

Research Paper



Three pillars of sustainability and rural entrepreneurship- a study of Belagavi division

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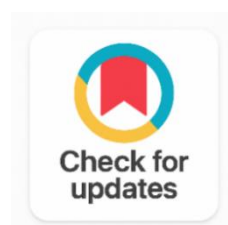
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ABSTRACT

The phrases 'sustainable development', 'sustainability', and SDGs are often used in recent times because of their urgency in preserving nature for the upcoming generation. Maintaining a sustainable world today is a significant challenge, primarily due to the increasing population and the excessive use of resources and plastic. With this problem in mind, on 25 September 2015, the United Nations and members of other countries popularized 17 SDGs applicable to the entire world. A timeframe of 15 years has been set to achieve these 17 goals, which are fit into three pillars, namely economic, environmental, and social sustainability. It is the responsibility of everyone to concentrate on this crucial issue, where Rural entrepreneurs in villages contribute towards achieving the Sustainable Development Agenda of 2030. The study was conducted with the intention of determining which pillar of the sustainability Rural Entrepreneurs are focusing more on and which type of activity focuses more on each pillar. This is an empirical study based on primary data of 400 respondents that has been collected by preparing an Interview Schedule with the help of KoboToolbox, which is meant for data collection in remote areas. The statistical tests, like the Friedman test, the Wilcoxon post hoc, and the Kruskal-Wallis H test, have been employed to test the hypotheses by using the SPSS 27 version software. The study found that Rural Entrepreneurs focus more on Environmental sustainability. Rural Entrepreneurs need to be given some special training on the sustainability pillars, so that they can give equal preference to all pillars. Focusing on all three pillars equally contributes to the achievement of SDGs.

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1. INTRODUCTION

The present situation is such that everyone is busy with their own lives, and they always wish to fulfil their desires by involving themselves in one of the livelihood activities, irrespective of what is happening in society. Even if they encounter any such important issues, they ignore them and believe that if one individual does it, nothing will happen. This is a human tendency that lags in taking the lead in overcoming such issues. In the past, people lived happy, contented lives, even though their income was low. However, there is a significant difference between the lifestyle of the past and that of today, and not everyone is paying attention to caring for nature. They are failing to maintain the balance of nature by using natural resources, such as water, trees, and plants, in excess of their needs. By doing this, they are harming not only their own lives but also other living things in nature. Because of this, future generations will have to suffer from a lack of resources. The well-educated, all-knowing townspeople are cutting down huge trees and building huge skyscrapers without any regard for sustainable development. Now, how can people in villages engage themselves in sustainable development? Because not everyone there is aware of current affairs, and not everyone is active on social media to keep up with daily happenings. And some are illiterate. One of the indispensable strengths of sustainable development is its capacity to function as a broad integrative framework bringing together individuals focused on environmental protection, those prioritizing economic growth, and those committed to enhancing human well-being [1]. Sustainable development has become a complex issue over the past ten years [2]. Sustainable development is said to happen only when it grows economically strong, ensures the welfare of society, and solves the problems of society at the same time [3] which is known as an integrated way to new development, perceived as sustainability [4]. From a sustainable development perspective, a more prosperous and sustainable environment can be found in villages than in cities. Gandhiji emphasized Gram Vikas as a bottom-line strategy for elevating the rural communities and fostering [5] sustainable development. The people there live a peaceful life and rely heavily on agriculture. They may not know the full information about sustainable development or sustainable development lessons, but they can uphold sustainable development through their livelihood activities. Maintaining a sustainable world today is a significant challenge, primarily due to the increasing population and the excessive use of resources and plastic. There is no peace in this hurried life.

1.1. SDGs = Sustainable Development Goals

The World Conservation Strategy was likely the earliest effort to extend the idea of sustainability beyond just managing renewable natural resources. [6] From an expansionist perspective, sustainability may appear straightforward: if the economy faces no broad environmental limits and technological substitutes can replace scarce resources, then continuing along the current development path seems the simplest route to achieving sustainability [7]. With this problem in mind, the United Nations and members of other countries, on 25th September 2015, popularized 17 SDGs applicable to the entire world. In 1987, the World Commission on Environment and Development released a landmark document titled Our Common Future (WCED, 1987). This publication is widely referred to as the Brundtland Report, named after its chairperson, Gro Harlem Brundtland, who was then the Prime Minister of Norway. The report played a major role in popularizing the concept of sustainable development and brought the prominent definition: "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs." A timeframe of 15 years has been set to achieve these 17 goals. Today, there are many discussions going on about this topic everywhere in various forms. They are workshops, conferences, seminars, and training etc. Also, many organizations, both government and non-government, are formulating many projects for this and trying to make them successful. However, it is still a few years away from reaching its goal, and continued effort and everyone's cooperation are important. Today, the idea of sustainability reflects a sense of care, responsible use of resources, and living in harmony with nature. It emphasizes maintaining peace and balance in our surroundings while protecting the purity and dignity of the Earth [8].

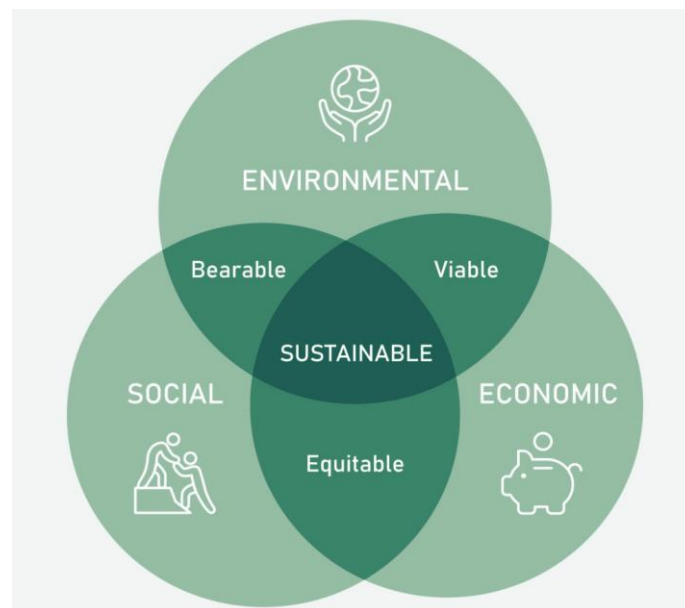


Figure 1. Three Pillars of Sustainability

As shown in Figure 1, the SDGs are built on three key pillars: economic sustainability, social sustainability, and environmental sustainability. These three pillars are mutually inclusive, and they are important for achieving sustainable development [9]. These are often described as profit, people, and planet, and together they form the well-known idea of the triple bottom line. This approach was made known by John Elkington in the year 1994, a British writer and consultant known for his work on sustainability. Economic sustainability focuses on generating income and supporting long-term economic growth. Social sustainability deals with improving people's quality of life, ensuring fairness, safety, and well-being for all. Environmental sustainability aims to protect natural resources and reduce harm to the planet. For a society to move towards genuine sustainable development, these three pillars must be balanced and strengthened together. No single pillar can stand alone. Achieving this balance requires cooperation, coordination, and a shared commitment from individuals, communities, businesses, non-government organizations, research institutions, educational institutions, and governments across the world. The development of villages can be linked with entrepreneurship these days, which serves as an engine for sustainability [10]. Rural entrepreneurs play a significant role in meeting the SDGs in the village. Because they are not only engaged in agriculture but also in self-employment, food production, paper plate and paper cup, bamboo basket weaving, pot and vase making, saree weaving, they are also doing other businesses with their skills. Similarly, some people continue to run their family businesses.

2. RELATED WORK

There is no specific starting place for the origin of the three pillars of sustainability [11]. However, a study conducted by [2] found that of the 17 SDGs, SDG 10,16,4,3,11, and 5 support the social pillar, SDG 12,7,9,2,8 and 1 represent the economic pillar, and the remaining SDGs fall under the environmental pillar. Along with these three pillars [12] highlighted the cultural sustainability as a collaboration with the help of case studies. [13] found that there is a strong correlation between sustainable practices and technology among SMEs. A study by [14] emphasized on how the type of entrepreneurial activity uplifts the fulfillment of SDGs, along with the involvement of Foreign Direct Investment. The study investigated by [15] found that business performance by sustainable entrepreneurship has been positively influenced by social(people) and economic(profit) pillars. The study [16] found that economic and environmental issues are prevalent in the northern and southern parts of the USA. [17] provided a model called 'Paradigm of rural prosperity' for developing the rural areas, which can be applied in any part of the world. Where as [4] introduced the concept of sustainalism with its domains such as economic, social, environmental, cultural, political, and social domains, and 6 principles. Supporting entrepreneurship in rural areas leads to the

proper implementation of economic, social, and environmental development in their activities, like sustainable agriculture and rural tourism. [18]. The study in the rural areas of the European Union and Poland explored the concept of the three pillars of sustainability, with various examples that address the sustainable development concept [19]. Sustainable development is a very important topic, and a lot of research is already being done on it from different perspectives, such as its origin, awareness, critical review, and empirical analysis by considering specific goals or areas. But the present study is different from the earlier. So, the following are the objectives of the study.

2.1. Objectives of the Study

1. To examine which sustainability pillar the Rural Entrepreneurs focus on
2. To identify which type of activity aligns most with each pillar.

3. METHODOLOGY

The research is empirical in nature and utilizes primary data. To gather primary data, an Interview Schedule was created using KoboToolbox, a tool designed for data collection in remote areas, which functions offline. It saves time on data entry and reduces paperwork. It provides the dataset in Excel format that can be used directly for data analysis. It also gives the geographical location points of the study area, which ensures proper data collection. With the help of latitude and longitude points, a location map has been created by using QGIS software, which is shown in Figure 2 below. From Rural Entrepreneurs in the rural regions of four districts have been chosen out of 7 districts within the Belagavi Division: Belagavi, Dharwad, Gadag, and Haveri to ensure regional representation and accessibility of the respondents. A snowball sampling method was employed to reach out to Rural Entrepreneurs who have set up their unit in villages, whether it may be registered or unregistered, because of the non-availability of the list of Rural Entrepreneurs. The study's sample size is 400 participants for an unknown population. As per Andrew Fisher's formula, it gave 385 samples, but rounded it off to 400 samples. Consisting of 100 individuals from each district who are involved in entrepreneurial activities such as food processing, incense stick manufacturing, paper and paper products, textiles (power looms), and other forms of manufacturing, which include potting, bamboo hamper making, and eco-friendly soil idol making. After collecting data from respondents, the data have been observed, and the reliability and normality of the scaled data have been checked. Cronbach's Alpha yielded a reliability value of 0.868, and the normality test indicated that the data are not normally distributed. Hence, the non-parametric tests have been employed to test the hypotheses. The study uses the Friedman test, Wilcoxon post hoc test, and Kruskal-Wallis H test to analyze the data in SPSS version 27.

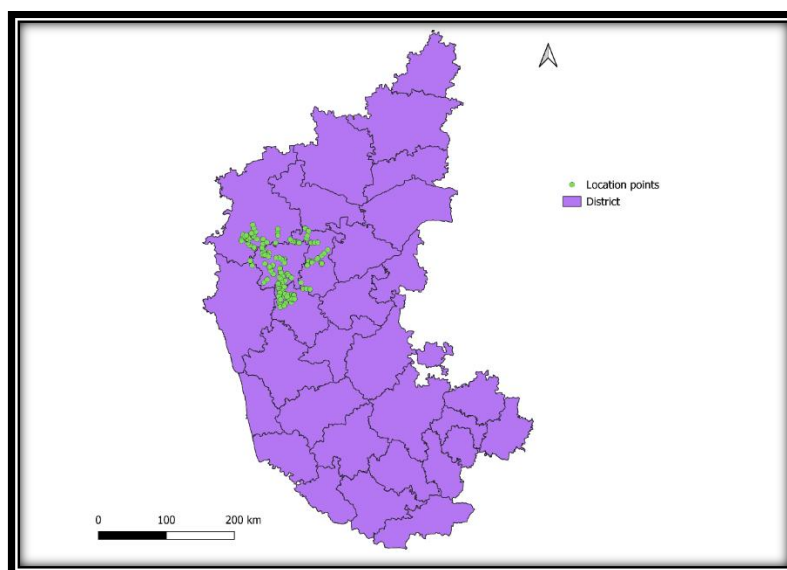


Figure 2. Location Points of the Sample Survey

3.1. Hypotheses of the Study

1. **H₀**: There is no significant difference in the focus on the three pillars of sustainability.
2. **H₀**: There is no significant difference between the types of activity and the three pillars of sustainability.

4. RESULTS AND DISCUSSION

Analyzing the collected data is a crucial step in testing the predetermined hypotheses. Here, data from the three-pillars perspective have been collected in the form of Likert scale statements, where each pillar consisted of two SDGs. Social sustainability included No Poverty (SDG 1) and Gender Equality (SDG 5). Environmental sustainability encompassed Affordable and Clean Energy (SDG 7), Climate Action (SDG 13), and Economic Sustainability, which included Decent Work and Economic Growth (SDG 8) and Responsible Consumption and Production (SDG 12). Table 1 presents the mean ranks of the three pillars of sustainability and the results of the Friedman test.

Table 1. Mean Rank of Three Pillars of Sustainability and Result of Friedman Test

Three Pillars of Sustainability	Mean Rank
Social Sustainability	1.58
Environmental Sustainability	2.63
Economic Sustainability	1.79
Test Statistics	
N	400
Chi-Square	250.807
df	2
Asymp. Sig.	0.001

The Friedman test was conducted to analyze whether there is a statistically significant difference in the focus on the three pillars of sustainability among Rural Entrepreneurs in the study area. The test revealed that the p-value (0.001) is less than 0.05, expresses that the null hypothesis was denied. There is a statistically significant difference in the focus on the three pillars of sustainability among the Rural Entrepreneurs. The mean rank of Environmental Sustainability is higher (2.63) than the other two pillars, which indicates that they place more emphasis on Environmental Sustainability over Economic and Social Sustainability.

Table 2. Wilcoxon Post-hoc Result

Comparison	Z-value	p-value
Social vs Economic	-7.406	<.001
Environmental vs Social	-12.682	<.001
Economic vs Environmental	-14.723	<.001

Table 2 depicts that Wilcoxon post hoc was applied to identify which pillar is higher and to determine where the differences occurred. Results indicated that Environmental sustainability was rated significantly higher than both Economic sustainability ($Z = -14.723$, $p < 0.001$) and social sustainability ($Z = -12.682$, $p < 0.001$). Furthermore, Economic sustainability was rated significantly higher than social sustainability ($Z = -7.406$, $p < 0.001$). These findings confirm that rural entrepreneurs place the highest emphasis on Environmental sustainability, followed by Economic sustainability, and the least emphasis on Social sustainability. Whereas a study of [20] found that there is a negative contribution to environmental sustainability.

Table 3. Kruskal-Wallis H Test of Type of Activity and Three Pillars of Sustainability

Type of Activity	Social (Mean Rank)	Environmental (Mean Rank)	Economic (Mean Rank)
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Manufacture of Agarabatti	202.89	251.59	206.25
Manufacture of food products	212.65	196.25	212.66
Manufacture of Paper and Paper Products	223.74	236.52	225.42
Manufacture of Textiles	220.04	57.35	152.2
Other manufacturing	141.47	259.47	174.23
Test Statistics			
	Economic Sustainability	Social Sustainability	Environmental Sustainability
Kruskal-Wallis H	14.141	23.972	83.055
df	4	4	4
Asymp. Sig.	0.007	0.001	0.001

Table 3 shows the results of the Kruskal-Wallis H Test of Type of Activity and Three Pillars of Sustainability. It is evident from **Table 3** that the Kruskal-Wallis H test was conducted to investigate the significant difference between the type of activity and the three pillars of sustainability. The results showed that p-values of all three pillars, economic (0.007), social (0.001), and environmental (0.001), are less than 0.05, which failed to accept the null hypothesis. There is a significant difference for all three pillars with respect to types of activity. **Table 3** also shows that the mean rank of each pillar with respect to each type of activity, the higher the mean, indicates more focus on that sustainability pillar. Manufacture of Agarabatti aligns more with environmental sustainability which has a mean rank of 251.59, manufacture of food product emphasize equally with social and economic sustainability (212.65 and 212.66) than environmental sustainability which has a less mean rank of 196.25, manufacture of paper and paper product focus more on environmental sustainability (236.52), manufacture of textiles has highest concentrate on social sustainability (220.04), in case of other manufacturing environmental sustainability has the highest mean rank of 259.47 than other two pillars. The overall results indicate that in the case of social and economic sustainability manufacture of paper and paper products has a higher mean rank; with respect to environmental sustainability, other manufacturing has a higher mean when we see the results within each pillar.

5. CONCLUSION

The present study has been done to examine how Rural Entrepreneurs in the study area focus on the three pillars of sustainability, irrespective of their awareness regarding the term sustainability or sustainable development, or SDGs. As these terms are often used in the current scenario, the ultimate intention behind this emerging concept is to preserve resources for future generations by using them according to human needs, without overutilizing them. Of the three pillars of sustainability, Rural Entrepreneurs give more focus on Environmental sustainability, followed by economic and social sustainability, which indicates that there is a significant difference in the focus on the three pillars of sustainability among Rural Entrepreneurs. The Kruskal-Wallis test revealed a significant difference between the type of activity and the three pillars of sustainability. Manufacture of Agarabatti, manufacture of paper and paper products, and other manufacturing focus more on Environmental sustainability. Whereas the manufacture of food products and the manufacture of textiles have the least focus on Environmental sustainability. The overall results indicate that, though more focus is on environmental sustainability, there is an imbalance in the focus of the three pillars of sustainability. As the researcher also observed in the study area, Rural Entrepreneurs have concerns over the environment. They are ready to

balance another two pillars, provided that they have been given proper training facilities, financial aid, creating awareness about SDGs, and monitoring their performance on a timely basis. The study makes a value addition to the existing literature by conducting empirical research in a selected study area, which is a limitation of the study, but the same study can be taken up with different perspectives in different regions to gather more results related to sustainability.

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Author Contributions Statement

Name of Author	C	M	So	Va	Fo	I	R	D	O	E	Vi	Su	P	Fu
Ms. Vanajakshi C. Revadiger	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓
Dr. Kirankumar R. Bannigol		✓	✓	✓	✓	✓	✓	✓		✓	✓	✓		✓

C : Conceptualization

M : Methodology

So : Software

Va : Validation

Fo : Formal analysis

I : Investigation

R : Resources

D : Data Curation

O : Writing - Original Draft

E : Writing - Review & Editing

Vi : Visualization

Su : Supervision

P : Project administration

Fu : Funding acquisition

Conflict of Interest Statement

Authors state no conflict of interest.

Informed Consent

We give our consent to publish the data, images, and the paper.

Ethical Approval

We assure that this article contains no plagiarism, well within the acceptable limit.

Data Availability

The authors confirm that the data supporting the findings of this study are available within the article.

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