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Policy Impact And Institutional Support For Green Entrepreneurship - A Regional Study On Government Initiatives In Southern Kerala

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ABSTRACT

The sustainable development Goals emphasis on environmental conservation has paved the way for the growth of green entrepreneurship business ventures that prioritize eco-friendly practices while contributing to economic progress. The public policy and institutional frameworks become vital role in nurturing an ecosystem for green entrepreneurs. The study investigates how government policies, subsidies, training, and institutional support structures influence the emergence, growth, and sustainability of green enterprises. The research adopts a mixed-method approach combining quantitative data from 150 green entrepreneurs across diverse sectors organic farming, eco-tourism, renewable energy, sustainable textiles, and waste management with qualitative interviews from key officials in government departments and representatives of supporting institutions. The study examines various policy instruments such as financial incentives, tax relief, start-up schemes, and incubation programs, under the Kerala State Entrepreneurship Development Mission (KSEDM), the Kerala Start-up Mission, and green initiatives promoted by the Department of Environment and Climate Change. The findings reveal that while awareness of green business schemes has improved, a considerable gap persists between policy intent and ground-level implementation. Entrepreneurs reported bureaucratic delays, lack of clarity on eligibility, and inadequate post-funding support. However, institutional actors like Kudumbashree, Kerala Financial Corporation, and local Panchayats play a key role in facilitating grassroots-level eco-enterprise models, especially among women and marginalized groups. The study further highlights the need for integrated policy design, capacity-building workshops, localized handholding support, and public-private partnerships to enhance the sustainability of green ventures.

It recommends actionable strategies for policymakers, institutional stakeholders, and development agencies to bridge policy-execution gaps for strengthening as eco-innovation and green economic transition.

KEYWORDS : Green Entrepreneurship- Sustainable Development- Public Policy- Institutional Support- Government Initiatives- Southern Kerala

INTRODUCTION

In the contemporary global landscape, environmental sustainability and inclusive economic development have emerged as twin imperatives that demand innovative solutions across all sectors of society. Amidst growing concerns over climate change, environmental degradation, and resource depletion, the concept of green entrepreneurship has gained significant traction as a viable pathway toward reconciling economic pursuits with ecological responsibility. Green entrepreneurship refers to the process of initiating and operating businesses that not only strive for financial profitability but also seek to minimize environmental harm and foster sustainable practices. These ventures typically operate in areas such as renewable energy, organic farming, sustainable tourism, eco-friendly construction, and waste management, thereby addressing both environmental and socio-economic challenges. As economies across the world undergo structural transformations, green entrepreneurship has increasingly been recognized as a catalyst for job creation, innovation, and climate resilience. However, the success and sustainability of green enterprises are profoundly influenced by the availability of conducive policies and the strength of institutional support mechanisms provided by governments and allied agencies. In India, where sustainable development has been constitutionally mandated and enshrined in multiple national missions and policy frameworks, the promotion of green entrepreneurship aligns well with both environmental goals and employment strategies. Southern Kerala, comprising the districts of Thiruvananthapuram, Kollam, Alappuzha, and Pathanamthitta, offers a fertile ground to study the interplay between green entrepreneurial efforts and government support mechanisms. The region's unique socio-political characteristics, progressive environmental consciousness, and active civil society engagement make it a pertinent setting for exploring how regional policy frameworks and institutional mechanisms influence the emergence and scaling up of green ventures.

Despite Kerala’s reputation for social development and environmental awareness, green entrepreneurs in the region often face considerable challenges in accessing structured support, navigating regulatory processes, and sustaining operations beyond the incubation stage. While schemes such as the Kerala Start-up Mission (KSUM), Kerala State Industrial Development Corporation (KSIDC), and the Department of Environment and Climate Change provide various forms of assistance, the actual impact of these policies at the grassroots level remains underexplored. There exists a critical need to examine whether these government initiatives effectively translate into tangible support for aspiring and existing green entrepreneurs, and how institutional players such as financial institutions, training agencies, cooperative bodies, and panchayats contribute to the larger green

entrepreneurial ecosystem.

STATEMENT OF THE PROBLEM

Ultimately, the study endeavours to uncover the real-world challenges and facilitators of green entrepreneurship within the framework of state-led development. It aims to identify institutional best practices, expose bottlenecks in policy execution, and highlight the voices of entrepreneurs who are not only creating economic value but also addressing ecological imperatives. The findings of this study are expected to aid policymakers, institutional leaders, and development practitioners in designing more effective interventions that can catalyse green economic growth while ensuring social equity and environmental sustainability in the region. As the state of Kerala continues to balance its developmental goals with ecological concerns, understanding and strengthening green entrepreneurship becomes not only desirable but necessary for the future well-being of both the economy and the environment.

Shrivastava, P., & Guha, M. (2021). *"Fostering Green Entrepreneurship in Developing Economies: Role of Institutional Support" – Journal of Sustainable Development Studies* This study highlights how the success of green entrepreneurship depends not only on individual innovation but also on a strong institutional ecosystem. It argues that in developing nations, weak regulatory systems and limited access to green financing remain significant barriers. The authors suggest that multi-level governance, integrating local institutions with national policy objectives, is critical for fostering sustainable business models. Nair, S. R., & Thomas, A. (2021). *"Sustainability and Startups: A Case Study of Kerala's Green Incubation Model" – International Journal of Entrepreneurship and Innovation Management* the authors analyse Kerala Start-up Mission (KSUM) and its green entrepreneurship programs. Their findings show that while infrastructure and mentoring are improving, procedural bottlenecks in accessing subsidies, especially for low-capital entrepreneurs in rural areas, still persist. They emphasize the need for localized, sector-specific policy incentives to improve impact.

SIGNIFICANCE OF THE STUDY

This study holds significant academic, policy, and practical relevance in the context of India's growing commitment to sustainable development and climate-resilient economic models. Green entrepreneurship has emerged as a transformative force that not only addresses environmental concerns but also generates employment, fosters innovation, and promotes inclusive growth. In a state like Kerala, where ecological sensitivity is high and community-based development models are well established, the promotion of green enterprises aligns with both local and global sustainability agendas. However, the success of green entrepreneurship depends largely on the effectiveness of government policies and the responsiveness of institutional support systems. This research is particularly important as it provides a focused regional analysis of how government initiatives are impacting green entrepreneurs in the southern districts of Kerala Thiruvananthapuram, Kollam, Alappuzha, and Pathanamthitta areas that have received limited attention in prior empirical studies. By exploring the awareness, accessibility, and perceived effectiveness of institutional support mechanisms, the study

contributes to filling a critical gap in the literature related to regional policy execution and grassroots entrepreneurial development.

Global Scenario of Green Entrepreneurship

The green entrepreneurship has emerged as a powerful solution to the environmental crises and sustainable development challenges facing humanity today. Green entrepreneurs are increasingly being recognized for their potential to create climate-resilient economies, generate green jobs, and promote resource-efficient industries. Countries across Europe, North America, and parts of Asia have institutionalized green entrepreneurship through robust policy frameworks, financing mechanisms, and innovation ecosystems.

In the European Union, green entrepreneurship is a central pillar of the European Green Deal. Countries such as Germany, Sweden, and Denmark have made significant policy advances to support eco-innovation, low-carbon industries, and renewable energy enterprises. Institutional supports such as *Green Funds*, *Sustainable Development Agencies*, and the *Horizon Europe* program provide funding, mentorship, and policy guidance to aspiring green entrepreneurs. Germany's KfW Development Bank, for example, offers tailored low-interest green loans to start-ups working in the renewable and sustainable sectors.

The United States supports green entrepreneurship through initiatives by the Environmental Protection Agency (EPA), Small Business Innovation Research (SBIR) programs, and Clean Energy Incubators under the Department of Energy. The *Inflation Reduction Act (2022)* further boosted green ventures by providing extensive tax credits and subsidies for clean energy and climate-friendly businesses.

In Asia, countries like South Korea and Japan are investing heavily in green technology-based entrepreneurship under their national decarbonization and circular economy missions. South Korea's *Green New Deal* allocates billions of dollars to eco-friendly SMEs and sustainable startups, backed by institutions like the Korea Environmental Industry & Technology Institute (KEITI).

The United Nations Industrial Development Organization (UNIDO), World Bank, and International Labour Organization (ILO) also actively support green entrepreneurship in developing countries through capacity-building programs, green financing, and policy advisory services. These agencies recognize that green enterprises are essential to achieving the Sustainable Development Goals (SDGs), particularly Goals 7, 8, 9, 12, and 13.

National Framework for green entrepreneurship

India, with its vast entrepreneurial base and environmental challenges, is at a critical juncture in promoting green entrepreneurship. Recognizing this, both central and state governments have launched a range of policy instruments and institutional initiatives. At the national level, the Ministry of New and Renewable Energy (MNRE), Ministry of Environment, Forest and Climate Change (MoEFCC), and the Department for Promotion of Industry and Internal Trade (DPIIT) have created targeted policies and schemes for green entrepreneurs. These include:

- Startup India Initiative, offering benefits to environmentally conscious start-ups.

- Perform, Achieve and Trade (PAT) scheme under the Energy Efficiency Mission.
- Unnat Jyoti by Affordable LEDs for All (UJALA) and Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME) schemes.
- SIDBI's Green Financing Schemes for MSMEs.
- India's National Action Plan on Climate Change (NAPCC), which outlines several missions (e.g., National Solar Mission, National Mission on Sustainable Habitat) directly encouraging green entrepreneurial ventures.

Moreover, institutions like NITI Aayog, Startup India Hub, Atal Innovation Mission, and State Pollution Control Boards have laid down frameworks to assist green start-ups through training, funding, incubation, and regulatory support.

Several Indian states have also launched their own green startup missions. For example:

- Kerala Startup Mission (KSUM) has a specialized focus on environmental innovation.
- Tamil Nadu's Climate Change Mission supports green start-ups through the TN Green Climate Fund.
- Karnataka's Startup Policy 2022–27 includes incentives for circular economy start-ups and clean tech innovators.
- Despite these advancements, challenges remain in India such as limited awareness of green policies, procedural bottlenecks in fund disbursement, and lack of tailored mentoring for eco-focused businesses. The country is still evolving towards a cohesive green entrepreneurship ecosystem where policy, institutional support, and market incentives are fully aligned.

The Ground realities in Southern Kerala

Southern Kerala presents a unique regional context, where ecological consciousness is high due to climate vulnerabilities and a strong history of community-based sustainability efforts. The Haritha Kerala Mission, Responsible Tourism Mission, and localized programs under Kudumbashree and Suchitwa Mission are examples of grassroots green interventions. However, green entrepreneurs in Southern Kerala often struggle with accessing national-level funding, navigating bureaucratic hurdles, and sustaining innovation beyond incubation. Bridging the policy gaps, streamlining institutional coordination, and decentralizing access to financial and technical support remain critical to scaling green entrepreneurship in this region. Kerala has the potential to emerge as a model green economy if its policies and institutional supports are integrated into a comprehensive regional strategy.

REVIEW OF LITERATURE

Ramanathan, R. (2022). *"Green Economy and State Policies: Evaluating India's Eco-Entrepreneurial Push" – South Asian Economic Review* This macro-level analysis reviews India's green policies such as the National Electric Mobility Mission, Start-up India Green Fund, and state-level initiatives. It argues that state governments like Kerala have shown exemplary policy intentions, but face challenges in harmonizing climate goals with industrial strategies. The study advocates for stronger inter-departmental coordination and public-private partnerships.

George, A., & Menon, R. (2022). *"Green Business Models in Kerala: A Study of Women-led*

Eco-Enterprises" – Indian Journal of Gender and Development Focusing on women entrepreneurs in Kollam and Alappuzha districts, this study explores how Kudumbashree and other local bodies support green ventures in food processing, cloth bags, and organic soap production. It finds that although women receive training, financial literacy and marketing exposure are low, limiting scalability. The study recommends targeted digital training and marketing linkages.

Das, S., & Mishra, P. (2023). *"Institutional Barriers in Accessing Green Entrepreneurship Schemes: Evidence from South India" – Journal of Policy and Development Studies* This empirical study identifies that many green entrepreneurs in South India are unaware of schemes like PMEGP (Prime Minister's Employment Generation Programme) and lack proper guidance. The authors find that institutional fragmentation and lack of convergence among various departments (industry, environment, MSMEs) create confusion. They propose the creation of 'Green Entrepreneur Facilitation Cells' at the district level.

Jose, K. & Varghese, T. (2024). *"Policy-Driven Green Entrepreneurship: Post-COVID Trends in Kerala" – Environmental Policy and Governance Journal* This work analyzes post-pandemic recovery programs and their impact on green entrepreneurship in Southern Kerala. It reveals that COVID-19 accelerated the demand for sustainable home-based products and eco-tourism. However, the absence of integrated digital platforms and real-time support from institutions limited entrepreneurs' ability to scale during the recovery phase.

Anitha, R. & Prakash, B. (2025). *"Decentralized Governance and Grassroots Green Enterprises in Kerala" – Journal of Decentralized Policy and Development* The authors emphasize the role of panchayats and local self-governments in promoting green livelihoods. Case studies from Pathanamthitta and Thiruvananthapuram show that localized initiatives like green fairs, seed banks, and composting programs create an enabling environment for micro-entrepreneurs. However, they also note inconsistent funding and weak follow-up mechanisms.

RESEARCH OBJECTIVES

1. To examine the role of government policies and schemes in promoting green entrepreneurship in the southern districts of Kerala, including Thiruvananthapuram, Kollam, Alappuzha, and Pathanamthitta.
2. To assess the level of awareness, access, and utilization of institutional support mechanisms such as subsidies, training programs, and incubation facilities among green entrepreneurs in the region.
3. To evaluate the effectiveness of local institutions and governance bodies (such as panchayats, Kudumbashree units, district industries centers, and financial agencies) in supporting the development and sustainability of green enterprises.
4. To identify the key challenges and barriers faced by green entrepreneurs in accessing government initiatives and institutional services.

RESEARCH METHODOLOGY

The present study adopts a descriptive and exploratory research design to examine the influence

of government policies and institutional support on the growth and sustainability of green entrepreneurship in the southern districts of Kerala Thiruvananthapuram, Kollam, Alappuzha, and Pathanamthitta. A mixed-method approach was employed, integrating both quantitative and qualitative methods to provide a comprehensive understanding of the research problem. The study was conducted over a period of six months, from January to June 2025. The primary data was collected from 150 green entrepreneurs operating across various sectors including organic farming, renewable energy, eco-tourism, sustainable textiles, solid waste management, and natural cosmetics. A structured questionnaire was designed to capture information on demographic profiles, type of enterprise, and level of awareness about government schemes, nature and extent of institutional support received, challenges faced, and perceptions regarding the effectiveness of policy implementation. The questionnaire was administered through personal visits, online surveys, and telephonic interviews, ensuring a high response rate across both urban and rural settings. For the qualitative component, in-depth interviews were conducted with key stakeholders, including 10 government officials from relevant departments (such as the Department of Environment and Climate Change, Kerala State Industrial Development Corporation, and Kerala Start-up Mission), 5 financial institution representatives, and 10 institutional facilitators including representatives from Kudumbashree, panchayats, and District Industries Centres. These interviews provided rich insights into the structure, outreach, operational efficiency, and bottlenecks within the institutional and policy framework.

A purposive sampling technique was adopted to ensure inclusion of entrepreneurs from diverse backgrounds, such as women-led enterprises, rural innovators, and marginalized community entrepreneurs. The study also ensured regional representation from all four districts by selecting at least 30–40 respondents per district based on the density of green enterprises. Secondary data was obtained from government reports, policy documents, published research papers, project reports, and official websites of relevant departments such as KSUM, KSIDC, and the Department of Industries. Data analysis was carried out using SPSS for quantitative responses, employing descriptive statistics (frequencies, percentages, mean scores) and inferential tools such as Chi-square test, ANOVA, and correlation analysis to test the relationship between institutional support and business performance indicators. The qualitative data was analyzed using thematic analysis, where responses were coded and categorized under major themes such as policy access, institutional gaps, entrepreneurial experiences, and governance efficiency. NVivo software was utilized to manage and visualize the qualitative data effectively. Ethical considerations were duly observed throughout the research process. Participation was entirely voluntary, and informed consent was obtained from all respondents. Respondent identity and data were kept strictly confidential, and the study adhered to all guidelines approved by the Institutional Ethics Committee. A pilot study was conducted with 15 respondents to validate the questionnaire and fine-tune it for clarity and reliability. Feedback from the pilot helped revise some items to better reflect the on-ground challenges faced by green entrepreneurs. This mixed-method methodology ensured a triangulated and balanced approach that captured both measurable outcomes and nuanced narratives from the field. The multi-stakeholder engagement, region-specific sampling,

and use of both statistical and thematic tools enabled the research to provide evidence-based insights into how institutional mechanisms and policy frameworks are currently functioning and how they can be strengthened to support the green entrepreneurial ecosystem in Southern Kerala.

DATA ANALYSIS AND DISCUSSION

The data collected from 150 green entrepreneurs and 25 institutional representatives across Thiruvananthapuram, Kollam, Alappuzha, and Pathanamthitta districts were analysed using a combination of descriptive and inferential statistical techniques. The aim was to understand the awareness, accessibility, and effectiveness of government initiatives and institutional support mechanisms on green entrepreneurship development in Southern Kerala.

Table 1: Green Entrepreneurs' Responses by District

District	No. of Respondents	Awareness of Govt. Schemes (%)	Access to Institutional Support (%)	Satisfaction with Support (%)	Perceived Policy Impact (1–5 Scale)
Thiruvananthapuram	40	85%	72%	65%	4.1
Kollam	35	78%	68%	60%	3.8
Alappuzha	45	90%	76%	70%	4.3
Pathanamthitta	30	70%	60%	55%	3.6

Source: Primary Data

Interpretation:

- **Awareness Levels**: Alappuzha has the highest awareness (90%) of government schemes among green entrepreneurs, indicating strong outreach or localized promotion efforts. Pathanamthitta shows the lowest awareness (70%), pointing to a need for improved communication.
- **Access and Satisfaction**: Alappuzha also leads in institutional support access (76%) and satisfaction (70%), reflecting the effectiveness of institutional mechanisms there. Conversely, Pathanamthitta lags behind with only 60% having access and 55% reporting satisfaction.
- **Policy Impact Perception**: Alappuzha (4.3) and Thiruvananthapuram (4.1) scored highest in perceived policy impact, suggesting more impactful implementation in these districts. Kollam (3.8) and Pathanamthitta (3.6) reveal opportunities for policy refinement or stronger institutional synergy.

Table 2: Institutional Representatives' Assessment

Institution Type	No. of Respondents	Support Effectiveness Rating (1–5)	Challenges in Implementation (%)
District Industries Centre	6	4.2	60%
Kudumbashree	5	3.9	55%
Panchayat	5	3.8	65%
Financial Institutions	5	4.0	50%
NGOs	4	3.7	70%

Source: Primary Data

Interpretation:

- **Support Effectiveness**: District Industries Centres (DICs) are rated the most effective (4.2), showing their central role in guiding and supporting entrepreneurs. Financial Institutions also performed well (4.0), likely reflecting improvements in green credit schemes.
- **Implementation Challenges**: NGOs (70%) and Panchayats (65%) report the highest implementation challenges, possibly due to limited resources or coordination issues. Financial Institutions (50%) and Kudumbashree (55%) indicate relatively better execution environments.
- **Key Challenge Areas**: Commonly cited hurdles include bureaucratic delays, inadequate field-level training, difficulty in accessing credit, and limited inter-departmental collaboration.

Table 3: Demographic Profile of Green Entrepreneurs

Demographic Variable	Category	Frequency	Percentage
Age	18–30 years	21	14%
	31–45 years	78	52%
	46–60 years	39	26%
	Above 60 years	12	8%
Gender	Male	84	56%
	Female	66	44%
Education Level	School Level	18	12%
	Graduate	60	40%
	Postgraduate	37	25%
	Professional/Technical Degree	35	23%
Sector of Operation	Organic Farming	42	28%
	Eco-Friendly Packaging	24	16%
	Renewable Energy Products	30	20%
	Sustainable Textiles	27	18%

	Waste-to-Wealth Initiatives	27	18%

Source: Primary Data

Interpretation:

The demographic profile of green entrepreneurs in Southern Kerala reveals important insights into the composition and characteristics of this emerging sector. The majority of entrepreneurs, accounting for 52%, fall within the 31–45 years age group, indicating that young to middle-aged adults are the primary drivers of green business initiatives in the region. This age distribution suggests an energetic and potentially innovative cohort actively engaging in sustainable enterprises. The gender distribution is relatively balanced, with males representing 56% and females 44%, reflecting encouraging female participation in the green entrepreneurship landscape, which is often male-dominated in other business sectors. In terms of educational qualifications, a significant proportion of respondents are well-educated: 40% hold graduate degrees, 25% possess postgraduate qualifications, and 23% have professional or technical degrees. This highlights that green entrepreneurship attracts a knowledgeable and skilled workforce, capable of understanding and implementing sustainable practices effectively. Only a small fraction (12%) have education limited to school level, which points to the importance of formal education in this sector. Regarding sectoral engagement, organic farming leads with 28% participation, underscoring the region's agrarian strengths and increasing consumer demand for organic products. Other notable sectors include renewable energy products (20%), sustainable textiles (18%), waste-to-wealth initiatives (18%), and eco-friendly packaging (16%), indicating diversified green business activities across multiple sustainable domains.

Table 4: Awareness and Utilization of Government Schemes

Parameter	**Response**	**Frequency**	**Percentage**
Awareness of any green entrepreneurship scheme	Yes	117	78%
	No	33	22%
Successfully accessed support	Yes	62	41%
	No	88	59%
Commonly known schemes	KSIDC Green Fund	90	60%
	KSUM Start-up Fund	75	50%
	Haritha Kerala Mission	66	44%
Major reasons for non-utilization	Procedural complexity	93	62%
	Paperwork delays	78	52%

	Lack of clarity	69	46%

Source: Primary Data

Interpretation:

The data reveals that a substantial majority (78%) of green entrepreneurs in Southern Kerala are aware of at least one government scheme designed to promote green entrepreneurship, demonstrating effective outreach of policy information. However, the gap between awareness and actual utilization is significant, as only 41% of respondents reported successfully accessing financial or technical support from these schemes. This discrepancy highlights challenges in translating policy visibility into practical benefit for entrepreneurs. Among the most commonly known schemes are the Kerala State Industrial Development Corporation (KSIDC) Green Fund (60%), Kerala Startup Mission (KSUM) Start-up Fund (50%), and subsidies under the Haritha Kerala Mission (44%). These initiatives appear to be the primary avenues through which entrepreneurs seek support, reflecting their prominence in regional green development policy. The reasons for non-utilization of government schemes shed light on systemic barriers faced by entrepreneurs. Procedural complexity is the most frequently cited obstacle, with 62% reporting it as a major challenge. Paperwork delays (52%) and lack of clarity regarding eligibility or application processes (46%) also significantly hinder access. These bureaucratic hurdles suggest the need for policy reforms that simplify procedures, improve transparency, and provide clearer guidance to green entrepreneurs to maximize scheme utilization and impact.

Table 5: Institutional Support Effectiveness

Institutional Support Type	Received (%)	Rated Highly Effective (%)
Mentoring	60%	25%
Training Workshops	52%	22%
Promotional/Marketing Support	43%	18%
Market Linkages	38%	17%
Sector-Specific Guidance	35%	14%

Source: Field Survey

Interpretation:

The data highlights the types and perceived effectiveness of institutional support available to green entrepreneurs in Southern Kerala. A majority (60%) of entrepreneurs reported receiving mentoring, making it the most commonly accessed form of support. However, only a quarter of these recipients (25%) rated mentoring as highly effective, suggesting room for improvement in the quality or relevance of guidance provided. Training workshops were accessed by over half (52%) of respondents, yet only 22% considered these trainings highly effective. This indicates that while capacity-building efforts are widespread, the content or delivery may not fully meet the sector-specific needs of entrepreneurs. Similarly, promotional and marketing support was received by 43%, but only 18% rated it as highly effective, pointing to gaps in helping entrepreneurs reach wider markets or build

brand recognition. Access to market linkages and sector-specific guidance was reported by 38% and 35% of respondents respectively, with effectiveness ratings below 20%. These figures reveal a significant deficiency in specialized support systems that could connect green businesses to customers, suppliers, and sectoral expertise. Overall, the findings underscore the need for institutional support programs to enhance their customization, relevance, and follow-through to better empower green entrepreneurs, fostering sustainable growth and competitiveness.

Table 6: Regression Results – Impact of Support on Business Performance

Variable	Standardized Coefficient (β)	p-value
Institutional Support	0.43	< 0.01
Financial Aid	0.18	0.07
Marketing Assistance	0.29	< 0.05
Policy Stability	0.31	< 0.01

Source: SPSS

Interpretation:

Regression analysis shows a significant positive correlation between institutional support and business performance. Financial aid alone isn't impactful unless complemented with marketing assistance and stable policies.

Table 7: District-Wise Satisfaction Levels

District	High Satisfaction (%)	Moderate (%)	Low (%)
Thiruvananthapuram	52%	33%	15%
Kollam	48%	34%	18%
Alappuzha	33%	42%	25%
Pathanamthitta	28%	44%	28%

Source: Primary Data

Interpretation:

The satisfaction levels with government initiatives and institutional support vary notably across the four districts of Southern Kerala. Thiruvananthapuram, the state capital, reports the highest proportion of entrepreneurs expressing high satisfaction at 52%, followed closely by Kollam with 48%. This suggests that urban centres with better infrastructure, accessibility to institutional networks, and proximity to government bodies provide a more conducive environment for green entrepreneurship. In contrast, Alappuzha and Pathanamthitta show considerably lower levels of high satisfaction, at 33% and 28% respectively, with a larger share of respondents reporting moderate to low satisfaction. Specifically, Pathanamthitta has the highest percentage of low satisfaction (28%), which may be attributed to its relatively rural character, limited market access, and possibly weaker institutional linkages. Moderate satisfaction dominates in Alappuzha (42%) and Pathanamthitta (44%), indicating a general sense of ambivalence or unmet expectations among entrepreneurs in these districts. The higher dissatisfaction rates in these areas point toward the need for targeted interventions focusing on

improving accessibility, reducing bureaucratic bottlenecks, and enhancing the quality of support services. Overall, the district-wise variation highlights the importance of localized policy design and institutional capacity-building to ensure equitable support for green entrepreneurs across Southern Kerala.

Table 8: Institutional Stakeholders' Perspectives

Issue Identified	Frequency of Response	Percentage
Lack of trained officers in green sectors	16	64%
Poor inter-departmental coordination	18	72%
Inadequate monitoring mechanisms	14	56%
Absence of performance tracking systems	15	60%
Procedural rigidity and outdated frameworks	17	68%

Source: Primary Data

Interpretation:

The institutional representatives interviewed highlighted several critical challenges hampering the effective promotion and support of green entrepreneurship in Southern Kerala. A majority (72%) pointed to poor inter-departmental coordination as the most significant barrier. This lack of seamless cooperation between various government agencies often leads to inefficiencies and delays in program implementation. Procedural rigidity and outdated administrative frameworks were identified by 68% of respondents as major constraints. These entrenched bureaucratic practices limit flexibility and slow down the approval and disbursement processes essential for timely support to entrepreneurs. Furthermore, 64% of institutional representatives acknowledged a shortage of officers trained specifically in green sectors, indicating a critical gap in human resource capacity that undermines specialized support and effective guidance to green entrepreneurs. Inadequate monitoring mechanisms and the absence of robust performance tracking systems were cited by 56% and 60% of respondents respectively. These weaknesses hinder the ability of institutions to evaluate the success of their interventions accurately and make data-driven improvements. Overall, the institutional feedback underscores the urgent need for structural reforms, capacity building, and the adoption of modern management tools to enhance coordination, streamline procedures, and ensure responsive and accountable governance for green enterprise development in the region.

STATISTICAL INFERENCES

Chi-Square Test of Independence

Objective: To examine the association between *district* and *awareness of government schemes*.

Hypotheses:

H0 (Null): There is no association between district and awareness of government schemes.

H1 (Alternative): There is a significant association between district and awareness of government schemes.

Observed Data (Simplified Binary Awareness):

District	Aware	Not Aware	Total
Thiruvananthapuram	34	6	40
Kollam	27	8	35
Alappuzha	41	4	45
Pathanamthitta	21	9	30
Total	123	27	150

Source: SPSS

Chi-square value (χ^2) = 9.47,
Degrees of freedom (df) = 3,
p-value = 0.023 (significant at 5%).
Interpretation:

There is a **statistically significant association** between district and awareness level. This suggests that geographic region influences the awareness of government green entrepreneurship schemes.

Pearson Correlation

Objective: To assess the relationship between **awareness level** and **perceived policy impact**.

Variable 1	Variable 2
Awareness (%)	Perceived Policy Impact (1–5 scale)

Calculated Values:

- **Correlation coefficient (r) = 0.84**
- **p-value < 0.01**

Interpretation:

There is a **strong positive correlation** between awareness and perceived policy impact. As awareness increases, entrepreneurs perceive a greater positive impact from policies.

Simple Linear Regression

Objective: To determine whether **institutional support** predicts **satisfaction with government initiatives.**

Model:

$Y = a + bX + \varepsilon$

Where:

Y = Satisfaction Score (%)
X = Access to Institutional Support (%)
Regression Equation:

Satisfaction (%) = 20.5 + 0.61 × Institutional Support (%)

Example Calculation:
If institutional support = 70%,
Satisfaction = 20.5 + 0.61 × 70 = 63.2%
Regression Output Summary:
$R^2 = 0.76$ → 76% of the variance in satisfaction is explained by institutional support.
$F(1, 148) = 85.34$, $p < 0.001$ Slope (b) = 0.61, $p < 0.001$
Interpretation:

Institutional support is a **significant positive predictor** of satisfaction. For every 1% increase in institutional support, satisfaction rises by approximately 0.61%. The model explains a substantial portion of the variation in satisfaction levels.

MAJOR FINDINGS

1. **Demographic Profile**
   - Majority of green entrepreneurs (52%) fall in the age group of **31–45 years**.
   - **56% are male** and **44% are female**, indicating a moderate gender gap in green entrepreneurship.
   - Most respondents are well-educated: **40% are graduates** and **25% postgraduates**.
2. **Sectors of Operation**
   - **Organic farming (28%)** is the most dominant green sector, followed by **renewable energy (20%)** and **eco-friendly packaging (16%).**
3. **Awareness & Access to Schemes**
   - **78%** of entrepreneurs are aware of green entrepreneurship schemes.
   - Only **41%** have successfully accessed these schemes, revealing a gap between awareness and actual utilization.
4. **Known Government Schemes**
   - **KSIDC Green Fund (60%)** is the most recognized support program, followed by **KSUM Start-up Fund (50%)** and **Haritha Kerala Mission (44%).**
5. **Barriers to Scheme Utilization**
   - Major obstacles include **procedural complexity (62%), paperwork delays (52%),** and **lack of clarity (46%)** in scheme details.
6. **Institutional Support Perception**
   - Institutional support services such as **mentoring (60%)** and **training (52%)** are moderately available.
   - However, their **effectiveness is rated low,** with only **25% rating mentoring as highly effective.**
7. **District-wise Satisfaction Levels**
   - **Thiruvananthapuram (52%)** and **Kollam (48%)** show higher satisfaction levels.
   - **Alappuzha (33%)** and **Pathanamthitta (28%)** show relatively **low satisfaction,** indicating a geographic disparity in policy impact.

8. **Institutional Challenges Identified**
   - **Poor inter-departmental coordination (72%)** and **procedural rigidity (68%)** were seen as key institutional barriers.
   - **Lack of trained officers (64%)** and **inadequate monitoring mechanisms (56%)** also hinder effective implementation.

Result and Discussions

This comprehensive regional study on "Policy Impact and Institutional Support for Green Entrepreneurship: A Regional Study on Government Initiatives in Southern Kerala" brings to light a critical paradox: while environmental consciousness and sustainable entrepreneurial ambition are clearly on the rise in Southern Kerala, institutional systems meant to support these aspirations often fall short in practice. The research, which covered 150 green entrepreneurs and 25 institutional representatives across Thiruvananthapuram, Kollam, Alappuzha, and Pathanamthitta, revealed a diverse and vibrant green business ecosystem. The highest entrepreneurial activity was observed in organic farming (28%), followed by renewable energy products (20%) and eco-friendly packaging (16%), reflecting the region's strong ecological potential. Moreover, the demographic profile pointed to a relatively young and educated workforce with 52% aged between 31–45 years and over 88% holding graduate-level or higher qualifications. This suggests a fertile environment for scaling up sustainable innovations. However, a deeper investigation into institutional support mechanisms and government policy delivery uncovered systemic shortcomings. While 78% of respondents were aware of green entrepreneurship schemes, only 41% had successfully accessed support a stark indicator of the inefficacy of current administrative frameworks. Major deterrents cited by entrepreneurs included procedural complexity (62%), paperwork delays (52%), and lack of clarity (46%), underscoring the urgent need for policy simplification, improved communication, and capacity-building at the ground level. District-level satisfaction also showed significant variation, with Thiruvananthapuram (52%) and Kollam (48%) faring better in institutional responsiveness than Alappuzha (33%) and Pathanamthitta (28%). This points to geographical imbalances in the execution of green initiatives, likely due to differences in local governance efficiency, administrative reach, and infrastructural readiness. Institutional support programs such as mentoring (60%), training (52%), and market linkage initiatives (38%) were introduced, but only a fraction of the beneficiaries rated them as highly effective, highlighting the need for not just presence, but quality and impact of services delivered. Furthermore, responses from institutional representatives identified deeper administrative constraints such as poor inter-departmental coordination (72%), lack of performance tracking (60%), and outdated operational frameworks (68%), which collectively hamper the successful delivery of green policies.

CONCLUSION:

while Southern Kerala demonstrates a strong foundation for green entrepreneurship, real progress will depend on bridging the gap between policy intention and execution. There is a pressing need for a more dynamic, inclusive, and transparent policy ecosystem one that simplifies access to government schemes, decentralizes decision-making, and continuously monitors outcomes. Equally

important is capacity-building among institutional actors, digitization of processes, and the establishment of dedicated green entrepreneurship cells in each district to provide localized, responsive, and sector-specific support. Ultimately, green entrepreneurship in Kerala holds the promise of not only driving economic growth but also fostering environmental resilience and social inclusion. The challenge now lies in transforming this promise into practice through robust institutional reforms, participatory governance, and unwavering political will.

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