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Assessment of establishment cost economic returns and production constraints in sericulture in Nagpur district

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Abstract
The present investigation entitled "Assessment of Establishment cost Economic Returns And production constraints in sericulture In Nagpur District" was conducted during the year 2024-25. The study aimed to assess the economic feasibility of sericulture, including the costs of mulberry plantation and silkworm rearing, labour utilization patterns, and key production constraints. Data were collected from 40 farmers across five talukas of Nagpur district using a pre-tested interview schedule. The per hectare establishment cost of the mulberry garden was estimated at Rs. 70,257.61 under Cost 'C'. The cost of establishing the rearing unit was Rs. 2,91,950, with an annual depreciation of Rs. 17,275.00. The total annual cost of mulberry cultivation per hectare amounted to Rs. 1,00,040.50 (Cost 'C'), producing 23,727.32 kg of mulberry leaves. The gross income from mulberry leaves was Rs. 1,08,637.00, resulting in a net return of Rs. 8,596.50 and a benefit-cost ratio (B:C) of 1.08.
Silkworm cocoon production incurred a total cost of Rs. 1,46,445.21, yielding a gross return of Rs. 3,38,537.99 and a net return of Rs. 1,92,092.78 per hectare. The B:C ratio for cocoon production was 2.31, indicating high profitability. Labour use was significant, requiring 233.08 labour days per hectare annually, of which family labour accounted for 46.97 per cent. major constraints reported by farmers included high initial costs for rearing unit establishment (70%), low cocoon yields during summer (62.5%), inadequate access to quality mulberry leaves, and shortage of skilled manpower.
The study concluded that sericulture in the Nagpur district is a profitable and sustainable agro-based enterprise. It suggests the need for policy support through targeted subsidies, capacity building, and improved extension services to promote large-scale adoption, especially among small and marginal farmers.

Keywords: Standard cost concepts, establishment cost, benefit-cost ratio, profitable, constraints.

Introduction
Sericulture' is an art and science of rearing silkworms to produce cocoons and silk. It includes growing mulberry, rearing silkworms, reeling silk thread from cocoons, weaving the silk yarn, and further processing to produce the silk fabric the word Sericulture is derived from the Greek word 'Sericos' which means 'silk' and the English word 'culture' means 'rearing'
Mulberry silkworms are fed with mulberry leaves. Eri silkworms are fed with Castor/ Tapioca leaves. Tasar and Muga are wild type silkworms and are available in North-eastern hilly forest regions of India. Muga silk is precious one and produced only in Assam and nearby States in India. (Department of sericulture Tamilnadu)
In India area under sericulture was estimated as 282,244 hectares with production 34,903 metric tonnes in the year 2023-24 (Directorate Sericulture India 2023-24). In Maharashtra area under sericulture was 21000 hectares and production of raw silk is 8000MT with productivity 380 kg/ha in the year 2023-24 (Directorate of Sericulture India. 2023-24). The sericulture industry in Nagpur district has made significant strides. The total area under tuti cultivation stands at 106.83 hectares (264.50 acres), benefiting 207 growers. The productivity rate has reached 21,120, resulting in a cocoon production of 12.614 metric tons. (Divisional Sericulture Office, Nagpur, and Govt. of India 2024-25).
75.71 East longitude of Bhaderwah forest division (J&K). The objective of the study was to collect the reliable data on fuel wood consumption of the area and also to evaluate the impact of fuel wood collection on forest ecosystem.

Objectives of the study

- To study socio-economic characteristics of selected growers
- To work out establishment cost of mulberry plantation and sericulture unit
- To estimate the cost and returns from sericulture
- To identify constraints faced by sericulture growers

Methodology

The present study was undertaken in Nagpur district of Vidarbha region. In first stage district was selected because of growing sericulture. The data pertained for the year 2024-2025.From Nagpur district, Nagpur Gramin, Umred, Saoner, Hingna, Katol, that is five tehsils selected on the basis of area and production under sericulture. The primary data was selected purposively by obtaining the list of growers from district sericulture office, Nagpur. From five tehsils 16 villages were purposively selected i.e. 1 village from Nagpur tehsil, 1 village from Saoner tehsil, 5 village from Umred tehsil, 5 villages from Hingna tehsils and 3 villages from Katol tehsils.Total 40 growers were selected from Nagpur district for the present study from selected villages. The Primary data was collected through personal interview method from selected grower by using pre-tested schedule keeping in the view of the objectives of study cost of application of sericulture cost and returns and constrains faced during production of silkworm. For this the schedule was designed for the data collection to obtain the data from selected sericulture growers. The personal interview was adopted for data collection

Analysis of Data

Estimation of cost

Cost of silkworm comprised following items.

Capital requirement for Mulberry cultivation

This refers to the capital invested in establishing a mulberry plantation, covering all input costs during the six-month establishment period. This establishment cost is included in calculating the total cost of mulberry plantation

Capital requirement for rearing unit

This refers to the cost incurred in establishing the rearing house, including expenditure on building and equipment. These costs are considered as depreciation for estimating the total cost of cocoon production.

Silkworm rearing cost

It includes the amortized cost concept i.e. variable cost and fixed cost

Cost Concept

The collected data was analysed by using the standard cost concept. The result was interpreted with help of tabular analysis using mean, averages, percentage etc. The standard cost concept i.e. cost A, B, C was used in estimating the establishment and maintenance cost of mulberry plantation and returns from it. The cost of silk cocoon production was estimated by using amortized cost concept. Which includes variable cost and fixed cost.

The cost concept used for estimating the establishment and maintenance cost of the mulberry plantation are as follows.

Cost A

It is actual paid out cost from owner cultivator. This cost approximates the expenditure incurred in cash and kind, and include the expenditure on the following items.

- Hired human labour (Male and Female)
- Bullock labour (Hired and owned)
- Manure
- Fertilizer
- Land revenue
- Hiring implement charges
- DFLs
- Irrigation charges
- Depreciation
- Disinfectant
- Interest on working capital

Cost B

Cost B was estimated by adding rental value of land, Interest on fixed capital and
plantation establishment cost to cost 'A'.

Cost B = Cost A + Rental value of land + Interest on fixed capital.

Cost C

It was calculated by adding Imputed value of family labour to Cost 'B'.

Cost C = Cost B + Imputed value of family labour

Amortized cost

The amortized cost concept used for estimating the cost of silk cocoon production.

Variable costs

- DFLs/ Chawki worms
- Human labour
- Disinfectant
- Bed disinfectants
- Lime dust
- Bleaching powder
- Mulberry leaves

Fixed costs

- Depreciation on shed and equipment's
- Interest on fixed capital

Depreciation of asset

$$\text{Depreciation} = \frac{\text{purchase price -Junk value}}{\text{No. of useful year}}$$

Income concept

Gross income

It is calculated as under

Gross income = Value of main produce + Value of by-produce.

Net income from sericulture

The net income from mulberry leaves was estimated by deducting the different cost concept from the gross income.

Input-Output ratio

It is a ratio between the value of gross output and the cost of cultivation at different cost concepts.

Estimation of income

Income from silkworm rearing comparise of the following items.

- Cocoon production
- Manure obtained from the worm

Establishment cost of rearing unit

Silkworm rearing is essential for raw silk production, requiring controlled temperature, humidity, and specialized equipment. Establishment cost of rearing unit includes investment on the shed and equipment. Construction of shed is also important part of sericulture in rearing of silk worm.

Benefit: Cost ratio (B:C ratio)

$$\text{B:C ratio} = \frac{\text{Gross returns}}{\text{Total cost}}$$

Results and Discussion

Establishment cost of sericulture

Establishment cost of sericulture includes the establishment cost of mulberry plantation and establishment cost of rearing unit.

Establishment cost of mulberry plantation

The mulberry plant has a bushy growth pattern and a lifespan of around 15 years. Establishing a mulberry plantation is fundamental for silkworm rearing, as both mulberry plantation and cocoon production are integral components of silk production. Proper maintenance of the mulberry cultivation is essential to ensure a steady, abundant, and fresh supply of mulberry leaves, which serve as the primary feed for silkworm larvae. This, in turn, is crucial for achieving high-quality silk cocoon yield and maximizing profits. Six-month period is required of establishing mulberry plantation, which involves huge human labour and capital investment, therefore it has been divided into three parts.

Table 1: Establishment cost of mulberry plantation

Sr. No.	Particulars		Unit	Input/ha	Rate/unit of input	Total cost per ha.	Per cent to cost 'c'
1	Hired Human Labour	Male	Days	11.44	350.50	4009.72	5.70
		Female	Days	41.82	241.16	10085.31	14.35
		Sub Total	Days	53.26	591.66	14095.03	20.06
2	Bullock Pair	Hired	Days	3.54	680.80	2410.03	3.43
		Owned	Days	8.02	680.80	5460.01	7.77
		Sub Total	Days	11.56	1361.6	7870.04	11.20
3	Machine hrs.	Hired	Hrs	3.60	950.34	3421.22	4.86
		Owned	Hrs	0.00	0.00	0.00	0.00
		Sub Total	Hrs.	3.60	950.34	3611.29	4.86
4	Planting Material		No.	6540.80	3.25	21257.60	30.25
5	Manures		Tones	4.07	875.00	3561.25	5.06
6	Fertilizers	N	Kg.	46.91	12.17	570.89	0.81
		P	Kg.	19.36	47.5	916.60	1.30
		K	Kg.	19.01	20.00	380.20	0.54
		Sub Total		85.28	79.67	1870.49	2.66
7	Irrigation		Rs.			1350.00	1.92
8	Incidental		Rs.			100.50	0.14
8	Fencing		Rs.			780.00	1.11
9	Depreciation		Rs.			1585.00	2.25
9	Working capital					55891.15	79.55
10	Int. On Working Capital @6per cent		Rs.			3353.46	4.77
11	COST A		Rs.			59244.62	84.32
12	Int. On Fixed Capital @12per cent		Rs.			3688.83	5.25
13	COST B					62933.43	89.57
A	Family Human Labour	Male	Days	12.86	350.50	4507.43	6.41
		Female	Days	11.48	246.16	2816.17	4.00
		Sub Total	Days	24.54	596.66	7324.17	10.42
22	COST C					70257.61	100.00

The Table 1 represents, total cost of establishing a mulberry plantation is Rs. 70,257.61 per hectare, with family and hired labour being significant contributors. Hired human labour accounts for 20.06 per cent of the cost, mainly due to high female labour involvement. Bullock and machine use together contribute 16.06 per cent, reflecting the reliance on both animal and mechanical power. The largest share of cost is for planting material (30.25 per cent), followed by manures (5.06 per cent) and fertilizers (2.66 per cent). Irrigation, fencing, depreciation, and incidental expenses together form a smaller portion. Working capital constitutes 79.55 per cent of the total, and when adding interest on capital, the final cost (Cost C) includes both variable and fixed components. Family labour, valued at Rs. 7,324.17, is included under Cost C, highlighting its crucial role in the establishment phase

Table 2: Establishment cost of rearing unit

Sr. No.	Particulars	Units	Input/ha.	Rate/ Unit of input	Cost (Rs.)	Life span (Year)	Depreciation (Rs.)	Percentage to total
A	Shed							
1	Late age rearing shed including chowki and shoot store room (sq. ft.)	Sq. ft.	750	270	202500.00	30	6750.00	39.07
2	Varanda (sq. ft.)	Sq. ft.	150	270	40500.00	20	2025.00	11.72
	Sub Total (A)				250000.00		8775	50.79
B	Equipment's (minimum required)							
1	Sprayer	No.	1	6000	6000.00	10	600.00	3.47
2	Room heater	No.	2	1000	2000.00	5	400.00	2.31
3	Humidifier	No.	2	1500	3000.00	5	600.00	3.47
	Sub Total (B)				11000.00		1600.00	9.27
C	Equipment's (Varying with capacity)							
1	Chawki rearing stands	No.	2	1000	2000.00	10	200.00	1.15
2	Nylon Net	No.	1	2500	2500.00	5	500.00	2.89
3	Egg transportation n bag	No.	1	250	250.00	5	50.00	0.28
4	Shoot rearing rack (45ft x 5ft, 4 tier)		2	2000	4000.00	10	400.00	2.31
5	Rotary mountage	No.	100	280	28000.00	5	5600.00	32.41
6	Plastic buckets	No.	2	200	200.00	2	100.00	0.57
7	Kniefs	No.	2	50	100.00	2	50.00	0.28
	Sub Total (C)				37050.00		6900.	39.94
	Total (A+B+C+)				29195.00		17275.00	100.00

The Table 2 represents, total fixed capital investment required for sericulture infrastructure and equipment amounts to Rs. 2,91,950 per hectare, with an annual depreciation of Rs. 17,275. The largest share of the investment is allocated to shed construction, accounting for 50.79 per cent of the total, primarily due to the cost of the late-age rearing house, which alone contributes 39.07 per cent to the depreciation. Basic equipment such as sprayers, room heaters, and humidifiers constitute 9.27 per cent of the total cost, while capacity-dependent equipment like chawki stands, rotary mountages, and shoot rearing racks make up 39.94 per cent, with rotary mountages being the single largest item in this category. This distribution reflects the capital-intensive nature of sericulture, emphasizing the importance of durable infrastructure and specialized equipment for efficient silkworm rearing operations.

Per hectare Cost of cultivation of mulberry

Table 3: Per hectare cost of cultivation of mulberry

Particulars		Unit	Input/ha.	Rate/Unit of input	Total cost per ha.	Per cent to Cost 'c'
Hired Human Labour	Male	Days	25.15	350.50	8815.07	8.81
	Female	Days	42.50	241.60	10608.00	10.24
	Sub Total	Days	67.61		19423.07	19.05
Bullock pair	Hired	Days	4.01	680.80	2730.8	2.72
	Owned	Days	6.02	680.80	4098.41	4.09
	Sub Total	Days	10.03	1361.6	6828.41	6.82
Machine	Hired	Hours	3.20	950.34	3041.08	3.04
	Owned	Hours	0.00	0.00	0.00	0.00
	Sub Total	Days	3.20	950.34	3041.08	3.04
Planting material		Rs.	6540.80	3.25	21257.6	21.24
Manures		Tones	4.07	875.00	3561.25	3.55
Fertilizers	N	Kg.	80.75	12.17	982.72	0.98
	P	Kg.	34.33	47.5	1630.67	1.63
	K	Kg.	33.63	20.00	672.60	0.67
	Sub Total		148.71	79.67	3286.00	3.28
Irrigation		Rs.			2700.00	2.69
Incidental		Rs.			330.00	0.32
Insecticide		Rs.			779.00	0.77
Repairs		Rs.			200.00	0.19
Working Capital		Rs.			61047.74	61.02
Depreciation		Rs.			1381.04	1.38
Land Revenue		Rs.			140.00	0.13
Int. On Working Capital @ 6per cent		Rs.			3662.86	3.66
Plantation establishment cost		Rs.			4683.81	4.68
COST A		Rs.			66231.60	66.20
Rental value of land		Rs.			19632.77	19.62
Int. on fixed capital @ 6per cent		Rs.			3882.63	3.88
COST B		Rs.			89747.00	89.71
Family Human Labour	Male	Days	20.80	350.50	7290.4	7.28
	Female	Days	12.43	241.60	3003.08	3.00
	Total	Days	33.23		10293.49	10.28
COST C					100040.5	100.00

The table 3 revealed that total cost of cultivating mulberry per hectare during 2024-25 is estimated at Rs. 1,00,040.50, with Cost C including all variable, fixed, and imputed costs. Labour remains a major component, where hired labour accounts for Rs. 19,423.07 (19.05 per cent), and family labour contributes Rs. 10,293.49 (10.28 per cent), highlighting the crop's labour- intensive nature. Inputs like planting material with Rs. 21,257.60(21.24 per cent) and manures and fertilizers (combined 6.83 per cent) also constitute significant cost components. Bullock and machine labour together make up about 9.86 per cent of the total cost. Other operational costs include irrigation (2.69 per cent), depreciation (1.38 per cent), and plantation establishment (4.68 per cent). Rental value of land (19.62 per cent) and interest on fixed and working capital together (7.54 per cent) form the major fixed cost elements. Overall, the cost structure reflects a balance between labour, input use, and capital investment, underlining the economic intensity of mulberry cultivation.

Economics of mulberry plantation

Table 4: Cost and returns from mulberry leaves (Rs/ha)

Cost concept	Cost (Rs.)	Yield (kg/ha)	Gross income (Rs/ha)	Net returns	Input output ratio
Cost A	66231.60	23727.32	108637.00	42405.40	1:1.64
Cost B	89747.00			18890.00	1:1.21
Cost C	100040.00			8695.50	1:1.08

The table 4 reveals that at Cost A (Rs. 66,231.60), which includes variable costs and excludes land and family labour, the net return is Rs. 42,405.40 with an input-output ratio of 1:1.64, indicating good profitability. As more costs are accounted for, including land rent and interest on fixed capital (Cost B: Rs. 89,747.00), the net return decreases to Rs. 18,890.00, and the input-output ratio drops to 1:1.21. At the comprehensive Cost C level (Rs. 1,00,040.00), which includes all actual and imputed costs, the net return is Rs. 8,695.50, and the input-output ratio is 1:1.08, suggesting marginal profitability. With a yield of 23,727.32 kg/ha and gross income of Rs. 1,08,637.00, mulberry cultivation remains viable but shows reduced profitability as fixed and imputed costs

Per hector cost of silk cocoon production

Table 5: Per hector cost of silk cocoon production (Rs/ha)

Sr. No.	Particulars	Unit		Input/ha	Rate/U nit of input	Total Cost per ha	Percent to total
A	Variable cost						
1	Human labour	Days	Male	98.19	350.50	34415.59	23.50
			Female	36.7	241.16	8850.57	6.04
	Total			134.89		43266.16	29.54
2	DFLs	Rs.				4500	3.07
3	Disinfecting	Lit.		2.58	212.50	548.25	0.36
4	Mulberry leaves	Rs.				76973.16	52.56
	Sub Total (A)					125287.55	85.55
B	Fixed cost						
1	Depreciation on building and equipment	Rs.				17275	11.79
2	Interest on fixed capital	Rs.				3882.64	2.65
	Sub Total (B)					21157.64	14.44
	Totalcost (A+B)					146445.21	100.00

The table 5 represent, total cost of silkworm rearing per hectare amounts to Rs. 1,46,445.21, with variable costs contributing 85.55 per cent and fixed costs 14.44 per cent. Among the variable costs, mulberry leaves form the highest expense with Rs. 76,973.16 (52.56 per cent), reflecting their critical importance in silkworm nutrition. Human labour is another major component, accounting for Rs. 43,266.16 (29.54 per cent), with male labour being the dominant share. Other inputs like DFLs and disinfectants contribute marginally (around 3.43 per cent combined). On the fixed side, depreciation on buildings and equipment (Rs. 17,275) forms the bulk, followed by interest on fixed capital (Rs. 3,882.64). The cost structure clearly indicates that silkworm rearing is labour and feed-intensive, with a relatively small but essential share of fixed capital investment

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Production of cocoon

Table 6: Returns obtained from rearing of silk cocoon (Rs/ha)

Sr. No.	Particulars	Unit (Kg.)	Receipt (Rs.)	Percentage to total
A.	Main production			
1	1st rearing	119.10	6729.15	19.87
2	2nd rearing	116.10	65596.5	19.37
3	3rd rearing	114.10	64466.5	19.04
4	4th rearing	112.60	63619.00	18.79
5	5th rearing	100.60	45796.00	16.78
	Total A	565.5	317812.5	93.87
B	By- production (Manure)	Unit (Qtl)		
1	1st rearing	3.18	5451.37	1.61
2	2nd rearing	2.48	4251.38	1.25
3	3rd rearing	2.28	3908.53	1.15
4	4th rearing	2.07	3548.53	1.04
5	5th rearing	2.08	3565.68	1.05
	Total B	12.09	20725.49	6.12
	Gross return (A+B)		338537.99	100.00

The table 6 represents total gross return from silk cocoon rearing per hectare is Rs. 3,38,537.99, comprising income from both main and by-products. The main production across five rearing yields 565.5 kg of cocoons, generating Rs. 3,17,812.50 (93.87 per cent) of the total income. Among these, the first three rearing contribute the highest returns, each generating over Rs. 64,000, while the fifth rearing yields the lowest at Rs. 45,796.00. The by-products, primarily manure, contribute Rs. 20,725.49 (6.12 per cent), with relatively consistent income across all rearing's. This breakdown highlights the profitability of multiple rearing per year and shows that while cocoon sales are the primary source of income, manure also adds a modest but valuable contribution to overall returns.

Economics of silk cocoon

Table 7: Economics of silk cocoon

Sr. No.	Particulars		Quantity/Amount
1	Production	Main produce (Kg.)	317812.50
		By-produce (Qtl.)	20725.49
2	Gross returns (Rs.)		338537.99
3	Total cost		146445.21
4	Net returns (Rs.)		192092.78
5	B: C ratio (1:)		2.31

The table 7 represents total gross return from silk cocoon rearing amounts to Rs. 3,38,537.99, generated from main produce worth Rs. 3,17,812.50 and by-products (manure) worth Rs. 20,725.49. The total cost of production is Rs. 1,46,445.21, resulting in a net return of Rs. 1,92,092.78 per hectare. The benefit-cost (B:C) ratio stands at 2.31, indicating that for every rupee invested, there is a return of Rs. 2.31, reflecting a highly profitable silk cocoon rearing enterprise.

Similar result observed by Lingavarayan and Kumar (2023) [5] studied Benefit-Cost Analysis of Silkworm Rearing Units in Krishnagiri District (Tamil Nadu) i.e. the gross returns, net returns, and benefit-cost ratio amounted to Rs. 39,805.58, Rs. 21,855.58, and 1:2.22 respectively

Constraint faced by growers in production of cocoon

Table 8: constraints faced by sericulture grower

Sr. No	Particulars	No. of grower (n=40)	Percentage to total grower	Rank
1	Low yield cocoon production in summer season	25	62.50	II
2	Fluctuation in temperature and humidity leads to occurrence of disease to the silkworm	10	25.00	VI
3	High cost of rearing unit establishment.	28	70.00	I
4	Inadequate availability of skilled manpower for rearing silkworms	22	55.00	III
5	High wage rate of labour	11	27.50	V
6	Improper disinfection	8	20.00	VII
7	Lack of control measure for controlling disease of silkworm	12	30.00	IV

The table 8 revealed that most critical constraint reported by 70per cent of growers is the high cost of rearing unit establishment, making it the top-ranked constraint. Following this, 62.5per cent of grower's face problems with the low yield cocoon production in summer season. Other significant issues include the lack of skilled manpower for silkworm rearing (55per cent), low cocoon yields during the summer season (30per cent), and high labor wages (27.5per cent). Less frequently reported constraints are fluctuating temperature and humidity causing silkworm diseases (25per cent), lack of effective disease control measures (22.5per cent), and improper disinfection practices (20per cent). This data highlights that financial and resource limitations are the primary barriers for efficient mulberry cultivation and

silkworm rearing. The results obtained are in close agreement with the findings of Krishnamoorthy and Radhakrishnan concluded that in silkworm rearing was high cost (37.00) per cent

Conclusion

- The per hectare establishment cost of mulberry plantation of farmer at cost A, cost B and cost C was Rs. 59244.62, Rs. 62933.43 and Rs. 70256.61 respectively.
- The total establishment cost of rearing unit was Rs. 291050.00 and total depreciation was worked out to Rs.17275.00.
- The per hectare cost of cultivation of mulberry crop for year 2024-2025 at cost A, cost B and cost C was Rs. 66231.60, Rs. 89747.00 and Rs. 100040.50 respectively. Whereas returns obtained from mulberry leaves was 23727.32 kg/ha (Rs.108637.00).
- The per hectare operation wise labour requirement for maintenance of mulberry plantation and rearing of silk cocoon was 233.08 labour days.
- The total cost of silk cocoon production was worked out on per hectare basis i.e. Rs. 146445.21 (variable and fixed cost was Rs. 125287.55 and Rs. 21157.64). The gross and net returns from silk cocoon production was Rs. 338537.99 and Rs.192092.78 respectively. The benefit cost ratio was worked out to 1: 2.31 in profit.
- The result revealed that, the high cost of rearing unit establishment was the major constrain expressed by 28 growers (70.00 per cent) followed by the Low yield cocoon production in summer season which was expressed by 25 growers (65.50 per cent), Inadequate availability of skilled manpower for rearing silkworms and 22 (55.00 per cent)

Policy Implication

- On the basis of the results obtained, sericulture was found to be a profitable enterprise for growers and emerged as the best alternative to crop production. To ensure inclusive growth, special training programs and incentives should be provided to women and youth entrepreneurs. Thus, the sericulture venture will play a significant role in triggering the doubling of farm income.
- Weather-based advisory systems and mobile apps should be developed to help growers monitor and control ideal rearing conditions
- Growers should avail themselves of the subsidies provided by the Directorate of Sericulture, Nagpur, as this will help increase the popularity of the project. Additionally, encouraging quality certification, branding, and providing support to exporters through subsidies and participation in international trade fairs will further promote the sector

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