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Tie and Dye Technique – An excellent opportunity for Self Employment

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ABSTRACT
Tie-dye is a craft that is 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 Khagaria district of Bihar state. Total 75 respondents were selected randomly for vocational training i.e. 25 each from Purvi Hardaschack ,Mehsouri and Lohia nagar villages of Khagaria district . Vocational training on surface enrichment of fabrics through tie and dye technique were organized for ten 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

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INTRODUCTION

One can simply define Tie-dye as a method of tying or stitching fabric together to prevent the absorption of dye to a particular area states that, dyeing is the process of applying colour on cloth to produce a design views tie and dye as a method of introducing coloured or white pattern on cloth, by tying it with strong strings in various ways before immersing it in the dye bath; the colour is absorbed in all except the tied areas thus revealing a patterned result which is seen by untying the dyed material. Although the techniques of tie and dye vary from culture to culture, the concept of dying remains one of the oldest methods of printing design on fabric. Another viewpoint of tie and dye is expressed by [1] who states that tie-dye resembles both printing and dyeing in different ways. It is popularly known as '*Bandhani'* is one of the oldest and simplest techniques 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,and* 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, cushion cover, pillow cover, 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 village 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, mushroom production 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 Kendra Khagaria is the prime center of the districts to organize vocational trainings, ***demonstrated practically*** 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, Khagaria 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.

METHODOLOGY

The present study was conducted in three villages namely ***Purvi Hardas chock , Mehsouri and Lohia nagar villages of Khagaria*** district. 25 adolescent girls and rural women from each village, totaling a sample of 75 respondents were randomly selected for the purpose. Ten 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, thread tying, folding, stitching, laheria, sun rays, marbling, ranching 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:-

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

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

RESULTS AND DISCUSSION

Knowledge Level of the Respondents regarding Resist Dyeing:

Knowledge inventory on resist dyeing insisted 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.N.	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 (9)	0(0)	7.06(82.0)
8.	I. Knotting method (6) II. Thread tying (6) III. Folding(6) IV. Stitching (6) V. Laheria(10) VI. Sun rays (8) VII. Marbling (16) VIII. Rauching (9) IX. Tacking (6)	0(0) 0(0) 0(0) 0(0) (1.50) 0(0) 0(0) 0(0) 0(0)	5.27(95.0) 5.27(95.0) 5.92(87.5) 5.43(82.25) 8.76(89.25) 7.07(72.50) 13.23(82.50) 6.8(72.5) 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 [2][3]and[4].

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

S. No.	Level of Skill	Pre-exposure		Post-exposure	
		Percentage	Frequency	Percentage	Frequency
1.	Low (18-27)	73	97.33	08	10.66
2.	Medium (28-35)	02	02.73	07	09.33
3.	High (36-45)	0	0	60	80.00

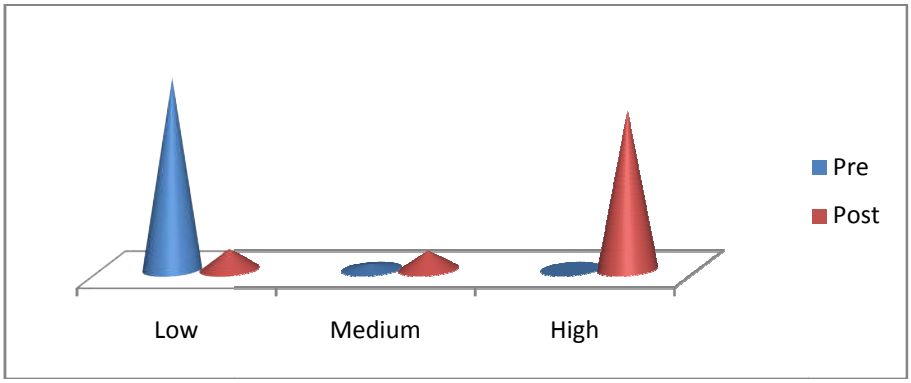

Figure 1: Pre and Post Exposure Skill Acquisition

Techniques: knotting, thread tying, folding, stitching, laheria, sun rays, marbling, rauching and tacking method. Skill acquisition of the respondents was calculated after they were assigned to make samples of each design after completion of vocational training programme and ***demonstrated practically***. Total nine techniques of tie and dye were assigned to them. These were knotting (6 steps); tyeing (8), folding (6); stitching (6); laheria (15); sun rays (8); marbeling (16); rauchimg (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 trite 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 [5][3][2]

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

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 [5][6] 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.	Folding	60(240)	08(24)	07(14)	0	278	3.70	II
4.	Stitching	30(120)	10(30)	15(30)	20	200	2.66	VII
5.	Laheria	25(100)	5(15)	43(86)	02	203	2.70	VI
6.	Sun rays	45(180)	5(15)	23(46)	02	243	3.24	V
7.	Marbling	22(88)	30(90)	18(76)	05	259	3.45	III
8.	Rauching	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 tying technique was

ranked 1st (M.S. 3.86) by the respondents. Folding got 2nd rank (M.S. 3.70) followed by Marbling 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* , *saree*sand also bed-sheets, cushion cover, pillow cover, curtain, bags etc..

CONCLUSION

Empowering women is an essential tool to get the goal of 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 tyeing.

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