

## Empowering Rural Women: A Study Of Agricultural Dynamics And Social Implications In Upper Assam, India

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### Abstract

This study delves into the agricultural landscape of Upper Assam, India, with a specific focus on the empowerment of rural women and its implications for social dynamics. By employing a random sampling approach, the study gathers insights from 97 women entrepreneurs engaged in traditional occupations such as Assamese food production, handloom weaving, livestock farming etc. Utilizing a mixed-method approach integrating primary and secondary sources, the research seeks to comprehensively understand the challenges and opportunities encountered by rural women. The findings underscore the pressing necessity for initiatives such as education, technology integration, training programs, and awareness-raising activities to foster the empowerment of rural women. While some districts exhibit active participation, noticeable disparities persevere in others, underscoring the need for heightened awareness and targeted interventions. The study advocates for the implementation of awareness campaigns and tailored interventions to empower rural women, encouraging a holistic approach to facilitate positive social transformation and foster sustainable agricultural development in Upper Assam.

**Keywords:** Rural Women, Empowerment, Productivity, Upper Assam, Socio-Economic Development.

## **1. INTRODUCTION**

Empowering rural women as farmers, entrepreneurs, and leaders is crucial for poverty reduction, productivity growth, and gender equality. It involves granting them tools, opportunities, and agency to participate fully in socio-economic spheres, dismantling systemic inequalities, and appreciating their contributions. Women's empowerment in agriculture significantly impacts farm productivity change. It requires nurturing individual capacities through education, training, and awareness-raising, enabling women to make informed choices and contribute to society. Despite residing in remote areas, women possess enormous potential but lack the facilities and exposure to fully realize it [1][2]. Rural women in developing countries produce 60 to 80 percent of the world's food [3]. They play vital roles in agriculture, including decision-making on acquiring and selling assets. Equipping them with necessary skills and knowledge can enhance their effectiveness and efficiency [4]. Despite their significance, persistent obstacles and economic constraints hinder their full participation in agriculture.

Women engaged in income-generating activities experience higher status, increased roles, and greater power within their families and society [5]. Enhancing women's productivity and equipping them with modern skills can reduce dependency and enhance effectiveness in entrepreneurship, contributing to national economic development. Despite traditional societal constraints, Indian women have increasingly ventured beyond household roles, excelling in various fields including academia, politics, administration, and entrepreneurship [6][7].

### **1.1 Women's Empowerment in Assam**

Rural women are essential to India's agricultural economy, engaging in seeding, weeding, harvesting, and threshing [8]. They dominate sericulture, handloom, livestock, and poultry sectors [9]. To enhance their productivity and economic security, they need new knowledge and skills in horticulture [10]. Female agricultural workers earn lower wages than males, highlighting the need for wage increases and stricter

enforcement of minimum wage laws [11]. Policy adaptation in Assam should support women by addressing issues like lack of knowledge, irrigation, and training [12][13]. Government support for agro-based industries is recommended to improve rice processing and marketing efficiency [14].

Empowerment through Self Help Groups and Krishi Vigyan Kendras is vital for rural women in Assam [15][16]. Despite its cultural richness, Assam faces socio-economic challenges, gender disparities, and poverty [17][18][19][20][21]. Rural women struggle with entrepreneurship due to lack of education, technical knowledge, and awareness of government initiatives [22][23][24]. Traditional crafts like handloom, cane, and bamboo have economic potential but suffer from limited marketing reach, affecting rural artisans' income [25][26][27][28][29]. Strategic marketing investments can empower rural women, preserve cultural heritage, and drive socio-economic growth [29]. This study aims to explore productivity and social changes among rural women in Upper Assam, India.

## **2. METHODOLOGY**

In Tinsukia district, Upper Assam, a sample of 97 rural women from villages like Dangori, Dhola, Sadiya, Chapakhowa, Kakopothar, Dirak, and Kakajan was selected. Using a mixed-method approach, combining qualitative and quantitative methods, comprehensive data was gathered. Primary data collection involved interviews and self-structured questionnaires, designed to understand socio-economic activities and empowerment levels. Data collection was systematic, followed by rigorous editing and tabulation for accuracy. The study aimed to explore relationships between socio-economic factors and women's productivity levels, without assuming any variables to be constant. However, specific organizational affiliations of the respondents, such as Service Sector, Cooperative Society, SHGs, or KVKs, were not explicitly identified.

## **3. ASSESSMENT OF PRODUCTIVITY AND SOCIAL CHANGES OF RURAL WOMEN – TOWARDS AGRICULTURAL CHALLENGES**

Empowering women significantly boosts economic productivity, development, and institutional policies [30]. Economic growth reduces poverty and expands opportunities for women, promoting gender equality [31]. Resilience, access

to energy, and technology are crucial for empowerment [32-37]. Education and feminist influences have reshaped gender roles [38]. In summary, empowering women catalyses societal transformation, improving economic outcomes, gender equality, and inclusivity in policies.

### 3.1. Demographic of Rural women in Upper Assam

In Assam, a northeastern state of India, deep-rooted gender inequality persists despite recent progress, highlighting the urgent need for women's empowerment. Governmental and civil society efforts have advanced women's rights, but full participation remains elusive. This article explores the imperative of women's empowerment in Upper Assam, focusing on government policies, educational opportunities, entrepreneurial initiatives, and ongoing challenges.

| Parameters                | No of | Percentage |
|---------------------------|-------|------------|
| Age (20years – 45 years)  | 23    | 77         |
| House Size (nuclear       | 21    | 70         |
| Illiterate                | 9     | 20         |
| Literate (metric / Higher | 5     | 17         |
| Annual Income (15000 –    | 13    | 43         |
| Marital Status (M)        | 24    | 80         |
| Family Occupation         | 30    | 100        |

**Table 1** Demographic of Rural women in Upper Assam

Table 1 highlights the demographic profile of rural women in Upper Assam (Fig 1). Most women (77%) aged 20-45 come from economically deprived backgrounds, with 70% living in nuclear families facing financial difficulties. Despite low educational attainment—20% are illiterate—districts like Dibrugarh, Golaghat, Jorhat, and Sivasagar show higher literacy rates. Only 17% in remote areas have education beyond the metric/HSC/graduation level. Annual income varies seasonally, with 43% earning Rs 10,000 to Rs 30,000. Marriages are common, with 80% marrying shortly after 18. Despite natural resources, women face barriers to education and economic advancement, necessitating empowerment initiatives. Key challenges include limited access to education and economic opportunities, with high dropout rates due to economic and societal norms. Assam Women's University in Jorhat and schemes like Pradhan Mantri Kaushal Vikas Yojana (PMKVY) aim to improve education and employability, yet women still often find low-paying or informal jobs.

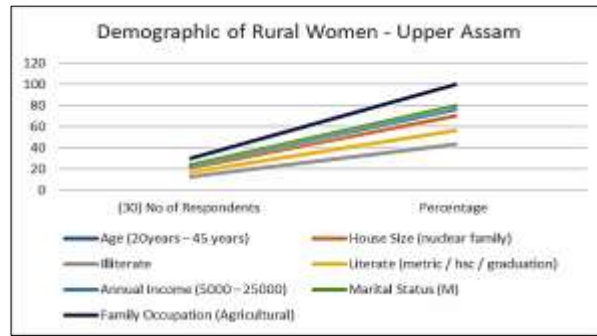


Fig 1 Graphical representation of demographic characteristic of rural women at Upper Assam

### 3.2. The role of Upper Assam rural women in socio-economic activities

Rural women in Upper Assam are crucial for their communities' socio-economic progress. Despite nationwide attention on women's empowerment, they face unique challenges hindering their socio-economic participation [39][40][41][42]. This article explores the obstacles faced by rural women in Upper Assam and examines initiatives aimed at empowering them through education and entrepreneurship.

| Variables                      | No of | Percentage |
|--------------------------------|-------|------------|
| Agricultural Sector            | 30    | 31%        |
| Farming Sector                 | 26    | 27%        |
| Sericulture and weaving Sector | 14    | 14%        |
| Business Sector                | 12    | 13%        |
| Service Sector                 | 5     | 5%         |
| Co-operative society and Self- | 7     | 7%         |
| Politics                       | 3     | 3%         |
| Total                          | 97    | 100%       |

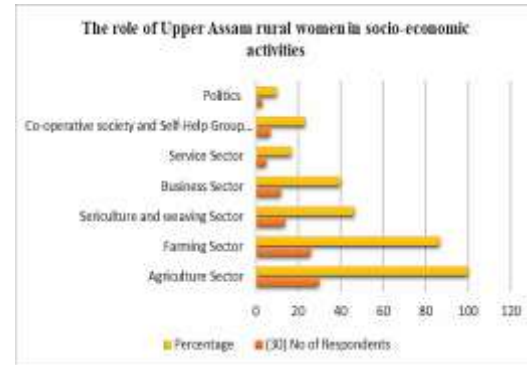
**Table 2** Socio-economic activities of rural women in Upper Assam

Table 2 shows that rural women in Upper Assam mainly depend on agriculture, including rice and staple crops, tea production, livestock farming, fishery, and vegetable cultivation. They also engage in non-farm livelihoods like handloom and weaving. Despite the development of farming, sericulture, business services, Self-Help Groups (SHGs), and Krishi Vigyan Kendras (KVKs), progress is hampered by limited access to information and nuclear family constraints (Fig.3). Productivity in Tinsukia district's remote villages remains low, requiring better technology, market access, and livestock services. Initiatives like the ARIAS Society's program provide training, credit, and marketing support to women farmers. However, challenges

such as limited program awareness, a shortage of skilled weavers, and insufficient capital and marketing infrastructure must be addressed to enhance women's participation in agriculture and rural development, promoting gender equality and regional development.



**Fig 2** Parameters to Overcome women's participation



**Fig. 3** Graphical representation of the role of Upper Assam rural women in Socio-economic

### 3.3 Yearly Productivity of socio-economics activities of the rural women of Upper Assam Tinsukia District

This study found that rural women in Tinsukia district lag behind other Upper Assam districts in socio-economic development. Agriculture remains their primary livelihood. Policymakers must identify and address the socio-economic factors hindering their growth. Due to their lifestyle and community habits, rural women struggle to adapt to societal changes and urbanization, necessitating targeted interventions [43].

Table 3 The yearly productivity of socio-economic activities among rural women in Upper Assam's Tinsukia District.

| SI No | Variables   | 2018                  | 2019 | 2020 | 2021 | 2022 | 2023 | No. Output in the year 2023 | No of Respondents (97) | Work per hour | Work per month | Work per day |
|-------|---|-----------------------|------|------|------|------|------|-----------------------------|------------------------|---------------|----------------|--------------|
|       |   | Productivity per year |      |      |      |      |      | Output                      | Input                  |               |                |              |
| 1     | Agricultural Sector   | 40%                   | 40%  | 5%   | 8%   | 20%  | 30%  | 100                         | 100                    | 4             | 3              | 2            |
| 2     | Farming Sector  | 50%                   | 50%  | 4%   | 5%   | 11%  | 15%  | 58                          | 26                     | 4             | 3              | 2            |
| 3     | Sericulture and Weaving Sector  | 12%                   | 13%  | 0%   | 1%   | 7%   | 12%  | 86                          | 14                     | 4             | 3              | 2            |
| 4     | Business Sector – Tea Gardens, vegetable seller, Beauty parlor, Rice beer, etc.   | 15%                   | 17%  | 10%  | 13%  | 12%  | 14%  | 117                         | 12                     | 4             | 3              | 2            |
| 5     | Service Sector  | 10%                   | 10%  | 10%  | 11%  | 11%  | 11%  | -                           | -                      | -             | -              | -            |
| 6     | Co-operative Society and Self-Help Group (SHG) / Krishi Vigyan Kendras (KVK) etc. | 28%                   | 28%  | 0%   | 3%   | 12%  | 13%  | 187                         | 7                      | 4             | 3              | 2            |

Table 3 shows productivity trends across various sectors in Upper Assam from 2018 to 2023, including agriculture, farming, sericulture, weaving, and business sectors like tea gardens and vegetable selling. Productivity in the service sector, cooperative societies, SHGs, and KVKs varied, dropping from 40% in 2018-2019 to 5-8% in 2020-2021 due to the COVID-19 pandemic. Since 2022, productivity has increased to 20-30%, but it remains low compared to other districts. Farming and agriculture had the highest economic share in 2018-2019, with increased orders during festivals. Other sectors like SHGs and weaving are still developing. These patterns highlight opportunities for targeted interventions to boost productivity across sectors.



Fig 4. Yearly Productivity of socio-economics activities of the rural women of Upper Assam considering Co-operative Society and Self-Help Group (SHG) / Krishi Vigyan Kendras (KVK)

Rural communities in Tinsukia district primarily engage in agriculture and livestock rearing. To enhance economic empowerment, women can be trained in business, SHGs, KVKs, sericulture, and weaving. Involving women in development agendas can improve resource management. Despite weaving traditional products, productivity remains low due to transportation and communication challenges [45][46]. Obstacles include a lack of technical knowledge, training, market information, self-confidence, motivation, and family support. Empowering rural women is crucial to boost productivity. This study presents a productivity index, using variables from Table 3, such as Cooperative Societies and SHGs/KVKs, to understand efficiency and output. Fig. 4 illustrates the productivity of socio-economic activities among rural women in Upper Assam, emphasizing the importance of these endeavours. Calculating the productivity index helps identify strengths and areas for improvement, comparing output with input resources.

Here's a general formula:

$$\text{Productivity Index} = \text{Output} / \text{Input}$$

Where:

Output: The total quantity or value of goods or services produced by the system or organization.

Input: The resources, such as labour, capital, materials, or time, used in the production process.



Note: The output and input can vary depending on the context of what is being measured for productivity.

$$\text{Labour Productivity} = \frac{\text{Co-operative society, Self-Help Group (SHG) / Krishi Vigyan Kendras (KVK)}}{\text{Work hours}}$$

$$\text{Labour Productivity} = \frac{187}{168} = 1.11$$

{Input = 7 (# of employees) x 2 (# of hours of work per day) x 3 (# of months) x 4 (# of days worked in a month) that's 168}

This study computed a productivity index to evaluate the labour productivity of rural women in Tinsukia district, using data from Table 3. The formula considers factors like the number of employees, hours worked per day, months worked, and days worked in a month, resulting in a productivity index of 168. Table 4 highlights the role of this variable in assessing efficiency, particularly in cooperative societies and Self-Help Groups (SHGs)/Krishi Vigyan Kendras (KVKs). Drawing from reputable sources like Smartsheet and Investopedia, productivity is calculated as Output/Input, ensuring precision in measurement. According to Table 4 and Fig 4, cooperative societies and SHGs/KVKs achieve a labour productivity of only 1.11, despite sporadic development in semi-urban areas. Integrating SHGs and KVKs with rural areas to establish semi-urban hubs could enhance productivity, and foster socio-economic development by equipping rural women with resources and technology.

### 3.4 Social Changes of Rural Women in the remote villages of Tinsukia district (Upper Assam)

Table 5 highlights the slow social progress among rural women in Tinsukia district's remote villages. Many variables remain unchanged, indicating minimal societal changes. Key challenges include inadequate infrastructure, such as roads, electricity, and internet, which hinder access to education and technology. The government should invest in these basic needs to provide better growth opportunities. Subsidized re-training and upskilling programs, along with self-sufficient models, are essential for long-term sustainability and continuity beyond external funding.

| Variables                                   | Low | Moderate | High |
|---|-----|----------|------|
| 1. Raising family income                    | 13  | 16       | 1    |
| 2. Increased saving habits                  | 6   | 17       | 7    |
| 3. Domestic financial decision-             | 10  | 15       | 5    |
| 4. Participation in deciding on the         | 12  | 18       | 0    |
| 5. Spend money according to own             | 16  | 12       | 2    |
| 6. Recognition of women's                   | 14  | 16       | 0    |
| 7. Independence in purchasing               | 19  | 11       | 0    |
| 8. Independence in the purchase of          | 13  | 15       | 2    |
| 9. Rise in social status                    | 10  | 18       | 2    |
| 10. Ability to interact with outsiders      | 12  | 13       | 5    |
| 11. Involvement in deciding children's      | 13  | 14       | 3    |
| 12. Access to sanitation facility           | 13  | 10       | 7    |
| 13. Ability to face challenges              | 17  | 13       | 0    |
| 14. Decline in family conflict              | 9   | 12       | 9    |
| 15. Ability to make innovative decision     | 2   | 28       | 0    |
| 16. Sense of responsibility                 | 5   | 14       | 11   |
| 17. Adopting family planning measures       | 8   | 16       | 6    |
| 18. Communication level of rural women      | 15  | 12       | 3    |
| 19. Annual family income                    | 7   | 22       | 1    |
| 20. Social participation                    | 10  | 18       | 2    |
| 21. Mass-media exposure                     | 18  | 11       | 1    |
| 22. Training Exposure                       | 18  | 12       | 0    |
| 23. Economic Motivation                     | 15  | 15       | 0    |
| 24. Extent of participation in decision-    | 5   | 19       | 6    |
| 25. Level of aspiration for economic        | 14  | 15       | 1    |
| 26. Size of operational land holding of the | 3   | 9        | 18   |
| 27. Achievement motivation                  | 10  | 16       | 4    |
| 28. Self-confidence                         | 18  | 10       | 2    |
| 29. Interaction with outsiders              | 16  | 11       | 2    |
| 30. Technology knowledge                    | 22  | 6        | 2    |

**Table 5** Level of Social changes of rural women

Table 5 presents the level of social changes experienced by rural women, ranging from low to high across various variables. While some aspects like saving habits and participation in family budget decisions show moderate to high changes, others like independence in purchasing ornaments and access to sanitation facilities need improvement. Recommendations include enhancing access to sanitation facilities, providing training exposure, building self-confidence, improving technology knowledge, and increasing social participation. Challenges in technology knowledge, family income, self-confidence, economic motivation, and communication level highlight the need for targeted interventions. Prioritizing women's empowerment through

effective strategies and programs involving community participation and stakeholder engagement ensures culturally appropriate, sustainable, and responsive initiatives to meet the unique needs of rural women in Assam [47][48]. Empowerment fosters self-confidence, self-esteem, and personal growth, enabling women to advocate for themselves and pursue their goals with determination. As women become more empowered, they enhance resilience and adaptability to social change [49][50].

#### **4. CONCLUSION**

In conclusion, the prospects for women's empowerment in remote villages of Upper Assam are promising but require sustained efforts to overcome existing challenges. Investment in training, facilities, and infrastructure is crucial to enable rural women to fully participate in organizations like Self-Help Groups (SHGs) and Krishi Vigyan Kendras (KVKs). Education is essential for challenging harmful cultural norms and equipping women with critical skills necessary for socio-economic development. Empowering women in business and technology necessitates providing resources, skills, support, access to funding, and mentorship programs.

Despite the valuable insights gained from this study, it is limited by its reliance on self-reported data and its focus on a specific region, which may not be generalizable to other contexts. Future research should investigate the long-term impacts of empowerment initiatives on rural women's socio-economic status and evaluate the effectiveness of various intervention strategies. Additionally, examining the intersectionality of gender with other factors such as class, caste, and ethnicity could provide deeper insights into the complexities of women's empowerment in rural settings. Furthermore, prioritizing women's empowerment initiatives can significantly enhance productivity and drive socio-economic development, but continuous research and evaluation are essential for refining and optimizing these efforts.

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