An Empirical Analysis of Profitability across Different Sizes of Mat Production Units in Sabang Block of Paschim Medinipur District, West Bengal

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ABSTRACT

The present study examines the determinants of profitability among mat production units in Sabang Block of Paschim Medinipur District. Mat production is an important rural cottage industry that provides employment and livelihood opportunities to a large section of rural households. The study applies Multiple Regression Analysis using the Ordinary Least Squares (OLS) method to identify the influence of economic and socio-economic variables on profitability. The analysis incorporates variables such as raw material cost, labour cost, capital investment, output, experience, education, and size of unit. The findings reveal that raw material cost, capital investment, output, experience, education, and size of unit positively affect profitability, whereas labour cost negatively influences profit. The model explains 87 percent of the variation in profitability, indicating a strong explanatory power. The study suggests that expansion of production scale, improvement in education and skill development, and efficient resource utilization are essential for enhancing profitability in the rural mat industry.

Keywords: Profitability, Mat Industry, Cottage Industry, Multiple Regression Analysis, Rural Livelihood

INTRODUCTION

The mat industry is one of the primogenital traditional cottage industries in rural West Bengal, particularly focused in the Sabang Block of Paschim Medinipur District. Mats made from madurkathi (Cyperus tegetum) are widely known for their artistic design, durability, and cultural significance. Rhizomes are extensively used as an aromatic adjunct to numerous compound medicines (Puste, 2004). The industry provides employment opportunities to a large number of rural households, especially women artisans and economically weaker sections. The mat weaving activity is generally household-based, labour-intensive, and dependent on locally available raw materials (K. V. Sundaram and V. L. S. Prakasa Rao, 1985). In recent decades, rural handicraft industries have emerged as an important source of non-farm employment and supplementary income in rural India. The mat industry of Sabang has developed as a significant economic activity because of increasing demand for eco-friendly and handmade products in domestic as well as international markets (S. K. Das). Mat-sedge can thrive in a wide range of agroclimatic conditions and occurs in marshy situations especially in eastern and southern parts of India (Sarkar and Samanta, 1987). Even an aged member of either sex of a farmer's family in rural areas can earn a net income of about ` 60 to ` 80 per day (Puste, 2004). Studies have shown that profitability, labour participation, and marketing efficiency are crucial determinants for the sustainability of the industry. Different sizes and varieties of mats such as single mat, double mat, matranjee, and folding mat are produced in the study area. Profitability varies according to the size of the mat, production cost, labour requirement, and market demand. Larger mats generally require more raw materials and labour input but may also generate higher returns. On the other hand, as the globe develops more interconnected, more and more products become commodities, and craftspeople face more competition on a global scale. Providing a stable income for the craftspeople who practice this age-old art form is equally crucial (Guha et al., 2022). People have always looked to crafts as a means of self-improvement and as a starting point for long-term job creation. We need to take a hard look at traditional crafts since they are sustainable activities (Ranjan & Ranjan, 2014). Any kind of entrepreneurial orientation has three dimensions, viz. innovation dimension, proactive dimension, and risk-

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taking ability of the prospective entrepreneurs (Kyal et al., 2021). Consequently, an empirical analysis of profitability across different sizes of mat production units becomes essential for understanding the economic viability of the industry. The present study aims to examine the profitability pattern of different sizes of mat production units in Sabang Block of Paschim Medinipur District. The study also attempts to identify the major cost components and factors influencing profit levels among mat producers. Samir Show (2018) highlighted that the mat industry in Sabang Block is highly profitable and labour-intensive, with significant participation of female workers. The study observed that per capita landholding, family labour, and household income positively influence participation in mat cultivation and weaving activities. De and Maiti (2017) analyzed the marketing system of mats in Paschim Medinipur District and found that producer's share in consumer price ranged from 57% to 72%. Their study also revealed that larger mats enjoyed greater marketing efficiency compared to smaller varieties. Chittaranjan Das (2017) examined earnings from the mat industry in Sabang Block and concluded that mat weaving is an important source of employment and livelihood for rural households. The study emphasized that weaving activities are highly labour-intensive and that cooperative marketing systems could improve the income of artisans. Women business owners have unique challenges in starting and growing their businesses due to psychological, social, religious, cultural, and economic issues (Habib et al., 2005).

Objectives of the Study

In this brief background the present paper sets threefold objectives for itself:

1. To analyse the profitability of mat production units in Sabang Block.
2. To examine the impact of raw material cost, labour cost, capital investment, output, experience, education, and size of unit on profitability.
3. To identify the major determinants of profitability in the mat industry.

Sources of data and methodology

It is based on primary data relating to Empirical Analysis of Profitability across Different Sizes of Mat Production Units in Sabang Block of Paschim Medinipur. Few related evidence has been extracted from various websites. I have been collected 100 sample household from four villages. We have also used econometric analyse with multiple regression estimation.

Plan of the Study

The rest of the paper is divided into four sections. Section II determine the Production Cost Per Unit of Mat Weaving. Section III to explore the Market Price Per Unit Mat of Mat Weaving. Section IV analyse the Profitability of the different size of Mat. Section V Econometric Analysis for Multiple Regression Model for Profitability of Mat Production Units Finally, Section VI makes the concluding observations.

Production Cost Per Unit of Mat Weaving

Total monthly production cost of mat weaving for all selected sizes is presented in Table 1. Dry mat sticks are the highest expenditure component amounting to Rs. 55,890, which specifies that raw material is the main input in mat production. Labor cost is the second uppermost factor with a total of Rs. 31,405, reflecting the labour-intensive nature of the mat weaving industry.

Table 1 Total Production Cost (Rs.) of Per Month Mat Weaving

Size (In inch)	Total Labor Cost	Dry mat sticks	Jute	Rope	Total
36"	4235	8085	1155	2695	16170
40"	3380	5980	936	2080	12376

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42"	4896	9000	1512	3096	18504
49"	5475	12544	1752	3504	23275
52"	8624	13230	2744	5096	29694
54"	3430	5075	1120	1925	11550
60"	1365	1976	455	767	4563
Total	31405	55890	9674	19163	116132

Sources: Field Survey, 2024-25

Among different mat sizes, the 52-inch mat incurs the maximum production cost (Rs. 29,694), mainly due to higher expenditure on labor and raw materials such as dry mat sticks, jute, and rope. This recommends that larger-sized mats need better numbers of inputs and labor time. The 49-inch mat also shows a relatively high production cost of Rs. 23,275. On the other hand, the 60-inch mat is the lowest total production cost (Rs. 4,563), followed by the 54-inch mat (Rs. 11,550). This moderately lower cost may be due to lower production capacity or reduced use of raw materials in the sampled units. Therefore, fluctuations in raw material prices can substantially affect the profitability and sustainability of mat production units in Sabang block of Paschim Medinipur district, West Bengal.

Table 2 Single Madur (Mat) Production Cost by different Size in weaving stage (per piece) (Rs)

Different Cost	36"	40"	42"	49"	52"	54"	60"
Total Labor Cost	75	100	115	125	133	145	160
Dry mat sticks	33	45	54	68	74	80	95
Jute	4	4	5	8	8	12	18
Rope	8	10	15	18	22	25	33
Other	5	4	5	8	10	15	22
Total	125	163	194	227	247	277	328

Sources: Field Survey, 2024-25

The per-piece production cost of single Madur (mat) of various sizes in Sabang block of Paschim Medinipur district are presented in Table 2. The investigation shows that production cost gradually increases with the increase in mat size due to higher necessities of labor and raw materials. The 60-inch mat records the maximum production cost at Rs. 328 per piece, while the 36-inch mat has the lowest cost at Rs. 125 per piece. This obviously shows that larger mats need greater input utilization and include more complex weaving activities. The labor cost increases from Rs. 75 for a 36-inch mat to Rs. 160 for a 60-inch mat. This reflects the labour-intensive atmosphere of Madur weaving, where larger mats demand more weaving time, skill, and effort. The cost of dry mat sticks gradually increased from Rs. 33 for 36-inch mats to Rs. 95 for 60-inch mats. Rope cost rises from Rs. 8 to Rs. 33, while jute expenditure increases from Rs. 4 to Rs. 18. Similarly, other costs increase significantly for larger-sized mats, indicating supplementary processing and finishing necessities. Therefore, efficient management of labor and raw materials is important for improving cost efficiency and profitability among mat weaving households.

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Table 3 Double Madur (Mat) Production Cost by different Size in weaving stage (per piece) (Rs)

Different Cost	36"	40"	42"	49"	52"	54"	60"
Total Labor Cost	150	200	225	245	260	275	320
Dry mat sticks	57	84	96	110	120	130	150
Jute	4	4	5	8	8	12	25
Rope	15	18	24	33	30	40	45
Other	5	4	8	10	10	20	30
Total	231	310	358	406	428	477	570

Sources: Field Survey, 2024-25

The table 3 represents the per-piece production cost of Double Madur (mat) of different sizes during the weaving stage in Sabang block of Paschim Medinipur district. Total production cost of per piece double madur is highest amounting rupees 570 for 60-inch mat where lower production cost is Rs. 231 for 36-inch mat. This proves that larger-sized double mats require noticeably higher expenditure in weaving and finishing activities. Labor cost indicates the most important factor of total production cost for all sizes. It ranges from Rs. 150 for 36-inch mats to Rs. 320 for 60-inch mats. The numerously increasing labor outlay reflects the exhaustive manual work tangled in producing Double Madur, especially for larger proportions that demand more weaving time and expertise. The cost of dry mat sticks rises from Rs. 57 for 36-inch mats to Rs. 150 for 60-inch mats. Rope expenditure fluctuates between Rs. 15 and Rs. 45, while jute cost increases from Rs. 4 to Rs. 25. The production cost of Single Madur shows that Double Madur production is relatively more expensive across all sizes. The higher cost is mainly attributable to the double-layer weaving process, which requires additional labor, raw materials, and time. Therefore, Double Madur production demands greater investment but may also provide higher market value and profitability.

The per-piece making cost of Matranjee Madur of various sizes during the weaving stage are revels in Table 4. The 60-inch Matranjee Madur chronicles the highest production cost of Rs. 933 per piece, whereas the 36-inch mat has the lowest production cost of Rs. 565 per piece. This significantly increase in cost with size shows that larger mats need more rigorous labor input and greater quantities of raw materials. Total labour cost gradually increases from Rs. 454 for 36-inch mats to Rs. 620 for 60-inch mats. The outlay on dry mat sticks also increases progressively with size, fluctuating from Rs. 64 to Rs. 150.

Table 4 Matranjee Madur (Mat) Production Cost by different Size in weaving stage (per piece) (Rs)

Different Cost	36"	40"	42"	49"	52"	54"	60"
Total Labor Cost	454	480	510	530	560	580	620
Dry mat sticks	64	75	90	115	125	130	150
Jute	4	6	6	8	8	12	28
Rope	38	45	55	75	80	95	110
Other	5	7	8	10	10	15	25
Total	565	613	669	738	783	832	933

Sources: Field Survey, 2024-25

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The cost of rope is predominantly noteworthy, increasing from Rs. 38 for 36-inch mats to Rs. 110 for 60-inch mats. In our study say, the remarkably high labor expenditure proposes that Matranjee Madur weaving is highly skill-intensive and time-consuming compared to other categories of mats. This highlights the importance of supporting materials in maintaining the strength and finishing quality of Matranjee Madur.

Table 5 Folding Madur (Mat) Production Cost by different Size in weaving stage (per piece) (Rs)

Different Cost	36"	40"	42"	49"	52"	54"	60"
Total Labor Cost	130	160	185	210	240	260	290
Dry mat sticks	45	60	75	95	120	130	145
Jute	4	6	6	8	8	11	20
Rope	10	18	28	35	45	50	65
Other	5	6	8	10	10	15	25
Total	194	250	302	358	423	466	545

Sources: Field Survey, 2024-25

The table 5 revels the per-piece production cost of Folding Madur of various sizes during the weaving stage in Sabang block of Paschim Medinipur district. Among the numerous sizes, the highest production of the 60-inch Folding Madur is amounting rupees 545 per piece, while the lowest production cost of the 36-inch mat is amounting rupees 194 per piece. This suggests that larger folding mats need more inputs, extra processing, and larger labor participation. The labor cost increases from Rs. 130 for 36-inch mats to Rs. 290 for 60-inch mats. This reflects the labour-intensive nature of Folding Madur weaving, where larger mats demand more weaving time, folding preparations, and ultimate work. The spending on dry mat sticks also significantly increases from Rs. 45 for 36-inch mats to Rs. 145 for 60-inch mats. Rope expenditure increases considerably from Rs. 10 for 36-inch mats to Rs. 65 for 60-inch mats, indicating the additional requirement of binding and support materials in folding mats. Folding Madur is often chosen for its portability and opportuneness, which may increase its market demand contempt relatively higher production expenditures.

Market Price Per Unit Mat of Mat Weaving

Table 6 Selling Price by different size of Mat (per piece) (Rs)

Size (In inch)	Single Mat (Piece)	Double Mat (Piece)	Matranjee Mat (Piece)	Folding Mat (Piece)
36"	190	320	650	225
40"	235	390	760	310
42"	275	425	790	350
49"	320	480	850	410
52"	380	550	950	500
54"	425	600	1050	580
60"	480	675	1350	650

Sources: Field Survey, 2024-25

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The above table 6 presents the marketing prices of various types of mats according to their sizes in Sabang block of Paschim Medinipur district, West Bengal. The investigation discloses that the selling price of mats increases with the increase in size transversely all groups, dazzling higher production costs, larger labor participation, and superior utility of larger mats. Market price of single mat, double mat, Matranjee Mat and folding mat gradually increased in different size mat. Among the different categories, Matranjee Mat commands the highest selling price in every size category. The market price of Matranjee Mat progressively increase from Rs. 650 for 36-inch mats to Rs. 1350 for 60-inch mats. These mats are normally considered quality products in the mat weaving industry. These mate more costly for better quality other than all mat. Double Mats occupy the second uppermost position in terms of market selling price. Their prices differ from Rs. 320 for 36-inch mats to Rs. 675 for 60-inch mats. Folding Mats also show a considerable selling price, ranging from Rs. 225 to Rs. 650. The increasing demand for portability, opportuneness, and durability may contribute to their higher market value. Lower market selling price is Single mat in Sabang block of Paschim Medinipur district. It varies from Rs. 190 for 36-inch mats to Rs. 480 for 60-inch mats. The table further indicates a positive relationship between mat size and selling price. As the size increases, the prices rise steadily because of greater raw material consumption, higher labor requirements, and enhanced utility. For instance, the selling price of a 60-inch Matranjee Mat is more than double that of a 36-inch Matranjee Mat. The production cost and market price propose that all type of mats create a margin of profit for producers, though the scope of profitability differs across groups and extents.

Profit Analysis of The Different Size of Mat

Table 7 Value of Product, Gross Profit and Net Profit per Single Madur (Mat) by Size

Size (In inch)	Market Price (Rs)	Gross Profit (Rs.)	Net Profit (Rs.)	Percentage of Gross profit	Percentage of Net profit
36"	190	140	65	112.0	52.0
40"	235	172	72	105.5	44.2
42"	275	196	81	101.0	41.8
49"	320	218	93	96.0	41.0
52"	380	266	133	107.7	53.8
54"	425	293	148	105.8	53.4
60"	480	312	152	95.1	46.3

Sources: Field Survey, 2024-25

The table 7 shows that the market value, gross profit, and net profit earned from Single Madur production according to different mat sizes. The market price of Single Madur steadily increases from Rs. 190 for 36-inch mats to Rs. 480 for 60-inch mats. Gross profit also increases from Rs. 140 for 36-inch mats to Rs. 312 for 60-inch mats. Similarly Net profit increase from from Rs. 65 to Rs. 152 across the size categories, suggesting that larger mats provide better income opportunities to weaving households. Net profit and gross profit of single madur by different size of mat also upward trend (in Figure1) in Sabang block of Paschim Medinipur district. This indicates that Single Madur weaving is a profitable rural household activity in the study area. In other hand, the percentage of gross profit and net profit does not increase uniformly with size. The highest percentage of gross profit is detected in 36-inch mats (112.0%), followed by 52-inch mats (107.7%) and 54-inch mats (105.8%). The highest net profit percentage is noted for 52-inch mats (53.8%), followed by 54-inch mats (53.4%) and 36-inch mats (52.0%). Larger mats afford higher financial yields, medium-sized mats appear to be more cost-efficient in terms of profit percentage.

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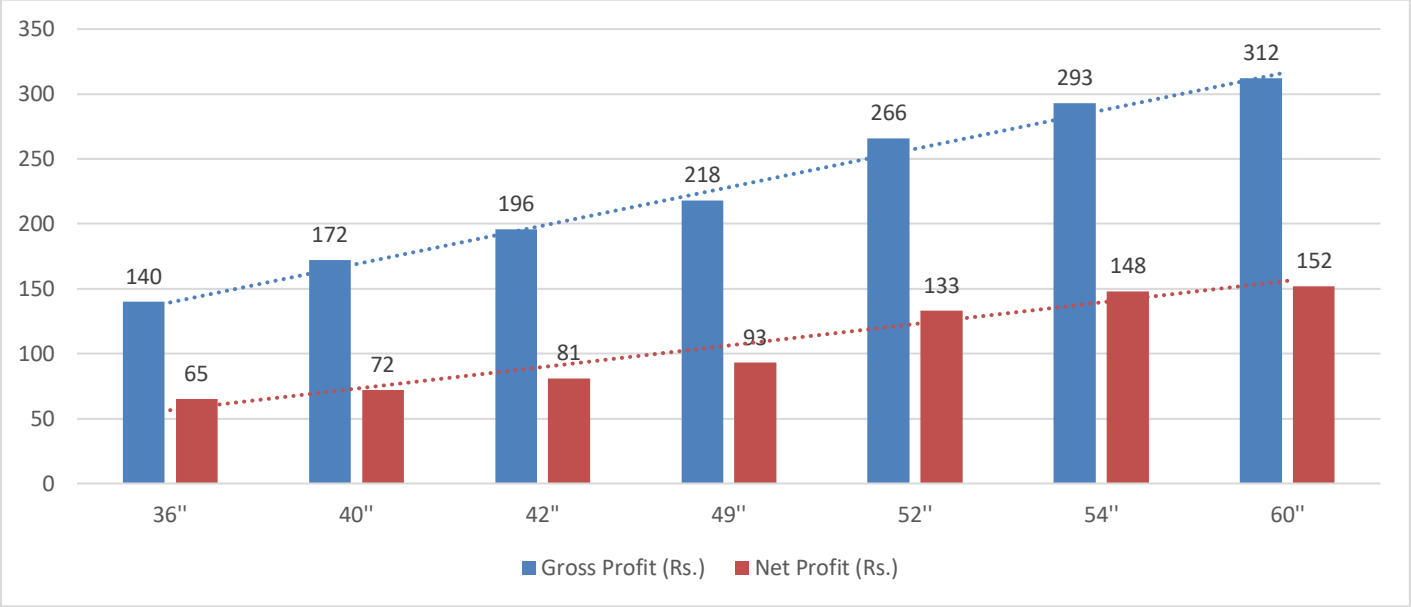
Figure 1 Gross Profit and Net Profit per Double Single (Mat) by Different Size



Sources: Field Survey, 2024-25

Table 8 Value of Product, Gross Profit and Net Profit per Double Madur (Mat) by Size

Size (In inch)	Market Price (Rs)	Gross Profit (Rs.)	Net Profit (Rs.)	Percentage of Gross profit	Percentage of Net profit
36"	320	239	89	103.5	38.5
40"	390	280	80	90.3	25.8
42"	425	292	67	81.6	18.7
49"	480	319	74	78.6	18.2
52"	550	382	122	89.3	28.5
54"	600	398	123	83.4	25.8
60"	675	425	105	74.6	18.4

Sources: Field Survey, 2024-25

The market value, gross profit, and net profit earned from Double Madur production by different mat sizes in Sabang block of Paschim Medinipur district, West Bengal are presented in Table 8. The market price of Double Madur steadily increases from Rs. 320 for 36-inch mats to Rs. 675 for 60-inch mats. Gross profit also increases by different mat size, fluctuating from Rs. 239 for 36-inch mats to Rs. 425 for 60-inch mats. Similarly, net profit fluctuates between Rs. 67 and Rs. 123 across different sizes. The highest net profit is logged for 54-inch mats (Rs. 123), followed by 52-inch mats (Rs. 122). The highest percentage of gross profit is observed for 36-inch mats (103.5%), while the lowest is found for 60-inch mats (74.6%). The percentage of gross profit shows a declining trend as mat size increases. The highest net profit percentage is recorded for 36-inch mats (38.5%), whereas the lowest is found for 49-inch mats (18.2%). We observed that medium and smaller-sized Double Madur mats may be comparatively more cost-efficient than larger-sized mats in terms of percentage profitability. Although larger mats make higher market prices, their greater labor intensity and raw material consumption diminish the comparative margin of profit.

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Table 9 Value of Product, Gross Profit and Net Profit per Matranjee Mat by Size

Size (In inch)	Market Price (Rs)	Gross Profit (Rs.)	Net Profit (Rs.)	Percentage of Gross profit	Percentage of Net profit
36"	650	539	85	95.4	15.0
40"	760	627	147	102.3	24.0
42"	790	631	121	94.3	18.1
49"	850	642	112	87.0	15.2
52"	950	727	167	92.8	21.3
54"	1050	798	218	95.9	26.2
60"	1350	1037	417	111.1	44.7

Sources: Field Survey, 2024-25

The market value, gross profit, and net profit earned from Matranjee Madur production by different mat sizes in Sabang block of Paschim Medinipur district, West Bengal are presented in Table 9. The market price of Matranjee Mats in Sabang block of Paschim Medinipur district substantially increases from Rs. 650 for 36-inch mats to Rs. 1350 for 60-inch mats. The relatively higher market price reflects the higher quality, enhancing weaving patterns, artistic craftsmanship, and strong consumer demand associated with Matranjee Mats. Gross profit also shows a steady increasing from Rs. 539 for 36-inch mats to Rs. 1037 for 60-inch mats. Similarly, net profit significantly increases with mat size. The lowest net profit is recorded for 36-inch mats (Rs. 85), whereas the highest net profit is observed for 60-inch mats (Rs. 417). This suggests that larger-sized Matranjee Mats provide considerably better financial returns despite their high production cost. The percentage share of gross profit fluctuates across different size mat of Sabang block. On the other hand, similar trend is obtained in net profit of Sabang block. The high profitability of larger-sized Matranjee Mats recommends strong market demand and better income opportunities for craftspeople.

The market value, gross profit, and net profit earned from Folding Mat production by various mat sizes in Sabang block of Paschim Medinipur district, West Bengal are represented in Table 10. The market price of Folding Mats gradually rises from Rs. 225 for 36-inch mats to Rs. 650 for 60-inch mats. This increase imitates the better use of labor, raw materials, and the additional processing involved in producing larger folding mats. Gross profit also rises from Rs. 161 for 36-inch mats to Rs. 395 for 60-inch mats. The uppermost gross profit is noted for 60-inch mats, representing that larger Folding Mats make greater total revenue for weaving households. Similarly, net profit shows an increasing trend in absolute terms.

Table 10 Value of Product, Gross Profit and Net Profit per Folding Mat by Size

Size (In inch)	Market Price (Rs)	Gross Profit (Rs.)	Net Profit (Rs.)	Percentage of Gross profit	Percentage of Net profit
36"	225	161	31	83.0	16.0
40"	310	220	60	88.0	24.0
42"	350	233	48	77.2	15.9
49"	410	262	52	73.2	14.5

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52"	500	317	77	74.9	18.2
54"	580	374	114	80.3	24.5
60"	650	395	105	72.5	19.3

Sources: Field Survey, 2024-25

The lowest net profit is found for 36-inch mats (Rs. 31), while the highest net profit is observed for 54-inch mats (Rs. 114). The percentage of gross profit fluctuates across different sizes. This indicates that production costs significantly increase for larger mats, thereby lowering the proportional return. A similar pattern is observed in the percentage of net profit. This suggests that medium-sized Folding Mats are moderately more profitable in terms of cost efficiency.

Multiple Regression Model for Profitability of Mat Production Units

The results of the Multiple Regression Analysis provide important insights into the determinants of profitability of mat production units in Sabang Block of Paschim Medinipur District. The estimated regression model explains the relationship between profitability and selected explanatory variables such as raw material cost, labour cost, capital investment, output, experience, education, and size of unit. The estimated model is presented below:

$$NP_{it} = \alpha_0 + \alpha_1 RAW_{it} + \alpha_2 LAB_{it} + \alpha_3 CAPZ_{it} + \alpha_4 OUT_{it} + \alpha_5 EXP_{it} + \alpha_6 EDU_{it} + \alpha_7 SIZE_{it} + U_{it} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \text{Eq}(1)$$

Where, α's is the coefficient of the independent variables and U is the error term. 'i' is used to denote the production unit and 't' for time and i = 1,2,3, ...,100 (No. of households).

The coefficient of determination ($R^2 = 0.87$) indicates that approximately 87 percent of the variation in profitability is explained by the explanatory variables included in the model (in Table 11). The Adjusted R^2 value of 0.84 further confirms the strong explanatory power of the model after adjusting for degrees of freedom. The F-statistic value of 27.84 with probability value 0.000 suggests that the overall regression model is statistically significant and suitable for explaining the profitability behaviour of mat production units.

Table 11 Multiple Regression Analysis for Profitability of Mat Production Units

Variables	Coefficient	Std. Error	t-value	Significance	
Constant	6.842	2.116	3.23	Significant	R^2= 0.87
Raw Material Cost (RAW)	0.326	0.097	3.36	Significant at 1%	Adjusted R^2 = 0.84
Labour Cost (LAB)	-0.218	0.084	-2.60	Significant at 5%	F-statistic =27.84
Capital Investment (CAP)	0.411	0.118	3.48	Significant at 1%	
Output (OUT)	0.453	0.111	4.08	Significant at 1%	Prob (F-statistic) = 0.000
Experience (EXP)	0.241	0.089	2.71	Significant at 5%	
Education (EDU)	0.164	0.072	2.28	Significant at 5%	
Size of Unit ($SIZE$)	0.382	0.115	3.32	Significant at 1%	

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The coefficient of raw material cost (0.326) is positive and statistically significant at the 1 percent level. This indicates that better utilization and availability of raw materials positively influence profitability. Labour cost carries a negative coefficient (-0.218) and is statistically significant at the 5 percent level. The negative relationship indicates that rising labour expenditure reduces profitability. Capital investment exhibits a positive coefficient (0.411) and is significant at the 1 percent level. The result suggests that investment in production equipment, tools, storage facilities, and working capital enhances productivity and efficiency. Among all explanatory variables, output has the highest positive coefficient (0.453) and is highly significant at the 1 percent level. This indicates that increased production volume substantially enhances profitability. Higher output allows producers to utilize resources more efficiently and achieve economies of scale. Experience of producers also positively influences profitability, as indicated by the coefficient value of 0.241. The variable is statistically significant at the 5 percent level. Experienced producers possess better technical knowledge, production skills, and marketing capabilities, which improve production efficiency and market competitiveness. Education has a positive and significant impact on profitability with a coefficient value of 0.164. Educated producers are generally more capable of adopting improved production techniques, maintaining business records, and establishing market linkages. The coefficient of size of unit (0.382) is positive and statistically significant at the 1 percent level. The result suggests that expansion of unit size can improve productivity and profitability in the rural mat industry.

CONCLUSION

The present study on the mat industry in the Sabang Block of Paschim Medinipur District reveals that mat weaving continues to play a important role in behind rural livelihoods, creating employment, and preservative outmoded cottage industry performs. The industry is largely household-based and provides income opportunities predominantly for women artisans and economically weaker rural families. The analysis shows that profitability varies across different sizes and categories of mats, depending upon factors such as raw material cost, labour input, market demand, production scale, and selling price. The econometric analysis indicates that efficient utilization of raw materials, labour productivity, and market accessibility significantly influence the profitability of mat production units. Larger and value-added products such as decorative mats and Matranjee mats generally provide higher returns compared to ordinary mats, suggesting the importance of product diversification and design innovation in enhancing income. Despite its economic and cultural importance, the industry faces several constraints including rising raw material prices, inadequate access to institutional finance, limited marketing facilities, competition from machine-made products, and lack of modern technology. Therefore, policy support in the form of credit assistance, training programmes, cooperative marketing, infrastructure development, and promotion of handicraft exports is essential for the sustainable growth of the mat industry.

REFERENCE

1. Chittaranjan Das (2017), “Earnings from Mat Industry: A Study in Sabang Block of Paschim Medinipur District”, World Wide Journal of Multidisciplinary Research and Development, WWJMRD 2017; 3(10): 261-263
2. De and Maiti (2017), “An Analysis of Marketing of Mat in Paschim Medinipur District of West Bengal”, Journal of the Indian Society of Coastal Agricultural Research, Vol. 35 No. 1 (2017)
3. Guha, S., Mandal, A., Dhar, P., Poddar, S., & Dana, L. P. (2022). Stone carving in India and the need for process innovation. In Artisan and Handicraft Entrepreneurs: Past, Present, and Future (pp. 149-159). Cham: Springer International Publishing.
4. K. V. Sundaram and V. L. S. Prakasa Rao (1985), “Geography and Planning: Essays in Honour of Prof. V.L.S. Prakasa Rao”, Concept Publication Co, New Delhi
5. Kyal, H., Mandal, A., Kujur, F., & Guha, S. (2021). Individual entrepreneurial orientation on MSME’s performance: the mediating effect of employee motivation and the moderating effect of government intervention. IIM Ranchi journal of management studies, 1(1), 21-37. Publishing, New Delhi
6. Puste AM. 2004. Aquatic non-food commercial crops. In: Agronomic Management of Wetland Crops. Kalyani Publishers, India. pp. 198–206.
7. Ranjan, A. and Ranjan, M.P., (2014). Crafts of India – Handmade in India, COHANDS and Mapin

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8. Samir Show (2018), “Economics of Mat Sticks Cultivation and Mat Industry: A Study in Sabong Block of Paschim Medinipur District of West Bengal”, RESEARCH REVIEW International Journal of Multidisciplinary, Volume-03, Issue-08, August-2018
9. Sarkar R and Samanta N. 1987. Cultivation of the matreed in West Bengal. Indian Farming 30 (11):16–17.