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EVALUATION OF THE NIGERIAN SERICULTURE INDUSTRY

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ABSTRACT RESEARCH ARTICLE

This study evaluates the Nigerian sericulture industry with emphasis on its level of development, institutional support, challenges, and future prospects. A descriptive survey research design was adopted, employing a mixed-methods approach to generate both quantitative and qualitative data. Primary data were collected from 300 respondents drawn from six states (Kaduna, Enugu, Osun, Plateau, Borno, and Abia) using structured questionnaires and interviews. The respondents comprised sericulture farmers, extension agents, government officials, researchers, and cooperative members. Purposive and stratified random sampling techniques were used, while data were analyzed using descriptive statistics and inferential tools.Findings reveal high awareness of sericulture (87%) among respondents; however, actual participation across the value chain remains low. Only 41.3% of respondents cultivated mulberry, 36.7% engaged in silkworm rearing, and just 18.7% were involved in silk processing, indicating weak value addition. Government support and extension services were perceived as inadequate, with over 70% of respondents expressing dissatisfaction with policy implementation and access to credit. Major constraints identified include lack of technical training, poor funding, absence of improved silkworm breeds, inadequate processing facilities, and weak extension services.Despite these challenges, the industry shows strong prospects, particularly in rural job creation, women empowerment, export promotion, and textile value addition. The study concludes that sericulture in Nigeria remains underdeveloped but possesses significant potential for economic diversification and rural development. It recommends increased government and private sector investment, targeted training programs, improved access to credit, revitalization of pilot farms, and establishment of processing centers and cooperative clusters to enhance sustainable growth of the industry.

KEYWORDS: Sericulture, labour-intensive, Evaluating Nigeria's, industrialised, Nigeria.

INTRODUCTION

Sericulture, which is the cultivation of silkworms to make silk, is a long-standing agro-based business that has helped countries like China, India, Thailand, and Brazil expand their economies. Silk is highly valued and utilized as a raw material in the fashion and textile sectors because it is strong, soft, and shiny. Sericulture is important all over the world, but Nigeria's potential in this area is still mostly untapped, underdeveloped, and understudied. So, given the growing need for sustainable economic diversification in light of changing oil prices, it is both relevant and necessary to look at Nigeria's sericulture sector. Nigeria

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possesses the natural resources, enormous amounts of arable land, and pleasant tropical climate needed to grow mulberry trees and rear silkworms. Egesi and Njoku (2016) say that the North-Central, North-East, and parts of the South-West are good places for sericulture activities. The sector is still extremely new, though, and hasn't gotten much attention from the public, investors, or the government yet. By continuing to depend on imported silk and silk-based goods, Nigeria is helping to deplete foreign reserves.

The Federal Government of Nigeria has established and promoted sericulture through the Raw Materials Research and Development Council (RMRDC) as part of its policy on rural industrialisation and the development of non-oil exports (RMRDC, 2020). Pilot programs in regions like Plateau, Katsina, and Kano suggest that sericulture could work in Nigeria. Still, not much is known about how well these initiatives are working, what problems they are having, and how long they will last. Also, there isn't a lot of academic study on the Nigerian sericulture industry's job potential, economic viability, and integration of the value chain. The sericulture industry directly employs millions of farmers around the world, especially in rural areas. The silk business in India, for instance, directly or indirectly employs more than 8.8 million people and makes a big difference in women's empowerment, rural income, and export earnings (Central Silk Board, 2021). Sericulture is a labour-intensive process that requires workers at many various stages, such as harvesting mulberries, breeding silkworms, gathering cocoons, reeling, weaving, and selling the finished product. Sericulture can be a useful tool for promoting local content and inclusive development in developing countries where there is a lot of rural poverty and youth unemployment. Because of Nigeria's high unemployment rate, the movement of people from rural to urban areas, and the uncertainty of oil prices, the need for economic diversification has become more and more critical. The National Bureau of Statistics said in 2022 that the unemployment rate was 33.3%. This had a big effect on rural areas. Sericulture is a good agro-allied alternative that fits with Nigeria's goal of encouraging small-scale, labour-intensive enterprises. It also fits with the Sustainable Development Goals (SDGs), namely Goals 1 (No Poverty), 8 (Decent Work and Economic Growth), and 9 (Industry, Innovation, and Infrastructure).

Even while Nigeria's sericulture business has a lot of potential, it also has a lot of problems. First, farmers and other people who are involved need to know how to do things. Many farmers in remote areas don't know much about the life cycle of silkworms, how to grow mulberries, or how to reel silk. Second, there isn't enough help from institutions and infrastructure. There are either no facilities or facilities that are too old for finishing textiles, processing cocoons, and raising silk. Adebayo and Ojo (2019) say that the lack of ties between research and extension has also made it harder for the sector to embrace new techniques and technology. Private sector investment in sericulture has also been hurt by conflicting policies and a lack of money. Most government programs have not worked well together, have not had enough money, and have not lasted very long. In Nigeria, things haven't been done in a planned way. In China and India, on the other hand, organised funding, subsidies, and training help sericulture. Another problem is that synthetic materials are cheaper and easier to find in local marketplaces, which means that there is less need for silk created locally.

Another big concern is that there is no integrated value chain. The sericulture industry needs a smooth transition between growing mulberries, raising silkworms, processing cocoons, weaving silk, and selling it. In Nigeria, these sectors work on their own, with little help from each other. Because of this difference, there are high losses after harvest, low outputs, and lower profits. To develop a working value chain, people will need to work together on

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market links, forming cooperatives, building capacity, and doing research. Also, we don't know what part women and young people play in sericulture. In many Asian countries, women are in charge of gathering cocoons and weaving silk. Sericulture is a fantastic choice for women who live in the country and wish to work for themselves and cultivate silkworms at home because it takes a lot of work. Young people might also work in marketing, textile design, and export logistics. Encouraging young people to start a business in sericulture could help Nigeria, which has a significant youth population, cut crime and unemployment in rural areas. It's also crucial to talk about how sericulture affects culture and the environment. Making silk is better for the environment than making synthetic textiles, which need materials that come from oil. Mulberry trees store carbon and protect the soil. Using silkworm poop as organic fertiliser can help the agricultural ecology last longer. Sericulture can help Nigeria's climate-smart agriculture policy reach both economic and environmental goals.

Evaluating Nigeria's sericulture sector is not only an academic task, but also a question of policy. It requires a careful look at the sector's performance measures, the views of stakeholders, current practices, and how things have changed over time. This review will help policymakers, investors, and development organisations make smart choices. It will also help find gaps, best practices, and ways to make projects bigger. More importantly, it would provide Nigeria a roadmap for becoming a silk-producing country in West Africa. The following goals are the basis for this study: to look at how sericulture has changed over time in Nigeria; to find out how much farmers know about it and how involved they are; to look at the industry's future and problems; and to suggest ways to make the sector more competitive and sustainable. This study will use both quantitative surveys and qualitative interviews with significant stakeholders, such as government officials, farmers, researchers, and textile business owners.

1.2 Statement of the Problem

Even though Nigeria has natural resources and policies that encourage agricultural diversification, the sericulture sector is still not very developed or used. Government agencies have tried a lot of things, but they haven't made the economy much better or made silk manufacturing more sustainable. Some experimental projects have failed because of poor management, a lack of continuity, not enough money, and not enough involvement from stakeholders. The sector is also stuck since there isn't a single national sericulture policy, there isn't enough money going into research and development, and there aren't enough good mulberry plants and silkworm eggs. Also, rural farmers and investors can't get involved because they don't know enough about modern sericulture procedures.
This study's goal is to comprehensively look at Nigeria's sericulture sector by looking at present projects, finding systemic problems, and suggesting changes to institutions, technology, and policies to make the business better.

Objectives of the Study

The main objective of this study is to evaluate the Nigerian sericulture industry in terms of its development, challenges, and prospects.

The specific objectives are to:

1. Assess the current status of sericulture activities in Nigeria.

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2. Identify the major challenges hindering the development of sericulture in Nigeria.
3. Examine government and private sector initiatives supporting sericulture.

Research Questions

To achieve the stated objectives, the following research questions will guide the study:

1. What is the current level of sericulture development in Nigeria?
2. What are the major challenges facing the sericulture industry in Nigeria?
3. What efforts have been made by the government and private sector to promote sericulture?

Research Hypotheses

The study will test the following hypotheses:

- **H_{01}**: There is no significant relationship between government support and the performance of the sericulture industry in Nigeria.
- **H_{02}**: The challenges facing the sericulture industry do not significantly affect its sustainability and growth.
- **H_{03}**: There is no significant potential for sericulture to contribute to rural employment and economic development in Nigeria.

LITERATURE REVIEW

Sericulture is the science and art of growing silkworms so that they can make raw silk. It encompasses everything from farming mulberries to hatching silkworms, making cocoons, weaving silk, and reeling it. Sericulture is a labour-intensive, agriculture-based industry that plays a big role in rural employment and the growth of the value chain (FAO, 2017). Sericulture is now known around the world as an important industry that may help rural areas grow in a way that lasts. In countries like China, India, Brazil, and Thailand, sericulture has become a growing industry that brings in a lot of money and creates jobs (Srinivasan, 2019). Sericulture is included in rural development initiatives in these countries because it can produce jobs, especially for women and smallholder farmers. But Nigeria's sericulture industry is still quite new. Even though there have been efforts to grow sericulture in the past and the weather is good for it, the industry has not become a competitive and productive one (Okon, 2020). This difference means that Nigeria's sericulture industry needs to carefully look at the policy environment, how well resources are being used, the institutional frameworks, and the dynamics of entrepreneurship.
Sericulture, which is the cultivation of silkworms to make silk, is one of the oldest cottage enterprises based on agriculture. It plays a big role in creating jobs in rural areas and lowering poverty around the world. China, India, Thailand, Brazil, and Uzbekistan are some of the top silk-producing countries that play a big role in the world's silk production and export markets (FAO, 2019). According to the International Sericultural Commission (ISC, 2020), sericulture has helped rural areas become more industrialised and has provided jobs for more than 7 million people around the world.

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A number of researchers have talked about how sericulture could help Nigeria's economy, notably by creating jobs and improving rural areas. Sericulture requires a lot of work and may be done on tiny plots of land, making it perfect for women, youth, and families in rural areas (Ibrahim & Lawal, 2014). Sericulture can be done all year round, unlike some farming operations that are only done in certain seasons. This means that more cocoon harvests can be done, which means more ways to make money. Pilot sericulture farms in states like Osun, Enugu, Kaduna, and Borno have shown that they may help people make a living and start their own businesses (Ejezie et al., 2016). Women have especially found jobs in drying cocoons, reeling silk, dyeing, and weaving, which helps families make money and keeps people from moving from rural to urban areas. Because the sector is headquartered around cottages, people may work from home, which helps with inclusive growth. During the Structural Adjustment Programme (SAP) era, when the focus was on diversifying the economy and replacing imports, the government was most interested in sericulture. RMRDC and the Nigerian Export Promotion Council (NEPC) helped sericulture grow by creating capacity, setting up trial farms, and transferring technology (RMRDC, 2005). But inconsistent policy execution and lack of finance slowed things down. Aniekan and Udo (2019) found that although though sericulture is part of national agricultural and industrial strategies, there isn't much cooperation between ministries, research institutions, and local governments in practice. Sericulture hasn't gotten much money from the government, and because there isn't a national sericulture master plan, efforts have been split up and repeated. Also, rural farmers don't use sericulture as much because there aren't any extension services, rural finance institutions, or technical training. Investors and banks won't be interested in the sector unless everyone works together.New ideas in breeding silkworms, managing diseases, raising them, and post-cocoon technology are all part of technological progress in sericulture. Biotechnology and genetic engineering have been employed in places like India to make hybrid silkworms that are resistant to diseases and generate a lot of silk (Kumar et al., 2014). Automating reeling and spinning has made them more efficient and cut down on waste. But in Nigeria, technological transfer is still weak. Most people that raise silkworms do it the old-fashioned way, and it's hard to get better silkworm strains. According to Adegoke et al. (2020), the fact that there isn't much local production of raising equipment and that access to cold storage is limited leads to post-harvest losses and low-quality silk. Because Nigeria doesn't have a working silk reeling industry, cocoons typically rot or are sold as raw material without being turned into something useful. Also, the lack of a competitive silk textile business makes it less appealing for silk producers to make silk, which makes it less profitable.

People think that sericulture is good for the environment. It has a little carbon impact and helps to plant trees by planting mulberry trees. Mulberry leaves are the main food for silkworms, but they can also be used as animal feed and to keep soil stable (Gulrajani, 2013). When the silk business is run well, it follows the principles of a circular economy, where waste from one step becomes input for the next. The environmental benefits of sericulture are not being used enough in Nigeria. Research has shown that mulberry plantations can help restore degraded land in the north and middle belt (Eneji et al., 2012). Combining sericulture with plans for planting trees and climate-smart agriculture could help Nigeria reach its goals for fighting climate change.

The sericulture value chain involves things like growing mulberry trees, raising silkworms, drying cocoons, reeling silk, dyeing it, weaving it, and selling it. Infrastructure, cooperatives, and access to markets all help the value chain in successful sericulture economies (Kasi et al., 2018). The sericulture value chain in Nigeria is not very well established. Growth is slow because there aren't any organised clusters, cooperatives, or links to the textile industry.

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There aren't many places to sell cocoons and silk threads, so producers have to sell them for low prices or stop making them completely (Okeniyi et al., 2021).Sericulture is important to many people since it is good for the environment, doesn't cost much to start, and can give rural women more authority (Sreenivasa et al., 2013). Research institutes, extension services, and government incentives have all helped to include it in rural development initiatives in Asia, especially in China and India (Kumar et al., 2014). Sericulture includes growing mulberries, raising silkworms, making cocoons, and spinning and weaving silk. Its value chain makes it possible for textiles, forestry, and agriculture to link with each other in both directions. There are a lot of problems that have been written about that make it hard for the Nigerian sericulture business to grow.:

Lack of Awareness and Technical Knowledge: Many rural farmers are unaware of sericulture's potential. Moreover, silkworm rearing requires technical know-how which is often unavailable in rural communities (Okechukwu, 2018).

Inadequate Infrastructure: The lack of modern rearing houses, processing machines, and storage facilities hinders efficient production (Ogbuagu, 2019).

Policy and Institutional Weakness: While there are policies on industrial development, specific and actionable sericulture policies are often absent. Implementation is also poor.

Market and Value Chain Gaps: There are limited market linkages for cocoons and silk products. Additionally, the lack of a functioning silk industry limits economic incentives for producers (Ekpenyong et al., 2022).

Climate and Environmental Constraints: Though mulberry can be grown in many Nigerian regions, climate variability, pests, and lack of irrigation affect yield.

A number of researchers have talked about how sericulture could help Nigeria's economy, notably by creating jobs and improving rural areas. Sericulture requires a lot of work and may be done on tiny plots of land, making it perfect for women, youth, and families in rural areas (Ibrahim & Lawal, 2014). Sericulture can be done all year round, unlike some farming operations that are only done in certain seasons. This means that more cocoon harvests can be done, which means more ways to make money. Pilot sericulture farms in states like Osun, Enugu, Kaduna, and Borno have shown that they may help people make a living and start their own businesses (Ejezie et al., 2016). Women have especially found jobs in drying cocoons, reeling silk, dyeing, and weaving, which helps families make money and keeps people from moving from rural to urban areas. Because the sector is headquartered around cottages, people may work from home, which helps with inclusive growth.During the Structural Adjustment Programme (SAP) era, when the focus was on diversifying the economy and replacing imports, the government was most interested in sericulture. RMRDC and the Nigerian Export Promotion Council (NEPC) helped sericulture grow by creating capacity, setting up trial farms, and transferring technology (RMRDC, 2005). But inconsistent policy execution and lack of finance slowed things down. Aniekan and Udo (2019) found that although though sericulture is part of national agricultural and industrial strategies, there isn't much cooperation between ministries, research institutions, and local governments in practice. Sericulture hasn't gotten much money from the government, and because there isn't a national sericulture master plan, efforts have been split up and repeated. Also, rural farmers don't use sericulture as much because there aren't any extension services, rural finance institutions, or technical training. Investors and banks won't be interested in the

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sector unless everyone works together.Technological development in sericulture involves innovations in silkworm breeding, disease management, rearing techniques, and post-cocoon technology. In countries like India, biotechnology and genetic engineering have been used to produce high-yield hybrid silkworms resistant to diseases (Kumar et al., 2014). Mechanization of reeling and spinning has improved efficiency and reduced wastage. In Nigeria, however, the technology transfer remains weak. Most silkworm rearing is carried out using rudimentary methods, and access to improved silkworm breeds is limited. Adegoke et al. (2020) point out that the lack of local production of rearing equipment and limited access to cold storage facilities contributes to post-harvest losses and low-quality silk. The absence of a functional silk reeling industry in Nigeria means that even when cocoons are produced, they often rot or are sold as raw material without value addition. Moreover, the absence of a competitive silk textile industry creates a disincentive for silk producers, reducing commercial viability.

Sericulture is considered environmentally sustainable. It encourages afforestation through mulberry plantation and has a relatively low carbon footprint. Mulberry leaves, the primary feed for silkworms, also serve as livestock fodder and soil stabilizers (Gulrajani, 2013). The silk industry, when properly managed, supports circular economy principles, where waste from one stage becomes input for another. In Nigeria, the environmental benefits of sericulture are underutilized. Studies show that degraded lands in the north and middle belt could be regenerated through mulberry plantation (Eneji et al., 2012). Integrating sericulture with afforestation and climate-smart agriculture policies could align with Nigeria's climate change mitigation goals.

The sericulture value chain includes activities such as seed production, mulberry farming, silkworm rearing, cocoon drying, silk reeling, dyeing, weaving, and marketing. In successful sericulture economies, the value chain is well-integrated and supported by infrastructure, cooperatives, and access to markets (Kasi et al., 2018). In Nigeria, the sericulture value chain is poorly developed. The absence of organized clusters, cooperatives, and linkages with textile industries hampers growth. There are limited market outlets for cocoons and silk yarns, forcing producers to sell at low prices or abandon production altogether (Okeniyi et al., 2021).

Theoretical Review

The Value Chain Theory

Porter's Value Chain Analysis (1985) says that a chain of operations that add value to raw materials gives a company an edge in production. This includes everything from growing mulberry trees to making final silk goods in sericulture. For sericulture to grow, the value chain must work well because each step adds to the sector's economic viability.

Empirical Review

India is the second biggest producer of silk in the world, after China. Several studies, including one by Sreenivasa et al. (2018), suggest that India's success in sericulture is due to a lot of government involvement, research into different types of silkworms, and strong support programs for farmers. In China, mechanisation and partnerships with cutting-edge research institutes have improved the productivity and competitiveness of sericulture (Zhang, 2016). Thailand has chosen a community-based strategy for sericulture, which teaches small-scale farmers how to raise silkworms and make silk products. Pholdee and Todsen (2020) say that this has greatly lowered the number of poor women in rural areas.

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Sericulture is still new in Africa. Kenya, Uganda, and South Africa are some of the countries that have started pilot sericulture initiatives. Most of these projects are being funded by international groups like the FAO and the UNIDO. Mwaura and Wambugu (2019) looked at Kenya's sericulture pilot programs and found that access to extension services, training, and market connections were very important for success. But there are still big problems with infrastructure and funding.

METHODOLOGY OF THE STUDY

Research Design

This study adopted a **descriptive survey research design** to look at the existing situation, problems, and future of the sericulture sector in Nigeria. The concept is good for getting primary data from people who are involved in or know a lot about sericulture operations. It also lets you gather both qualitative and quantitative data so you can get a full picture of the topic. We employed a mixed-methods technique to check the results from different sources.

Study Area

The research was conducted in selected states in Nigeria where sericulture activities have been documented or piloted. These include **Kaduna, Enugu, Osun, Plateau, Borno, and Abia States**, showing different areas of the world. These places were picked because they have a history of being involved in sericulture pilot projects, have training centres or sericulture stations, and have the right ecological conditions for growing mulberries and raising silkworms.

Population of the Study

The study's participants were farmers who worked in sericulture (both active and inactive), extension agents, staff from the Raw Materials Research and Development Council (RMRDC), researchers from agricultural institutions, officials from the Nigerian Export Promotion Council (NEPC), and women and youth groups that were involved in sericulture-related businesses.

Sample Size and Sampling Technique

A sample size of **300 respondents** was drawn from the six states mentioned using **purposive and stratified random sampling techniques**. **Purposive sampling** was used to select stakeholders directly involved in sericulture such as government officials, extension workers, and researchers while **Stratified random sampling** was applied to select sericulture farmers and members of cooperatives to ensure gender, age, and regional representation.

The sample was distributed as follows:

State	Number of Respondents
Kaduna	60
Enugu	50
Osun	40
Plateau	50

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State	Number of Respondents
Borno	50
Abia	50
Total	**300**

Research Instruments

The main research instruments used for data collection was s**tructured Questionnaire**: Designed with both closed- and open-ended questions covering demographic characteristics, sericulture practices, institutional support, challenges, opportunities, and perceptions of industry viability.

Validity and Reliability of the Instruments

- **Validity**: Three specialists in agricultural economics, textile studies, and rural development checked the tools for face and content validity. Suggestions were used to make things clearer and more relevant.
- **Reliability**: A **Cronbach's Alpha reliability test** was conducted during the pilot study involving 30 respondents. The instrument yielded a reliability coefficient of **0.82**, indicating a high level of internal consistency.

Method of Data Collection

Over the course of two months, data were gathered through field visits, interviews, and, when appropriate, online questionnaires. Trained research assistants were hired to give out the surveys in the local languages where needed. We did virtual interviews over the phone or WhatsApp for places that were hard to get to because of safety concerns.

Method of Data Analysis

We used descriptive statistics like percentages, averages, standard deviation, and frequency to sum up the answers. Especially inferential statistics, **Chi-square tests and ANOVA**, We used descriptive statistics like percentages, averages, standard deviation, and frequency to sum up the answers. Especially inferential statistics,

Result and Discussion

Table 1: Demographic Characteristics of Respondents

Variable	Category	Frequency	Percentage (%)
Gender	Male	170	56.7
	Female	130	43.3
Age Group	18–30 years	65	21.7
	31–45 years	110	36.7
	46–60 years	85	28.3

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Variable	Category	Frequency	Percentage (%)
	Above 60 years	40	13.3
Educational Qualification	No Formal Education	42	14.0
	SSCE/WAEC	108	36.0
	OND/NCE	80	26.7
	HND/BSc and above	70	23.3
Years in Sericulture	Less than 5 years	140	46.7
	5–10 years	95	31.7
	Above 10 years	65	21.6

There were 70% men and 30% women who answered. This reveals that men do most of the sericulture work in the area that was sampled. The majority of people who answered (42.9%) were between the ages of 31 and 40, followed by those between the ages of 20 and 30 (28.6%) and 41 and 50 (19.0%). There were just 9.5% of people over 50. This shows that young and middle-aged persons are actively involved in sericulture. The people who answered had different levels of education: ND/NCE (42.9%), B.Sc./HND (26.2%), SSCE (7.1%), and M.Sc. (23.8%). This shows that the group is well-educated and competent to learn and manage sericulture procedures. Most had worked for 6 to 10 years (40.5%), and the next most had worked for 1 to 5 years (31.0%). Only 4.8% of people had more than 15 years. This means that sericulture is still rather new in the area, and most people that do it don't have a lot of experience.

Table 2: Awareness and Participation in Sericulture Activities

Question	Yes (%)	No (%)
Are you aware of the term "sericulture"?	87.0	13.0
Have you ever participated in sericulture training?	52.0	48.0
Do you currently cultivate mulberry?	41.3	58.7
Are you actively involved in silkworm rearing?	36.7	63.3
Do you process cocoons into silk yarn or fabric?	18.7	81.3

The results show that **87.0%** of respondents are aware of the term *sericulture*, indicating high awareness. However, only **52.0%** have received sericulture training. Engagement declines across the value chain: **41.3%** cultivate mulberry, **36.7%** rear silkworms, and just **18.7%** process cocoons into silk yarn or fabric. This suggests limited practical involvement and underdevelopment of sericulture activities despite good awareness.

Table 3: Institutional Support and Government Involvement

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Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
Government support for sericulture is adequate	12.3%	16.0%	44.7%	27.0%
Extension services reach farmers regularly	10.7%	22.3%	42.0%	25.0%
RMRDC has contributed to sericulture promotion in my area	21.3%	33.0%	30.0%	15.7%
Access to loans for sericulture is easy	8.0%	14.7%	45.3%	32.0%
Policies supporting sericulture are well implemented	9.7%	18.3%	43.3%	28.7%

A majority (71.7%) disagree or strongly disagree that government help is enough, while only 28.3% agree or strongly agree. 67.0% think that extension services don't reach farmers often enough, which suggests that field-level support is weak. 54.3% agree that the Raw Materials Research and Development Council (RMRDC) has helped boost sericulture, which means that some people think it has done a good job. 77.3% disagree that loans are easy to get for sericulture, which shows that money is a big problem. 72.0% don't think that sericulture policies are being carried out well, which shows a gap between making policies and putting them into action.

Table 4: Major Challenges Faced by Sericulture Practitioners

Challenge	Frequency	Percentage (%)
Lack of technical training	170	56.7
Poor funding/access to credit	155	51.7
Lack of improved silkworm breeds	140	46.7
Absence of processing equipment	135	45.0
Inadequate extension support	128	42.7
Low market access	123	41.0
High cost of rearing inputs	117	39.0
Insecurity in rural areas	90	30.0

The most common problem (56.7%) is a lack of technical training, which shows that there is a big skills gap. 51.7% of people say they have trouble getting credit and not enough money, which shows that they have serious financial problems. The lack of better silkworm breeds (46.7%), processing equipment (45.0%), and extension support (42.7%) all show that the system's infrastructure and institutions are weak. Low access to markets (41.0%) and high costs of inputs for raising animals (39.0%) make it even harder to grow and make money. Insecurity in rural areas (30.0%) is also a problem that affects where things are made.

Table 5: Perceived Opportunities in the Sericulture Industry

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Opportunity	Frequency	Percentage (%)
Job creation for rural youth	210	70.0
Empowerment of women	190	63.3
Export potential of silk products	165	55.0
Value addition in textile and fashion	150	50.0
Use of mulberry in livestock & agroforestry	120	40.0
Environmental sustainability	105	35.0

The most well-known benefit of sericulture is that it can create jobs for young people in rural areas (70.0%). This shows how it can help reduce rural unemployment. A lot of people also agree that empowering women (63.3%) is a good idea for gender-inclusive economic growth. A lot of economic and industrial growth is likely to happen because of the potential for exports (55.0%) and the value added in textiles and fashion (50.0%). The fact that 40% of farmers use mulberry in livestock and agroforestry shows how important the industry is to integrated agriculture. Environmental sustainability (35.0%) is seen as an extra benefit for the environment.

Table 6: Suggestions from Respondents for Industry Improvement

Suggested Strategy	Frequency	Percentage (%)
Provision of training and rearing inputs	240	80.0
Access to loans and grants for sericulturists	215	71.7
Creation of sericulture clusters and cooperatives	200	66.7
Revival of pilot sericulture farms	180	60.0
Public-private partnerships	170	56.7
Establishment of silk processing centers	165	55.0
Branding and promotion of Nigerian silk	150	50.0

Providing training and inputs for raising animals (80.0%) is the most important thing to do to increase capacity and support inputs. Getting loans and grants (71.7%) is very important for gaining financial freedom and growing a business. The formation of sericulture clusters and cooperatives (66.7%) shows that people need to work together and share information. The return of pilot farms (60.0%) and public-private partnerships (56.7%) shows that strategic changes are needed at both the policy and operational levels. Setting up processing centres (55.0%) and branding Nigerian silk (50.0%) show how important it is to add value and make the market more visible.

Discussion of Findings

The study found that a lot of people (87%) knew what sericulture was, but only 52% had taken training, and even fewer (41.3%) were really growing mulberry. This shows that people know about something but don't actually do anything about it. Chandramouli et al. (2015) did a study that showed similar trends. It showed that just being aware of something doesn't mean you'll participate until you get training and assistance from the institution. The fact that just

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36.7% of people are growing mulberries and raising silkworms shows that the business is still in its early stages in Nigeria. Oladele et al. (2014) also said that poor infrastructure and restricted access to inputs make it hard for farmers to get involved. Only 18.7% of those who answered were involved in turning cocoons into yarn or fabric, which is a big problem for adding value. This is in line with what the Raw Materials Research and Development Council (RMRDC, 2020) found: that most sericulture efforts in Nigeria stop after making cocoons since there aren't enough processing facilities and people don't know how to do it. This lack of processing capacity makes it harder for local silk producers to compete in the market. FAO (2013) says that building up the infrastructure for processing silk is very important for making sericulture useful for the economy in underdeveloped nations.

Most of the people who answered were unhappy with the government's help. Only 12.3% firmly agreed that it was enough, while 44.7% disapproved. People were also unhappy with extension services (42% disputed they were useful) and loan access (45 Russo% disagreed). These results show that there are problems with how policies are put into action, which is something that Nnadi et al. (2016) also found. They said that most agricultural projects in Nigeria fail because they don't get enough follow-up and the institutions aren't efficient. However, a fair number of people (54.3%) believed that RMRDC made a contribution, which shows that it had some presence and effect, even if it was limited to a small area. Adebayo et al. (2019) and other studies have shown that RMRDC has done a good job of promoting sericulture, although it doesn't have enough money or people to do it.

Conclusion

The survey shows that 87% of people in Nigeria know about sericulture, but only 41.3% of people actively participate in its several parts, like growing mulberry trees, raising silkworms, and processing cocoons. This shows that sericulture is still not being used to its full potential for rural development, job generation, and industrial expansion. Some of the biggest problems are that there isn't enough technical training (56.7%), there isn't enough money or credit available (51.7%), there aren't any better silkworm breeds (46.7%), and the extension services aren't very good (42.7%). These problems have made it hard for sericulture to become popular and profitable across the country. Even with these problems, there are still a lot of chances. For example, there is the chance to create jobs (70%), empower women (63.3%), export silk goods (55%), and add value to textiles and fashion (50%). These are smart ways to diversify Nigeria's economy beyond oil and bring the agricultural sector back to life. The study also shows that people are unhappy with what the government is doing. Most people (43.3%) think that current policies are being carried out well, and 45.3% disagree that getting loans is easy. However, most people (54.3%) feel that the Raw Materials Research and Development Council (RMRDC) has helped to promote sericulture in some locations.

Recommendations

Based on the results, the following suggestions are given to bring the Nigerian sericulture business back to life and make it bigger: The government should set up regular and local training programs through RMRDC and agricultural extension agencies. This should include giving out good silkworm breeds and mulberry seedlings.

Agricultural banks and microfinance institutions could set up special financial programs or soft loans to help farmers and business owners in the sericulture value chain.

Extension personnel who have been trained in sericulture should be sent to rural areas to help

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farmers on the ground, keep an eye on their work, and teach them more about farming and how to be more productive.
Sericulture Infrastructure investment can also be drawn to clusters.
The government and private companies should bring back abandoned pilot projects and set up model sericulture farms in all agro-ecological zones.

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