

# Tie and Dye Technique – A Boon for Self Employment

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**Abstract:** Tie and dye is one of the most widely accepted traditional techniques of surface enrichment of textiles in India. Different colors are used in this technique to impart decorative effect to the fabric and colour choice can be highly individual and hence is a means of self expression. Tie and dye not only provides a scope for individual expression and creativity but can also be taken as an avenue for household income by women. Present study was conducted in Fatehabad district of Haryana state. Total 75 respondents were selected randomly for vocational training i.e. 25 each from Sahnal, Bahbalpur and Salamkhara villages. Vocational training on surface enrichment of fabrics through tie and dye technique were organized for five days in each village. Total nine tyeing techniques were demonstrated practically and supported by expert lectures and scientific literature. Highest post exposure knowledge was found in thread tyeing and knotting techniques i.e. 95.00 percent, majority of the respondents acquired high level of skill regarding tie and dye after completion of training. Perceived adoption feasibility was found highest for compatibility (81.22%). Overall adoption feasibility was found 84.89 percent on all attributes. Design preference was found highest for thread tyeing (MS 3.86) and marbling technique (MS 3.70), respectively.

**Keywords:** Tie and dye, fabric embellishment, intervention, adoption feasibility, skill acquisition

## 1. Introduction

Tie and dye, popularly known as 'Bandhani' is one of the oldest and simplest technique of fabric embellishment. It embellishes and enriches the fabrics, adds depth, colour and creativity to casual wear as well as office attire. Initially, tie and dye was used on suits, sarees and dupatta/odhni only but with the advent of time its form and application have undergone a vast transformation. Think of any kind of clothing, or household items like bed-sheets, curtain, bags etc. and it will provide a scope for individual expression and creativity. Nowadays, due to the advancement of textile industry, we have a mass production of similar articles in the mills which are sold at cheaper cost, than real bandhani. The attention of the public is focused more on such products. Still the charm and beauty of a real bandhani cannot be produced by machines. The tie and dye technique is really beautiful and artistic. This technique is considered to be economically viable, easy to apply and creates pattern which are liked by one and all. The Government is trying to preserve this traditional art which has originated in India itself.

Women folk, who possess skill in many arts and crafts if given adequate training, can effectively earn for family or be a self learner. The training can be more effective if given in Women's field of interest and work. The women generally possess an aptitude and liking for creative activities like sewing, embroidery, making pickles etc. Empowering women is the most effective tool for development as well as poverty reduction. Problem of unemployment is one of the major concerns in India and this problem is more rampant among rural women due to low literacy, lack of technical skill, resource and awareness. It is a great challenge to bring these women in main stream of development through self employment. Krishi Vigyan Kendras are the prime centers of the districts to organize vocational trainings and other activities for upliftment and self reliance of women. Keeping

in mind opportunity of self employment of women a study was conducted in Krishi Vigyan Kendra, Fatehabad with the objectives.

- 1) To impart intervention on tie and dye for knowledge gain, attitudinal change and skill acquisition.
- 2) To study perceived feasibility of tie and dye for adoption.

## 2. Methodology

The present study was conducted in three villages namely Sahnal, Bahbalpur and Salamkhara from Fatehabad district of Haryana State. 25 adolescent girls and rural women from each village, totaling a sample of 75 respondents were randomly selected for the purpose. Five days vocational trainings were imparted in each village, which included rapport building, lecture, demonstration and literature for reinforcement. Total nine techniques of tie and dye were demonstrated to the selected respondents, viz. knotting, tyeing, pegging and clipping, marbling, binding, stripe and check effect, tritik, discharge dyeing and tacking. Pre and post exposure of respondents were recorded and impact was assessed for knowledge gain, attitudinal change and skill acquisition. Perceived adoption feasibility was worked out to assess the potential of technology among rural women and adolescent girls. Knowledge statements were recorded on 126 statements covering all aspects of resist dyeing. Perceived adoption feasibility index was calculated with the formula given below:-

$$PAFI = \frac{E (RA+PC+CC+SC+Tr)}{P (RA+PC+CC+SC+Tr)} \times 100$$

E = Extent to which message was rated field applicable by the respondents as regard to relative advantage (RA),

physical compatibility (PC), cultural compatibility (CC), simplicity complexity (SC) and triability (Tr)  
 P = Medium limit to which message was rated field applicable as regard to relative advantage (RA), physical compatibility (PC), cultural compatibility (CC), simplicity complexity (SC) and triability (Tr)

### 3. Results and Discussion

**Knowledge Level of the Respondents regarding Resist Dyeing:** Knowledge inventory on resist dyeing consisted of 126 questions covering 15 aspects covering total eight techniques of dyeing. The knowledge items were categorized under four major categories viz. general awareness, pre-dyeing stage, processing or dyeing stage and precaution or instructions for beginners. Knowledge was assessed at pre and post stage of training to have an insight into knowledge acquisition.

**Table 1:** Pre and Post Exposure Knowledge of Respondents regarding Tie and Dye, n=75

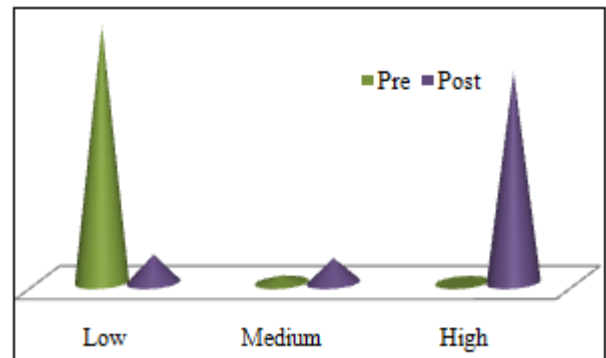
S. No.	Knowledge Statements	Pre-exposure Knowledge M.S. (%)	Post-exposure knowledge M.S. (%)
1.	General awareness (5)	1.2(22.80)	4.82(87.20)
2.	Name of material required (10)	0.16(8.70)	9.2(75.25)
3.	Fabric suitable for dyeing (7)	0.10(1.15)	0.6(69.50)
4.	Preparation before dyeing (5)	0.12(0)	42(72.0)
5.	Procedure of dyeing	0(0)	11.2(85.0)
6.	Color fixing (6)	0(0)	5.29(72.0)
7.	Name of resist dyeing technique (8)	0(0)	7.06(82.0)
8.	(i) Knotting method (6)	0(0)	5.27(95.0)
	(ii) Thread tyeing (6)	0(0)	5.27(95.0)
	(iii) Marbling (6)	0(0)	5.92(87.5)
	(iv) Pegging and clipping (6)	0(0)	5.43(82.25)
	(v) Binding (10)	(1.50)	8.76(89.25)
	(vi) Strip and check effect (8)	0(0)	7.07(72.50)
	(vii) Tritik (16)	0(0)	13.23(82.50)
	(viii) Discharge dyeing (9)	0(0)	6.8(72.5)
	(ix) Tacking (6)	0(0)	5.2(72.5)
9.	Precaution in dyeing (12)	(1.15)	10.28(90.81)

Table 1 depicts the knowledge of respondents at pre and post exposure stage. It can be observed from table that existing knowledge of respondents regarding resist dyeing was quite low as it ranged between 0.00 to 22.80 percent. However, at post training stage knowledge gain was observed between 69.50 to 95.0 percent. It clearly indicates that training and demonstration on resist dyeing succeeded in enhancing knowledge of respondents regarding all aspects of resist dyeing. This trend shows that women and adolescent girls were keen to learn all procedural steps. The results are in line with those earlier reported by Yadav (2008), Kumari (2009) and Dahiya and Yadav (2015).

**Table 2:** Skill Acquisition of Respondents regarding Tie and Dye, n=75

S. No.	Level of Skill	Pre-exposure		Post-exposure	
		Frequency	Percentage	Frequency	Percentage
1.	Low (0-27)	73	97.33	08	10.66
2.	Medium (28-55)	02	02.73	07	09.33
3.	High (56-80)	0	0	60	80.00

Techniques: Knotting; Pegging and clipping; Tritlic; Thread tyeing; Binding; Discharge technique; Marbelling; Stripe and check effect; Tacking method



**Figure 1:** Pre and Post Exposure Skill Acquisition

Skill acquisition of the respondents was calculated after they were assigned to make samples of each design after completion of vocational training programme. Total nine techniques of tie and dye were assigned to them. These were knotting (6 steps); tyeing (8), marbling (6); pegging and clipping (6); binding (15); stripe and check effect (8); tritik (16); discharge dyeing (9) and tacking technique covering 6 steps. It is observed from Table 2 that the 97.33 percent respondents had low level of skills, regarding tie and dye techniques and only 2.73 percent had medium level of skill. However, after completion of intervention maximum number of respondents (80.00%) acquired high level of skill and could succeed in handling of all tie and dye techniques by preparing samples. Only 10.66 percent respondents had low level of skills. This might be due to the fact that illiterate women need repeated exposures regarding some difficult techniques of dyeing like tritik and discharge methods. Some of the respondents i.e.9.33 percent had medium level of skill regarding resist dyeing. The results are in line with Yadav *et al.*, (2008) and Dahiya and Yadav (2015).

#### Perceived Feasibility of Tie and Dye

Tie and dye was considered to be highly feasible activity by respondents covered under study as AFI index was found 84.89 percent. All four parameters attributed highly feasible. However, highest AFI was found for compatibility 81.22 percent followed by practicability 80.73 percent and relative advantage 76.24 percent, respectively. Mean score values indicated the responses regarding different sub attribute. It can be observed from table that although resist dyeing has consistency of use (M.S. 2.86) and monetary benefit (M.S. 2.84). Women were of the view that it is beneficial activity, use potential is high with low cost yet it is time consuming activity showing low mean score of 1.77 respectively. In spite of advantageous it takes time to dye a single colour fabric manually. Compatibility shows that it is highly feasible at village situation. They felt the technology as need based, suited to their existing culture and cultural compatibility (M.S. 2.93) followed by relational (M.S.2.86) and physical compatibility (M.S.2.46), respectively.

**Table 3: Perceived Adoption Feasibility of Tie and Dye Techniques, n=75**

	Response Categories			Mean Scores	AFI (%)
	Strongly Agree (3)	Agree (2)	Disagree (1)		
<b>1. Relative Advantage</b>					
Low initial cost	50(150)	05(10)	20(180)	2.4	80.00
Monetary benefit	68(204)	02(04)	05(213)	2.84	94.66
Consistency of use	65(195)	10(20)	0(215)	2.86	95.55
Time saving	28(84)	02(04)	45(133)	1.77	59.11
Multiple use potential	58(174)	02(04)	15(193)	2.57	85.78
<b>76.24</b>					
<b>2. Compatibility</b>					
Cultural compatibility	70(210)	05(10)	0(220)	2.93	97.78
Physical compatibility	50(150)	10(20)	15(185)	2.48	82.22
Situational compatibility	40(120)	10(20)	25(165)	2.20	70.33
Social compatibility	65(195)	05(10)	05(210)	2.80	95.45
Relational compatibility	60(180)	10(20)	15(215)	2.86	95.56
<b>81.22</b>					
<b>3. Simplicity Complexity</b>					
Cognitive simplicity	61(183)	09(18)	15	2.88	96.00
Application simplicity	62(186)	10(20)	03	2.78	92.89
Resource simplicity	63(189)	05(10)	07	2.74	91.56
Reversibility	21(63)	25(50)	29	1.89	63.11
Increase in efficiency	22(66)	10(20)	43	1.72	57.33
<b>73.63</b>					
<b>4. Practicability</b>					
Communicability	50(150)	25(50)	0	2.66	88.89
Visibility of results	70(210)	05(10)	0	2.93	97.78
Demonstrability	68(204)	02(4)	05	2.84	94.67
Triability	65(205)	02(4)	08	2.89	96.44
Provision of modification	21(63)	22(44)	32	1.85	61.78
<b>80.73</b>					
<b>AFI = 84.89</b>					

AFI = Adoption Feasibility Index

As far as depth analysis of simplicity complexity attribute highest mean score was assigned to cognitive simplicity 2.88 and application simplicity 2.78. However, mean score for increase in efficiency was found low i.e. 1.72 because it is time consuming operation and whole process is manual.

Regarding practicability attribute highest feasible attribute was observed visibility of results (M.S.2.93) and triability

(M.S. 2.89) as the technique produce visible results and also triable. Respondents found all designs attractive and need based by practical hands and skill acquisition. Same results were reported by Yadav *et al.* (2008) and Sharma and sharma (2006) who also suggested tie and dye as fabric enrichment technique at low cost.

**Table 4: Preferential choice of respondents regarding techniques of tie and dye**

S.N.	Techniques	Most Preferred (4)	Preferred (3)	Somewhat Preferred (2)	Not Preferred (1)	Total Score	Mean Score	Ranks
1.	Knotting	25(100)	30(90)	15(30)	05	225	3.0	IV
2.	Thread tyeing	65(260)	10(30)	0(0)	0	290	3.86	I
3.	Marbling	60(240)	08(24)	07(14)	0	278	3.70	II
4.	Pegging & clipping	30(120)	10(30)	15(30)	20	200	2.66	VII
5.	Binding	25(100)	5(15)	43(86)	02	203	2.70	VI
6.	Stripe & check effect	45(180)	5(15)	23(46)	02	243	3.24	V
7.	Tritik	22(88)	30(90)	18(76)	05	259	3.45	III
8.	Discharge technique	21(84)	5(15)	29(58)	10	167	2.22	VIII
9.	Tacking	15(60)	5(15)	20(40)	35	150	2.00	IX

Preferential choice of the respondents regarding all nine techniques was observed after completion of intervention programme on a four point continuum. It is evident from Table 4 that tyeing technique was ranked 1<sup>st</sup> (M.S. 3.86) by the respondents. Marbling got 2<sup>nd</sup> rank (M.S. 3.70) followed by tritik technique (M.S. 3.45). However, resist dyeing designs are attractive, unique and colourful with traditional look, so all the respondents liked them very much on cotton fabric so even the lowest mean score was found 2.0 which

ranged at medium level. All techniques can be used on household items and clothing like suits, *dupattas* and *sarees*.

#### 4. Conclusion

Empowering women is the most effective tool for development as well as poverty eradication. Problem of unemployment is one of the major concerns in India and this problem is more rampant among rural women due to low literacy, lack of technical skill, resources and awareness.

Present study succeeded in enhancing the knowledge of women and adolescent girls in technical message of tie and dye techniques. Skill acquisition of the respondents was found high in all aspects. All the respondents prepared samples of tie and dye after completion of training. Perceived feasibility was found 84.89 percent. Preferred technique of tie and dye was thread tying.

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