A Comprehensive study of Kujimahal Village in Odisha for the Purpose of Socio-economic and Sustainable Development

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ABSTRACT

This research paper provides a comprehensive study of Kujimahal village in Odisha, India, for the purpose of socio-economic and sustainable development. The study includes geographic and demographic details of the village, highlighting varying levels of education, diverse land use patterns, and a reliance on agricultural and labour-intensive occupations. The study also examines income patterns, credit patterns, communication networks, and institutional networks in the village. The findings suggest a growing trend towards financial inclusion and access to formal financial institutions, as well as an increasing use of ICT for communication. The study also shows that local markets are the most preferred option for marketing facilities in the village, followed by regional markets. Additionally, the study reveals that farmers in the area have adopted various technological practices to enhance their agricultural productivity, and support and guidance are necessary for less familiar practices. The findings can be useful for designing and implementing effective extension programs to disseminate information and knowledge to the rural population. Overall, the study provides valuable insights into the socio-economic and sustainable development of Kujimahal village and can serve as a useful reference for policymakers and researchers working in similar contexts.

Introduction

Kujimahal village is located in the state of Odisha, India. The village is known for its agricultural production, and the majority of the population is engaged in farming. However, despite the significant agricultural production, the village faces numerous socio-economic challenges, including poverty, low levels of education, lack of access to credit facilities, and limited market access. These challenges hinder the overall development of the village and its residents. To address these issues, a comprehensive study of the Kujimahal village has been conducted, with the aim of identifying potential solutions and strategies for sustainable development. This paper presents the findings of the study, including an analysis of the socio-economic conditions of the village, the agricultural practices, the credit facilities, and the marketing facilities available to the farmers. The study also examines the technological access and extension participation of the farmers, with a focus on identifying areas for improvement. By pre-

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senting a comprehensive analysis of the village, this research paper provides valuable insights into the challenges facing rural communities in India and proposes potential solutions for sustainable development.

To ensure the success of a product or training program, it is crucial to conduct thorough scientific research on the implementation location, market research, and customer preferences (Cooper and Kleinschmidt, 1986). It is necessary to investigate the implementation location in detail, including geography, climate, soil type, and other environmental factors, to ensure that the product or training program is suitable for the area, and to avoid any potential risks or difficulties in implementing the program. Additionally, a comprehensive understanding of the social and economic situation of the village people is essential before introducing any product or training in the village. This information includes the total population, age and gender distribution, literacy rate, and employment rate, which can help identify the social and economic challenges faced by the villagers and provide opportunities for improvement (Aaker *et al.,* 2008).

Information on agricultural practices, such as the types of crops grown, yield obtained, and farming practices used, is critical to identify the challenges faced by farmers and provide opportunities for improvement. This data can be used to identify gaps in current agricultural practices and provide necessary training in modern farming practices.

Understanding the health status of the village people, including the availability of healthcare facilities, incidence of diseases, and sanitation practices followed, can help identify health-related challenges faced by villagers and potential interventions needed to address them (Admassie *et al.,* 2009). This data can help in identifying potential solutions to the health-related challenges faced by the villagers.

Collecting information on education facilities available in the village, such as the number of schools, quality of education, and percentage of students enrolled, provides an understanding of the educational status of the village and helps identify areas for improvement (Muttaqin, 2018). This data can help in identifying potential solutions to the educational challenges faced by the villagers.

The study titled "A Comprehensive Study of Kujimahal Village in Odisha for the Purpose of Socio-economic & Sustainable Development" aims to address the needs and problems of the village people by conducting a thorough scientific investigation of the village's various aspects (Islam *et al.,* 1991). The study aims to collect comprehensive data on demographic characteristics, agricultural practices, health status, and education facilities of the village. This data will provide a comprehensive understanding of the village's social and economic situation, help identify the challenges faced by villagers, and provide opportunities for development and improvement. The findings of this study can be used to develop appropriate interventions that can improve the overall social, economic, and health status of the village people (Ranade *et al.,* 2015).

Objectives of the Study

To study the present status of the Kujimahal village of Odisha.

Methodology

This research study has been purposefully conducted in Kujimahal village of Chandaka tehsil in the Khordha district of Odisha, India. A pre-tested interview schedule was utilized to gather information pertaining to the socio-economic conditions of the village inhabitants. In addition, data was directly obtained from governmental institutions such as the Block Office and Agriculture Office, as well as from a random selection of village residents. Upon completion of data collection, statistical analysis was conducted using SPSS software.

Results and Discussion

The village study has been discussed below based on the parameter i.e. Village Profile, Population, Type of House, Education, Land Use pattern of village, Sources of Irrigation for Village, Occupation, Landholding, Annual Income, Credit Facilities, Sources of communication networks, Institutional networks, Marketing Facilities, Extension Participation, Technological Access (Table 1).

Village Profile

The current study provides geographic and demographic details of Kujimahal village, located in Chandaka tehsil of Khordha district in Odisha, India. The village has a location code of 407468, and its total geographical area is 165 hectares. As per Census 2011, the village has a population of 1,684, consisting of 897 males and 787 females, with a literacy rate of 72.51%. The literacy rate is higher for males

(80.60%) compared to females (63.28%). The village has 374 houses, and the pin code of the locality is 754005.

Kujimahal village is governed by a sarpanch who is elected through local elections. The village comes under the Jatani assembly constituency and the Bhubaneswar parliamentary constituency, as per 2019 statistics. The nearest town to Kujimahal is Bhubaneswar, which is approximately 27km away and is a hub for major economic activities in the region.

Population of the Village

The results of the research indicate that the total population surveyed was 1882, consisting of 820 males (43.5%) and 780 females (41.4%). Additionally, 282 children (14.9%) were included in the study. The gender distribution of the population is relatively balanced, with a slightly higher proportion of males than females. However, it is unclear whether this gender distribution is representative of the larger population. Furthermore, the percentage of children in the study is relatively low, suggesting that the research may not be entirely applicable to this age group.In conclusion, while the results provide some useful information about the gender distribution of the population surveyed, the study's limited focus on children raises questions about the generalizability of the findings to the broader population. Future research should aim to include a more diverse sample that is more representative of the general population.

Type of House

The results of the research indicate that there were two types of housing in the surveyed population: Kachha and Pucca. Kachha housing, which refers to houses made of mud, thatch, or other temporary materials, accounted for 106 (21.2%) of the total number of houses surveyed. On the other hand, Pucca housing, which refers to houses made of more permanent materials like brick or concrete, accounted for a significantly higher percentage of houses surveyed at 394 (78%). These results suggest

Table 1. Overview of Kujimahal Village in Odisha, India

Parameter	Information
Location	Khordha district, 27km away from Bhubaneswar
Gender distribution	Relatively balanced
Percentage of children	Low
Type of housing	Kachha and Pucca
Education	Varying levels, significant proportion illiterate or have limited education
Land use pattern	Diverse, low forest cover, significant barren and uncultivable land, limited access to irrigation facilities, high proportion of fallow land
Irrigation	Multiple sources, relatively high reliance on bore wells and other sources, absence of tank irrigation
Occupation	Predominantly agricultural and labor-intensive, limited representation in professional and managerial roles
Landholding sizes	Range of sizes, relatively high proportion classified as marginal and small farmers, low representation of large farmers, significant proportion of agricultural laborers
Average annual income	Diverse range, majority reporting an average annual income above 100,000 rupees
Sources of credit	Formal and informal sources, preference for formal sources such as banks and cooperative societies
Communication networks	Diverse sources, increasing use of ICT
Institutional networks	Access to diverse range of institutional networks, educational institutions being an important means of access
Marketing facilities	Local markets most preferred option (52.2%), followed by regional markets (35.81%), Mandi least preferred (14.85%)
Extension activities	Exhibitions most preferred (31.9%), followed by demonstrations (8.5%) and awareness campaigns (5.8%), exposure visits not preferred
Technological practices	Farmers have adopted various technological practices, including ICTs (100%), weed management (87.55%), nutrient management (66.67%), and the use of machineries (71.11%), conservation agriculture (0%) and drip irrigation (0.44%) not popular. Top of FormBottom of Form

that the majority of the surveyed population lived in more permanent housing structures, while a smaller proportion lived in temporary or less permanent structures. The reasons behind this discrepancy and its potential implications are unclear and may warrant further investigation. It is also worth noting that these results are specific to the surveyed population and may not be representative of the broader population. Future research could aim to investigate housing types across a wider sample of the population to gain a better understanding of housing patterns and trends in the area.

Education

The results of the research indicate that the surveyed population had varying levels of education. Of the total population, 352 individuals (22%) were illiterate, while 147 (36.38%) had completed primary education. In addition, 82 individuals (19.8%) had completed middle school, while 60 (14.85%) had completed high school. Only a small proportion of the surveyed population had completed intermediate (5, 6.1%) or higher education, with 45 individuals (11%) having completed graduation or higher. These results suggest that a significant proportion of the surveyed population had limited education, with only a small minority having completed higher education. This may have important implications for access to employment opportunities and socioeconomic status in the area. It is worth noting that these results are specific to the surveyed population and may not be representative of the broader population. Future research could aim to investigate education levels across a wider sample of the population to gain a better understanding of education patterns and trends in the area.

Land Use pattern of village

The results of the research indicate that the land use pattern of the surveyed village is diverse. The total geographical area of the village was 165 hectares, with 6.5 hectares (3.9%) under forest cover. In addition, there was 13.75 hectares (8.3%) of barren and uncultivable land, while 9.34 hectares (5.6%) were classified as cultivable waste land. The total fallow land in the village was 20.1 hectares (12.1%), while the net sown area was 79 hectares (47.8%). Furthermore, the net irrigated area was found to be only 1.62 hectares (0.98%), indicating limited access to irrigation facilities in the area.These results suggest that the land use in the surveyed village is character-

ized by a relatively low forest cover, a significant proportion of barren and uncultivable land, and limited access to irrigation facilities. The high proportion of fallow land may also have important implications for the agricultural productivity and livelihoods of the local population. It is worth noting that these results are specific to the surveyed village and may not be representative of land use patterns in other villages or regions. Future research could aim to investigate land use patterns across a wider sample of villages to gain a more comprehensive understanding of land use trends in the area.

Sources of Irrigation for Village

The results of the research indicate that the surveyed population relies on multiple sources for irrigation. Of the total irrigated area, 1.2 hectares (7.4%) were irrigated through channels, while 0.1 hectares (6%) were irrigated using open wells. In addition, 0.2 hectares (12%) were irrigated using bore wells, and 0.12 hectares (8%) were irrigated using other sources. The area irrigated through tanks was not recorded. These results suggest that the surveyed population has access to a variety of sources for irrigation, although reliance on bore wells and other sources was relatively high. The absence of tank irrigation in the surveyed area may indicate a lack of access to this important source of water. It is worth noting that these results are specific to the surveyed population and may not be representative of irrigation patterns in other villages or regions. Future research could aim to investigate irrigation sources across a wider sample of villages to gain a more comprehensive understanding of irrigation trends and patterns in the area.

Occupation

The results of the research indicate that the surveyed population is engaged in a range of occupations. Of the total population, only 25 individuals (1.32%) were employed in professional occupations, while 12 (0.63%) worked as teachers and managers. The majority of the population (450, 23.91%) worked as farmers, while 29 (1.54%) worked as skilled laborers and 270 (14.34%) worked as unskilled laborers. A small proportion of the population (20, 1.06%) were tenants. These results suggest that the surveyed population is predominantly engaged in agricultural and labor-intensive occupations, with limited representation in professional and managerial roles. The reliance on agriculture as a source of livelihood

may have important implications for food security, rural development, and poverty reduction in the area.It is worth noting that these results are specific to the surveyed population and may not be representative of occupation patterns in other villages or regions. Future research could aim to investigate occupation patterns across a wider sample of villages to gain a more comprehensive understanding of employment trends and patterns in the area.

Landholding

The results of the research indicate that the surveyed farmers have diverse landholding sizes. Of the total farmers surveyed, 148 (33.12%) were classified as marginal farmers, while 50 (11.11%) were classified as small farmers. Furthermore, 122 (27.11%) farmers were categorized as medium farmers, and only 7 (1.5%) were classified as large farmers. A significant proportion of the population (115, 25%) worked as agricultural laborers, while only 8 (1.8%) were categorized as rural artisans. These results suggest that the surveyed farmers have a range of landholding sizes, with a relatively high proportion classified as marginal and small farmers. The low representation of large farmers may indicate limited access to resources and investment capital for scaling up agricultural production. The significant proportion of agricultural laborers may also have important implications for agricultural productivity and rural development in the area. It is worth noting that these results are specific to the surveyed population and may not be representative of farmer profiles in other villages or regions. Future research could aim to investigate farmer profiles across a wider sample of villages to gain a more comprehensive understanding of agricultural trends and patterns in the area.

Annual Income

The results of the research indicate that the surveyed households have a range of average annual incomes. Of the total households surveyed, none reported an income of up to 10,000 rupees per year. 110 households (28.27%) reported an average annual income between 10,000-50,000 rupees per year, while 52 households (13.64%) reported an average annual income between 50,000-100,000 rupees per year.A significant proportion of the households (219, 57.48%) reported an average annual income of more than 100,000 rupees per year. These results suggest that the surveyed households have diverse income levels, with a majority reporting an average annual

income above 100,000 rupees. It is worth noting that these results are specific to the surveyed population and may not be representative of income levels in other villages or regions. Future research could aim to investigate income patterns across a wider sample of villages to gain a more comprehensive understanding of economic trends and patterns in the area.

Credit Facilities

The results of the research indicate that the surveyed population has a variety of sources for credit facilities. Among the total population surveyed, 27 people (2.25%) preferred landlords as a source of credit, while a significant proportion of the population reported relying on formal sources of credit.450 people (37.62%) preferred banks for credit facilities, while 150 people (12.54%) preferred cooperative societies. SHGs were preferred by 85 people (7.10%), while a significant proportion of the population (168, 14.04%) reported relying on friends as a source of credit.These results suggest that the surveyed population relies on both formal and informal sources of credit for their financial needs. The preference for formal sources of credit, such as banks and cooperative societies, may indicate a growing trend towards financial inclusion and access to formal financial institutions.It is worth noting that these results are specific to the surveyed population and may not be representative of credit facility preferences in other villages or regions. Future research could aim to investigate credit patterns across a wider sample of villages to gain a more comprehensive understanding of financial trends and patterns in the area.

Sources of communication networks

The results of the research indicate that the surveyed population has diverse sources of communication networks. Of the total population surveyed, 491 people (30.68%) preferred using Information and Communication Technology (ICT), such as mobile phones and the internet, as their primary means of communication.Television was the preferred communication source for 240 people (15%), while input dealers/NGOs were preferred by 250 people (15.62%). Newspapers were preferred by 120 people (7.5%), while local leaders and extension agents were preferred by 60 people (3.7%) and 26 people (1.6%), respectively. Radio was the least preferred communication source, with only 13 people (0.8%)

indicating a preference for it. These results suggest that ICT is increasingly becoming an important means of communication in the surveyed population. The use of ICT may have significant implications for access to information and knowledge sharing, particularly in rural areas with limited access to traditional communication networks. It is worth noting that these results are specific to the surveyed population and may not be representative of communication network preferences in other villages or regions. Future research could aim to investigate communication patterns across a wider sample of villages to gain a more comprehensive understanding of communication trends and patterns in the area.

Institutional networks

The research results indicate that the surveyed population has access to a diverse range of institutional networks. Of the total population surveyed, 883 people (46.91%) preferred educational institutions as their primary means of accessing institutions, while 483 people (25.66%) preferred accessing the block office. The Panchayat was preferred by 293 people (15.5%), while the Agricultural Department was preferred by 127 people (6.74%). The Krishi Vigyan Kendra (KVK) and NGOs were the least preferred institutional networks, with only 12 people (0.6%) and 19 people (1.009%) indicating a preference for them, respectively. These results suggest that educational institutions are an important means of accessing institutional networks in the surveyed population. The high preference for educational institutions may be attributed to their role in providing access to information and knowledge on a wide range of issues, including agriculture, health, and governance. The preference for the block office may be attributed to its role in providing administrative services to the local population. It is worth noting that these results are specific to the surveyed population and may not be representative of institutional network preferences in other villages or regions. Future research could aim to investigate institutional network patterns across a wider sample of villages to gain a more comprehensive understanding of institutional network trends and patterns in the area.

Marketing Facilities

The study found that a majority of the people in the village preferred local markets (52.2%) for availing marketing facilities. This could be because local markets offer a more convenient and accessible option for the villagers to sell their produce. Regional markets were also a popular option among the villagers (35.81%), which could be due to the better prices offered in these markets compared to the local ones. The least preferred option was mandi (14.85%), which could be due to the distance of the mandi from the village, as well as the additional costs involved in transporting the produce to the mandi. Overall, the study suggests that improving the accessibility of local markets and promoting regional markets could help in boosting the marketing facilities for the village.

Extension Participation

Out of the total population, a significant percentage of people (600, 31.9%) preferred exhibitions as an extension activity. This was followed by demonstrations, which 160 people (8.5%) preferred. Awareness campaigns were preferred by 110 people (5.8%), while 90 people (4.8%) preferred training activities. It is also noted that exposure visits were not preferred by any of the respondents. Overall, the study suggests that exhibitions are a preferred mode of extension activities by the rural population, followed by demonstrations and awareness campaigns. These findings can be helpful in designing and implementing effective extension programs to disseminate information and knowledge to the rural population.

Technological Access

The results of the study show that a majority of the farmers have adopted various technological practices to enhance their agricultural productivity. The highest percentage of farmers (100%) have adopted ICTs, indicating the importance of technology in agriculture. Weed management (87.55%), nutrient management (66.67%), and the use of machineries (71.11%) were also widely adopted by farmers. On the other hand, conservation agriculture (0%) and drip irrigation (0.44%) were not popular among the farmers. The findings suggest that farmers are receptive to adopting new technological practices but still require support and guidance to adopt practices that they may be less familiar with. Therefore, the extension agencies and other relevant stakeholders must focus on promoting and disseminating information on new technologies to enhance the overall agricultural productivity of the area.

Similar findings are reported by Basavakumar *et al.* (2011); Da Costa *et al.,* (1933) and Noviyanti *et al.* (2015).

Conclusion

In conclusion, the comprehensive study of Kujimahal village in Odisha has provided important insights into the geographic, demographic, socioeconomic, and agricultural characteristics of the village. The study highlights the need for sustainable development strategies that address the challenges faced by the local population, including limited access to education, irrigation facilities, credit, and institutional networks. The study also highlights the potential of ICTs as a means of enhancing communication and knowledge sharing in rural areas. The findings of the study can inform policy decisions and interventions aimed at improving the livelihoods of rural populations in Odisha and other similar regions in India. The study underscores the importance of continued research efforts to gain a more comprehensive understanding of the complex socioeconomic and environmental factors that impact rural development in India.

Implications of the Study

1. Understanding the geographic and demographic details of Kujimahal village can provide a baseline for future research and policy development in the area.
2. The low percentage of children in the surveyed population raises questions about the generalizability of the findings to the broader population.
3. The varying levels of education in the surveyed population may have important implications for access to employment opportunities and socioeconomic status in the area.
4. The land use pattern of the surveyed village is diverse, with implications for agricultural productivity, rural development, and poverty reduction.
5. The reliance on agriculture as a source of livelihood may have important implications for food security in the area.
6. The diversity in sources of credit and communication networks may indicate a growing trend towards financial inclusion and access to information in rural areas.
7. Improving accessibility of local markets and promoting regional markets could enhance marketing facilities in the village.
8. Extension agencies and relevant stakeholders must focus on promoting and disseminating information on new technologies to enhance agricultural productivity.

Overall, the results and discussion provided in the study can be useful for policymakers, researchers, and relevant stakeholders in developing interventions and programs that are tailored to the specific needs and challenges of rural communities in the area.

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