



# Socio-Economic Impact Analysis In Recently Electrified Region Through Community Support And Readiness

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**Abstract.** The objective of this study is to examine the level of community support and preparedness, with the involvement of community empowerment, in assessing the socio-economic consequences in recently electrified regions. This study employs a quantitative methodology. It focuses on analysing overview of the Socio-Economic Impact, Community Empowerment, Community Readiness and Community Support. The study model to be examined is founded on the theories of Community-Based Approach (CBA) and Social Exchange Theory (SET). This study's participants consisted of 86 household heads residing in Sukaresmi Village, Rongga District, West Bandung Regency, West Java, Indonesia. Data collecting strategies employed interview methods utilising closed questionnaires. Data analysis was conducted using Mean and Standard Deviation to examine the categorize of community readiness, community support, community empowerment and socio-economic factors. The findings indicate that that Community Readiness variable is included in the high category. Another variable are Community Support, community empowerment and socio-economy impact is included in the very high category.

**Keywords:** Socio-economic Impact, Community Readiness, Community Support, Community Empowerment.

## 1 Introduction

Access to energy is considered a fundamental entitlement of all individuals. It is explicitly addressed in the Sustainable Development Goals (SDGs), namely in Target seven, which focuses on ensuring affordable and clean energy, as well as Goal 10, which aims to reduce inequality. The Indonesian government is endeavouring to address core societal issues, particularly in regard to fulfilling the electrical requirements of the population. Electricity plays a crucial part in the advancement of a nation. The production source not only facilitates the expansion of other economic sectors, such as the processing industry, agriculture, mining, education, and health, but it also serves as a component that fulfils people's everyday requirements [1]. According to modernization theory, the introduction of technology, such as electricity, has brought about significant changes in different areas of life, such as education, health, and social

and economic issues [2]. Understanding the social and economic effects of broad and dependable electrical availability is crucial, both in theory and in practice.

Access to energy has a direct correlation with enhancing the quality of life. Study [3] indicates that the availability of electricity in rural areas of Bangladesh has a substantial impact on both household income and educational opportunities. Barron & Torrero's study [4] demonstrates that electricity enhances the quality of health care. Dinkelman's finding [5] indicates that having access to electricity has a positive impact on work participation and labour productivity from an economic standpoint. In addition, it has the potential to enhance employment prospects and foster the growth of micro, small, and medium companies (MSMEs). Electricity facilitates more streamlined company operations and fosters innovation in products and services [6].

The electrification ratio in Indonesia is projected to reach 99.78% by 2023. Approximately 0.22% of the population, or roughly 600 thousand individuals, still lack access to electricity [7]. Indonesia continues to need more transmission generating capacity, particularly hindering the delivery of power to remote locations. The high expenses of constructing electrical networks are primarily due to limited infrastructure and challenging terrain. Consequently, rural settlements frequently encounter restricted availability of electricity. Hence, community involvement is crucial for community empowerment in order to facilitate the provision of electricity in places that are now lacking access to it.

Enabling communities to supply electricity is a crucial approach to ensuring the sustainable and inclusive fulfilment of energy requirements. This notion entails the active engagement of the community in the design, administration, and upkeep of electrical resources, as well as in the decision-making process concerning energy. It is imperative to grant individuals and groups autonomy in determining and managing the decisions and resources that impact their lives [8]. Empowering the community enhances their sense of ownership and responsibility for the project, thus bolstering the sustainability and efficacy of electricity delivery. Community readiness and community support play crucial roles in the success of electricity supply projects, particularly in rural and isolated locations, within the context of community empowerment. Engaging the community in the development, execution, and administration of electrical projects can enhance their long-term viability and efficiency.

Given the information provided, researchers can define the problem in this study as the examination of how community empowerment can act as a mediator between community readiness and community support in influencing the socio-economic well-being of the community, particularly among individuals residing in recently electrified areas.

## 2 Methods

This study employs a quantitative methodology. It focuses on analysing overview of the Socio-Economic Impact, Community Empowerment, Community Readiness and Community Support. The study model to be examined is founded on the theories of Community-Based Approach (CBA) and Social Exchange Theory (SET).

The Community-Based Approach (CBA) is a contemporary research approach that engages the community as active collaborators. CBA can be viewed as a catalyst for fostering innovation in social matters, advancing democracy, enhancing public policy, and addressing intricate societal issues such as environmental degradation, economic inequality, and unmet basic needs of vulnerable groups, particularly children. These needs encompass education, healthcare, crime prevention, legal justice, housing, and employment. CBA, or Community-Based Research, is a method that incorporates local wisdom as a valuable source of knowledge to address community issues and develop solutions. From a pragmatic standpoint, a community-based research strategy acknowledges that communities are valuable partners with extensive knowledge rather than considering knowledge to be exclusively owned by academic institutions. However, engaging the community as equal collaborators is seen as a strategic approach to uncover knowledge and optimise the use of research [9], [10]. In addition, CBA offers theoretical benefits by leveraging collective knowledge to formulate research questions and accomplish research goals while also enhancing and refining existing ideas [11].

### **Socio-Economic Impact**

Social exchange theory offers a significant framework for comprehending the economic and social consequences of societal change. Social change is a complex and dynamic process that affects different areas of society's life, as understood from the perspectives of evolution, functionalism, conflict, modernization, and dependency.

### **Community Readiness**

Community readiness refers to the capacity and willingness of a community to embrace change, engage in programmes, or confront new difficulties. Community readiness refers to the extent to which a community possesses the awareness, understanding, and backing necessary to launch and maintain a process of change [12]. The assessment of community readiness is conducted by evaluating (1) community engagement, (2) community awareness of initiatives, (3) leadership, (4) community environment, (5) understanding of relevant concerns, and (6) available resources.

### **Community Support**

Cobb [13] described that Social support can be defined as the provision of information that fosters the perception that an individual is valued, cherished, and integrated into a social framework that entails mutual responsibilities. Community support indicators are assessed based on (1) the presence of groups that facilitate involvement, (2) the opportunity for individuals to engage in the decision-making process, and (3) the availability of activities that allow for the expression of viewpoints.

### **Community Empowerment**

Community empowerment refers to the process through which individuals and groups acquire the ability to exert influence over decisions that have an impact on their lives. Adams highlights that empowerment involves more than just giving power or money; it also entails enhancing the ability to make independent and responsible judgements [14]. The measurement of community empowerment is based on four indicators: (1) Power within, (2) Power to, (3) Power over, and (4) Power with.

This study's participants consisted of 86 household heads residing in Sukaresmi Village, Rongga District, West Bandung Regency, West Java, Indonesia. Data

collecting strategies employed interview methods utilising closed questionnaires. Data analysis was conducted using Mean and Standard Deviation to examine the categorize of community readiness, community support, community empowerment and socio-economic factors.

### 3 Result and Discussions

This study comprised a fully representative sample of 86 participants who resided in Sukaresmi Village, Rongga District, West Bandung Regency.

Table 1. Respondent Profile

	Nominal	Percentage
<b>Gender</b>		
Female	46	54%
Male	40	46%
<b>Age</b>		
More than 45 years old	34	40%
17 - 30 years old	28	33%
31 – 45 years old	24	27%
<b>Marriage status</b>		
Married	76	88%
Widow/widower	6	7%
Single	4	5%
<b>Education level</b>		
Elementary School	71	84%
Junior High School	12	14%
Not completed	2	2%
Senior High School	1	1%
<b>Occupation</b>		
Farmer	52	60%
Housewife	28	33%
Odd jobs	5	6%
Employee	1	1%
<b>Income</b>		
IDR 26 – 50 thousand per day	56	66%
IDR 10 – 25 thousand per day	22	26%
Less than IDR 10 thousand per day	5	5%
More than IDR 50 thousand per day	3	3%

Table 1 shows that the female respondents constituted the majority (54%) and were primarily above the age of 45 (40%). Furthermore, the majority of respondents were married (88%) and had completed their education at the elementary school level (84%). In terms of occupation, the majority of respondents worked as farmers (60%), and the

majority had an income ranging from 26 thousand Rupiah to 50 thousand Rupiah (66%).

An overview of the Community Readiness variable as a whole is presented in Table 2 below.

Table 2. Descriptive Analysis of Community Readiness

Statement	Mean	Mean Category	Std. Deviation	Std. Deviation Category
You and the community have knowledge about the process of getting access to electricity	3,31	Midle	1,35	Low
You and the local community get information about the benefits of installing electricity	4,38	High	0,49	Low
You and the local community understand the policies regarding providing access to electricity in Indonesia	3,36	Midle	1,29	Low
You and the local community have prepared human resources to help with electricity installation	3,10	Midle	1,52	Low
You and the local community have prepared human resources to help with electricity maintenance	3,24	Midle	1,32	Low
You and the local community have prepared infrastructure that supports electricity installation	3,05	Midle	1,34	Low
Variable Community Readiness	3,41	High		

Source: Data is processed, 2024

In Table 2, 6 indicators of the Community Readiness Variable are presented. Most of the indicators have an average score that is included in the medium category, and only one indicator is included in the high category, so the total average score for the Community Readiness variable is included in the high category. The high category here means that the respondents in this study have high readiness in order to gain access to electricity, especially in terms of information about the benefits of installing electricity for the local community. The standard deviation for each indicator in the Community Readiness variable is relatively low, this shows that the community's perception or attitude regarding community readiness in order to gain access to electricity is relatively the same.

Table 3. Descriptive Analysis of Community Support

Statement	Mean	Mean Category	Std. Deviation	Std. Deviation Category
You participate in various activities related to the provision and maintenance of electricity in the village	4,45	Very High	0,50	Low
You spend time doing something to improve the village community in providing and maintaining electricity in the village	4,42	Very High	0,49	Low
You always express opinions for the good in providing and maintaining village electricity	4,42	Very High	0,52	Low
You always participate in meetings held by the village regarding the provision and maintenance of village electricity	4,40	Very High	0,49	Low
<b>Variable Community Support</b>	<b>4,42</b>	<b>Very High</b>		

Source: Data is processed, 2024

In Table 3, 4 indicators of the Community Support Variable are presented. All indicators have an average score that is included in the very high category, so that the total average value for the Community Support variable is included in the very high category. The very high category here means that the respondents in this study have a very high commitment to getting access to electricity, especially in terms of participating in activities related to providing and maintaining electricity for villages. The standard deviation for each indicator in the Community Support variable is low, this shows that the community's perception or attitude regarding community support in order to gain access to electricity is relatively the same.

Table 4. Descriptive Analysis of Community Empowerment

Statement	Mean	Mean Category	Std. Deviation	Std. Deviation Category
You and the community have the awareness and desire to change village conditions	4,49	Very High	0,62	Low
With electricity, you have the desire to play a role in developing potential in village areas	4,40	Very High	0,62	Low
You want to develop your potential to help improve the village	4,42	Very High	0,62	Low

Statement	Mean	Mean Category	Std. Deviation	Std. Deviation Category
Electricity helps increase people's knowledge and skills	4,40	Very High	0,51	Low
Electricity makes it easy for people to gain access to banking	4,41	Very High	0,56	Low
Electricity makes it easy to collaborate with institutions and companies	4,45	Very High	0,50	Low
The community works together to improve the welfare of community members through developing village potential	4,42	Very High	0,49	Low
Electricity can increase solidarity among members of society	4,35	Very High	0,48	Low
Variable Community Empowerment	4,42	Very High		

In Table 4, 8 indicators of the Community Empowerment Variable are presented. All indicators have an average score that is included in the very high category, so that the total average value for the Community Empowerment variable is included in the very high category. The very high category here means that the respondents in this study have made a very high effort in order to gain access to electricity, especially in terms of their desire to change village conditions for the better, by providing and maintaining electricity for the village. The standard deviation for each indicator in the Community Empowerment variable is relatively low, this shows that the community's perception or attitude regarding community empowerment in getting access to electricity is relatively the same.

Table 5. Descriptive Analysis of Socio-Economic Impact

Statement	Mean	Mean Category	Std. Deviation	Std. Deviation Category
Electricity changes your mindset about modernization	4,38	Very High	0,49	Low
Electricity and new technology change the behavior of your social relations with the local community (for example: the presence of television)	4,55	Very High	0,50	Low
Electricity has brought changes in terms of increasing income	4,37	Very High	0,61	Low

Statement	Mean	Mean Category	Std. Deviation	Std. Deviation Category
Electricity has brought change as it provides new job opportunities	4,41	Very High	0,49	Low
Electricity has brought changes in terms of changing types of work (eg: farming to factory workers)	4,30	Very High	0,63	Low
Electricity has brought about changes in the economic structure (for example: the emergence of other economic activities such as shops, stalls, restaurants, transportation, etc.)	4,41	Very High	0,49	Low
Electricity has brought changes in terms of employment	4,42	Very High	0,49	Low
Electricity brings changes in terms of improving the quality of children's education (longer study time at home at night)	4,51	Very High	0,50	Low
Variable Socio-Economic Impact	4,42	Very High		

In Table 5, 8 indicators of socio-economic impact variables are presented. All indicators have an average score that is included in the very high category, so that the total average value for the Socio-Economic Impact variable is included in the very high category. The very high category here means that respondents in this study have the perception that the benefits of electricity are very high in improving the socio-economic aspects of the village, especially in terms of changing the behavior of your social relations with the local community due to electricity and technology. The Standard Deviation for each indicator in the Socio-Economic Impact variable is relatively low, this shows that the community's perception or attitude in terms of the socio-economic impact due to electricity and technology is relatively the same.

## 4 Conclusion

This study highlights the significance of community assistance and community empowerment in enhancing the socio-economic influence of energy availability. Research findings concluded that Community Readiness variable is included in the high



category. Another variable are Community Support, community empowerment and socio-economy impact is included in the very high category. It shows that active engagement and endorsement from the community are crucial in enhancing the well-being of society as a whole. The provision of electricity has been empirically demonstrated to facilitate the enhancement of the economic well-being of the community. It involves facilitating the creation of income-generating opportunities within one's residence and enabling the emergence of novel forms of employment outside the residence, which could lead to an increase in self-employment and demand for labour.

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