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ECONOMIC ANALYSIS OF COLOCASIA CULTIVATION IN AMB BLOCK OF UNA DISTRICT, HIMACHAL PRADESH, INDIA

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ABSTRACT

Colocasia (*Colocasia esculenta*) is an important tropical tuber crop cultivated by small and marginal farmers in Himachal Pradesh due to its high market demand, comparatively longer shelf life and lower susceptibility to damage by stray animals. This study was conducted in Amb block of Una district, Himachal Pradesh, to examine the economics of Colocasia cultivation and identify the major production and marketing constraints. A total of 60 farmers were selected from five villages using a two-stage stratified random sampling technique. Farmers were classified into marginal and small categories using the cube root cumulative frequency method. Primary data were analysed using tabular analysis, standard cost concepts, and the Cobb–Douglas production function. The average total cost of cultivation was estimated at ₹ 1,42,412 per ha, while the average gross and net returns were ₹ 2,70,270 and ₹ 1,27,858 per ha, respectively. The average cost of production was ₹ 790 per quintal, and the output-input ratio was 2.05, indicating that Colocasia cultivation is a profitable enterprise. Human labour (44.29%) and seed (27.77%) constituted the major components of the variable cost. The Cobb–Douglas production function revealed that seed, fertilizer, and human labour had a positive and significant effect on yield, whereas the effect of farmyard manure was positive but statistically non-significant. The major constraints reported by farmers were insect-pest and disease incidence, increasing labour wages, inadequate training and extension services. The study concludes that Colocasia cultivation offers considerable income potential for smallholders in the study area. Strengthening extension services, ensuring timely availability of quality inputs, promoting integrated pest management, and improving market support mechanisms would further enhance the profitability and sustainability of Colocasia cultivation in the region.

Key words : Colocasia, Economics, Cost and Returns, Cobb–Douglas Production Function, Problems.

Introduction

Root and tuber crops are an important group of food plants grown mainly for their underground stems or roots, which are used for food, feed and raw materials. Among the many root and tuber crops, *Colocasia esculenta* is a widely grown edible aroid known by different names such as taro, eddoe, dasheen, cocoyam, and arvi. It finds utility in culinary purposes and is a suitable crop for processing industry (Moy *et al.*, 1979). Botanical cultivars of taro are grouped into two categories: *Colocasia esculenta* var. *esculenta* (eddo type) and *Colocasia esculenta* var. *antiquorum* (dasheen type) (Kumar *et al.*, 2022). In Himachal Pradesh, Colocasia is an important tropical tuber

crop that belongs to the family Araceae. It is valued for its taste, nutritional quality, and medicinal importance. All parts of the plant including corm, cormels, rhizome, stalk, leaves and flowers are edible and contain abundant starch (Bose *et al.*, 2003). Colocasia is cultivated in the home garden as ornamental value and for reduces soil erosion and increase soil fertility (B. Garedew *et al.*, 2017) and is relatively tolerant to environmental stress compared to other root crops, however, pests and diseases remain major challenges to its cultivation worldwide (Sundar, 2016). Colocasia is cultivated in different parts of India, mostly by marginal and small farmers and it is grown in localized pockets across several states, including

Himachal Pradesh. In Himachal Pradesh, it is mainly grown by small farmers and contributes to the livelihood of poorer households. It is an important Kharif crop in the state and in Una district, where the terrain includes both hilly and plain areas, agriculture remains the main source of income for most people. The increasing problem of monkeys and stray animals has affected farming in the area as the losses caused by wild animal including monkeys are estimated to be more than 500 crores rupees annually in Himachal Pradesh (Chakravarty, 2015), but Colocasia is relatively less affected by these problems, which makes it a suitable crop for farmers who are shifting away from vulnerable crops. Another advantage of Colocasia is that it has good market demand throughout the year and is not highly perishable, so it can be sold more easily than many other crops. The study was undertaken with the following objectives:

- To examine the cost and returns of Colocasia cultivation in the study area.
- To identify the major constraints associated with the cultivation and marketing of Colocasia.

The study provides baseline information on the production economics and marketing of Colocasia in the study area. The findings may serve as a useful reference for future research and may facilitate comparison of changes in production practices, costs, returns, and marketing over time. The study also contributes region-specific evidence to the existing literature on the economics of Colocasia cultivation.

Materials and Methods

The study was conducted during the agricultural year 2016-17 in Amb block of Una district, Himachal Pradesh, which was purposively selected because it is one of the major Colocasia-growing areas in the state. Five villages, namely Charuru, Dhandari, Nandpur, Paloh and Talwal, were selected for the study based on the concentration of Colocasia growers. A two-stage stratified random sampling technique was adopted. In the first stage, the five villages were selected, and in the second stage, a complete list of Colocasia growers was prepared from which 60 farmers were selected using the proportional allocation method. The selected farmers were classified into marginal and small categories based on the cube root cumulative frequency ($\sqrt[3]{f}$) method. The final sample comprised 33 marginal and 27 small farmers.

Tabular analysis was employed to summarize the socio-economic characteristics of the sampled households, land use pattern, cropping pattern, cropping intensity, and investment pattern. Descriptive statistics,

including averages and percentages were used to analyse the data.

Cost concepts : The cost of cultivation and returns were estimated using the standard cost concepts recommended by the Commission for Agricultural Costs and Prices (CACP).

Cost A: Material cost + bullock/tractor charges + hired labour + interest on working capital + miscellaneous charges.

Cost B: Cost A + interest on fixed capital + rental value of owned land.

Cost C: Cost B + imputed value of family labour.

Cost D: Cost C + 10 per cent of managerial cost.

Production function analysis: Resource-use efficiency in Colocasia cultivation was analysed using the Cobb–Douglas production function. Regression coefficients were estimated using the log-linear form of the model and the significance of individual parameters was tested using the t-test, whereas the overall goodness of fit was assessed using the adjusted coefficient of determination (Adjusted R²) and the F-test.

The multiple log linear (Cobb-Douglas) model of the following form was used.

$$Y = b_0 X_1^{b_1} X_2^{b_2} X_3^{b_3} X_4^{b_4} e^u$$

Logarithm form of the model is:

$$\text{Log } Y = \text{Log } b_0 + b_1 \text{Log } X_1 + b_2 \text{Log } X_2 + b_3 \text{Log } X_3 + b_4 \text{Log } X_4 + u$$

where,

Y = Yield of Colocasia (q/ha)

X₁ = Quantity of seed (kg/ha)

X₂ = Quantity of FYM (q/ha)

X₃ = Quantity of fertilizer used (kg/ha)

X₄ = Quantity of human labour (man days/ha)

b₀ = Constant term

b₁ to b₄ = Regression coefficients

u = Error term

Results and Discussion

Socioeconomic characteristics of sample farmers

Socioeconomic factors such as family size, education, income, and land-holding size significantly affect farmers' knowledge levels (Singh *et al.*, 2020). The socio-economic characteristics of the sampled households are presented in Table 1.

A total of 60 Colocasia-growing households comprising 284 family members were surveyed, with an

Table 1 : Socioeconomic features of respondents.

(Number)				
S. no.	Particular	Category of farmers		
		Marginal	Small	Overall
1	Total Families	33	27	60
2	Total family members (No.)	154	130	284
3	Average size of family (No.)	4.67	4.81	4.73
4	Male (%)	57.14	56.15	56.69
5	Female (%)	42.86	43.85	43.31
6	Active workforce (15-60 year)	108	98	206
7	Dependent population	46	32	78
6	Sex ratio	750	780	764
7	Joint family (%)	51.52	70.37	60.00
8	Nuclear family (%)	48.48	29.63	40.00
9	Literacy rate (%)	98.05	93.85	96.13
10	Literacy rate in males (%)	98.86	95.89	97.52
11	Literacy rate in females (%)	96.97	91.23	94.31

average family size of 4.73 members. Males constituted 56.69 per cent of the total population, while females accounted for 43.31 per cent, resulting in a sex ratio of 764 females per 1000 males. The economically active population (15–60 years) represented 72.54 per cent of the total household members, indicating the availability of adequate family labour for agricultural activities. Joint families (60.00%) were more prevalent than nuclear families (40.00%). The overall literacy rate was 96.13 per cent, with literacy among males (97.52%) being slightly higher than that among females (94.31%). The high literacy level of the respondents suggests a favourable human resource base for the adoption of improved agricultural practices. This observation is in line with Mellor (1976), who highlighted that farmer's education is a key factor in enhancing agricultural productivity.

The occupational distribution of the sampled households is presented in Table 2. Agriculture was the principal occupation of the majority of the respondents, accounting for 76.66 per cent of the total sample, with a relatively higher proportion among small farmers (81.48%) than marginal farmers (72.73%). A smaller proportion of households depended on private service (10.00%), business (6.67%) and government service (6.67%) as

Table 2 : Occupational pattern of the heads of family on sample farms.

(Percent)				
S. no.	Particulars	Category of farmers		
	Occupation	Marginal	Small	Total
1	Agriculture	72.73	81.48	76.66
2	DPL/ private service	12.12	7.41	10.00
3	Business/shop	3.03	11.11	6.67
4	Government service	12.12	0.00	6.67
	Total	100	100	100

* DPL = Daily paid labourer

their primary occupation. The predominance of agriculture as the main source of livelihood indicates the high dependence of the sampled households on farming activities, including Colocasia cultivation.

The investment pattern in farm implements and machinery is presented in Table 3. On an overall basis, the highest investment was made in tractors, accounting for about 43 per cent of the total investment, followed by chaff cutters (31%). Major farm machinery accounted for nearly 78 per cent of the total investment, while the remaining 22 per cent was invested in smaller farm implements. The average investment in major and minor farm implements was ` 21,046.67 and ` 5,778.58 per farm, respectively. Small farmers invested relatively more in farm machinery than marginal farmers, indicating a higher level of farm mechanization. Overall, the findings suggest that greater emphasis was placed on investment in durable farm machinery than on small agricultural implements.

The landholding pattern of the sampled farmers is presented in Table 4. The average operational holding was 1.01 ha, comprising 0.55 ha for marginal farmers and 2.13 ha for small farmers. The total cultivated area averaged 0.51 ha on marginal farms and 1.33 ha on small farms. Cultivated wasteland constituted a relatively higher proportion of land among marginal farmers (5.45%) than small farmers (0.47%), whereas fallow land was more prevalent on small farms. Pasture and grazing land were reported only by small farmers, accounting for 26 per cent of their total landholding, while miscellaneous land constituted about 3 per cent of the overall holding. The findings indicate that small farmers possessed relatively larger and more diversified land resources than marginal farmers, which may provide greater scope for crop diversification and agricultural production.

Table 3 : Investment on farm implements and machinery on sample farms.

(Per farm)							
S. no.	Particulars	Category of farmers					
		Marginal		Small		Overall	
		No.	Value (Rs.)	No.	Value (Rs.)	No.	Value (Rs.)
A.	Major implements						
1	Tractor	0.09	6969.70	0.22	16851.85	0.15	11416.67
2	Sprayer	1.00	1254.55	1.04	1385.19	1.02	1313.33
3	Chaff-cutter	0.27	7727.27	0.48	9037.04	0.37	8316.67
	Sub-total	1.36	15951.52	1.74	27274.03	1.54	21046.67
B.	Minor implements						
4	Spade	1.30	254.55	1.56	312.96	1.42	280.83
5	Hoe	0.76	151.52	1.00	200	0.87	173.33
6	Rake	1.21	187.88	1.26	188.52	1.23	188.17
7	Sickle	1.48	229.85	2.07	233.70	1.75	231.58
8	Water tanks (plastic)	0.94	4409.09	1.07	4592.59	1.00	4491.67
9	Bamboo basket/plastic crates	4.42	418.18	4.07	406.67	4.26	413.00
	Sub-total	10.11	5651.07	11.03	5934.44	10.53	5778.58
	Total	11.47	21602.59	12.77	33208.47	12.07	26825.25

Table 4 : Land inventory and utilization on sample households.

(ha/farm)				
S. no.	Particulars	Category of farmers		
		Marginal	Small	Overall
1	Total cultivated land	0.51	1.33	0.88
2	Pasture/Grazing land	0.00	0.56	0.01
3	Cultivated waste land	0.03	0.01	0.01
4	Under misc. (trees/ grass/forests)	0.00	0.07	0.03
5	Fallow land	0.01	0.16	0.08
	Total holding	0.55	2.13	1.01

The cropping pattern of the sampled farms is presented in Table 5. Maize and wheat were the dominant crops during the Kharif and Rabi seasons, occupying about 33 and 39 per cent of the total cropped area, respectively. This finding reflects the general cropping pattern of Himachal Pradesh, where maize and wheat are among the major crops cultivated. (Sharma *et al.*, 2025). Colocasia accounted for 10.40 per cent of the total cropped area, indicating its importance as a commercial crop in the study area. Paddy and potato occupied relatively smaller proportions of the cropped area, while chari and berseem were the major fodder

crops grown during the Kharif and *Rabi* seasons, respectively. The overall cropping intensity was 196.59 per cent and was nearly similar across both farm categories, reflecting efficient utilization of cultivated land through multiple cropping.

Economics of Colocasia cultivation

The variable cost structure of Colocasia cultivation is presented in Table 6. The average variable cost was estimated at ` 1,12,100 per ha, with small farms incurring a relatively higher variable cost (` 1,17,111/ha) than marginal farms (` 1,07,999/ha).

Human labour was the largest component of the variable cost, accounting for 44 per cent, followed by seed (28%). Fertilizers and farmyard manure also constituted important cost components, whereas expenditure on plant protection, irrigation and tractor operations was comparatively lower. Similar findings were reported by Okoye *et al.* (2006), who observed that labour constituted nearly 50 per cent of the total variable cost in cocoyam production. High farm input costs have also been identified as an important constraint in taro cultivation, limiting farmer's productivity and profitability (Fufa *et al.*, 2021). The predominance of human labour in the cost structure indicates that Colocasia cultivation is a labour-intensive enterprise.

Table 5 : Cropping pattern on sample farms.

(ha/ farm)				
S. no.	Crop	Category of farmers		
		Marginal	Small	Overall
A. Kharif season				
1	Maize	0.31 (31.00)	0.89 (33.97)	0.57 (32.95)
2	Paddy	0.02 (2.00)	0.05 (1.91)	0.03 (1.73)
3	Colocasia	0.11 (11.00)	0.25 (9.54)	0.18 (10.40)
4	Other vegetables	0.01 (1.00)	0.07 (2.67)	0.04 (2.31)
5	Fodder (Chari/Bajra)	0.06 (6.00)	0.07 (2.67)	0.06 (3.47)
	Sub-Total	0.51 (51.00)	1.33 (50.76)	0.88 (50.87)
B. Rabi season				
1	Wheat	0.40 (40.00)	1.01 (38.55)	0.67 (38.73)
2	Potato	0.03 (3.00)	0.18 (6.87)	0.10 (5.78)
3	Fodder (Barseem)	0.05 (5.00)	0.07 (2.67)	0.06 (3.47)
4	Other vegetables	0.01 (1.00)	0.03 (1.15)	0.02 (1.16)
C.	Sub-total	0.49 (49.00)	1.29 (49.24)	0.85 (49.13)
D.	Total cropped area on which percentages have been calculated	1.00 (100.00)	2.62 (100.00)	1.73 (100.00)
	Cropping intensity (%)	196.08	196.99	196.59

The cost and returns of Colocasia cultivation on a per ha basis are presented in Table 7. The average total cost of cultivation was estimated at ` 1,42,412/ha, ranging from ` 1,32,409/ha on marginal farms to ` 1,54,636/ha on small farms. Variable costs accounted for 78.71 per cent of the total cost, while fixed costs constituted the remaining 21.29 per cent. The average gross returns were estimated at ` 2,70,270/ha, with higher returns recorded on small farms (` 2,89,485/ha) than on marginal farms (` 2,54,550/ha). The average net returns over total cost and variable cost were ` 1,27,858/ha and ` 1,58,170/ha, respectively. The average cost of production was ` 790 per quintal, varying from ` 780 per quintal on marginal farms to ` 801 per quintal on small farms. The lower

Table 6 : Variable costs structure of Colocasia cultivation on sample farms.

(Rs/ha)				
S. no.	Particular	Category of farmers		
		Marginal	Small	Overall
1	Seed	30000 (27.78)	32500 (27.75)	31125 (27.77)
2	Human labour	49050 (45.42)	50385 (43.02)	49651 (44.29)
3	Tractor	937 (0.87)	950 (0.81)	943 (0.84)
4	FYM	8437 (7.81)	12006 (10.25)	10043 (8.96)
5	Fertilizer	10500 (9.72)	13125 (11.21)	11681 (10.42)
6	Irrigations	4414 (4.09)	2511 (2.14)	3558 (3.17)
7	Plant protection measures	1856 (1.72)	2592 (2.21)	2187 (1.95)
8	Sub total	105194 (97.40)	114069 (97.40)	109188 (97.40)
9	Interest on working capital for half of crop period	2805 (2.60)	3042 (2.60)	2912 (2.60)
	Total variable cost	107999 (100.00)	117111 (100.00)	112100 (100.00)

cost of production on marginal farms may be attributed to lower input use and differences in resource utilization compared with small farms.

The estimates of different farm management cost concepts and returns from Colocasia cultivation are presented in Table 8. The average Cost A, Cost B, Cost C, and Cost D were estimated at ` 89,131, ` 96,315, ` 1,19,682, and ` 1,31,650 per ha, respectively. The corresponding average gross returns were ` 2,70,270 per ha. Net returns remained positive overall cost concepts, amounting to ` 1,81,139 over Cost A, ` 1,73,955 over Cost B, ` 1,50,588 over Cost C, and ` 1,38,620 over Cost D. Small farms recorded higher costs as well as higher returns than marginal farms. The overall output-input ratio was 2.05, indicating that every rupee invested in Colocasia cultivation generated a return of ` 2.05, thereby demonstrating the economic profitability of the crop in the study area.

Production function analysis

Production function is a systematic and mathematical

Table 7 : Cost and returns from Colocasia cultivation on sample farms.

(Rs/ha)				
S. no.	Particular	Category of farmers		
		Marginal	Small	Overall
1	Total variable cost	107999 (81.56)	117111 (75.73)	112100 (78.71)
2	Total fixed cost	24410 (18.44)	37525 (24.27)	30312 (21.29)
3	Total (1+2)	132409 (100.00)	154636 (100.00)	142412 (100.00)
4	Gross returns			
	Quantity of output (q)	169.70	192.99	180.18
	Value of output	254550	289485	270270
5	Net returns over total cost	122141	134849	127858
	Net returns over variable cost	146551	172374	158170
	Total cost of production (Rs/q)	780	801	790
	Variable cost of production (Rs/q)	636	607	622

Note: Figures in parentheses indicate respective percentages to total

Table 8 : Cost and returns from Colocasia cultivation based on farm management in the study area.

S. no.	Costs	Description	Marginal	Small	Overall
1	Cost A	Cash variable expenses	80943	99137	89131
2	Cost B	Cost A + imputed rental value of land + interest on fixed capital	87823	106692	96315
3	Cost C	Cost B + imputed value of family labour	115022	125376	119682
4	Cost D	Cost C + 10% managerial cost	126524	137914	131650
5	Gross returns		254550	289485	270270
6	Net returns over				
a	Cost A		173607	190348	181139
b	Cost B		166727	182793	173955
c	Cost C		139528	164109	150588
d	Cost D		128026	151571	138620
	Output-input ratio		2.01	2.10	2.05

way of measuring the relationship among the different quantities of inputs used in the production of a commodity and corresponding quantity of output. Cobb-Douglas production function was used as it found to be best fit in accordance with its value of adjusted coefficient of

multiple determination ($\bar{R}^2$) and number of significant variables. The estimated coefficients of the Cobb-Douglas production function are presented in Table 9. The adjusted coefficient of determination (Adjusted R^2) was 0.95, indicating that 95 per cent of the variation in Colocasia yield was explained by the variables included in the model. Among the explanatory variables, seed, fertilizer, and human labour exerted a positive and statistically significant influence on yield. The coefficient of seed (2.23) was positive and significant at the 1 per cent level, indicating that seed was the most influential factor affecting Colocasia production. Fertilizer (0.68) and human labour (0.35) also had a positive and significant effect at the 5 per cent level. Although the coefficient of farmyard manure (0.33) was positive, it was not statistically significant, suggesting that its contribution to yield was comparatively less pronounced under the prevailing production conditions. Overall, the results indicate that efficient use of quality seed, balanced fertilizer application, and adequate labour can substantially enhance Colocasia productivity.

Problems and constraints

The major production and marketing constraints faced by the sampled Colocasia growers are presented in Table 10. Among the production constraints, insect-pest and disease incidence was reported by 95 per cent of the

respondents, making it the most serious constraint, followed by increasing labour wages (70%), non-availability of labour (40%) and decline in soil fertility (10%). These findings are in agreement with Abdulrahman *et al.* (2015), who also identified labour shortage and the

Table 9 : Regression analysis: Cobb-Douglass production function for overall farms.

S. no.	Particulars	Coefficients
		Estimates of regression coefficients
1	Seed (X_1)	2.23** (0.42)
2	FYM (X_2)	0.33 (0.18)
3	Fertilizer (X_3)	0.68* (0.34)
4	Human Labour (X_4)	0.35* (0.14)
5	Constant term (a)	1.76
6	$\bar{R}^2$ Adjusted coefficient of multiple determination	0.95

Note: Figures in parentheses indicate standard errors

*Significant at 5 per cent level of significance, **Significant at 1 per cent level of significance

Table 10 : Problems and constraints faced by farmers.

(%)				
S. no.	Particular	Category of farmers		
		Marginal	Small	Overall
1	Production problem			
i	Low soil fertility	15	4	10
ii	Problem of insects and diseases	97	93	95
iii	Costly labour	64	78	70
iv	Non-availability of labour	30	52	40
v	Non-availability of seeds	12	7	10
vi	Untimely availability of insecticides/ fungicides	6	11	8
vii	Non-availability of Insecticides/fungicides	3	15	8
viii	Inadequate FYM and Vermi compost	24	7	17
2	Marketing problems			
i	Non remunerative price	45	48	47
ii	Lack of market intelligence	6	22	13
3	Institutional problems			
i	Inadequate training facilities	76	70	72

Table 10 continued....

ii	Lack of extension facilities	64	67	65
4	Social problems			
i	Inadequate land	15	4	10
ii	Dwindling interest of family members in Colocasia cultivation	45	41	43

unavailability of improved seed as major constraints faced by farmers. A relatively smaller proportion of farmers reported problems related to the non-availability of insecticides/fungicides (8%), and non-availability of seed (10%). With respect to marketing, 47 per cent of the respondents reported non-remunerative prices as the major constraint, while 13 per cent indicated a lack of market intelligence. Institutional constraints included inadequate training facilities (72%) and limited extension services (65%). Among the social constraints, lack of interest of family members in agriculture (43%) and inadequate landholding (10%) were also reported. Overall, insect-pest and disease infestation, labour-related issues, inadequate training and extension support, and low market prices emerged as the major constraints affecting Colocasia cultivation and marketing.

Conclusion

The study revealed that Colocasia cultivation was economically viable and profitable enterprise for both marginal and small farmers in Amb block of Una district, Himachal Pradesh as the findings are in consistent with Thamseer *et al.* (2021), who reported that colocasia cultivation in Mysore district of Karnataka was economically viable. Although small farmers incurred relatively higher cultivation costs, they also realized higher yields and net returns than marginal farmers. The average output-input ratio of 2.05 indicates that every rupee invested in Colocasia cultivation generated more than two rupees in return, highlighting its profitability under the prevailing production conditions. Similar findings were reported by Folorunso *et al.* (2013), whose net farm income analysis revealed that root and tuber crops were profitable. Human labour and seed constituted the major components of cultivation cost, reflecting the labour-intensive nature of the crop. The production function analysis demonstrated that seed, fertilizer and human labour significantly influenced Colocasia yield, emphasizing the importance of adopting quality planting material, balanced nutrient management and efficient labour utilization to improve productivity. Farmyard manure exhibited a positive but statistically non-significant

Table 10 continued....

effect, suggesting scope for improving its effective utilization through integrated nutrient management practices.

Despite its profitability, Colocasia cultivation is constrained by severe insect-pest and disease incidence, rising labour costs, labour shortages, inadequate training and extension support. Addressing these constraints through the timely supply of quality inputs, promotion of integrated pest and disease management, strengthening of extension and farmer training programmes, and improved market intelligence and price support mechanisms would enhance the productivity and profitability of the crop. Overall, Colocasia has significant potential to improve farm income and livelihood security in the study area, particularly because it is less vulnerable to damage from stray animals and enjoys consistent market demand. This observation is consistent with the findings of Sunitha *et al.* (2023), who reported that taro fetches a higher market price than many other vegetables, indicating considerable scope for its cultivation and income generation. However, despite this potential, nearly half of the sampled farmers (47%) reported non-remunerative prices as a major marketing constraint, suggesting that farmers are not always able to realize the full economic benefits because of local market conditions. Policy interventions aimed at improving production technologies, institutional support and marketing infrastructure can further promote the sustainable expansion of Colocasia cultivation in Himachal Pradesh.

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