

Table S1. Effect of scarification and media on *Indigofera spp.* seed germination percentage.

Seed Scarification	Media	Germination Percentage
Control (without scarification)	Soil	28.00
	Sand	73.33
	Soil + sand (1:1)	42.00
Soaked in water for 24 hours	Soil	35.33
	Sand	77.33
	Soil + sand (1:1)	43.33
Soaked in coconut water for 3 hours	Soil	30.67
	Sand	88.00
	Soil + sand (1:1)	34.67

Tabel S2. The effect of media on germination percentage.

Treatment (Media)	Germination Percentage (%)
Sand	79.56 a ± 11.88
Soil + sand (1:1)	40.00 b ± 7.24
Soil	31.33 b ± 5.81

Remark: Means followed by the same letter are not significantly different at $P \leq 0.05$ as determined by DMRT.

Table S3. Effect of shade and media on growth parameters of height, diameter, number of branches, number of leaves, and survival rate of *Indigofera spp.* seedlings.

Treatment		Height (cm)	Diameter (cm)	Number of Branches	Number of Leaves (g)	Survival (%)	Biomass (g)	TR Ratio	Seed Quality Index
Shading	Media								
0%	soil	5.51 ± 0.63	± 0.12 ± 0.02	1.88 ± 0.29	6.83 ± 1.30	100.00 ± 0.00	0.0578 ± 0.013	5.1654 ± 9.05	0.0019 ± 0.0007
	soil+cocopeat (1:1)	6.17 ± 0.29	± 0.13 ± 0.02		9.42 ± 1.08	94.44 ± 4.22	0.0392 ± 0.011	5.3834 ± 3.82	
	soil + rice husk charcoal (1:2)	8.83 ± 0.89	± 0.18 ± 0.04	4.55 ± 0.47	17.96 ± 2.39	100.00 ± 2.72	0.0559 ± 0.016	3.7587 ± 6.17	0.0018 ± 0.0006
	soil + cocopeat + rice husk charcoal (1:2)	5.34 ± 0.32	± 0.10 ± 0.02		8.87 ± 1.14	100.00 ± 0.00	0.0768 ± 0.051	5.5338 ± 8.26	
	soil	5.99 ± 0.75	± 0.09 ± 0.02	2.11 ± 0.46	7.68 ± 2.11	97.77 ± 3.44	0.0530 ± 0.017	4.7613 ± 5.30	0.0018 ± 0.0005
	soil+cocopeat (1:1)	6.12 ± 0.42	± 0.11 ± 0.02		9.30 ± 1.37	98.88 ± 3.44	0.0482 ± 0.009	3.6370 ± 5.37	
	soil + rice husk charcoal (1:2)	7.72 ± 0.44	± 0.15 ± 0.06	3.99 ± 0.26	15.67 ± 1.77	100.00 ± 0.00	0.0798 ± 0.021	4.7209 ± 3.64	0.0030 ± 0.0012
	soil + cocopeat + rice husk charcoal (1:2)	5.69 ± 0.39	± 0.16 ± 0.04		8.86 ± 1.26	100.00 ± 0.00	0.0265 ± 0.003	3.1010 ± 1.88	
	Soil	4.18 ± 0.27	± 0.07 ± 0.03	1.23 ± 0.23	3.37 ± 0.68	97.77 ± 3.44	0.0116 ± 0.001	3.3714 ± 3.46	0.0006 ± 0.0001
	soil+cocopeat (1:1)	5.78 ± 0.47	± 0.08 ± 0.03		10.16 ± 0.87	100.00 ± 0.00	0.0269 ± 0.015	2.5355 ± 3.53	
70%	soil + rice husk charcoal (1:2)	6.89 ± 0.60	± 0.14 ± 0.02	3.97 ± 0.26	16.13 ± 1.14	98.80 ± 3.44	0.0343 ± 0.013	3.3971 ± 2.23	0.0012 ± 0.0005

Treatment		Height (cm)	Diameter (cm)	Number of branches	Number of leaves (g)	Survival (%)	Biomass (g)	TR Ratio	Seed Quality Index
Shading	Media								
	soil + cocopeat + rice husk charcoal (1:2)	4.67 ± 0.21	0.09 ±0.01	2.28 ±0.21	7.76 ±0.79	100.00 ±2.72	0.0159 ± 0.005	1.6933 ± 3.15	0.0008 ± 0.0002

Table S4. Effect of spacing and application of manure to increase growth in height, diameter, and the number of branches of *Indigofera* spp. four (4) months after planting.

Treatments	Survival (%)	Height (cm)	Diameter (mm)	Number of Branches
Spacing	ns	Ns	ns	Ns
100 m x 100 cm	100	25.868 ± 6.83	3.258 ± 0.75	6.438 ± 1.92
75 m x 75 cm	100	20.836 ± 10.07	2.746 ± 0.32	4.744 ±1.61
50 m x 50 cm	100	21.046 ± 6.76	3.080 ± 0.53	5.865 ± 2.19
organic fertilizer (manure)	ns	Ns	ns	Ns
Control (0 g)	100	15.733 ± 8.79	2.161± 0.43	3.179 ± 1.80
100 g/tree	100	19.031 ± 9.42	2.292 ± 0.56	4.667 ± 2.27
150 g/tree	100	14.857 ± 6.53	2.244 ± 0.64	4.140 ± 1.94
200 g/tree	100	18.128 ± 7.66	2.389 ± 0.74	4.521 ±2.06
Interaction	ns	Ns	Ns	Ns

Table S5. Internal strategic factors based on weights, ratings, and scores.

NO	INTERNAL FACTORS	WEIGHTS	RATINGS	SCORE
STRENGTHS				
1	Communities in the region are accustomed to agricultural cultivation activities	0.130	4.00	0,52
2	<i>Indigofera</i> spp. grows naturally on Timor Island	0.030	3.00	0,09
3	High potential <i>Indigofera</i> spp. that grows naturally and can be collected by members of the community	0.020	3.00	0,06
4	Strong willingness of community members to participate in cultivating <i>Indigofera</i> spp., which is usually conducted through collective cooperation	0.240	3.00	0,72
5	Wide availability of land suitable for the cultivation of <i>Indigofera</i> spp.	0.170	3.00	0,51
6	Communities have a strong cultural tradition of weaving using natural dyes	0.120	4.00	0,48
7	The use of <i>Indigofera</i> spp. is a natural dye is widely accepted as part of local cultural traditions, preceding the use of synthetic dyes	0.090	4.00	0,36
Number of Strengths				2,74
WEAKNESS				
1	Community members do not yet cultivate <i>Indigofera</i> spp., but gather it from the wild	0.040	3000	0.12
2	Communities are not yet familiar with techniques for cultivating <i>Indigofera</i> spp.	0.060	3000	0.18
3	The process of producing natural dye from <i>Indigofera</i> spp. is more complicated than the process of producing other types of natural dyes	0.020	3000	0.06
4	Communities are not yet familiar with the processes for producing indigo paste of sufficient quality to compete with other products	0.060	4000	0.24
5	Low general levels of education may constrain the transfer of knowledge related to the cultivation and processing techniques	0.020	2000	0.04
Number of Weakness				0.64
INTERNAL FACTOR VALUE (S - W)				2.10

Table S6. External strategic factors based on weights, ratings, and scores.

NO	EXTERNAL FACTORS	WEIGHTS	RATINGS	SCORE
OPPORTUNITIES				
1	Increased farmer incomes from the production of indigo paste from <i>Indigofera</i> spp. leaves	0.120	3.00	0.36
2	Increased weaver incomes from the sale of cloth using natural dyes	0.130	2.00	0.26
3	<i>Indigofera</i> spp. can be intercropped with food crops without negative impact on the growth of any of the crops involved	0.020	3.00	0.06
4	<i>Indigofera</i> spp. has good potential for used to rehabilitate critical land	0.060	2.00	0.12
5	There are good prospective markets for indigo paste	0.040	3.00	0.12
6	The technology required for the production of indigo paste is available	0.090	3.00	0.27
7	Trend back to nature	0.060	3.00	0.18
8	Increased awareness of the need for environmental and occupational safety	0.170	3.00	0.51
9	Limited availability of plants that produce natural blue dye	0.240	3.00	0.72
Number of Opportunities				2.60
THREATS				
1	Unpredictable climatic conditions due to global climate change	0.020	4000	0.08
2	The presence of synthetic dyes that makes weaving more efficient	0.020	4000	0.08
3	Paste production is inefficient and manufacturing costs are high due to increased paste production not balanced by the availability of raw materials	0.030	4000	0.12
Number of Threats				0.28
EXTERNAL FACTOR VALUE (O - T)				2.32