water bottles, shopping bags, and food wraps, and advocating for sustainable living

3.6 Circular Economy Businesses

Artisans upcycling and recycling products like glass bottles, old tires, discarded fabrics, cans for higher value decoratives, and furniture

Sustainable industries workers in the FMCG sector, producing bamboo furniture, sustainable period products, reusable cotton rounds, cloth bags like tote bags as opposed to leather bags, thrift shops, and reducing the use of fast clothing in the fashion industry

Eco-tourism guides educate visitors on conservation in forest and rural areas, fostering a respect for natural habitats more responsibly, as opposed to conventional tourism

Repair cafes workers assisting people in fixing broken everyday items, thus inculcating repair skills, and reducing waste

Vegan cooks in restaurants and catering, and influencers promoting plant-based lifestyles, reducing greenhouse gas emissions, water conservation, and land

conservation used for livestock farming

3.7 Waste Management

Municipal cleaners, waste pickers, scrap collectors/ kabadiwalas trained for segregation, composting, operating Material Recovery Facility (MRF) plants recovering and recycling paper, plastic, metal, and glass, and most importantly connecting with local-level EPR-authorized recyclers

E-waste dismantlers and refurbishers of appliances like phones, computers, laptops, etcetera, reduce the need to mine raw materials used in them

Workers with an expertise in baling waste and shredding plastic reducing the volume of material dumped in landfills and plastic pollution

Risky work of **sewage workers** managing and treating wastewater, preventing the contamination of freshwater sources, and treating human waste reduces pollution, risk of diseases, and facilitates a cleaner environment



4. Categories of Green Jobs Saath Provides Capacity Building in

Saath has benefited and worked on areas of Livelihood and Circular Economy, Education, Healthcare, Livable Spaces/ Neighbourhoods, Financial and Digital Literacy, and Climate Resilience. It has been providing capacity building for employability and entrepreneurship opportunities resulting in 76,013+ people trained, 9,508+ business launches and micro entrepreneurs being supported, and 6,656+ microentrepreneurs getting increased income. A major chunk of these jobs and enterprises can be categorized as green jobs in cognizance with the aforementioned green jobs categories and the global green jobs initiative. As part of a recent series of skill development initiatives, Saath has trained

7,054 micro-entrepreneurs from 2017 to April 2025, out of which 812 were green micro-entrepreneurs. Specifically, 388 belonged to Ahmedabad, 167 to Jaipur, and 5 to Bharuch. Saath has increasingly been building capacity in renewable and clean energy, urban greening, circular economy businesses, and waste management through its work with Azim Premji Foundation and its Business Gym program. The following description backed by the database of Saath’s beneficiaries gives a detailed illustration of how Saath has worked in these spaces to bridge the skill gap and broaden the prospects of the trainees to attain green jobs and start their own green and circular economy enterprises;

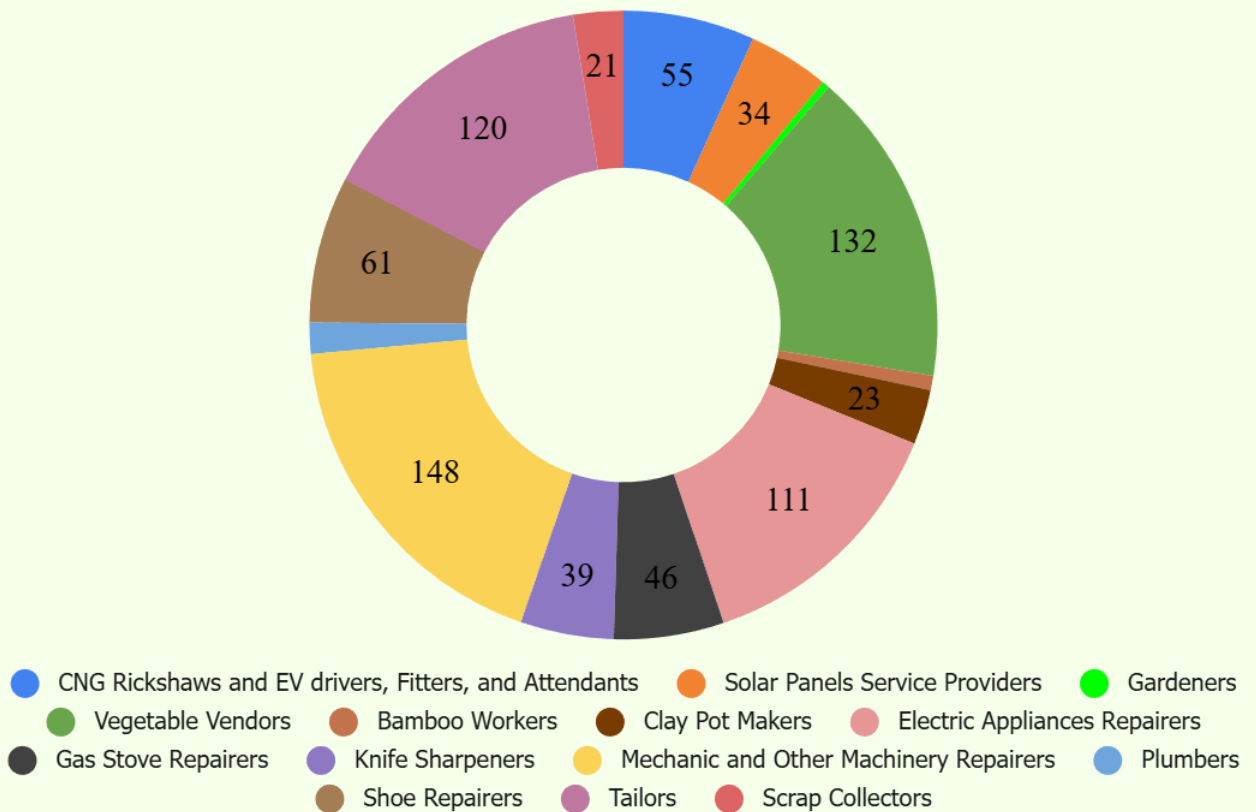


Fig. 3.2: Distribution of Saath’s Green Micro-entrepreneurs
 Note: [See the high resolution image](#)

Categories	Sub-Categories	People Trained
Circular Economy Businesses	Bamboo Workers	6
	Clay Pot Makers	23
	Electric Appliances Repairers	111
	Gas Stove Repairers	46
	Knife Sharpeners	39
	Mechanic and Other Machinery Repairers	148
	Plumbers	13
	Shoe Repairers	61
	Tailors	120
	Total	567
Waste Management	Scrap Collectors	21
Renewable and Clean Energy	CNG Rickshaws and EV drivers, Fitters, and Attendants	55
	Solar Panels Service Providers	34
	Total	89
Urban Greening	Gardeners	3
	Vegetable Vendors	132
	Total	135
Total		812

Table 4.1: Categorical Distribution of Saath's Trained Green Micro-entrepreneurs

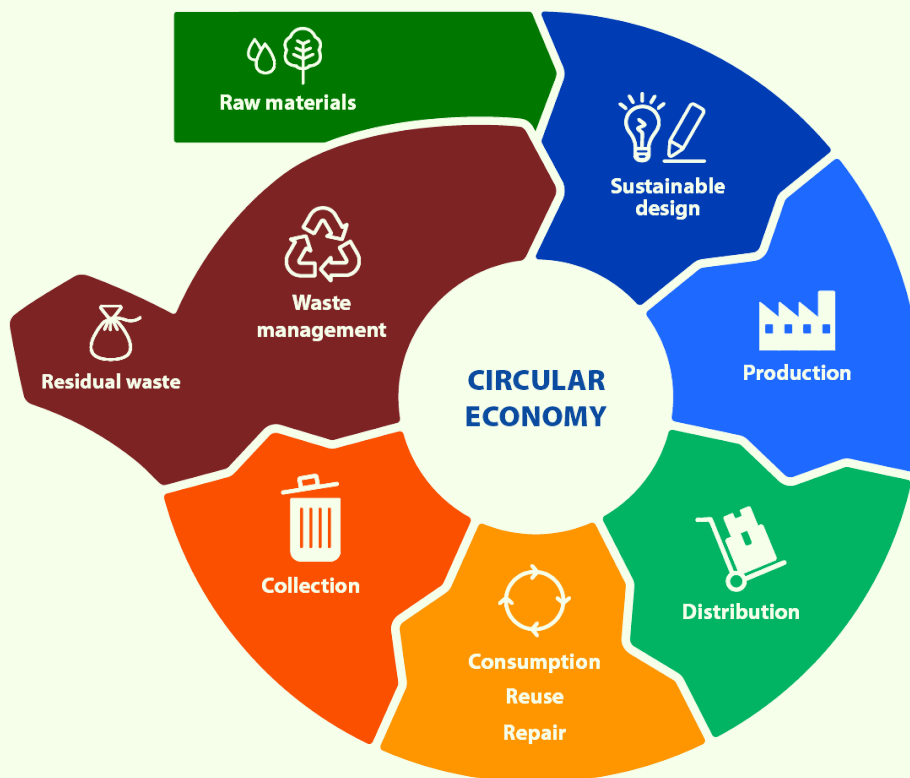


Fig 4.1: Circular Economy Model by European Parliament Research Service

4.1 Circular Economy Businesses

As documented, Saath has substantially provided training exploring different forms of green livelihoods under a circular economy, having benefitted 567 people across various professions in the informal economy. The conventional, take-make-dispose model is unsustainable and neglects the fact that resources are finite, so for the products to be longer in use and this way reducing the reliance on the extraction of new raw materials and new production, a circular economy is needed. These enterprises with their micro-enterprises do just that, that is, power the circular economy. Amongst the sub-categories of green professions under circular economy there lies Bamboo workers accentuate the usage of bamboo, which is a sustainable resource providing oxygen, reducing soil erosion, and sucking carbon dioxide from the environment. Clay pot makers contribute to the circular economy as clay pots are biodegradable, conveniently recyclable and reusable. Moreover, they are completely sourced from natural resources and are also energy efficient as they retain heat well due to their insulating properties helping save fuel while cooking. Electrical appliances repairers reduce e-waste and avoid emissions from new

manufacturing, and when serviced, these appliances consume less electricity, indirectly cutting carbon.

Traditional wood or coal stoves result in black carbon emissions and an increase in deforestation from firewood use. So, gas stove repairers maintaining stoves running through LPG gas or biogas reduce air pollution induced by households. Knife sharpeners or knife sharpening professionals is a traditional job often performed over a setup on a cycle that Saath seeks to preserve amidst the growing modern knife sharpening devices. With the increasing demand in the knife sharpening market with manual knife sharpeners and advancements in the modern knife sharpener equipment, providing capacity building to the knife sharpeners becomes significant for equipping them to compete against the growing acceptance towards knife sharpening equipment. While mechanics and other machinery repairers like plumbers and shoe repairers increase vehicles', machines', sanitary wares', and shoes' longevity, efficiency and ergonomics. These professions fulfill the objective of a circular economy that is repairing instead of replacing, leading to efficiency gains. Saath actively builds capacity to profess and participate in the circular economy.

4.2 Waste Management

Scrap collectors make up the entirety of people, that is, 21 trained by Saath working in the waste management sector. Tier 1 cities require growing infrastructure to support waste management efforts, due to a sheer volume of waste produced by these cities. Ahmedabad produces 40-52 lakh kilograms (4,000-5,200 tonnes) of solid waste per day. That is, 720 grams of waste per person. Currently, India is able to recycle only 20% of total waste disposed of and 8% of its plastic waste. The present status quo validates the inadequacy and rampant need for trained scrap collectors and greater resource mobilization for an efficient waste

management system leading to sustainability.

Scrap collectors purchase solid waste and waste with a potential of being recycled or reused and further sell those to scrap companies. Training for scrap collection involves dissemination of knowledge about segregation and scrap categories, estimated prices for each category (the prices vary categorically and are quoted weight wise), transportation of the collected waste and industries or distributors in the vicinity involved in recycling them. Thus, becoming an important link intermediating household scraps to the scrap industry. The categories of scrap that scrap collectors purchase at the usual prices (in INR) are;

Scrap Categories		Purchase Rate (per kg)	Selling Rate (per kg)
Metals	Copper	₹200-300	₹420-450
	Aluminum	₹90-120	₹105-180
	Iron	₹20-25	₹28-35
Paper and Cardboard	Corrugated Cardboard	₹6-8	₹8-14
	Newspaper	₹12-14	₹15-20
	Books, Magazines	₹10-12	₹15-20
Plastics	Hard Plastic	₹2	₹5-7
	Mixed Plastic	₹5	₹8
	PET plastic bottles	₹11	₹14-16
	Milk Packets	₹7	₹10
Glass	Glass Bottles	₹2-5	₹8-10
	Glass Scrap (For roads, bricks, drains and to filter water)	₹7-₹90	₹10-100
Textiles		₹0-20	₹30-50
Waste Tires and Other Recyclables		₹10-15	₹21
E-Waste	Old Mobile Phones	₹20	₹40
	CPU, Laptop, Monitors	₹300-400	₹500
	UPS Batteries (power batteries)	₹170	₹250

Table 4.1: Approximate rates at which scraps are purchased from households and rates at which they are sold as per the scrap collectors mentored by Saath

This job contributes in lessening the recyclable waste being dumped into landfills, especially, materials like e-waste and metals are often hazardous to dispose of and contaminates soil and groundwater. While recycling items certainly support a circular economy while reducing the carbon emissions and pollution that a new product's production would have caused. Moreover, they significantly reduce municipalities' costs in transportation of these potential recyclable goods to the scrap industries. Although, the nature of work puts the scrap collectors in hostile working conditions. Most of them collect scrap from households on their cycle carts, which exposes them to harsh climate conditions with low pay and no social or legal protections. Saath seeks to empower its scrap collectors not just with specialized knowledge for identifying and sorting different materials and scrap industries but also with imparting awareness on safety measures and secure storage for different types.

4.3 Renewable and Clean Energy

The transition to clean and renewable energy is inevitable. A few cities around the world have already prepared for this change and switched to renewable energy for their energy needs. These include Malmö in Sweden, Basel in Switzerland, Burlington, Denton, and Salt Lake City in the USA, and Diu in India.

Out of the 812 green micro-entrepreneurs, 89 trainees have renewable and clean energy enterprises or related

jobs. After getting trained with Saath, over 59% of these trainees, that is, 65 trainees, saw an increase in their income of up to 10%. 28 of these micro-entrepreneurs access insurance. The micro-entrepreneurs in this category include auto rickshaw drivers, mechanics, CNG cylinder fitters, e-rickshaw drivers and charging station attendants, and solar panel installers and repairers. The share of fossil fuels for commercial energy sources currently stands at over 80%. As widely known they are no good for society nor the environment being the largest contributor to global greenhouse gas (GHG) emissions, accounting for over 75% of total global emissions and nearly 90% of all carbon dioxide (CO₂) emissions. The use of renewable and cleaner energy, hence becomes an inevitable switch to adapt to. India seeks net zero emissions by 2070, transforming its energy system to be dominated by renewable sources by that year. Drivers, fitters, and attendants of rickshaws and EVs replace a potential fossil-fuel journey, making transportation using CNG fuel, which produces 25-30% less CO₂, and EVs, which emit no toxic gases or particles from their exhaust, adoptable and feasible. Thus, they contribute towards cleaner mobility by driving, servicing, and facilitating its usage as an attendant. Similarly, repairing and servicing solar panels keeps them efficient and extends their lifespan, which maximizes renewable energy yield, avoids the waste of panels, and reduces carbon emissions by replacing coal-fired energy. Solar panel installers facilitate this switch to renewable energy. Together with the beneficiaries of these trainings, Saath seeks to cut emissions via fuel switching and have a smooth switch to renewable energy.

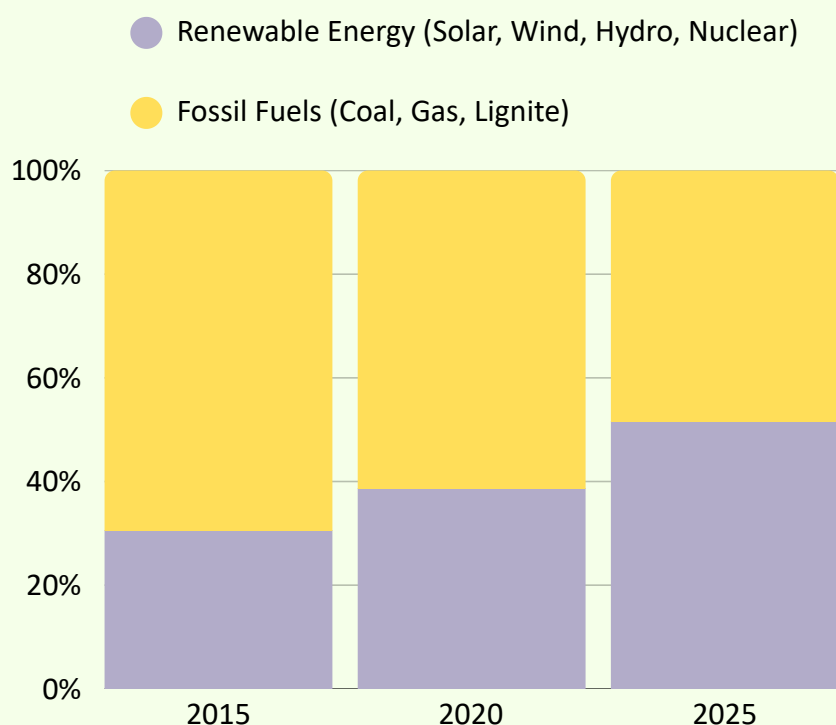


Fig. 3.2: Share of Installed Energy Capacity Sources Over The Years

Note: [See the high resolution image](#)

4.4 Urban Greening

Three of the green micro-entrepreneurs were trained in the urban greening sector and were imparted expertise in nursery work and gardening. Increase in green spaces in urban areas indicates a positive effect on the community's healthy living. Urban gray landscapes as opposed to urban green spaces lead to increase in air and noise pollution and due to lack of greenery, they adversely affect human well-being and biodiversity. Researchers analysed population density and AQI together and found a positive elasticity of 0.11-0.13 between the two. This means that if a city becomes 10% more densely populated, its AQI will rise by about 1-1.3%. With the urban population growing steadily, it has become extremely important to focus on and improve AQI. Ahmedabad's AQI, which ranges from 120 to 200, is in the unhealthy to severe category as of 2026. Urban greening, which includes urban forestry, is an effective way to improve air quality. Trees and other vegetation absorb harmful pollutants such as carbon monoxide and nitrogen dioxide, while leaves trap particulate matter like smoke, soot, and fine dust, preventing them from affecting humans. Green spaces also cool urban areas, reducing reliance on air conditioning and thereby lowering emissions.

A study by Tsinghua University confirmed that green spaces with greater biodiversity, that is, more varied plants, animals, and natural elements, significantly boost human well-being by enhancing cognitive function, lowering stress, improving mood, and promoting physical health as varied to urban gray spaces. Cities like Singapore with its tremendous

development of green infrastructure with green corridors, sky-rise greenery leads in urban sustainability. Likewise, Copenhagen, Denmark, focuses on extensive green infrastructure incorporated in its urban planning with green roofs, energy codes for buildings, cycling tracks amongst other green initiatives. Vienna, Austria, Moscow, Russia, and Shehzen, China, as part of their green urban planning, have a large share of their land dedicated to public green spaces. In Chennai, after restoration and greening of Tholkappia Poonga eco-park, a near fourfold increase in recorded biodiversity was observed, that is, from around 141 species in 2011 to 549 species by 2026, after urban greening and habitat restoration efforts. In India, Chandigarh, Guwahati, Shimla, Mysuru, have high per capita green space demonstrating commitment towards sustainable urban development. In tandem with these, policies like the Green India Mission encourage urban areas to develop green belts, plant trees along roadsides, and create eco-parks to enhance the overall green cover in cities.

Gardening specifically proves an increase in oxygenated hemoglobin (O_2Hb) in people experiencing garden landscapes as per a study published by the International Journal of Environmental Research and Public Health. It also noted significantly higher differences in the negative psychological states of tension, fatigue, confusion, and anxiety, observed for the city landscapes as different to the garden landscapes. In tandem with the proven benefits and a move towards sustainability, Saath provided hands-on training for urban gardening resulting in one of the trainees experiencing an increase in their income up to 10% due to the training.



5. Methodology

This study adopts a qualitative research design, focusing on a representative sample of 22 beneficiaries out of the entire 812 green micro-entrepreneurs and informal workers that Saath has provided capacity-building to since 2017 across different categories of green livelihoods. The qualitative design enabled in understanding the lived experiences of green livelihood earners, livelihood trajectories, and impact of Saath's intervention. These beneficiaries are engaged across multiple green livelihood categories, including renewable and clean energy, urban greening, circular economy activities, and waste management, primarily within the urban context. These participants have been selected through strategic randomized sampling performed on RStudio. Strategic random sampling ensured proportional representation across livelihood categories while maintaining randomness within each category, allowing systematic selection

while reducing selection bias.

In-depth interviews were conducted with the selected 22 participants. To avoid data saturation or repetition of responses, a limited number of respondents were chosen. Qualitative interview data was analysed using case based summaries of each respondent, to identify recurring patterns related to livelihood vulnerabilities, environmental contributions, and effectiveness of Saath's capacity building interventions. Based on these IDI summaries, interpretations were laid observing common patterns from each summary. The interviews aimed to have a detailed understanding of the livelihood conditions, issues faced, effect of Saath's interventions, and innovations adopted by the green livelihood earners. Later, the study examines opportunities to improve these capacity-building interventions to enhance its effectiveness based on the issues faced and recommendations given by the beneficiaries. [Here](#) is the IDI guide.



Fig. 5.1: Funnel Diagram of Saath's Trainees

Note: [See the high resolution image](#)

5.1 Variables Framework

Independent Variables (IV):

- a. Participation in Saath's capacity-building programs
- b. Type of training program, duration, and profession

Dependent Variables (DV):

- a. Livelihood outcomes (income, employment stability, business growth)
- b. Skills and knowledge gained

- c. Satisfaction with the program
- d. Challenges faced
- e. Perceived impact on quality of life

Informed consent was obtained from all participants before the interviews. Participants were also informed about the intent of the study and the voluntary nature of their participation. Confidentiality was maintained throughout the data collection and analysis process. The following was the categorical distribution of the sample population.

Green Livelihoods Sub-Categories	Total Beneficiaries Trained In This Category	Beneficiaries Selected for Surveying
CNG Rickshaws and EV drivers, Fitters, and Attendants	55	3
Solar Panels Service Providers	34	1
Gardeners	3	1
Bamboo Workers	6	1
Clay Pot Makers	23	1
Electric Appliances Repairers	111	2
Gas Stove Repairers	46	2
Knife Sharpeners	39	1
Mechanic and Other Machinery	148	3
Plumbers	13	1
Shoe Repairers	61	1
Scrap Collectors	61	3
Tailor	120	1
Vegetable Vendor	132	1
Total	812	22

Table 5.1: Sample Distribution Across Green Livelihoods Sub-Categories

6. IDI Summaries

This section presents concise summaries of a few In-Depth Interviews (IDIs) out of the 22 conducted as part of the study, highlighting key insights from green livelihood earners across different sectors, providing qualitative insights into their work conditions, livelihood practices, and challenges. All the 22 IDI summaries can be found here.

6.1 The Case of Daya, a Solar Technician in Vatva

Background

Daya has been a solar technician for six years, which builds upon his previous profession of being an electrician. In fact, the wiring bit in solar installation and the sustainability of this profession are the reasons he got interested in being a solar technician. Daya is a 50-year-old working under a company based in Vatva, Ahmedabad and follows the given leads and gets called on to install solar panels in households and institutions.

Work Operations

Daya does not operate from a fixed shop. His work is site-based, requiring him to travel to installation locations across the city. Daya uses several tools on his job, like panna, pakad, torque tool, welding machine, cutter, and insulation tester, among others, all of which he purchases from Kalupur wholesale market.

He doesn't earn a fixed wage, as his wage is dependent on the number of solar installations and repairs he does, although on average, he earns up to ₹35,000 a month. His work is following an upward trajectory due to a consistent increase in demand, although during the monsoon season, he attains the least sales and thus the least revenue across the year, as installations can't happen then.



Support from Saath

He attended the Solar Mitra training program by Saath a year before, which strengthened his solar technical skills of the respondents. During the training, he learnt efficient ways to do pillar levelling, using a spirit level/lever bottle, interpreting technical drawings, earthing and testing. The major way the training helped him was its focus on the precision of work, which, as he notes, has helped him have a better rapport with the customers over the years due to the fineness of his work. He suggested that such training be carried out with more practical demonstrations of solar installations, which may further improve the learning gained by the respondents. Due to his satisfaction with the program, he recommended and got his son to take the solar technician training by Saath as well. He was assisted by Saath for documentation for loaning, but he was unable to secure a loan, so he hopes to get assistance in acquiring the same.

Challenges and Innovations

Since Daya doesn't market and his firm does not market their services in a great capacity online, he gets new customers mainly through references. He seeks to keep up with the same profession for another decade and a half more until he retires. Daya focuses on improving efficiency and accuracy in installations rather than introducing new products. He offers discounts to secure work orders and relies on consistent quality to retain clients. As neither he nor his firm markets extensively online, most new customers come through references.

Daya's work is a direct contributor to green livelihood by promoting the adoption of renewable energy. Solar installations reduce dependence on fossil fuels, leading to lower household and institutional carbon emissions. His role as a technician supports the transition to clean energy while providing him with a stable and future-oriented livelihood in the informal economy.



6.2 The Case of Ranjit, a Knife Sharpener in Narolgam

Background

Ranjit has been practising knife sharpening for the past 18 years, having started this work in his early teens, and inheriting the profession from both his father and grandfather.

Knife sharpening is a physically demanding livelihood. Ranjit travels 10-15 kilometres daily on his bicycle, carrying a mobile knife-sharpening setup to reach his first stop, after which he moves through different neighbourhoods. On average, he covers 30-50 kilometres a day, leading to frequent leg pain and fatigue. He belongs to a four-member household and is the sole earning member. His wife suffered from paralysis a few years back, which led him to quit his job as he wasn't receiving a regular wage and practice knife-sharpening independently.

Work Practices

Ranjit sharpens and makes knives for both households and restaurants, charging reasonable rates (₹30 for one small knife and ₹50 for two). He sources wooden handles from local woodware shops and shapes them himself using tools such as hathori (hammer) and chinni (chisel), keeping up with designs that meet market demand.

His average daily earnings range between ₹300-450, although some days yield no income, often making it difficult to meet household expenses. The profession sees peak demand during Bakri Eid.

Beyond Ahmedabad, Ranjit undertakes seasonal migration for work, travelling to places such as Vadodara, Ankleshwar, Bahuchar, Umergam, and several parts of Maharashtra like Palghar and Virar.

During these trips, he stays with his fellows for about 15 days, often sleeping in open grounds or dharmshalas if the people in the vicinity let them stay, and then they deposit their Aadhaar cards at local police stations for temporary residence. During such periods, he earns around ₹500-600 per day. He sources his cycle and the knife-sharpening setup from different vendors across cities where he travels for work.

Association with Saath

Under the mentorship of Saath's mentor Gautam, Ranjit attended documentation training with Saath, which helped him obtain essential documents such as an MSME card, Ayushman card, visiting card, and branding materials, including stickers with his name and contact details on his cycle kit. With mentorship support, he also completed online applications for government schemes. He has enrolled in the Sukanya Samridhi Yojana for his daughter's education and future security.

His participation in Saath's society camps has been particularly beneficial, allowing him to earn nearly twice his usual daily income as he gets to serve multiple customers at a single location.

Challenges and Innovation

Ranjit faces persistent challenges, including low and unstable income, rising costs of inputs, poor working conditions like excess heat and inadequacy of basics, and competition from automated knife-sharpening machines, although he notes that manual sharpening remains superior in quality. While working, he sometimes sharpens knives in exchange for food when cash earnings are insufficient.

His work contributes to environmental sustainability by extending the life of knives and reducing metal waste. He has explored ways to market digitally through WhatsApp and Instagram and aspires to upgrade to a TVS X100 electric cycle with a knife-sharpening setup, for which he seeks a loan and technical support from Saath.



6.3 The Case of Dinesh, a Gas Stove Repairman in Vatva

Background

Dinesh is a 24-year-old gas stove repairman. He has been involved in this profession for the last 7 years. He was influenced by his brothers to go into this profession and has learned the basics from his eldest brother, whose shop he also works in. There are 20 members in his family, with only 4 earning members.

Work Practices

Dinesh is a hawker who spends the morning working at his brother's shop, then takes his cart around to different societies to provide his services. Most of his customers come by in the morning shift, from 10 a.m. to 2 p.m. He has a loyal base of customers who have been availing his services for 2-3 years. Without an online presence, he relies on recommendations to get new customers. He purchases his inputs, tools such as pakkad, dismiss, and paana, from the nearby hardware stores. A major portion of his revenue comes from repairing gas stoves, though he also repairs pressure cookers sometimes. His monthly income is about ₹20000, out of which he has ₹13000 - ₹14000 left over after incurring business expenses. During the winter months his earnings usually increase; however, there are days he earns low or no income.

Repairing gas stoves and chulhas assists the circular

economy by reducing the demand for new stoves. It reduces fuel waste, as repairing LPG gas leaks leads to a reduction in unnecessary energy emissions. Maintenance of gas stoves helps reduce fuel usage, as poorly maintained gas stoves can have irregular heating due to clogged burners. Dinesh enables a green livelihood by reducing wastage, emissions, and by making existing systems work better instead of extracting more resources.

Association with Saath

Dinesh has been associated with Saath for four years and has attended several society camps. He recounts that the society camp was a great opportunity for him to expand his customer base and that his earnings also increased afterwards. Further, he wishes to delve into the marketing training organised by Saath to counter his lack of knowledge in marketing, as well as his struggle to get new customers. He also wants Saath's help to create an online presence, which would help him increase his customer base.

Challenges and The Way Ahead

Unstable and low income are frequent issues faced by Dinesh. Inability to secure a loan due to lack of collateral is a persistent issue. He wishes to get Saath's help in acquiring a loan that would help him expand his business in the next 2-4 years. His business as a repairman for gas stoves reduces the potential emissions that faulty gas stoves could emit while cutting the demand for new gas stoves and living up to the circular economy goal of repair.



6.4 The Case of Sanjay, a Scrap Collector in Vatva

Background

Sanjay is a 32-year-old scrap collector who has been working in Ahmedabad for 2 years now. He lives with a family of five people, including himself, his wife, two sons, and one daughter, in which he is the only earning member. He chose to be a scrap collector because his family members influenced him to join this profession. Using his cart, he travels to residential and commercial areas, purchasing scraps and in turn sells to the industries at a margin which is often not sufficient. He stores his collected scrap around his household in the Vatva area of Ahmedabad.

Work Practices

He works 4 hours a day, most of it being in the morning, and uses tools like hammers and weighing scales and has tie-ups with his customers to sell whatever scrap he collects. Over these years, he has been securing the equipment used in his everyday work, like hathori and chinni, from the Kalupur market. His net monthly income is about ₹5000, but he sees an increase in income during the months of April and May due to higher consumption of FMCG products amongst people. He enjoys the autonomy he attains in owning his business.

Association with Saath

Sanjay has been associated with Saath for 10 months,

and has been recommended to attach speakers to his cart while he goes ferrying to collect scraps, which later, he implemented, giving him more traction and increasing his collection. He was assisted in using digital payment by his Saath mentor, Manoj Bhai. Moreover, he was trained for effective communication with customers and marketing. Owing to the training, he has been able to manage negotiations better with his customers and also plans on marketing his business in the future.

Challenges and Innovation

Sanjay particularly faces the low-income issue as a sole provider for his family of five. Moreover, the instability of the income hampers him as well. During summers, despite his sales peaking, the climatic condition becomes difficult to bear, leading Sanjay to feel fatigued due to the extreme heat and the inadequacy of water while he is ferrying around. He, however, has been seeking ways to improve his income by expanding the storage space for the scraps that he collects and segregating by deploying his verandah space for storage, which ensures that he has enough storage space to keep his collections.

Sanjay's livelihood prevents waste from being dumped in the landfills and ensures that it is being collected and sent to industries for recycling, while giving customers a monetary incentive against the scrap they sell to him. This way, scrap collectors are pivotal to efficient waste management and active participants of the circular economy.



6.5 The Case of Suresh, an Electronics Technician in Vatva

Background

Suresh is an electronics repairman working from his shop in the Vatva area of Ahmedabad. He has been involved in this profession for 13 years and learnt the basics by watching his brother work. He used to be employed someplace else and took over his brother's former establishment when his brother purchased a new shop. He is an ardent family man, his day beginning by dropping his kids off at school. There are 6 members in his family. His father is employed as well; however, his income is necessary for his household to function properly.

Work Practices

Suresh sits at his shop every day of the week for upwards of 12 hours. He opens his shop early in the morning, at 9 AM. He swiftly cleans his workspace and meets his friends who own the nearby shops, after which he begins his work. Sometimes, he visits his customers' homes to provide services. Since he has been working at the same place for 13 years, he has a loyal customer base who even wait for his arrival to get their appliances repaired. Along with an online presence, which is because of a 'Justdial' account he made years ago, he also hands out visiting cards to his customers. His shop can be found easily on Google Maps. He sources his inputs, tools such as solder wire, screwdrivers, pliers, nose pliers, paste, paana, and hathodi, from local markets such as Relief Road Market

for purchasing materials in bulk and Isanpur for urgent purchases. He has to go scouting for input materials every 2-3 days due to the nature of his profession. His monthly profit is about ₹40000 - ₹45000. Festive seasons such as Navaratri and Diwali bring a surge of customers to his shop, while the winter months of December through February stay uneventful.

Association with Saath

Suresh has been associated with Saath for upwards of a year and has attended several training sessions, such as the Business Identity training and the Marketing and Communication training. He proclaims that the trust has been there to support him whenever he needed their help, and says that he wants to attend training sessions to develop newer skills required for his profession.

Challenges and The Way Ahead

Certain customers give him a tough time by not paying for his services. His earnings are low, and he faces income instability during the winter months. Suresh claims he has previously struggled to acquire a loan. He wishes to expand his shop and broaden his business to other areas of Ahmedabad.

Repairing broken and damaged appliances and electronics reduces the demand for new production, thereby assisting the circular economy. His profession has a low carbon footprint, yet generates high social value. Suresh enables a green livelihood by reducing wastage and by making existing systems work better instead of extracting more resources.







7. Interpretations

7.1 Insights from In-depth Interviews (IDIs)

The IDIs tried to gain an in-depth understanding of the lived realities of green livelihood earners in the informal economy. It highlighted how the green livelihood earners in the informal economy bear the brunt of the lack of social security, yet benefit the environment through their everyday livelihood practices.

Most micro-entrepreneurs reported working over 12-13 hours a day on average, while being prone to injuries that could abruptly stop their income. The study reveals how these green livelihood earners are drawn into their professions, either through inheritance or to make ends meet, without having a choice to pursue formal employment due to a lack of exposure and education. Their entry wasn't particularly because of their interest towards the profession or its environmental significance, but due to the lack of livelihood options and external support. These interviews also help in understanding their income, viability, market linkages, and procurement of the resources they require. Their income wasn't sufficient for savings but was just enough to meet essential expenses, showing the insufficiencies in their profits and their accountability for bearing the cost of survival of their dependents.

Their work is also very physically demanding, making their income and their health vulnerable to accidents in and outside of work, like one of the respondents who had to take a month-long break due to a vehicle cylinder's blast on their finger. Due to the nature of work and in most cases, their work being inherited by their families, most of the respondents had regular customers and suppliers. These interviews break down the frequency with which micro-entrepreneurs procure the resources they require and the market areas from which they generally obtain those resources. It notes the challenges they face in practising their livelihood, more often, poor working conditions like extreme heat, lack of knowledge on new technology and ways of marketing.

7.2 Green Livelihood Earners' Estimated Impact on Emissions

The impact of Saath's green financing, delivered through its capacity-building interventions, has

enabled its beneficiary green livelihood earners to contribute to measurably reduce CO₂ emissions. The following calculations are of each of the green livelihood earners' reduction in CO₂ emissions in an ascending order.

1. CNG Drivers: Dinesh, Raju, Sandeep

- Average distance driven per day = 105 km
- Reduction in emissions [Petrol (0.1135) - CNG emissions (0.10768)] = 0.00582 kg CO₂ eq/km
- Reduction in emissions per year by a driver (per day distance*reduction*320 working days) = **183.33 kg CO₂ eq**

2. Knife Sharpener: Ranjit

- Number of knives sharpened in one day = 7
- Effective CO₂ emissions avoided per knife [percentage of repairs that avoid replacement (40%)*average CO₂ embodied by one knife (2.5)] = 1 kg CO₂ eq
- Reduction in emissions per year (knives sharpened a day*300 working days*effective CO₂ emissions avoided per knife) = **2100 kg CO₂ eq**

3. Tailor: Damiyanti

- Annual garments stitched: 130 garments/month × 12 = 1,560 garments/year
- Total weight of garments produced: 1,560 × 0.25 kg = 390 kg/year
- Fabric composition: Cotton (60%) = 234 kg, Synthetic (40%) = 156 kg
- Emissions avoided from non-factory manufacturing: Cotton: 234 kg × 4 (cotton emission factor) = 936 kg CO₂ eq
- Synthetic: 156 kg × 5.5 (synthetic fabric emission factor) = 858 kg CO₂ eq
- Annual garments repaired (by weight): 86.6 garments/month × 12 × 0.25 kg = 260 kg/year, Cotton (60%) = 156 kg, Synthetic (40%) = 104 kg
- Emissions avoided through repair: Cotton: 156 kg × 4 = 624 kg CO₂ eq; Synthetic: 104 kg × 5.5 = 572 kg CO₂ eq
- Reduction in emissions per year: 936 + 858 + 624 + 572 = **2990 kg CO₂ eq**

4. Vegetable Vendor: Anita

- Vegetables sold per month: 1,000 kg
- Emissions avoided from vegetable production: 1,000 kg × 0.5 = 500 kg CO₂ eq/month
- Transport avoided due to sourcing vegetable from her nearby farm: Estimated distance travelled by other vendors per month: 300 km

- Emission factor (transport): $0.0001 \text{ kg CO}_2 \text{ eq/kg-km}$
- Emissions avoided from transport: $300 \times 1,000 \text{ kg} \times 0.0001 = 30 \text{ kg CO}_2 \text{ eq/month}$
- Total emissions avoided in a year [(530 kg CO₂ eq*12 months) = **6360 kg CO₂ eq**

5. Gardner: Laalchand

- New plants planted per year: 800 plants
- Emissions reduced from new plant sequestration: 800×5 (conservative sequestration factor) = **4000 kg CO₂ eq/year**
- Plants maintained per year (including new plants): **1500 plants**
- Emissions reduced from maintained plants: $1,500 \times 3$ (conservative sequestration factor) = **4500 kg CO₂ eq/year**
- Chemical fertiliser avoided: **60 kg/year**
- Emissions avoided from reduced fertiliser use: $60 \times 1.7 = 102 \text{ kg CO}_2 \text{ eq/year}$
- Reduction in emissions per year: $4000 + 4500 + 102 = \mathbf{8602 \text{ kg CO}_2 \text{ eq}}$

6. Gas Repairer: Dinesh, Prakash

- Lifecycle emissions of one gas stove (manufacturing, transport, end-of-life): **17 kg CO₂ eq**
- Stove repair activity: $2 \text{ stoves/day} \times 300 \text{ days} = 600 \text{ stoves/year}$
- Reduction in emissions per year: $600 \times 17 = \mathbf{10,200 \text{ kg CO}_2 \text{ eq}}$

7. Bamboo Worker: Kapur

- Bamboo used annually: **6000 kg**
- Application-wise distribution:
- Construction & scaffolding (replacing steel, 60%): **3600 kg**
- Furniture & décor (replacing plastic, 25%): **1500 kg**
- Roofing elements (replacing GI sheets, 15%): **900 kg**
- Avoided emissions:
- Steel replacement: $3,600 \times (1.9 \text{ (emission factor)} - 0.1) = 6840 \text{ kg CO}_2 \text{ eq}$
- Plastic replacement: $1,500 \times (1.58 \text{ (emission factor)} - 0.1) = 2370 \text{ kg CO}_2 \text{ eq}$
- GI sheet replacement: $900 \times (2.0 \text{ (emission factor)} - 0.1) = 1800 \text{ kg CO}_2 \text{ eq}$
- Reduction in emissions per year: **11,010 kg CO₂ eq**

8. Plumber: Vishal

- Houses covered in a year: $3 \text{ houses/day} \times 320 \text{ days} = 960 \text{ houses}$
- Repairs he does: Leaks (50%) = 480, Broken pipes (10%) = 96, Damaged fittings (40%) = 384
- Emissions saved from repairing leaking taps: **1,073.1 kg CO₂ eq/year**
- Emissions saved from repairing broken pipes: **7,358.4 kg CO₂ eq/year**

- Emissions saved from repairing damaged fittings: $384 \times 12 = 4,608 \text{ kg CO}_2 \text{ eq/year}$
- Reduction in emissions per year: **13,039.5 kg CO₂ eq**

9. Electrician and Appliance Repairer: Ajay, Suresh

- Fan repairs: $400 \times 24 = 9600 \text{ kg CO}_2 \text{ eq/year}$
- Light repairs: $480 \times 9 = 4320 \text{ kg CO}_2 \text{ eq/year}$
- Cooler repairs: $60 \times 14 = 840 \text{ kg CO}_2 \text{ eq/year}$
- Wiring repairs: $15 \text{ kg} \times 1.4 = 21 \text{ kg CO}_2 \text{ eq/year}$
- Reduction in emissions per year by an electrician: **14,781 kg CO₂ eq**

10. Scrap Collector: Jagram, Sagar, Sanjay

- Waste collected annually: $270 \text{ kg/week} = 14,040 \text{ kg/year}$
- Composition: Paper (60%) = **8,424 kg** | Metal (30%) = **4,212 kg** | Glass (5%) = **702 kg** | E-waste (5%) = **702 kg**
- Emissions reduced through recycling:
- Paper: $8,424 \times 1 = 8,424 \text{ kg CO}_2 \text{ eq}$
- Metal: $4,212 \times 4.8 = 20,217.6 \text{ kg CO}_2 \text{ eq}$
- Glass: $702 \times 0.3 = 210.6 \text{ kg CO}_2 \text{ eq}$
- E-waste: $702 \times 5 = 3,510 \text{ kg CO}_2 \text{ eq}$
- Reduction in emissions per year by a scrap collector: **32,362.2 kg CO₂ eq**

11. Clay Pot Maker: Rafiq

- Emission reduction per kg (plastic -> clay): $1.58 - 0.714 = 0.866 \text{ kg CO}_2 \text{ eq/kg}$
- Daily clay pot production: $50 \text{ pots} \times 2.5 \text{ kg} = 125 \text{ kg/day}$
- Daily emissions reduced per clay pot maker: $125 \times 0.866 = 108.25 \text{ kg CO}_2 \text{ eq/day}$
- Reduction in emissions per year: **34,640 kg CO₂ eq**

12. Shoe Repairer: Ramesh

- Daily customers: ~ 22.5
- Shoe repairs (40%) = $9/\text{day} \rightarrow 3,285 \text{ shoes/year}$
- Emissions avoided per shoe (synthetic): $11.3 \rightarrow 16.7 \text{ kg CO}_2 \text{ eq}$
- Annual emissions reduced (shoe repair): $37,120.5 - 54,859.5 \text{ kg CO}_2 \text{ eq/year} = 45,990 \text{ kg CO}_2 \text{ eq/year}$
- Fast fashion repairs (60%): $13.5 \text{ items/day} = 4,927.5 \text{ items/year}$
- Emissions avoided per fast fashion repair: $25.7 \times 1.6275 = 41.83 \text{ kg CO}_2 \text{ eq}$
- Annual emissions reduced (fast fashion repair): **206,101.31 kg CO₂ eq/year**
- Reduction in emissions per year: **252,091.31 kg CO₂ eq**

13. Mechanic: Mahendra, Manoj, Masoori

- Vehicles repaired: Total **1500** → Two-wheelers: **1325**, Four-wheelers: **175**
- Two-wheelers: Life-saving repairs (40%): **530**, General repairs (60%): **795**

- Manufacturing emissions per two-wheel vehicle = 175 kg CO₂ eq
- Emissions avoided: Life-saving repairs: 92,750 kg CO₂ eq, General repairs: 55,650 kg CO₂ eq
- Total (two-wheelers) emission reduction in a year: 148,400 kg CO₂ eq
- Four-wheelers: Life-saving repairs (40%): 70, General repairs (60%): 105
- Manufacturing emissions per four-wheel vehicle: 6,050 kg CO₂ eq
- Emissions avoided: Life-saving repairs: 423,500 kg CO₂ eq, General repairs: 254,100 kg CO₂ eq
- Total (four-wheelers) emission reduction in a year: 677,600 kg CO₂ eq
- Reduction in emissions per year: = **826,000 kg CO₂ eq/year**

- Emissions reduced per system: 5,475 × 960 = 5,256 kg CO₂ eq/year
- Reduction in emissions per year: **2,838,240 kg CO₂ eq**

Note: These figures are derived based on participants' responses, assumptions, and secondary literature. For detailed calculations, refer to [this](#).

To further understand each of these 22 respondents' emissions they prevent due to practising green livelihoods, the following table and figure compares the estimated annual CO₂e emissions reduced by them with the average per-capita annual carbon footprint of an urban Indian citizen. This shows the number of average citizens' annual emissions offset by the work of a single informal green worker. The values represent avoided emissions attributed to their livelihood practices and do not take personal household emissions of these green livelihood earners into account.

Here, average annual per-capita emissions (for urban India) citizens is taken to be 1,500 kg CO₂e, so each green livelihood earner's reduction in emission is divided by 1,500 kg CO₂e to find the number of average citizens' annual emissions offset.

15. Solar Technician: Daya

- Emission reduction per kWh (coal -> solar): 1,000-40 = 960 g CO₂ eq/kWh
- Solar installations: 540 households/year | System size: 3 kW
- Energy generated per system: 3 kW × 5 h = 15 kWh/day -> 5,475 kWh/year

Table 7.1: Green Livelihood Earners: Reduction in CO₂ Emissions and Relative Comparisons

Green Livelihood Earners	Livelihood Type	Annual CO ₂ Emissions Reduced (in kilogram of carbon dioxide equivalent)	Everyday Relative Comparison	Equivalent Citizens Offset (number of average Indian citizens' annual emissions offset)
Dinesh Raju Sandeep	CNG Drivers	183.33 for each CNG Driver; For all three of them; 549.99	Driving a car for over 1200-1500 kilometres or taking about 2 domestic flights (for one CNG driver)	0.12 citizens

Green Livelihood Earners	Livelihood Type	Annual CO ₂ Emissions Reduced (in kilogram of carbon dioxide equivalent)	Everyday Relative Comparison	Equivalent Citizens Offset (number of average Indian citizens' annual emissions offset)
Ranjit	Knife Sharpener	2100	Driving a car for over 15,000 kilometres or taking about 18 domestic flights	1.40 citizens
Damiyanti	Tailor	2990	Driving a car 20,000-25,000 km (1.5-2 years of city driving) or about 23 domestic flights	1.99 citizens
Anita	Vegetable Vendor	6360	Driving 42,000-53,000 km (crossing India twice by road) or about 49 domestic flights	4.24 citizens
Laalchand	Gardener	8602	Driving 57,000-72,000 km (nearly twice around Earth's equator) or about 66 domestic flights	5.73 citizens
Dinesh Prakash	Gas Repairer	10200 for each gas repairer; For two of them; 20400	Driving 68,000-85,000 km (5-6 years of average car use) or about 78 domestic flights (for one gas repairer)	6.80 citizens

Green Livelihood Earners	Livelihood Type	Annual CO ₂ Emissions Reduced (in kilogram of carbon dioxide equivalent)	Everyday Relative Comparison	Equivalent Citizens Offset (number of average Indian citizens' annual emissions offset)
Kapur	Bamboo Worker	11010	Driving a car for over 2,000 kilometres or taking about 70 domestic flights	7.34 citizens
Vishal	Plumber	13039.5	Driving 90,000-110,000 km or about 100 domestic flights	8.69 citizens
Ajay Suresh	Electrician and Appliance Repairer	14781 for each repairer; For two of them; 29562	Driving 100,000-1,25,000 km (lifetime mileage of many small cars) or about 114 domestic flights (for one repairer)	9.85 citizens
Jagram Sagar Sanjay	Scrap Collector	32362.2 for each scrap collector; For all three of them; 97086.6	Driving 100,000-1,25,000 km (lifetime mileage of many small cars) or about 114 domestic flights (for one repairer)	21.57 citizens
Rafiq	Clay Pot Maker	34640	Driving 100,000-1,25,000 km (lifetime mileage of many small cars) or about 114 domestic flights (for one repairer)	23.09 citizens

Green Livelihood Earners	Livelihood Type	Annual CO ₂ Emissions Reduced (in kilogram of carbon dioxide equivalent)	Everyday Relative Comparison	Equivalent Citizens Offset (number of average Indian citizens' annual emissions offset)
Ramesh	Shoe Repairer	252091.31	Driving 100,000-1,25,000 km (lifetime mileage of many small cars) or about 114 domestic flights (for one repairer)	168.06 citizens
Mahendra Manoj Masoori	Mechanic	826000 for each mechanic; For all three of them; 2478000	Driving 5.5-7 million km (hundreds of cars taken off the road for a year) or about 6350 domestic flights (for one repairer)	550.67 citizens
Daya	Solar Technician	2838240	Driving 19-24 million km (annual emissions of a small town's vehicles) or about 21,830 domestic flights	1,892.16 citizens
Total CO₂ Emissions Reduced by the 22 Respondents		5794671.4	Driving 48.3 million km or 1260 passenger cars off the road for one year or about 38,631 domestic flights	3,863.1 citizens

Number of Annual Citizens' Offset



Fig. 7.1: Number of average citizens' annual emissions offset by the work of a single informal green worker

7.3 Interventions and Their Effects

By basing the conclusions on the empirical data in the interviews, the impact of Saath's interventions was also tried to be understood. Most of the respondents participated in business identity, financial literacy, and communication training, learning the know-how of documentation for applying for schemes and loans, using digital payments (UPI), designing and getting their business cards and banners printed, and effective communication techniques to establish a long-lasting rapport with customers. While some of the respondents also attended technical training for their professions, such as Saath's Solar Mitra training for solar technicians, mechanic training, and electrical work training. After adapting to the learnings gained during training, a few respondents saw a two-fold increase in their incomes. Such interventions try to safeguard the informal workers against the vulnerabilities of income volatility and operational challenges, thus enabling them to be economically resilient while contributing to emission reduction. These interventions were more focussed to enhance sustainability of these green livelihoods sustaining in the informal economy than being focused on climate goals, which bore subsequent impact.

7.4 Innovations Adopted by the Micro-entrepreneurs

These interviews sought to highlight the innovations that the green livelihood earners applied to mitigate the issues posed by the nature of the informal economy. The micro-entrepreneurs sought ways to strengthen their business by broadening their services to meet the emerging demands (links to the case of the cobbler) and areas in which they offer their services (links to the case of the electronic repairer), offering mobile services (links to the case of a mechanic), getting contacted via calls for service (links to the case of the plumber and a mechanic), accessing loans or saving for moving to shops (links to the case of the tailor and an electrician), and upgrading their existing resources to offer finer services (links to the case of the knife-sharpener). Moreover, their participation in Saath's training also led them to innovate, having learnt ways to market their enterprise, enhance their technical skills, adapt to digital payment methods, and seek ways for securing finances. With climate change and the challenges in the informal economy, these innovations become critical for scaling these green livelihoods.

7.5 Future Approach for the Interventions

The in-depth interviews revealed the effects of the interventions of Saath on the livelihoods of these micro-entrepreneurs which grew their individual capabilities and can bloom further if the following approaches are

taken into consideration.

a. Long Term Trainings

Saath's interventions have been able to impact the green livelihood earners, but they can be more effective if they are sustained for the long term. One-time or short-term interventions, like a one-day training, limit sustained reinforcement of skills imparted through these interventions and hinder their influence on long-term growth of their livelihood. The curriculum of such training can be broken down into beginner, intermediate, and advanced modules and delivered over a few months. These interventions can also be aligned with national green skills frameworks. Moreover, customising the curriculum for specific livelihoods can help micro-entrepreneurs better relate to and implement the learnings.

b. Reducing the Mentor to ME Ratio

At present, a mentor has about a thousand micro-entrepreneurs as their mentee, which makes it difficult to give proper attention to each of them and to ensure the efficacy of interventions. Reducing this ratio to approximately one mentor per hundred micro-entrepreneurs would enable mentors to have regular check-ins, on-site support, and a stronger mentor–mentee relationships. A strengthened relation will let the micro-entrepreneurs have better access to social capital, helping in the expansion of their micro-enterprise and accessing credit through government schemes and loans, and helping them share their micro-enterprises' shortfalls for seeking advice in a timely manner. Knowledge gains learnt as a product of this intervention can better translate into income and business growth with structured mentorship.

c. Regular Evaluations

The in-depth interviews indicate that post-training support, such as mentoring and troubleshooting, ensuring smooth implementation, is limited. Without continuous support, many beneficiaries struggle to apply the knowledge to sustained improvements in their working conditions or digital outreach. Follow-ups shall help in understanding the effectiveness of the laid intervention, its positives and short-comings which will help in tailoring the future interventions better. Moreover, they shall also help in the customisation of future interventions for micro-entrepreneurs from each livelihood in retrospect to the challenges they face in their livelihood.

d. Collaborations for Certifications

Many respondents reported not having advanced technical skills, which worsened their income constraints. Most

respondents weren't able to save, and some were barely able to secure their family's needs. Saath's solar mitra program, amongst other technical skills initiatives, immensely helped the beneficiaries to acquire skills that they could monetise. Although certain roles require certifications like ITI certification, for which Saath's programs can be designed in collaboration with these institutions, helping them get certifications further enables them to pivot into advanced green roles, enhancing their working conditions and income viability. Skill Council for Green Jobs provides qualifications for several green informal jobs under the renewable energy, waste management, and circular economy sectors. Collaborations for certification, cooperative linkages, SHGs, and JLGs can improve market access, buyer linkages, facilitate savings and credit flows, and enable pivoting into higher-value green livelihoods.

e. Incorporating Social Protection in Interventions

Due to the nature of informal work, these green livelihood earners are vulnerable to health shocks,

accidents and income disruptions. Over the years, most of them experienced a decrease in their real income, making it especially difficult for them to save. This emphasises the need for social security assistance to be inculcated as a part of the capacity-building programs. Welfare payments like pensions, health insurance, and funds for protective equipment can be availed to them, boosting their confidence as micro-entrepreneurs, overcoming the uncertainty related to their income. Better aid in accessing welfare schemes, and a potential hike in income would enhance their risk-taking capacity.

The IDI summaries show that while Saath's capacity-building interventions have amplified individual capabilities, their long-term effectiveness depends on integration related to skills certification, social protection, market access, and meticulous planning. Aligning interventions with urban livelihood policies like national green skills frameworks can significantly enhance both livelihood security and their environmental contributions.



8. Other Informal Green Livelihoods to Provide Support

The identification of other green jobs that Saath can broaden its outreach in have been determined after gaining an understanding from the interviews of the green livelihood earners who have been associated with the organisation. At present, Saath has been associated with green livelihood earners in the categories of renewable and clean energy, urban greening, circular economy businesses, and waste management. This leaves scope for expanding outreach to green livelihood earners from the

categories of green construction, sustainable transport, agricultural and natural resources as well as to unexplored roles within the categories already being supported. The following are the green livelihoods where Saath could provide support in future, along with data points gathered for perspective on the share of the category's informal workforce to the total informal workforce, their impact on the current emissions, and the major challenges they face which the intervention can focus on, all in context to India.

Table 8.1: Green Livelihood Categories: Informal Workforce Strength, Emission Impact, and Key Challenges

Green Livelihood	Category of Green Livelihood	Strength of Informal Workers	Impact on Emissions	Major Challenges Faced
Green Infrastructure Installers	Green Construction	2,10,000 informal green construction workers (4.15% to the total 50,58,00,000 informal workers as per Ministry of Statistics, India)	An example of green infrastructure would be switching to rainwater harvesting, which would reduce up to hundred thousands of CO ₂ emissions across urban systems in India annually.	Vulnerability of health and lack of insurances
Manufacturing Workers	Sustainable Transport	Over 80,000 informal workers are engaged in electric vehicles' manufacturing firms including Tata Motors, Switch Mobility (Ashok Leyland), Olectra Greentech, JBM Auto in India	38% greenhouse gas (GHG) emissions can be reduced in India with the switch to electric vehicles over conventional vehicles.	Long working hours

Green Livelihood	Category of Green Livelihood	Strength of Informal Workers	Impact on Emissions	Major Challenges Faced
Organic Farmers and Farm Labourers	Agricultural and Natural Resources	Over 2.7 million to 4.43 million (44.3 lakh)	51% decrease in N ₂ O emissions by adopting organic methods	Lower yields and difficulty in accessing premium markets
Artisans Upcycling and Recycling Products	Circular Economy Businesses	Estimates suggest that there are 2 million (20 lakh) informal workers engaged in upcycling and recycling artisanal work in India	Artisans upcycling plastic to make interior products like baskets, chairs, lamps can save up to 2000 kgs of CO ₂ emissions in a year	Lack of recognition thus lack of scalability
Waste Pickers, Municipal Cleaners	Waste Management	At least 1.5 million (15 lakh) waste pickers work in India	Waste pickers in Ahmedabad prevent about 200,000 tonnes of carbon dioxide equivalent (CO ₂ -e) emissions annually	Lack of protection like PPE kit exposing them to sharp objects, toxic chemicals, biohazardous materials, and extreme weather, making them prone to severe health conditions like respiratory and skin diseases
E-Waste Repairers	Waste Management	Over 10,00,000 lakh	Repairing one device can save up to 24 kgs of CO ₂ emissions, so, one e-waste repairer would save above 5000 kgs of CO ₂ on an average in a year	Exposure to direct toxins, lack of PPE kit
Sewage Workers, Manual Scavengers	Waste Management	Over 770,000 manual scavengers and 50 lakh (5 million) sewage workers in India	Untreated sewage produces greenhouse gas emissions like methane and nitrous oxide, treating which reduces the emissions by 65%	Discriminatory treatment, unaware of government schemes or protection kits, severe health risks

8.1 Proposed Interventions by Saath for Identified Green Livelihood Categories

These are the proposed measures through which Saath can engage and strengthen these emerging and underrepresented green livelihoods against the challenges their livelihoods face which are aforementioned.

a. Installers Implementing Green Infrastructure (Green Construction)

Installers at the construction sites need PPE kits which is often the necessity that they don't rejoice access of. Saath as part of its structured intervention can provide these kits to the installers and workers at the green infrastructure sites. Saath can also train them in green materials and safety standards (like, the model of Saath's Solar Mitra Program) and get them connected to the contractors to ensure a better stable income. A comprehensive plan can be followed with provision of health insurance, mobile creches for their young dependents, formal registration and applications in government schemes.

b. Manufacturing Workers (Sustainable Transport)

A major part of the manufacturing workers are involved in the production of conventional cars and are unable to tap into advanced skills required for the production of electric vehicles. Workers, thus, can be given certified technical training to keep up with the evolving demand of the industry. Moreover, workers can be made aware of the formal manufacturers and suppliers of this industry, wherein, getting employed under them would imply having formal contracts indicating strengthened job security. Workers can also be prompted to apply for health insurance.

c. Organic Farmers and Farm Labourers (Agricultural and Natural Resources)

They can be assisted in providing market linkages of e-commerce platforms with the demand of organic produce. To compound their yield, they can be given training in farming practices with efficient water and soil management for having low-input agriculture. They can also be assisted to be a part of several micro-finance, prompted to have crop insurance and get registered on digital platforms by the state like Jaivik Kheti portal and app specifically to support organic farming, alongside general agricultural apps like Kisan Suvidha, ensuring better access to information.

d. Artisans Upcycling and Recycling Products (Circular Economy Businesses)

However niche the artisans industry is currently, their products are seeing a demand in the upper echelon sustainable circles. Artisans can thus be supported in product diversification incorporating unique designs and innovations in alignment with the current demands. Saath can also assist these artisans with its existing initiatives like RWeaves and help them have better market access through exhibitions, digital marketplaces, and partnerships with retailers. They often lack online visibility, so, by getting incorporated in platforms like RWeaves, they can have financial support for raw materials and improve their profitability. With better profitability, artisans can be supported to open permanent outlets in markets for used clothings (thrift stores), recycled and upcycled products.

e. Waste Pickers, Municipal Cleaners, Sewage Workers, Manual Scavengers (Circular Economy Businesses)

To provide more dignified life to the waste pickers, Saath can support organising these workers, providing them training regarding waste segregation, using of protective gears (can also provide protective gears, if not available with them), making them understand health hazards of waste picking, equip them with health insurance and push them for regular health checkups. Taking an example from organisations like Kachre Se azadi, which is working at two levels: to clean our city and to take care of the individuals who're doing that in a dignified manner. The intervention can entail mandating regular health check-ups for them and strengthening their access to welfare schemes. Sewage workers especially should be trained in safe mechanised cleaning practise as opposed to manual scavenging which is widely practised yet unlawful. They can be prompted to adopt safer green rehabilitation livelihood alternatives like getting employed with formal collection channels and using mechanised cleaning machines. Saath can also provide counselling services to them as these livelihood earners are often prone to exploitation and discrimination based on their identities like caste or gender.

E-Waste Repairers (Circular Economy Businesses)

E-waste repair is getting a lot of traction with tremendous e-waste being discharged from households. E-waste repairers need better market linkages and can be linked with the existing e-commerce platforms to expand their outreach. They can also get linked with formal authorised recyclers, get trained on safe e-waste handling and repair aligned with environmental regulations. Due to the hazardous nature of the work, the intervention can look into the provision of health insurances of the workers.



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10. Annexure

10.1 IDI Guide

Section 1: Consent

Enumerator: Hello, I am X. I am from Saath Charitable Trust. I seek to interview you for a short span of 20-25 minutes as part of our study on green livelihoods. The purpose of this study is to identify the effect of Saath's capacity building programs on the beneficiaries and to find ways that the training programs can improve. You have been randomly chosen to be interviewed and your responses will be only used for this survey and no personal details or any images shall be revealed to anyone with your enclosed identities. Your responses will be recorded. Your participation is voluntary and you have the right to withdraw at any time from the survey if you feel. We really appreciate your participation.

1. Do you consent to participate in the survey?

- Yes
- No

2. Date of Interview (__ / __ / ____)

If Yes in question 1, then the following questions can be asked;

Section 2: Background

3. What is your age? (Must be over the age of 18) (__)

4. Select your gender.

- Female
- Male
- Non-binary

5. Mention the number of members in your household. (__)

6. Mention the number of family members who are earning in your household. (Should be lesser than or equal to the figure given in the question 5)

7. Select your livelihood activity:

- CNG rickshaws and EV drivers, fitters, and attendants
- Solar panels service providers
- Gardeners
- Bamboo workers

- Clay pot makers
- Electric appliances repairers
- Gas stove and chulha repairers
- Knife sharpeners
- Mechanic and other machinery repairers
- Plumbers
- Shoe repairers
- Scrap collectors

8. Mention the number of years you've served in this livelihood. (__)

9. Tell me about your business and how you started. *(Open-ended)*

- Reasons for choosing this livelihood
- Working hours in a week *(in this business)*
- Daily work process, resources, tools used *(Images to be taken)*
- Suppliers, customers
- Average monthly income and profits
- Top seasons for sales if any
- Any other training programs they joined like Saath's program and its impact
- Any innovations looking forward to adopt
- Importance of this livelihood for well-being at home

Section 3: Program Participation and Outcomes

10. Which Saath training program/s did you attend? *(Select Multiple)*

- Self-Identity and Business Identity Training
- Marketing and Communication Training
- Financial Literacy and Planning Training
- Technical Skills
- Other, specify

11. Were there any parts of the training that were not helpful? If so, why do you think so?

12. Did you experience a rise in your income due to the training?

- Yes
- No

If Yes in question 12, then the following 13th and 14th questions can be asked;

13. Mention your average monthly personal income before the program. *(Mention in thousands)*

14. Mention your monthly average personal income after the program. *(Mention in thousands)*

15. How many customers do you estimate to have increased as a result of the training? *(Mention 0, if no increase in customers)*

16. Did the training help you have better access to credit?

- Yes
- No

17. Can you think of a specific example where training helped you solve a problem? (Open-ended)

Section 4: Skills Assessment

	1 = Strongly Disagree	2 = Disagree	3 = Neutral	4 = Agree	5 = Strongly Agree
18. I have the technical skills needed for my activity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. I can maintain and repair equipment used in my livelihood.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. I can market my product/service and find customers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. I can plan and manage business finances (basic bookkeeping).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. I am confident to negotiate prices/contracts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. I can access appropriate inputs/resources for my business.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. The training content was relevant to my work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. Trainers were knowledgeable and helpful.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

26. The duration and timing were convenient.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. The training improved my skills.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. I am satisfied with the overall program.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. I would recommend this program to others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section 5: Challenges and Recommendations

30. What are the challenges you face in your livelihood now? *(Select multiple)*

Income and Stability:

- Low income
- Unstable income
- Irregular payments or delayed payments from customers
- High input costs (rent, raw materials, fuel)

Business Growth and Skills:

- Difficulty in getting new customers
- High competition
- Inability of adopting new technology or equipment
- Lack of marketing knowledge
- Lack of job security
- Lack of new skills required

Resources:

- Difficulty in accessing loans
- Lack of workspace or storage
- Poor working conditions (excessive heat, inadequate clean water, etcetera)
- No access to advanced training for business
- Trouble with municipal rules or police

Personal:

- Discrimination
- Lack of family support
- Health issues affecting ability to work
- Care responsibilities at home of children or elders

Others, specify

31. What are the particular challenges that particularly limit your business growth? *(Open-ended)*

32. Which challenges were addressed by the program? *(Open-ended)*

33. On a scale of 1-5, how much has the program impacted your overall livelihood?

34. Do you use Saath’s Business Gym App?

- I do, frequently
- I have in past, I’m not using currently
- I haven’t used until now

If Option 1 is selected in 34th question, then the 35th question can be asked;

35. On a scale of 1 to 5, how useful do you or did you find the Business Gym App? (1 = Not useful, 5 = Very useful)

36. If you could redesign the training, what would you add and remove? When it comes to addition, please include the additional support you would want from the training program like skill enhancement, finance, mentorship, inputs, or market linkages.

Enumerator: Thank you for your participation! Please let us know if you have any questions for us.

10.2 IDI Summaries Continuation from 6th Chapter

6.6 The Case of Ajay, an Electrician in Vatva

Background

Ajay is an electrician, and he has been living and working in Ahmedabad for almost 11-12 years now. He lives in a joint family with a total of nine people, out of which four are earning members. Ajay had started working from a young age due to financial obligations and had begun his career as an electrician in salaried employment. He had worked in many other places, such as Delhi and Dubai, before starting his own personal practice as an electrician almost a year and a half ago, and had started working independently, depending upon his technical skill set and confidence acquired from his extensive experience. Ajay chose the same occupation due to its familiarity and due to the constant demand for electricians.

His work routine is quite stressful as he is involved in activities that require him to be at work for up to 14 hours daily. His work hours range from as early as 9:00 AM to late in the evening, especially when emergency service calls arise.

Work Practices

Ajay offers a number of electrical services, like the repair and installation of fans, lights, wiring, and coolers. He is skilled in services pertaining to the repair of submersible motors from 1 HP to 50 HP. He is an expert in the wiring of three-phase, panel boards and repairing, rewinding the motor, and more. His technical knowledge has been obtained through informal employment, as his training was concurrent with his

employment. He purchases his equipment, motors, and parts from the hardware market and GIDC market in Ahmedabad, Vatva.

At present, he has employed four electricians to assist him daily, and they are all paid between ₹10,000 and ₹20,000 per month, depending on their levels and workloads. His revenue varies seasonally, with higher demand during summer and monsoon months due to increased electrical faults. Most of his customers are referred to him by their friends and relatives, making word-of-mouth marketing his main source of business.

Association with Saath

Ajay has also been part of various training sessions organised by Saath, which have increased his technical know-how, especially in terms of motor repair, as well as his skills in interacting with people. He has also been made aware of the significance of having a business identity and basic computer tools like Google Business Listings.

Innovations

Ajay's major innovation lies in the diversification of services and expansion of operations through the employment of several electricians. This helps him take up larger contracts. His challenges, on the other hand, lie in delayed payments from customers, rising costs of inputs, dangers posed to his occupation due to his work with high-voltage wires, and competition. He actively contributes to green livelihood by increasing the life-span of electric power systems and motors, increasing energy efficiency, and minimising the need to discard them before their time. His livelihood in maintenance and repair activities is essential for minimising energy waste and danger-related electrical system breakdowns.



6.7 The Case of Anita, a Vegetable Seller in Vatva

Background

Anita is a 36-year-old woman who sells vegetables in Ramol with her husband for a living. Her family has been in this line of work ever since she was a child. She worked with her mother as a child and, after getting married to her husband, continues to work and sell vegetables on Bachu Bhai Kuva Road in Vatva. Her family consists of her, her husband, both of whom work, and three kids.

Work Practices

Anita isn't required to spend much on her work tools, such as a one-time cost of a knife, a weighing scale, and a cart on which she sells her produce. Apart from the vegetable-selling business, she has also mentioned her involvement in her farm business, through which she supplies vegetables to sell. Her workday begins at 7 in the morning when she goes to her farm and tends to her farm business. When coming back, she brings the vegetables needed to be sold that day. Her monthly profit ranges from Rs. 8000 to 9000. Her earnings fluctuate seasonally; she earns more during the summer and winter, experiencing less income during the monsoon. Most of her customers are regulars, she claims that the whole area knows their family, as the farmers also buy from her, but she acquires new customers easily, as she is situated at a pretty accessible location.

Association with Saath

She has been associated with Saath for around a year and a half now and has attended many training

programmes, from learning how to use UPI to communications and product management, which she reports to have increased her revenue. These training sessions have helped her to accept trends with convenience, like using UPI transactions, having a QR code and a speaker announcing when the transactions have been made. The communications training helped her establish a rapport with the customers, helping in customer retention.

Challenges and The Way Ahead

She claims that the police pressurising her to move her stall away is a persistent problem, as they show up periodically, which causes her and the nearby street vendors to give up their spots and flee. Anita and her husband have accepted this as part of their profession, stating this casually. Apart from this, she also faces problems during the wedding season as she claims that there are not many sales happening during this time, causing her to wake up early in the morning and roam around the area to sell off the vegetables from the preceding day at lower prices. She also has a spoilage problem during monsoons due to inadequate storage units.

Anita's major innovation lies in linking her vegetable cultivation directly with her vegetable vending livelihood. This gave her a competitive advantage over other vegetable vendors, whose earnings were limited to the margin between the price charged to customers and the price paid to cultivators or wholesalers. Vegetable vendor's livelihood model embodies sustainability by prioritizing freshness and local sourcing, which further reduces the environmental impact that distant food travels would have entailed, contributing to healthier communities and a cleaner environment.



6.8 The Case of Damiyanti, a Tailor in Behrampura

Background

Damiyanti is a tailor working from her shop in the Behrampura area of Ahmedabad. She has been practising tailoring for 15 years, having learnt the basics of it from her mother and then taking formal training for advanced tailoring before starting her profession. She used to work from home until the last 3 months, when she switched to working from her rental shop. She keeps up with her work and household chores, opening her shop, which is in the vicinity of her home, in two shifts in the mornings and evenings.

Work Practices

She purchases her inputs, like scissors, measuring tape, stitching machine, and threads, from Gheekanta and Sarangpur. She generates her revenue mainly from stitching blouses rather than repairing and altering clothes, as people generally tend to get their blouses stitched instead of resorting to store-bought, ready ones. Due to her accord of working from home for 15 years, she is known in her community for tailoring and thus receives orders from old customers more than new customers. She gets new customers through the references of her old customers and sustains through organic marketing without any online visibility, which she seeks to adapt to soon. She prepares two blouses a day on average and earns an average daily wage of

₹400. Her net profit a month goes about ₹10,000-12,000 a month. She isn't able to actively save due to inflation, although her revenue peaks during the wedding season, festivities like Navratri and Diwali. Tailoring as a repair job assists the circular economy by reducing demand for new clothes, which, due to fast fashion, has a heavy carbon footprint. Her job vouches for sustainable consumption by repairing, altering and custom stitching garments, resulting in their extended lives and reduced textile waste.

Association with Saath

She has been associated with Saath for four years and has been trained in business identity and the value of cooperative effort amongst the same professionals. This led her to understand how to present her work professionally, build trust with customers and to encourage collaboration rather than competition amongst tailors. She was assisted in getting her shop's banner prepared and with the application for the state-run Vishwarkarma Scheme for artisans by Saath. Moreover, she learnt to use Google Maps for her business during one amongst the three training sessions that she attended by Saath.

Challenges and The Way Ahead

Instability of income and inability to secure credit through government schemes persist as a challenge in her livelihood. She stitches a variety of clothes to be relevant to evolving fashion demands, and she also hopes to teach stitching professionally to grow her revenue.



6.9 The Case of Dinesh, a CNG Rickshaw Driver

Background

Ahmedabad-based CNG auto-rickshaw driver Dinesh is a forty-two year old major income earner of his family. For the last four to five years, he has driven an autorickshaw. Previously, he worked in the tyre sector for approximately 20 years, performing tyre fitting and maintenance. His desire for more freedom and flexibility led him to go from paid work to self-employment as a rickshaw driver, which, as he pointed out, allows him to manage his time and family responsibilities independently.

Work Practices and Suppliers

Even on the weekends, Dinesh works four to five hours every day. He does not use service platforms like Uber or Rapido and avoids local or shared routes. Rather, he operates with a set base of five to six regular clients, including individuals and institutions, who contact him directly for their travel needs. He specialises in special trips and gets a new customer or two each week through referrals.

Dinesh purchased his CNG rickshaw in Naroda and completed insurance and documentation through the same network. After deducting fuel and other operating costs, his average monthly earnings fall between ₹20,000 and ₹25,000. During holidays, especially around Diwali, income tends to rise. He avoids problems with late payments and intense rivalry, which are typical among drivers running local routes, by concentrating on prearranged trips with familiar clients.

Challenges

Dinesh uses his earnings to pay EMIs for both his house and his rickshaw, ensuring financial stability for his family. During periods of income fluctuation, his wife's earnings help smooth household consumption, reducing vulnerability. He reported strong family support and no

major health issues affecting his ability to work. However, exposure to heat, especially during peak summers, does affect his daily routine, leading him to take rest breaks at home during the afternoon before resuming work later in the day.

Association with Saath

Dinesh has been associated with Saath for the past two to three years. Through Saath's training programmes, he received guidance on business practices, customer management, and ethical conduct. The training helped him identify better locations and trip opportunities, which contributed to an increase in customers and income. He emphasised that the training reinforced the importance of honesty, respectful behaviour, and fair dealings with customers as core elements of sustainable business growth. He has catered to the transport needs of Saath during a few exhibitions.

He also developed basic marketing practices, such as distributing visiting cards to customers who expressed interest in repeat services. He expressed openness to additional training in the future if it could further enhance his earnings.

Innovations

Dinesh shows significant skills, like he is adept at independently maintaining and repairing his rickshaw, which includes tasks such as changing tyres, installing spare parts, and performing routine maintenance checks, thus reducing his operational expenses. He possesses negotiation skills when discussing prices with customers, although he prefers to avoid conflicts by accepting slightly lower fares instead of engaging in arguments.

Operating a CNG-powered auto-rickshaw, Dinesh's livelihood leads to lower emissions than those from petrol or diesel vehicles, which helps decrease urban air pollution. By keeping his vehicle in good condition and avoiding overloading or unsafe practices, Dinesh effectively integrates economic survival with environmental care.



6.10 The Case of Jagram, a Scrap Collector in Vatva

Background

Jagram is a 24-year-old scrap collector residing in the Vatva area of Ahmedabad. Due to the nature of his profession, he is constantly on the go with his bicycle cart going door-to-door in residential and commercial areas collecting scraps which further is stored in the verandah outside his one-room residence, home to him and three of his family members. He was influenced by his family members to join this profession, with his brother being involved in the same. He and his brother are the only earning members in his household and are engaged in the same profession.

Work Practices

His workday is divided into two shifts. Jagram begins his work at 9 AM by taking his bicycle cart to areas like Narolgam, Rangoli Nagar, Lambha Road, and Hathijan. After lunch and a quick break around noon, he resumes his work in the evening at 4 - 5 PM. He sources his inputs, tools such as vajan kata, hathodi, chini, pakkad and dori, from any nearby hardware store whenever he feels the need. He doesn't have a fixed customer base, though he does have some recurring customers. Jagram has recently begun handing out business cards to his customers, which has caused a significant increase in his clientele. Before handing out business cards, his monthly income was roughly around ₹5000-₹6000, which increased to ₹15000-₹20000 per month, out of which his net profit is ₹10000 after paying for all due

business expenses as well as the rental cost of his living quarters. His earnings increase significantly during the summer months of March and April.

Association with Saath

Jagram has been associated with Saath for upwards of 4 years. He has attended the Business Identity training at Saath, where he was advised to print business cards and distribute them. He expressed his gratitude towards Saath, as the business cards have tripled his income.

Challenges and The Way Ahead

Harsh weather conditions during the rainy and winter seasons cause a sharp fall in Jagram's income. He describes how hard it is to even scrape together rent during the tougher months.

He has encountered problems with the police and the municipality, who advise him to not clutter up his surroundings with scraps. He doesn't fear the instability of his profession, but he does face a high instability of income. He doesn't want to take any additional loans, as he and his brother have already done so. Jagram wishes to expand his venture; however, he requires financial aid for it and seeks Saath's help for the same.

By circulating through neighbourhoods, Jagram prevents recyclable materials from entering landfills, helping the circular economy in the process. When waste is dumped and compacted in landfills, organic materials break down and release methane, which is extremely harmful to the environment. Scrap collection reduces waste, thereby reducing methane emissions.



6.11 The Case of Kapur, A Bamboo Worker in Narolgam

Background

Kapur is a 40-year-old bamboo worker in Narolgam who has been working in this field for 25 years. He has five members in his family, including himself, where he is the only earning member. He works for 8-9 hours a day and earns money based on the products he makes from bamboo. His work includes making bamboo designer products, carvings, and bamboo curtains, etc.

Work Practices

Kapurbhai gets business through word of mouth and also circulates his visiting cards. He works at home if the work order is small, but if needed, also travels to where his customers live to have larger work orders, as working on them at home wouldn't be feasible due to the lack of space. He uses tools like hathodi, khilliyaan, aari and charri, which help him make his products efficiently. He buys these tools from dedicated markets in Narol, Lal Darwaza and Bopal. His monthly income fluctuates a lot, from earning an average of Rs. 20,000-25,000 per month to not earning anything for six months straight due to a lack of work. These six months are usually during the second half of the year. During these six months, he tries to take up some repairing

work to sustain his family's needs. He earns the most during the summer as bamboo is in demand due to its feature of keeping the interior cool.

Association with Saath

Kapur has been associated with Saath for around a year now, and attends almost every training. He learnt how to have an online presence to cater to orders online, but due to his inability to adapt and use the internet effectively, he hasn't been able to do so and wishes for further assistance from Saath in this regard. He thinks his competitors are getting ahead of him by getting work online and by having the online presence he desires. With the online visibility, he believes he'll be able to compete as well as support his family better.

Challenges and The Way Ahead

Certain customers give him a tough time by not paying the full amount for his services, and he has to give unnecessary discounts to them to provide for his family. He doesn't have a stable income source and is very free during the winter with no work, which he tries to compensate for by taking up odd repair jobs. He doesn't think that bamboo work would sustain as a livelihood in the future, and if and when his business stops, he might start driving an auto rickshaw and earn a living this way. When his kids grow up, he wishes to let them take over the household accountability and keep up with something new.



6.12 The Case of Laalchand, a Gardener in Vatva

Background

Laalchand Chauhan is a 34-year-old gardener who goes from house to house offering his services. He lives with his wife and 2 kids in the Vatva region of Ahmedabad and is the only earning member in the family. Laalchand has been involved in this profession since 2008 and has worked diligently as a gardener for the last 17 years. He is exceptionally skilled and knowledgeable when it comes to gardening and knows multiple techniques and tricks to keep plants healthy and gardens greener. Laalchand chose this profession because his father was involved in it, which made it a well-known avenue for him. Being the only earning member, his entire family is dependent on his livelihood.

Work Practices

Laalchand starts his day off early in the morning, at 8 AM. He leaves for work on his bicycle with a packed lunch bag. He provides his services to 5-10 houses in a day, depending on the season, and stops to have his lunch on the way, wherever it is convenient for him. His workday wraps up around 5-6 PM. Laalchand uses tools such as Katar, Khurpi, Phavda and Kodari, sourced from any local hardware store. Any other tools required for the job are provided by the customers, such as water sprinklers or water pipelines. His monthly earnings

range from ₹16,000 to ₹22,000. His earnings increase during the winter and rainy seasons, with his monthly income reaching up to ₹25,000. He has a loyal base of customers, having been in the profession for so long, but doesn't struggle to get newer ones. His customer base grows with word of mouth, along with the business cards he hands out.

Association with Saath

Laalchand has been associated with Saath for upwards of a year. He has attended a community meeting held at the Saath Ramol URC. The survey was his second interaction with Saath Charitable Trust and his first was at the community meeting where he was informed of tips and tricks related to gardening.

Challenges and The Way Ahead

Summer months bring in low income for Laalchand. He faces high income instability, his income fluctuating a lot between months. He wishes to open up his own nursery after working painstakingly for the next 2-3 years.

Gardening works hand in hand with the ecological processes of the environment. It aids in local food production, which reduces the need for cold storage, transport, and long supply chains, thus reducing unnecessary carbon emissions. Gardeners often use composted kitchen waste or greywater, which reduces water wastage and prevents organic waste from ending up in the landfills.



6.13 The Case of Mahendra, a Mechanic in Behrampura

Background

Mahendra has worked with vehicles all of his working life and is a trained mechanic. He completed his training in the ITI and served as an apprentice in the trade for one year. He worked in a firm for almost 18 years. After that, he decided to be self-employed two years ago and started a small repair shop of vehicles adjacent to his residence. His business involves repairing engines, gearboxes, and spare parts of both two-wheelers and four-wheelers.

Even after changing to the self-employed category, he continues to upskill himself in the technical domain. He has maintained links with his previous organisation's managers and engineers, who update him about training sessions for the new engines in the market. Moreover, he is also updated about training in the area of BS7 engines, to remain updated with the new trends in the automobile sector. Although he isn't yet trained in the area of EV-repairs.

Work Practices

Mahendra mostly works from a service road, under 100 metres from his residence, keeping his rental charges low and enabling him to manage both professional and family responsibilities effectively. Mahendra also goes to the far-off areas around Ahmedabad, such as Bavda, Dhodka, and Sanand, for heavy repairs.

He procures tools and spare parts from suppliers located on Relief Road in Ahmedabad. Although home-based work gives Mahendra flexibility, his work on the service roads generates some issues concerning safety, limited workspace, and poor working conditions especially during excessive heat.

His average monthly earnings are ₹25,000 to ₹30,000 for which he works up to nine hours a day, six days a week. He is the main earning member of his family. Lately, Mahendra met with an accident at his workplace that left him with a burn injury on his finger, forcing him to take a one-month leave, during which his family has been provided for through his wife's salary. This reveals the physical vulnerability faced by informal repair workers, as even a temporary injury can lead to unplanned discontinuity of income in the household.

Association with Saath

Mahendra has been associated with Saath for the past few months. Through Saath, he has received training in digital payments and communication, enabling him to adopt UPI-based transactions and improve customer interactions. His wife's longer association with Saath has also supported their household through her wife's beauty salon training under the beautypreneur program at Saath.

Innovations

For more expansion of his business, Mahendra has planned to offer mobile repair services for vehicles that break down on the road and plans to purchase an auto-rickshaw to assist this vision. While he relies mainly on word-of-mouth and personal networks for customers, he is keen to learn financial management skills such as savings and investment planning, along with training in new automobile technologies.

Mahendra's contribution to a green livelihood includes extending the life span of vehicles through his repair services, hence promoting a reduction in disposable products in society. His services help improve vehicle efficiency and lower emissions from poorly maintained engines, which makes him one of the crucial actors in the circular economy within the informal repair sector.



6.14 The Case of Manoj, a Mechanic in Bapunagar

Background

Manoj is a mechanic with almost four decades of experience in building his livelihood and owning a garage, Manoj Auto Parts. He belongs to an underprivileged household with no access to education, which further deprived him of getting formal employment. His fascination with vehicles and the need for a livelihood led him to choose to be a mechanic. He lives in a joint family with a total of ten members, which includes three income earners, making his contribution critical for meeting household expenses. His entry into the mechanical line was through an apprenticeship at a garage. Over time, his skills and appreciation from his customers boosted his potential to establish his own workshop.

Work Practices

Manoj works for an extended period of time, for almost 12 hours a day without any breaks. He attends to between 5 and 7 vehicles daily and has the help of two of his subordinates to attend to other vehicles. His business activities include four-wheeler and two-wheeler repairs and servicing with basic equipment such as wrenches, screwdrivers, and basic tools. He has been procuring machines and spares from Panchkuva Market for almost 40 years.

He has now established a client base of 250 to 300 customers by virtue of his service for many years. His average monthly earnings range between ₹25,000 and ₹30,000. Seasonal variation occurs during the monsoons, with increased chances of vehicle damage,

thus increasing his earnings then. Despite consistency in earnings, his income remains prone to variability due to payment delays by customers.

Association with Saath

Manoj has been associated with Saath since his teen years, right since he entered this profession. More recently, he has been introduced to new ideas such as solar technology during a training conducted by Saath. He is receptive to learning new things and has also undergone the business identity training by Saath, delving into the basics of branding or marketing and establishing better communication and relations with customers. He also got assistance from Saath in creating visiting cards for his enterprise, and hopes to get a toolkit as a recipient of state-run schemes like Vishwakarma Yojana, Manav Kalyan Yojana or Manav Garima Yojana.

Challenges and Innovations

He is confident in his technical and interpersonal skills and relies largely on referrals, though he is interested in expanding his enterprise through online marketing. He isn't equipped to repair EVs but seeks to learn it with its growing use. His innovations include the provision of spare oil and spare parts of vehicles to minimise downtime, in addition to constructing a shed for the storage of his products. He has a health issue of thyroid, but his illness doesn't undermine his work.

His work is extremely significant in countering the emissions released by unserviced vehicles and extending the life of vehicles, making him a value-adding addition to the circular economy. His livelihood exemplifies the lived experiences of the green livelihood earners in the informal economy, having not much exposure to advanced training and the normalised accord of working long hours.



6.15 The Case of Masoori, a Mechanic in Fatwa

Background

Masoori is a mechanic who has been working in his shop for 3 years now. He lives with a family of 5 people including himself, his parents and two brothers out of which he and his father are earning members while his brothers are studying. Masoori was a novice when he started out, learnt how to repair four wheelers first and then learnt everything about two wheelers and enhanced his skillset through YouTube. Masoori had no particular reason to become a mechanic, he saw it as a means to an end and chose it to support his family.

He works for around 9-10 hours each day and takes care of his elderly parents at home. His day starts at 9 AM wherein he works aggressively till afternoon, then he takes a break for 1-2 hours and then opens his shop again till 8:30 PM.

Work Practices

Masoori aims to offer every single car and bike repair possible and also offers automobile washes for both four wheelers and two wheelers but focuses more on repairing and washing two wheelers because of space constraints he currently faces. Whenever he sees an unfamiliar vehicle model enter his workshop, he learns the functioning of those vehicles at a vehicle outhouse to serve his customers better. He purchases the tools for repair from the external market from random shops that offer him the best price.

He is the only one working at his shop, his revenue fluctuating seasonally but averaging around ₹20,000 to

₹25,000 per month, with higher demand during the rainy season due to frequent malfunctions in automobiles and during diwali because people use their cars more during that time which makes them wear out. Most of his customers are regular ones with new ones being comparatively rare.

Association with Saath

Masoori has been a part of various training sessions organised by Saath such as business identity, marketing and communications training which have helped him understand more about modern world business practices and have also helped him understand UPI payments which are now a big part of his life. Moreover, Saath helped increase his technical know-how by getting him acquainted with new models of automobiles that enter the market. He has also expressed interest towards taking a loan to expand his business and potentially opening more branches in various locations across Ahmedabad and will take further help from Saath regarding the same.

Challenges

Instability of income, customers bargaining extensively which in turn makes him earn less profit and competition with other mechanics are the major problems that persist in his life. He has struggled to earn enough with just one shop and wishes to broaden his business further.

Masoori's contribution to a green livelihood includes extending the life span of vehicles through his repair services, hence promoting a reduction in disposable products in society. His services help improve vehicle efficiency and lower emissions from poorly maintained engines, which makes him one of the crucial actors in the circular economy within the informal repair sector.



6.16 The Case of Prakash, a General Repairer in Ramol

Background

Prakash, aged 28, is a micro-entrepreneur running a small repair shop that caters mainly to electrical or general repair needs of household equipment, like gas, cookers, mixers, etcetera. He is the sole earning member of a family of six and has been in this line of work for nearly ten years.

Before setting up a fixed shop for his work, he would travel with a bag of tools and offer repair services door-to-door. Over time, as demand for his work increased, he decided to establish a permanent shop. This allowed him to serve customers more frequently without having to go door-to-door and improve his earnings.

Work Practices

His shop mainly focuses on repairing household items such as coolers, electric appliances, gas stoves, grinders, and other small mechanical equipment. He uses basic but essential tools, like hammers, grinders, electric repair tools, and cutting equipment. Most of these tools were sourced from local markets such as Manek Chowk and Pankot, keeping his investment for the continuation of business limited and affordable.

Customers from different areas, such as Vatva, Isanpur, Jashodanagar, and surrounding localities, visit him for his repair services, making his shop a known and trusted place for repairs. He usually works from nine in the morning to nine in the evening. His shop remains open without fixed holidays every day. He sometimes hires a helper when the workload increases.

His income varies by season, with increased income

during festive periods like Dhanteras and Diwali bringing higher earnings due to increased household repairs and cleaning activities. On average, after managing expenses, his monthly savings remain modest.

Association with Saath

His association with Saath has played an important role in strengthening his understanding of how to manage and grow his business. Through training programs, Prakash has learned about different dynamics of running a business such as market demand, customer behaviour, and the importance of location of running a business. He was introduced to practical tools such as Google Maps, digital payments, and ways to connect with customers during society camps, all of which made him more organised in his business, further paving its growth.

Challenges

One significant milestone for Prakash was accessing a loan for the first time to establish his permanent shop. Earlier, he had no experience with formal credit systems. With the guidance of Saath, he was able to take this step, which marked a transition from informal labour to a more secure livelihood and financial stability.

Prakash's work contributes to sustainability by extending the life of household goods by repairing coolers, appliances, and equipment, which reduces waste and limits unnecessary replacement, indirectly supporting environmental conservation.

Even working from a limited space and facing financial pressures because of tough competition in the market, Prakash continues to run his business with dedication and pride. His livelihood shows how skill, experience, and institutional support can help a small entrepreneur support his family's needs, thus contributing to the local economy and surviving their way towards financial stability.



6.17 The Case of Rafiq, a Clay Pot Maker in Gomtipur

Background

Rafiq is a 55-year-old street vendor who makes clay pots for a living, working in the Gomtipur area of Ahmedabad. His family has been in the professional line of pottery for upwards of 65 years. He was a rickshaw driver before but followed in the footsteps of his father and brother and inherited the family business 7 years ago, where he has been working ardently as an artisan ever since. He has 3 family members residing with him and is the only earning member.

Work Practices

Rafiq doesn't spend much on inputs. He uses tools like khilli and patthad to make clay pots and sources these tools from any store he deems fit. Apart from clay pots, he also makes utensils and kulhads, as well as various kinds of diyas. His workday begins at 8 AM and stretches till 9 PM. His monthly earnings are approximately ₹15000 - ₹17000, after incurring personal and business expenses. He earns more during the summer months and Diwali. Even though Rafiq has an unwavering band of customers, he doesn't struggle to gather newer customers. He hands out business cards, which also helps build his customer base. Earlier, he was one of the only vendors operating in this locality of Gomtipur, but recently a lot of peddlers have set up shop near him. He accepts payments in cash and provides his son's QR code if the customers choose to pay online.

Association with Saath

He has been associated with Saath for 2 years. He has attended several training sessions at Saath, such as the Communication and Marketing training and the Business Identity training, which helped him have a better rapport with his customers. He is willing to attend training sessions at Saath on the weekends to learn how to broaden his business.

Challenges and The Way Ahead

Summer months are difficult for him due to the excessive heat. He struggles with low and unstable income sometimes. Due to his hawking zone being out in the open, on the footpath, Rafiq often faces issues with theft. During his father's and brother's working days, they would store their products in the empty plot behind. With the construction of a courthouse in the same place, Rafiq struggles immensely with storage. The municipality also troubles him often. He has struggled to secure a loan before and requires one to broaden his business. He wishes to rent out a shop or a godown in the nearby area to combat his storage issue.

Clay pots reduce plastic and metal usage and are made with biodegradable, naturally sourced materials, reducing long-term waste and pollution. Broken clay pots can be reheated and recycled to make new products, reducing wastage. Pottery items are durable and last many years, reducing demand for newer products, which aids in the circular economy.



6.18 The Case of Raju, a CNG Rickshaw Driver

Background

Raju aged 32, from Ahmedabad, is a CNG auto rickshaw driver living in a joint family where he lives with thirteen other members, all three brothers, including him, are the earning members of the family. For the last eleven years, Raju has been driving the CNG auto rickshaw since he turned 18, as he had bought the rickshaw that his brother had purchased in the year 2011, mostly to provide for the family's financial situation.

Driving an auto-rickshaw is an essential part of his family's income. While Raju operates the rickshaw, his two brothers run a small store, and he helps them by providing necessary supplies for the store. While these three brothers share economic responsibility and generate income to sustain their livelihood, the women take care of the household and oversee the education of the children.

Work Practices

Raju's working hours vary depending on demand. On days with high demand, he puts in eight to ten hours, whereas on low-demand days, he reduces his working hours or takes a holiday because of no work, and typically works full-time for his other pea-peeling family business on Sundays. His daily working hours include two sessions of working over 10 hours a day across all nooks and corners of the city.

He uses ride-serving apps such as Ola, Uber, and Rapido and his net earnings range between ₹12,000 and ₹15,000 per month, with deduction costs for fuel, gas, and maintenance. The income levels vary depending on different seasons, with an increase in summer months (March to June) and a decrease in monsoon seasons.



Because of his family size, his income sustainability, particularly in dry seasons, is of concern. His family responsibilities are not only limited to earning money for the family but Raju is also involved in caring for the family, especially his father, in his old age. Despite all the challenges that he is going through, he gets substantial support from his family to ensure that he continues to work to prevent any gaps in his income.

Association with Saath

Raju has been associated with the organisation named Saath for the past eight years and has participated in training programs related to the fields of marketing and communication. Even though he was already competent in driving, he rejoices in training sessions with Saath due to the networking opportunities they offer. He revealed in the interview that the training helped him understand better the intricacies of customer engagement, ethics, and the need for long-term planning in his livelihood activities. He is an aspirant for PM-Aawas Yojana as his family faces space constraints at their residence, and he seeks support from Saath in documentation for his application.

Challenges

Raju demonstrates considerable skills in both technological and operational roles for his job, considering his experience. He affirms his confidence in handling clients and negotiating prices. Nonetheless, he believes that saving has little space in his income due to domestic expenditures. His main challenges include the variability of earnings owing to seasonality, the cost of fuel, fierce rivalry from app-based drivers, and congested traffic. Running an auto-rickshaw on CNG enables him to emit fewer emissions compared to petrol or diesel cars, thus helping to reduce particulate matter in the air. His profession manages to contribute towards household survival, urban mobility, and environmental sustainability all at once.



6.19 The Case of Ramesh, a Cobbler in Jivraj Park Area

Background

Ramesh is a physically handicapped cobbler who has been working at the same footpath in the bustling area of Jivraj Park, Ahmedabad, for over two decades. Now in his 50s, he has been engaged in the cobbling profession for more than 30 years. He works for over 12 hours a day and caters to 20-25 customers each day, earning a net profit of around ₹12,000-15,000 a month.

Work Practices

Ramesh has studied up to the 10th standard. Having no formal education and being disabled, he resorted to training in footwear repair, which he acquired on the job through the family business run by his father and uncle. He also inherited his current shop space from his father, which enabled continuity in his livelihood. Despite being stationed on a footpath, Ramesh does not face issues from the police due to his long-standing presence. During political visits or rallies, the police inform him in advance to temporarily vacate the space. The physical location of his stall provides natural shelter, as a tree above offers protection from extreme heat in summer and a cooling breeze during winter.

Innovations

Ramesh is highly innovative in his work. Over time, he has extended his services beyond footwear repair to include repairs of bags, purses, belts, chains, and suitcases. He supplements his income by constantly seeking ways to evolve and add new services, as well as by selling products such as socks, handkerchiefs, and gloves at his stall. At present, bag repair and stitching contribute more to his income than footwear repair.

Family Issues

Ramesh's wife suffered from a terminal heart condition,

and her treatment cost ₹6-7 lakhs, which was met entirely from his savings. Three years ago, he lost his wife. He now single-handedly looks after his children, manages household responsibilities, and continues his profession.

Support from Saath

Ramesh became associated with Saath as a beneficiary and received training in digital payments, communication, and marketing. This enabled him to adopt UPI payments for his business and install banners for his enterprise. Financial inclusion training further helped him avail a loan from SBI for purchasing inventory, with assistance from Saath's mentor in completing documentation. Using this loan, he also expanded his storage space. Over the past 2.5 years, Ramesh has been mentored by Gautam Bhai and has participated in society camps organised by Saath.

Equipments

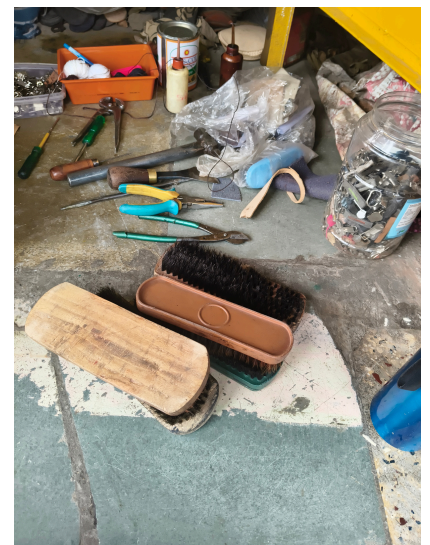
Ramesh uses tools such as rapdi, hathodi, pakad, dori, solutions, laces, velcros, and handles, which he has been sourcing for many years from suppliers in the Kalupur market, located several kilometres away. He usually maintains stock for two months, but procures specific raw materials when special repair orders arise.

Challenges

The challenges hindering his livelihood include customers who do not return to pay for completed repair work. Additionally, the rising cost of tools and materials presents a significant challenge.

Green Livelihood

Ramesh's repair work extends product life cycles, leading to reduced waste while providing essential low-cost services. The environmental value of repair-based livelihoods, along with the community bonding built over the years, is often overlooked, despite its significance for sustainable urban living.



6.20 The Case of Sagar, a Scrap Collector in Shahwadi

Background

Sagar is a 32-year-old scrap collector living and working in the Shahwadi area of Ahmedabad. He is the sole earning member in a family of 5, consisting of him, his wife, and their 3 kids, making his entire family dependent on him. He has been working as a scrap collector for 8 years. He chose this profession because he considers this better than doing any traditional 9-5 job. In the earlier years he would roam around with his bicycle cart collecting scrap. After some time he rented out a shop in Motipur, Shahwadi, and currently works from his cart as well as his shop.

Work Practices

Sagar starts off his workday at 9 AM in the morning and goes around collecting scraps until 1. At 1 he returns to his shop, sorts what he collected, has lunch, then again leaves with his cart around 3 PM. He uses tools such as wajan kaata and hathodi and sources from whichever store is convenient for him, and sometimes from the scraps he collects. His monthly earnings lie between ₹8000 and ₹10000. The summer months of April-June bring in more income for him, after exam season ends, as a major portion of his income comes from paper waste, such as used notebooks, question papers, workbooks, etc.

Association with Saath

Sagar has been associated with Saath for about 2 years. He was approached by the members of Saath, who asked him about his profession and his hardships; to them he expressed his interest in availing financial help from Saath. He also wanted the NGO's help to make Aadhar Cards for his children, as well as an Udyog Aadhar Card for himself. His problems are yet to be solved.

Challenges

He suffers from high income instability and low income. The monsoon and winter months bring in low income for Sagar. The municipality also troubles him and presses him to produce a licence for his bicycle cart, for which he has asked Saath for help. He struggles to cover long distances with his bicycle cart. Collecting heavy items and bringing them to his shop is also a point of struggle for him. The excessive heat bothers him immensely. Sometimes, his customers refuse to pay, causing him income issues. He wants to educate his children; even though he seems hopeless about his own livelihood; and in order to do that, he wishes to broaden his business. He wishes to purchase a small tempo which he could use to collect scraps, instead of his bicycle cart.

Sagar's livelihood prevents waste from being dumped in the landfills and ensures that it is being collected and sent to industries for recycling, while giving customers a monetary incentive against the scrap they sell to him. This way, scrap collectors are pivotal to efficient waste management and active participants in the circular economy.



6.21 The Case of Sandeep, a CNG Car Driver in Ramol

Background

Sandeep is a 23-year-old CNG car driver from a village in Madhya Pradesh, who migrated for work with his family of eight to Delhi and has been in Ahmedabad for a year and a half. He switched to driving a CNG car in Ahmedabad, having driven diesel vehicles in Delhi. He bears the financial responsibilities of his entire family with the support of one of his family members.

Work Practices

He uses ride-hailing applications like Uber, Rapido, and Ola for getting rides throughout the day, working for 12-13 hours each day of the week. Due to his reliance on these applications, he consistently attracts new customers rather than retaining regular ones. He manages to save ₹60,000-₹ 65,000, yielding the most during wedding seasons and festivities. He purchased his CNG car from Narol in Ahmedabad and gets its service done from there as well.

Association with Saath

Sandeep lives in the vicinity of Saath's Ramol Community Centre, owing to which he has been associated with Saath since he moved to Ahmedabad. He has been able to participate in quite a few trainings by Saath, which include business identity, marketing, and finance trainings. Through these trainings, he learnt better ways to communicate with his customers, use the rider platforms' customer care functionality in case of not receiving payment from the customers, learnt the

way to do transactions via UPI, and use Google Maps better for his work. He took a car loan to purchase his CNG vehicle, for which he was assisted by Saath with documentation. He got encouraged to apply for government schemes from Saath, invest wisely, and learnt to use Digi-locker to store his car and personal documents online. He and his family have also participated in a few health camps organised by Saath and have gotten their health check-up done.

Challenges and Innovations

Sandeep faced the challenge of having an ideal way of communicating with his customers, which affected his customer ratings, further affecting the frequency of rides offered. His conversations used to come off as straight-up and sometimes rude to the customers. He used to get rides over the rider platforms, which were either far off or weren't accepted by the other riders. Later, he consciously worked on his communication, being as polite as he could and took special efforts to keep his car clean and have a better ambience. This increased his customer ratings, increasing the number of rides he was offered, hence increasing his monthly revenue.

Although working long hours comes off as a persistent issue for Sandeep, he has overcome his family's financial hardships, putting his family in a better condition. Relying on the CNG vehicle for his livelihood, Sandeep's livelihood positively contributes to lower emissions than those from petrol or diesel vehicles, helping in decreasing urban air pollution. He is also elongating the lifespan of his vehicle with regular servicing, aligning with the circular economy goals.



6.22 The Case of Vishal, a Plumber in Vatva

Background

Vishal is a 23-year-old plumber who has already been practising this profession for seven years. He has built a fixed set of regular customers and accesses work mainly through his social networks, including referrals facilitated by a chairperson of a large housing society. Vishal receives an average monthly income of around ₹30,000. His working hours are irregular and are mainly dependent on his service calls. Weekends are his busiest days, and summers become the peak season for plumbing services due to higher water usage and increased repair needs.

Vishal is the sole earning member in a family of four. His income supports all household expenses, making his livelihood essential to family stability. Although his earnings provide basic financial security, he identifies low income relative to effort and irregular work as a key challenge. Moreover, being the sole provider of his family during the irregular availability of work comes off as challenging.

The plumbing skills that he possesses have been passed down from his father, and he gained this experience in a very informal way through observation and practice of plumbing jobs. The entire process of learning has been through hands-on training, where he observed, assisted, and later performed plumbing jobs on his own.

Work Operations

Vishal does not conduct his business activities from a

fixed shop. His business involves only service options and therefore requires him to visit the residences and offices of his customers. He sources his tools and equipment from different suppliers in the locality, depending on their affordability. Tools that Vishal uses most in his business include pipe wrench/panna, pipe cutter, hacksaw, plunger, thread tape, hammer, screwdriver set, measuring tape, and sealing solutions. This business does not incur setup costs since it does not operate from a fixed place of business.

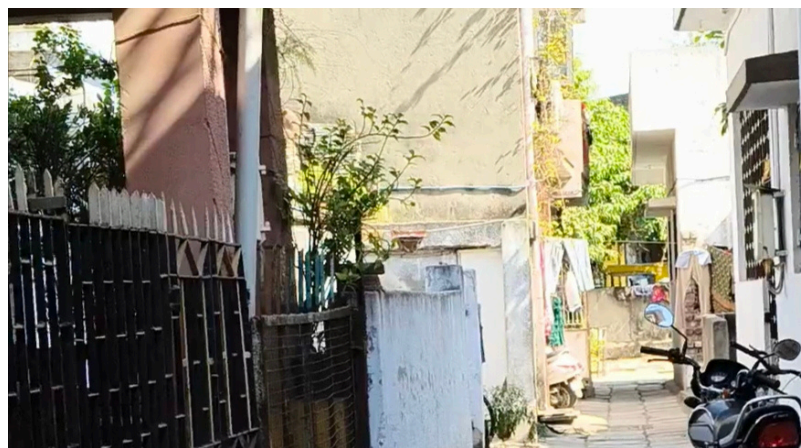
Association with Saath

Vishal has received aid from Saath through three training sessions that centred on business identity and customer communication. He learned the value of workplace professionalism and how he should interact effectively with customers and build trust relationships. He has demonstrated interest in further training from Saath on financial matters, such as income planning and his need to become economically stable.

Innovations

Though Vishal does not promote his services actively, he depends on his regular customers and referrals. His major innovation involves his relationships with customers and his presence in an urgent call-out service, particularly on the weekend. But the factors of less marketing and no financial planning are considered limitations to his income enhancement. His contribution to green livelihood includes the prevention of water wastage by attending to any leaks, broken pipes, and damaged fittings on time, while also helping in increasing the life of the infrastructure already put in place.





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