

A Study on the Effect of Covid-19 on the Livelihood of the Reelers and Weavers of Sericulture Industry in Southern Karnataka

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Abstract

The COVID-19 pandemic and lockdown has caused massive disruption in almost every sector of the economy in India and informal sector has been the worst affected. The sericulture and handloom industry being the second most employers in the informal sector is important to the economy in terms of employment generation, output and export. But, the industry has been engulfed with manifold problems since its inception and COVID-19 crisis worsened the condition of the sericulture workers. In this context, the current study is an attempt to look into the impact of pandemic and lockdown on the industry in the informal sector in Karnataka and the key problems faced by the workers in their everyday life. Taking information from both primary and secondary sources, it is observed that the sericulture industry in Karnataka is severely affected by COVID-19 and lockdown which resulted in loss of income and livelihood to the handloom workers. Ban on non-essential transportation facilities led to unavailability of raw materials, inflated price of yarn and dyes. Closure of markets resulted in unsold clothes piling up in weavers' residents which drastically affected revenue generation in this sector. The weavers are living and working in ill standard houses and suffering from malnutrition, indebtedness etc.

Keywords

COVID-19, Informal sector, Sericulture industry, Income and Livelihood loss.

1. Introduction

The coronavirus disease (COVID-19) first emerged in December 2019 in the Wuhan city of China, spread across the world at an alarming rate in no time. The World Health Organisation on 11th March 2020 declared COVID19 a global pandemic owing to its mortality and morbidity rate (WHO, 2020).

Though the pandemic has affected almost every sector of the economy resulting in loss of livelihood across social divide in India, the informal sector workers have been the most affected as they lack employment protection and social security (Sumalatha, Bhat & Chitra, 2021). India has a vast informal sector, the largest 1 Ministry of Textile, Government of India (2019), Annual Reports, available at: in the world, employing close to 90% of its working population and contributing more than 45% to its overall GDP (Dev & Sengupta, 2020). In order to contain the spread of the pandemic, countries announced partial or complete lockdown which resulted in a massive disruption in the social and economic life of the people as the world economy came to a grinding halt. The unprecedented nationwide lock down in India adversely affected the Indian economy as production, distribution, employment and income was completely shut except some essential commodities and services.

The informal sector is defined as a business that is not a legal entity owned by households or individuals (ILO, 1993) while informal worker refers to a worker who is not registered nor protected by the legal framework, does not have work contracts, secure work incomes, benefits workers, and social protection (ILO, 2020). In general, both sector and worker is classified in one form of activity, namely informal sector activity. One such activity represents the decentralised sericulture industry in India.

Sericulture is an ancient industry that constitutes a distinctive feature of the cultural heritage of India. In the informal sector, the sericulture industry provides employment on such a large scale. Being the most employers in the rural nonfarm sector, the sericulture industry is important to the Indian economy in terms of employment, output and export.

The industry is capable of providing employment opportunities to large unskilled and semiskilled workforce in the rural and semi-urban areas. But, the weavers hardly get sufficient remuneration for their labour and hence live a miserable life due to negligence to this sector.

This poses a serious threat for their survival which needs to be addressed at the earliest. The weavers are already facing problems like inadequate marketing facilities, credit constraints, lack of government support, poor health and education and the COVID-19 lockdown worsened their condition.

Unavailability of raw materials, inflated price of yarn and dyes and closure of markets disproportionately affected the weavers. In this context the present study tries to answer the questions:

- (1) What are the key problems faced by the sericulture weavers in this industry?
- (2) How the Corona virus pandemic has impacted the livelihood of the sericulture weavers?

1.1 Objectives

RO1: To understand the challenges faced by the reelers and weavers in Karnataka during the pandemic.

RO2: To identify and analyze the factors affecting the livelihood of reelers and weavers during the pandemic.

RO3: To provide recommendations and suggestions based on the results obtained and analyzed.

1.2 Challenges faced by Reelers and Weavers

a) Market Demand

The weavers stopped weaving temporarily as prices of the fabric had dropped in the market, with marriages and other ceremonies being canceled, and the demand for saris and other silk garments plummeted.

b) Change in income

Weavers and artisans in Karnataka struggle to pay for their daily needs in lockdown hey do not have a lot of money as a reserve but they were inclined to use their savings to survive, this was because of the drastic reduction in income during the lockdown.

c) Availability of Raw Materials

Silkworm rearing is an important part of sericulture activities that require utmost care and effort to produce quality cocoons.

The major problems faced by the silkworm rearers during the lockdown and post lockdown periods were no availability of the inputs, crash in the cocoon prices, fewer cocoon purchasers or rearers in the market, etc.

d) Transportation

There was a large transportation problem of goods and raw materials like silk thread, cocoons, machinery, and other goods that were necessary for the production of silk sarees and related finished products.

According to the survey, it was found that there were restrictions on transporting the products in cities as well as from one state to another, and the cost of transportation also fluctuated.

e) Lack of sales

For the handloom weavers in Doddaballapura area, raw silk comes from Karnataka and the sarees woven are sent to Bengaluru for sales.

With lockdown in Karnataka too, there was no movement of silk yarn or the sarees. The months of May and June are peak seasons because of weddings. Last year and this year, sales during these months were completely affected.

f) Credit problem

The poor financial condition and independent functioning of weavers made it difficult to obtain credit from institutional sources. Hence, they had to depend on the mercy of private money lenders, and their exploitation still continues.

g) Lack of Reliable data

Lack of reliable data with respect to number of crafts people, their socio-economic conditions, livelihood conditions, details of families and their productivity, is a major shortcoming that affects the planning and policy formation of Handloom sector.

2. Literature Review

The lockdown had a multifaceted effect on weavers and reelers in several cities of Karnataka. Many weavers were forced to stop working and switch their jobs earn a livelihood. The decline of native entrepreneurship, the no availability of raw materials, and competition from mill-made textile products. The study presents a historical account of the industry with a view to identifying the factors leading to its decline. (Dr. Srinivasrao Dodmani).

It found that 50 per cent of weavers were working more than 12 hours per day. Since maximum per cent of the weavers continued their ancestor's profession of weaving. They have an education upto secondary level, Many health problems are faced by the weavers. (Badanayak and Kulloli).

Concerns about food, shelter, and health must be addressed immediately and health insurance should be provided to all weavers and the government should come up with better government policies to ensure weavers safety and that of their families. Urgent intervention of the Centre is required to empower the handloom weavers and strengthen the sector.

Handloom weaving plays an active role in the growth process of the state as well as the nation. This sector has been considered prominent because of the traditional artisan craft skills of the weavers which meet the local needs and demands. (S. Sangeetha, Dr. S. Adaikala Charles)

This study includes an in-depth analysis of effect of demonetization on handloom weavers. The economy of Chintamani taluk functions on cash is largely affected from demonetization. (Dr. S Muralidhar)

Regular supply of 'Ready to Weave' yarn (colored, dyed/sizing yarn) needs to be made available to the weavers on the basis of ID cards. This could be done through NHDC Depot's and Coop Societies, Implementation of MGNREGA for weavers would also serve the purpose. The study emphasis the need to understand the problems of the weavers and the ways to tackle such disruptions which shall lead to the better cause of the economy.

3. Methods

This section intends to grasp the methodology for finding facts which builds a structure of assessment and reassessment of primary and secondary investigation. Methods and approaches applied throughout the initial study to reach findings, which are proscribed and result in a logical way to support the research study (Table 1).

Table 1. Methods/Methodology

Objective No.	Statement of the Objective	Methodology	Tools Used
1.	To understand the challenges faced by the Reelers and Weavers during the lockdown.	The primary data is collected from survey questionnaires interviews, discussions and Literature review.	<input checked="" type="checkbox"/> Questionnaires interview and discussions with the Reelers and weavers. <input type="checkbox"/> Ebsco host, Google scholar, research gate.
2.	To identify and analyses the factors affecting the livelihood of reelers and weavers during the Covid19 (Pandemic/lockdown)	From the analysis of the primary and secondary data through regression, correlation and Literature review	<input type="checkbox"/> MS Excel <input type="checkbox"/> Ebsco host, Google scholar, research gate.
3.	To provide recommendations and suggestion based on the Results determined.	Deductions from the analysis.	<input type="checkbox"/> Based on the survey response.

Methodological approach used in investigating the research problem is quantitative methods.

The objectives of the research will be achieved step by step where, data will have collected in both the forms primary and secondary. Survey questionnaires, interviews, discussions, and Literature reviews helps in getting the proper data and to reach out with the final results by using different tools.

Data collected is limited to the particular areas of Southern Bengaluru, where the researchers visited the factories and working places of the reelers and weavers for collecting the appropriate data and understand the situations closely for better understanding and results.

4. Data Collection

5- Point Likert Scale was used in the Questionnaire in which respondents were asked to choose one option that best supports their perspective on each question. We used the Likert scale to measure the respondents, attitudes by asking the range to which they agree or disagree with a particular question or statement.

35 Questions were developed for the survey based on variables identified from literature review and news article (Table 2).

Table 2. Sample/Responses

BASIS	NUMBERS/Sam
Number Of Questions	35
Sample Size	106
Method Of Sampling	Convenience Sampling
Sample	Reelers and Weavers

The target population for the survey was the reelers and weavers who work as the weaving employee for the particular weaver business for daily paid wages in Karnataka.

We visited Doddaballapura, and Ramanagra where we could find a lot of reeling and weaving activities happening on a day to day basis. They were paid Rs. 250-300 for weaving per saree.

Dependent Variables: Livelihood of the Reelers and Weavers

Independent Variables: Sales, Mental Stability, Government Policies, Financial Distress

5. Results and Discussion

5.1 Numerical Results

The value that we obtained from the regression analysis is 0.602 which is considered as a strong regression, which says that 60.2% of the variance is dependent variable(Livelihood) by the combination of the independent variables (sales, government restrictions, working hours, mental stress, financial distress).

The regression of our analysis is a strong fit as the value from 0.5 to 1 is considered as the strong regression.

Table 3. Reliability Test

		N	%
Cases	Valid	104	94.5
	Excluded	6	5.5
	Total	110	100.0

Reliability Test is a measure of reliability. All the more particularly alpha is a lower headed for the true reliability of the survey. Mathematically the reliability is defined as is characterized as the extent of the changeability in the reactions to the review that is the consequence of contracts the respondents (Table 3 and Table 4).

Table 4. Reliability Statistics

Cronbach's Alpha	Number of Items
.716	35

Cronbach's alpha calculated was .716 which was above the threshold value of 0.70 indicating an excellent internal consistency of the data set. Cronbach's Alpha is one of the most important indicators in scale development process. It describes the reliability of items with higher value of alpha indicating the high internal consistency. This means that all the items used in scale development is measuring the construct of interest. Alpha is an indication of the proportion of variance in the scale scores that is attributable to the score. Internal consistency of items is tested with Cronbach's alpha coefficient (Figure 1).

5.2 Graphical Results

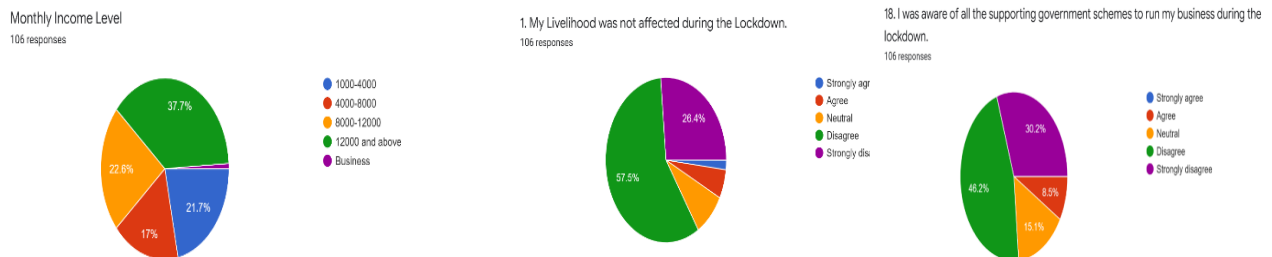


Figure 1. Pie Chart of the Responses

Figure 3. Scree plot

A scree plot shows the eigenvalues on the y-axis and the number of factors on the x-axis. It always displays a downward curve. The point where the slope of the curve is clearly leveling off (the “elbow”) indicates the number of factors that should be generated by the analysis. From Scree Plot, it is seen that there are 7 components are above the Eigen value 1. The Eigenvalue 1 is predefined. From these 7 components, questions can be grouped into their respective variables and further tests can be continued (Figure 4).

		Independent Samples Test									
		Levene's Test for				t-test for Equality of Means					
		F	Sig.	t	df	Difference	Error	95% Confidence			
						Difference	Difference	Lower	Upper		
281											
282											
283											
284											
285	6. The sales were not affected during the lockdown.	Equal variances assumed	5.046	0.027	1.063	57	0.283	0.127	0.113	-0.103	0.363
286		Equal variances not assumed			1.82	64.813	0.249	0.127	0.109	-0.091	0.345
287	7. My products were used to sell for the same price amid Covid-19.	Equal variances assumed	3.485	0.065	2.386	57	0.004	0.537	0.200	0.200	0.395
288		Equal variances not assumed			2.745	43.364	0.009	0.537	0.216	0.159	0.336
289	8. My sales were high during the lockdown.	Equal variances assumed	4.827	0.031	1.35	57	0.250	0.163	0.146	-0.121	0.460
290		Equal variances not assumed			1.019	39.759	0.314	0.163	0.166	-0.166	0.505
291	9. There were no cash orders which were cancelled during the lockdown.	Equal variances assumed	4.392	0.028	0.551	57	0.583	0.109	0.199	-0.285	0.504
292		Equal variances not assumed			0.498	41.785	0.621	0.109	0.220	-0.335	0.554
293	10. I used to receive the same number of orders during the lockdown.	Equal variances assumed	0.139	0.710	1.260	54.305	0.401	0.044	0.173	-0.501	0.389
294		Equal variances not assumed			0.256	53.919	0.793	0.044	0.192	-0.300	0.588
295	11. I did not incur any loss during the lockdown.	Equal variances assumed	0.061	0.805	1.962	57	0.053	0.249	0.127	-0.003	0.505
296		Equal variances not assumed			1.643	45.416	0.072	0.249	0.135	-0.029	0.522
297	12. I was able to fulfil my basic household needs during Covid-19.	Equal variances assumed	1.565	0.165	-2.319	57	0.001	-0.660	0.199	-1.095	-0.284
298		Equal variances not assumed			-0.056	43.504	0.004	-0.660	0.216	-1.095	-0.284
299	13. I had an alternate source of income during the lockdown to support my family.	Equal variances assumed	14.504	0.000	1.090	35.077	0.280	0.193	0.176	-0.164	0.550
300		Equal variances not assumed			-2.500	57	0.014	-0.643	0.227	-1.154	-0.128
301	14. I received some financial help from the local authority or government.	Equal variances assumed	16.304	0.000	-2.500	57	0.003	-0.643	0.227	-1.154	-0.128
302		Equal variances not assumed			-2.500	57	0.003	-0.643	0.227	-1.154	-0.128
303	15. The operational cost was high to continue the business during the lockdown.	Equal variances assumed	10.562	0.000	-0.016	57	0.003	-0.886	0.284	-1.473	-0.303
304		Equal variances not assumed			-3.411	71.479	0.001	-0.886	0.284	-1.473	-0.303
305	16. It was convenient to follow government policies or regulations.	Equal variances assumed	0.708	0.402	1.342	57	0.183	0.347	0.259	-0.167	0.560
306		Equal variances not assumed			1.260	54.305	0.179	0.347	0.257	-0.164	0.557
307	17. I did not face any restrictions during the lockdown.	Equal variances assumed	0.441	0.503	1.143	57	0.254	0.345	0.300	-0.252	0.342
308		Equal variances not assumed			1.143	53.35	0.245	0.345	0.300	-0.257	0.347
309	18. I was aware of all the supporting government schemes to run my business during the lockdown.	Equal variances assumed	0.000	0.937	0.654	57	0.515	0.126	0.193	-0.250	0.511
310		Equal variances not assumed			0.673	56.267	0.504	0.126	0.169	-0.250	0.505
311	19. The Local authorities and government officials were very supportive to run the business smoothly.	Equal variances assumed	1.015	0.170	-1.533	57	0.120	-0.455	0.296	-1.043	0.133
312		Equal variances not assumed			-1.503	43.663	0.120	-0.455	0.303	-1.063	0.133
313	20. I could access the subsidiaries offered by the government during lockdown.	Equal variances assumed	0.345	0.553	-1.600	57	0.100	-0.350	0.215	-0.796	0.071
314		Equal variances not assumed			-1.175	46.438	0.122	-0.350	0.227	-0.915	0.039
315	21. I did not feel low or depressed during the lockdown.	Equal variances assumed	0.260	0.593	0.711	57	0.473	0.202	0.204	-0.363	0.167
316		Equal variances not assumed			0.637	50.040	0.483	0.202	0.230	-0.350	0.184
317	22. The sales did not affect my mental health.	Equal variances assumed	0.573	0.443	0.487	57	0.627	0.147	0.311	-0.453	0.147
318		Equal variances not assumed			0.472	48.733	0.639	0.147	0.311	-0.476	0.172
319	23. I could manage the balance between my personal health as well as business without getting	Equal variances assumed	3.406	0.185	-0.931	57	0.376	-0.227	0.255	-0.734	0.200
320	affected.	Equal variances not assumed			-0.920	58.111	0.357	-0.245	0.245	-0.717	0.183
321	24. I was emotionally strong during the lockdown.	Equal variances assumed	1.254	0.265	-1.210	57	0.230	-0.239	0.245	-0.731	0.192
322		Equal variances not assumed			-1.156	47.166	0.254	-0.239	0.253	-0.820	0.221
323	25. My mental health was stable during the lockdown.	Equal variances assumed	0.003	0.959	1.921	57	0.056	0.458	0.237	-0.016	0.427
324		Equal variances not assumed			1.890	50.385	0.063	0.456	0.240	-0.026	0.337
325	26. Required labor was available during the lockdown.	Equal variances assumed	20.218	0.000	-3.027	57	0.003	-0.636	0.230	-1.193	-0.239
326		Equal variances not assumed			-3.538	73.367	0.001	-0.636	0.193	-1.091	-0.311
327	27. None of the employees quit during lockdown.	Equal variances assumed	38.059	0.000	-3.602	57	0.001	-0.321	0.256	-1.429	-0.413
328		Equal variances not assumed			-4.200	77.625	0.000	-0.321	0.219	-1.335	-0.486
329	28. There was no shortage of workers during the lockdown.	Equal variances assumed	0.236	0.629	-1.958	57	0.053	-0.532	0.271	-1.071	0.008
330		Equal variances not assumed			-1.856	47.396	0.065	-0.532	0.282	-1.039	0.035
331	29. There was no hindrance with respect to productivity.	Equal variances assumed	1.905	0.171	-1.938	57	0.056	-0.339	0.206	-0.808	0.010
332		Equal variances not assumed			-1.913	50.939	0.061	-0.339	0.206	-0.817	0.020
333	30. There were no restrictions on number of employees to be working in the same shift.	Equal variances assumed	38.753	0.000	-4.374	57	0.000	-1.324	0.266	-1.854	-0.795
334		Equal variances not assumed			-4.063	34.386	0.000	-1.324	0.264	-1.966	-0.662
335	31. There was no restriction on transporting the products.	Equal variances assumed	0.156	0.694	2.470	57	0.015	0.191	0.161	0.076	0.706
336		Equal variances not assumed			2.588	59.019	0.015	0.191	0.161	0.089	0.633
337	32. The products used to get delivered on time.	Equal variances assumed	6.228	0.014	-0.673	59.019	0.395	-0.156	0.173	-0.512	0.200
338		Equal variances not assumed			-0.777	40.591	0.442	-0.156	0.201	-0.563	0.250
339	33. It was not difficult to transport products from one state to another.	Equal variances assumed	0.591	0.448	-0.704	57	0.483	0.226	0.224	-0.417	0.173
340		Equal variances not assumed			0.677	47.064	0.502	0.226	0.237	-0.450	0.107
341	34. The cost of the transportation was same as before the lockdown.	Equal variances assumed	7.336	0.008	1.635	57	0.070	0.191	0.189	-0.167	0.407
342		Equal variances not assumed			1.660	41.943	0.104	0.220	0.176	-0.063	0.446
343	35. The products inventory was not so high during the lockdown.	Equal variances assumed	9.370	0.003	-5.531	38.972	0.001	-0.845	0.233	-1.330	-0.261
344		Equal variances not assumed									

Figure 4. Correlation

Correlation is a statistical technique that shows how strongly two variables are related to each other or the degree of association between the two. Correlation is measured by the correlation coefficient. It is very easy to calculate the correlation coefficient in SPSS. Before calculating the correlation in SPSS, we should have some basic knowledge about correlation. The correlation coefficient should always be in the range of -1 to 1.

The correlation matrix above shows the correlation coefficients between several variables related to our survey. Each cell in the table shows a correlation between two specific variables. The correlation between “I used to sell my products at the same price in lockdown” and “I didn’t face any restriction during lockdown” is 0.618, which indicates that they are strongly positively correlated.

The correlation between “I could access the subsidiaries offered by the government” and “My livelihood does not affect during the lockdown” is -0.153 which indicates that they are weakly negatively correlated. Also, we can notice that the coefficients along the diagonal of the table are equal to 1 because each variable is perfectly correlated by itself.

5.3 Proposed Improvements

Silk is nature’s gift to mankind a commercial fiber of animal origin other than wool. Being an eco-friendly biodegradable and self-sustaining material, silk has assured special relevance in present age.

Promotion of sericulture can help in ecosystem development as well as high economic returns. Owing to favorable climatic conditions, Himalayan states of the country offer tremendous scope for the cultivation of mulberry and development of bi-voltine silk. Promotion of sericulture can help in ecosystem development as well as high economic returns. Owing to favourable climatic conditions, Himalayan states of the country offer tremendous scope for the cultivation of mulberry and development of bi-voltine silk.

About 85% of the funds for S&T come directly or indirectly from the Government, Central Silk Board (CSB), Bangalore under the Ministry of Textiles, Government of India is the apex body for overall development of sericulture and silk industry in India.

Policy initiatives taken for the development of silk industry:

- a) [National Silk Policy 2020](#)
- b) Sericulture is included as agriculture allied activity under RKVY. This enables the Seri culturists to avail the benefits of the scheme for the entire sericulture activities up to reeling.
- c) The CSB (Amendment) Act, Rules and Regulations have been notified by the Govt. of India to bring quality standards in silkworm seed production.

6. Conclusion

The data obtained by the survey was analysed by statistical tools (SPSS Software) based on this interpretation were made. The present study briefly depicts a general picture of the sericulture weavers in the country and the multidimensional problems being faced by them. Both the primary and secondary data shows that sericulture workers are living in ill standard houses which are responsible for their poor health and unproductive working condition. They are having very low level of income resulting in acute poverty and hence malnutrition among them.

- Data shows restricted working conditions and less Sales.
- Resulting low financial condition and support
- In this study we found the positive correlation matrix test between the variables
- From Scree Plot, it is seen that there are 7 components are above the Eigenvalue 1. The Eigenvalue 1 is predefined. From these 7 components, questions can be grouped into their respective variables and further tests can be continued.
- Cronbach's Alpha is .716

6.1 Findings

- The COVID-19 pandemic and repeated lockdowns continue to take a toll on Karnataka's weavers, both in the handloom and power loom sectors. Their income has dropped 70 per cent to 80 per cent, in the past year many are caught in deep financial crisis and wonder if they'd ever be able to get back on track.
- In **Doddaballapura**, several looms have closed following a drop in sales. March to May remains the peak season with marriage orders and bulk purchases. But with lockdown restrictions, their business remains affected.
- They are living on a hand-to-mouth budget. It's because the government is giving them ration, they are able to live. The financial distress is unbearable to most of them and has drastically affected their livelihood.
- By the time they could recover from the economic downfall in 2019, the pandemic hit them again and while they thought the worst was over and resumed work in October 2020, the second wave completely halted their business. With the pandemic spreading to rural areas, work did not resume in most of the region.
- A weaver, Sanjeevappa, 47, says he can earn only ₹500 a week as the loom owner has capped the work to five saris a week to each worker. Nagaraja says he used to earn ₹3,000 before the lockdown. The financial packages or the loan moratorium did not reach workers, he says it helped loom owners, but not him.

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