

## Existing Upcycling Practices for Discarded Denim in Haryana

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### Abstract

*The most appealing fact about denims is that they are comfortable, durable, stylish and very easy to care and maintain. With these advantages the love for denims is growing every day and makes it appeal to people of all ages, genders and even communities. Being in such a vogue, it is also one of the most discarded items of clothing. Therefore, the present research was conducted in Hisar and Sonipat districts of Haryana state to study the existing upcycling practices of respondents for pre and post consumer discarded denim. Fifty respondents were selected purposively from different areas of Hisar and Sonipat to collect information regarding existing upcycling practices for pre and post consumer discarded denim. All the respondents were engaged in repair and alterations of female and male denim garments and 62 percent of them were also engaged in repair and alterations of children denim garments. All the respondents possessed pre consumer discarded denim in the form of cutting leftovers and post consumer discarded denim in the form of discarded denim garments. They upcycled pre consumer discarded denim for repair and alterations of denim garments while gave away the post consumer discarded denims to servants, relatives, friends and charity. Major problem faced by respondents in upcycling of pre and post consumer discarded denim was lack of knowledge regarding construction, embellishment and designing techniques while the least preferred problem was financial and technical constraints. Stitching as construction, darts and pleats as designing, and trimmings, ornamentation material and embroidered patch as embellishment technique were the commonly used techniques used to construct, design and embellish various upcycled articles. The existing upcycling practices of respondents for discarded denim highlighted that respondents had limited knowledge about the innovative construction, designing and embellishment techniques, required for upcycling of discarded denim. Therefore, there is a dire need of new denim upcycling ideas to enhance the range of designing and productivity of upcycled denim products.*

**Key words:** *embellishment darts, pleats, pre and post consumer discarded denim, upcycling,*

### Introduction

Denim is a highly durable fabric and originally used as work cloth by the people who needed long lasting clothes. Originally used for workmen's clothes, denim is now ubiquitous and has even entered the world of high fashion. It is a fact that jeans which were designed as work clothes for field workers, today have become a style statement. There is hardly

any country in the entire world where denims are not worn.

Denims are now considered as a staple product in apparel not only in the major metropolitan cities of India, but also amongst all strata of Indian society. Among all types of denim wear, jeans are the most popular article among Indian women. Women in different age groups of all shapes and sizes like to wear denims as

it is comfortable, functional, and durable. Also, women who are not at ease with western wear have taken up to wearing jeans by pairing them with Indian ethnic wear like *kurti*. This mix and match style is gradually picking up, particularly among women in small towns who come from a traditional background.

The main driver for the increase in the denim market is due to versatility in denim fabric and product line. Due to availability of comfortable and functional denims, denim market is constantly redefining and re-inventing itself with versatile denim items of clothing and accessories, foot wears and even upholstery products as per demand of fashionable consumers.

The requirements of denims changes over time in terms of size and style as per requirement and fashion. When the style or fashion is changed, denims which are outdated become waste or unusable, which encourage replacement and disposal of outdated but good quality denims. The technological advancements over the past two decades and rise in economy of middle class has also created an extremely important influence on the denims usage pattern of consumers. As a result consumers purchase more number of affordable denims than actually needed and finally discard them only after one season due to fast changing style. This speed of producing new denim and discarding them is unhealthy for the planet. Further, the production of denims is also an expensive process and produce huge amount of waste. Consumption pattern of consumers and production of denims is equally responsible for generating denim waste<sup>[5]</sup>.

Denim waste can be categorized as pre consumer denim waste and post consumer denim waste. Pre-consumer discarded denim consists of cutting left

over, discarded & rejected denim fabrics & garments, and export surplus which are homogenous. This denim waste is clean and smooth in nature for use of other purposes. The post-consumer discarded denim consists of any type of denim garment that has finished its lifestyles cycle and is now not beneficial to the client in both characteristics and aesthetics, either because they are worn out, damaged, outgrown, or have gone out of fashion<sup>[4]</sup>.

Though denim waste is small in terms of quantity as compared to other waste streams but it has a large impact on environment and human health. It is estimated that up to 95% of the denims that are land filled each year could be reused through proper waste management.

Upcycling is relatively a new concept. It is a creative way to convert something valuable from valueless. Upcycling of discarded denim is a physical and chemical process of reusing discarded denim by renovating, re-strengthening and redesigning the denims which are not in fashion with greater value as per latest fashion trend by using various construction, designing and embellishment techniques, which can provide an extended life to denims.

Therefore, now for environmental and economic reasons, it is becoming necessary to utilize denim waste to their fullest capacity. Pre and post consumer denim waste together provide tremendous opportunity to produce a wide range of denim articles. Upcycled fashion can tackle more than one problem at a time i.e. saving natural resources, environmental pollutants and consumer's demand for trendy clothes. Keeping these facts in mind, the research was planned with the following specific objective:

- To study the existing upcycling practices for discarded denim

## Method and material

The extensive field work was done to study the existing upcycling practices of respondents for pre and post consumer discarded denim. Fifty respondents engaged in different type of denim crafts along with regular tailoring activities denim were selected purposively from different areas of Hisar (Azad nagar, Camp, B and R Colony, Rishi nagar and Dogran mohalla) and sonipat (Sector 12, 14, 15 and model town) districts to collect information regarding existing upcycling practices for pre and post consumer discarded denim. The information was collected in respect of type of denim crafts practiced by the respondents, type of pre and post consumer discarded denim possessed by them, upcycling practices for pre and post consumer discarded denim, problems faced by them in upcycling of pre and post consumer discarded denim

and construction, designing & embellishment techniques used by them for upcycling of pre and post consumer discarded denim. The information was collected using self-structured interview schedule along with observations.

### Frequency and Percentage:

Frequency and simple percentages were calculated to assess the personal profile of respondents, denim crafts practiced by the respondents, pre and post consumer discarded denim possessed by respondents, construction, designing and embellishment techniques used for upcycling of pre and post consumer discarded denim. **Weighted Mean Score (WMS):** Weighted mean scores were calculated to find out the ranks for the preferences of respondents for problems faced by respondents in upcycling of discarded denim.

$$\text{Weighted mean Score} = \frac{\text{Total Weighted score}}{\text{Number of response}}$$

## Results and discussion

The information related to existing upcycling practices for pre and post consumer discarded denim was collected through survey done by using self structured interview schedule. Fifty respondents, who were actively engaged in different denim crafts along with regular tailoring activities were selected purposively from different areas of Hisar and Sonipat districts of Haryana.

### Personal profile of respondents

The data regarding personal profile of respondents (fig.1) revealed that majority of respondents from Sonipat were male (88%) while from Hisar were female i.e. 84 percent. More than half of the respondents i.e. 54 percent from Hisar and 52 percent from Sonipat belonged to the age group of 26-35 years. Ninety two percent respondents of Hisar were married

while 58 percent respondents of Sonipat were unmarried.

The data regarding education of respondents revealed that 58 percent respondents of Hisar were educated up to senior secondary level while 44 percent respondents of Sonipat were illiterate.

The data delineated that a large majority of respondents from Hisar i.e. 92 percent were working as tailor while 88 percent respondents of Sonipat were engaged only in repair and alterations of denims along with other apparel. It was found that 40 percent respondent's family income, who belonged to Hisar was between Rs. 15000- 25000, while 60 percent respondents of Sonipat were earning above Rs. 25000 every month.

Thus, majority of respondents from Hisar were married belonged to the age group of 26-35 years, having education

upto senior secondary level, working as tailor and earning Rs.15000-25000 per month, while majority of respondents from Sonipat were unmarried, illiterate males of

age group 26-35 years, engaged in repair and alterations of denims and earning above Rs. 25000 per month.

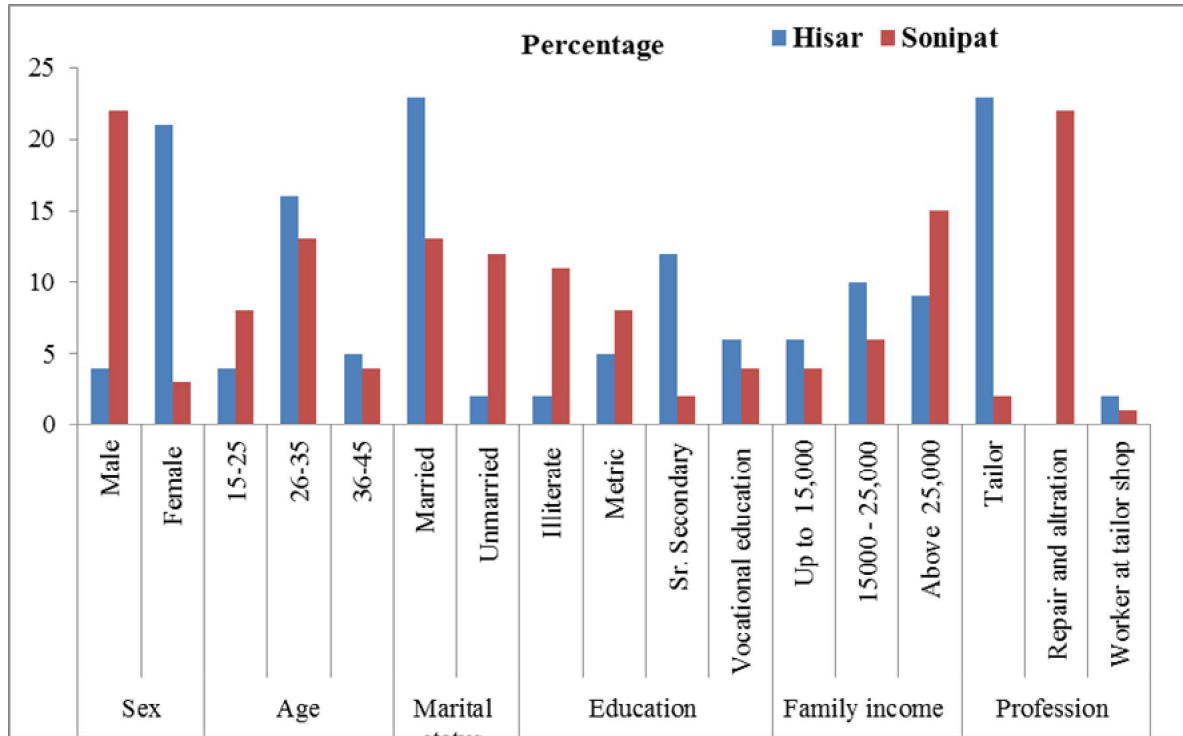


Figure 1: Personal profile of respondents

**Type of denim crafts practiced by the respondents**

The data depicted in Table 1 illustrated the different type of denim crafts practiced by the respondents along with regular tailoring activities. The data revealed that all the respondent who were

actively engaged in repair and alterations of discarded denims were doing repair and alterations of female and male denim garments (100%) followed by 62 percent respondents who were also doing repair and alterations of children denim garments.

**Table 1 Type of denim crafts practiced by the respondents n=50\***

Sr. No.	Denim crafts	Frequency (%)
<b>A</b>	<b>Repair and alterations of denim articles</b>	
1	Male denim garments	50(100)
2	Female denim garments	50(100)
3	Children denim garments	31(62)
<b>B</b>	<b>Stitching of denim articles</b>	
1	Apparel and accessories	05(10)
2	Home furnishing and accessories	03(06)
3	Utility articles	03 (06)

**\*Multiple Responses**

Ten percent respondents were engaged in stitching of denim apparel and

accessories followed by 6 percent respondents who were making home

furnishing and utility articles using denim fabric.

Thus, all the respondents were doing repair and alterations of male and female denim garments and 62 percent of them were also engaged in repair and alterations of children denim garments.

The results depicted that all the respondents who were engaged in repair and alterations of denim garments along with regular tailoring activities were altering only the length and fit of denims rather than the size of denim garment as it is very time consuming and most of the consumers remains reluctant in paying the full stitching charges of the re-sized denim garments. It was also observed during data collection that they got limited orders for repair of denim as visible sign of wear and tear are considered as style in denims. The reason for these specific denim craft activities followed by the respondents may be the preference of readymade jeans by majority of consumers as compared to the tailor made jeans.

Near about 80 percent of consumers preferred readymade jeans and 70 percent of jeans sold in India are tagged with a label and rest by tailors and localized manufacturers<sup>[6]</sup>.

**Type of pre and post consumer discarded denim possessed by respondents**

The data illustrated in Table 2 delineated the type of pre and post consumer discarded denim possessed by the respondents. It was found that all the respondents possessed pre consumer discarded denim in the form of layout or cutting leftovers. Pre consumer discarded denim in the form of small pieces (<1/4 m) and large pieces (1/4m>1/2m) were possessed by 38 percent and 14 percent of respondents respectively. Ten percent respondents were having damaged denim fabric followed by 8 percent respondents who possessed pre consumer discarded denim in the form of discarded unused garments.

**Table 2 Type of pre and post consumer discarded denim possessed by respondents**

**n=50\***

Sr. No.	Pre and post consumer discarded denim	Frequency (%)
<b>A</b>	<b>Pre consumer discarded denim</b>	
1	Large pieces 1/2m>1/2m	7(14)
2	Small pieces <1/2 m	19(38)
3	Layout / cutting leftovers	50(100)
4	Damaged fabrics	5(10)
5	Discarded garments	04(08)
<b>B</b>	<b>Post consumer discarded denims</b>	
1	Damaged garments	04( 08)
2	Worn out	08(16)
3	Out grown	13(26)
4	Out of fashion	07 (14)

**\*Multiple responses**

It is clear from the data in Table 2 that post consumer discarded denims were available with 26 percent respondents in the form of out grown denim garments

while 16 percent respondents were having worn out denim garment followed by 14 percent respondents who possessed post consumer discarded denims in the form of

out of fashion denims. Only 8 percent respondents were having post consumer discarded denims in the form of damaged denims.

Thus, all the respondents possessed pre consumer discarded denim in the form of layout/ cutting leftovers and post consumer discarded denims in the form of out grown (26%) and worn out (16%) denim garments<sup>[1]</sup>.

It was observed that pre consumer discarded denim in the form of cutting leftovers and small pieces came from alterations of denims, as majority of respondents were not having appropriate knowledge regarding alterations of denims. The post consumer discarded denim was available with only a few respondents in the form of discarded denims rejected by consumers due to wrong alterations.

This may be due to the reason as maximum numbers of respondents were not aware about the proper methods of taking body measurements and alteration techniques. Cheap quality of measuring and cutting tools, defective/ faulty stitching equipments and poor maintenance of tools and equipments were some of the major reasons contributing towards poor alterations of denims. Unprofessional attitude of respondents may also be the reason for unsatisfactory

alterations of denims. This may be due to the reason as most of the respondents did not undertake any vocational training to learn alterations of denims.

**Upcycling practices of respondents for pre and post consumer discarded denim**

Data in Table 3 illustrated the upcycling practices of respondents for pre and post consumer discarded denim. It was disclosed that all the respondents upcycled pre consumer discarded denim i.e. layout or cutting leftovers, small and large denim fabric pieces for repair and alterations of denim garments followed by 62 percent respondents who sold pre consumer discarded denim to *durrie* weavers. Utility articles were made by 10 percent respondents while home furnishing and accessories were made by 6 percent of respondent to utilize pre consumer discarded denim.

As far as the upcycling practices for post consumer discarded denims was concerned, all the respondents gave away discarded and damaged denim garments to servants, relatives, friends and charity while 38 percent respondents upcycled post consumer discarded denims into clothing articles and accessories with little alterations. A few respondents i.e. 8 percent utilized post consumer discarded denims for making home furnishing and utility articles.

**Table 3 Upcycling practices of respondents for pre and post consumer discarded denim**

**n=50\***

Sr. No.	Upcycling practices	Frequency (%)
<b>A</b>	<b>Pre consumer discarded denim</b>	
1	Repair& alterations of apparel	50 (100)
2	Sold to <i>durrie</i> weavers	31 (62)
3	Home furnishing	03 (06)
4	Utility articles	05 (10)
<b>B</b>	<b>Post consumer discarded denims</b>	
1	Gave away to servants/ relatives and charity	50 (100)
2	Clothing articles	19 (38)
3	Home furnishing	04 (08)
4	Utility articles	04 (08)

**\*Multiple responses**

Thus, all the respondents upcycled pre consumer discarded denim for repair and alterations of denim garments and also sold (62%) to the *durrie* weavers while all of them gave away the post consumer discarded denims i.e. discarded and damaged denim garments to servants/relatives/ friends and charity.

Similar results were found by others<sup>[1]</sup> who designed trimmings using underutilized textile material. She reported that boutique owners used leftover fabric pieces for making clothing articles while tailors sold these apparel waste to the professionals engaged in making of utility articles, soft toys and *durries*.

The results of the research revealed that majority of respondents adopted the practice of discarding the garments waste as trash (65%), followed by handed down discarded garments within the family (47%), reuse fabrics as duster (41.5%), gave gift to extended family members

(30%), and also donated to charity (28.5%).

**Problems faced by respondents in upcycling of discarded denim**

The data in Table 4 depicted the various problems faced by the respondents in upcycling of pre and post consumer discarded denim. The major problem faced by the respondents was “lack of technical knowledge regarding denim crafts,” got 1<sup>st</sup> rank with WMS score 2.62 followed by the “inadequate skills regarding upcycling of denims” got II<sup>nd</sup> rank with WMS 2.60. The “lack of expertise” in denim crafts was also one of the problem faced by respondents, which got III<sup>rd</sup> rank with WMS 2.54 followed by the problem of “shortage of time” got IV<sup>th</sup> rank with weighted mean score 2.52. The respondents also reported the problem of “technical and financial constraints”, which got V<sup>th</sup> rank with WMS 2.46.

**Table 4 Problems faced by respondents in upcycling of discarded denim n=50\***

Sr. no	Problems	WMS	Rank
1.	Inadequate skills	2.60	II
2.	Shortage of time	2.52	IV
3.	Lack of technical knowledge regarding denim crafts	2.62	I
4.	Lack of expertise	2.54	III
5.	Technical and financial constraints	2.46	V

**WMS- Weighted Mean Score, Highly Preferred 2.34-3.00, Preferred 1.67-2.33, Least Preferred 1.00-1.66**

Thus, major problems faced by respondents in upcycling of pre and post consumer discarded denim were ‘lack of technical knowledge regarding denim crafts’, and ‘inadequate skills’ regarding upcycling of discarded denim.

**Upcycling techniques practiced by respondents for upcycling of discarded denim**

The data related to different type of construction, designing and embellishment techniques applied by respondents for upcycling of pre and post consumer discarded denim has been unveiled in Table 5. The data disclosed that all the respondents (100%) used stitching as construction technique for making various upcycled denim articles by using pre and post consumer discarded denim. Patch work was the other construction technique used by 12 percent respondents to utilize pre consumer discarded denim.

**Table 5 Upcycling techniques practiced by respondents for upcycling of discarded denim n=50\***

Sr. No.	Upcycling techniques	Pre consumer discarded denim Frequency (%)	Post consumer discarded denims Frequency (%)
<b>1.</b>	<b>Construction Techniques</b>		
	Stitching	50(100)	50(100%)
	Patch work	06(12%)	04(8%)
<b>2.</b>	<b>Designing Techniques</b>		
	Patch work	06(12%)	06(12%)
	Appliqué work	06(12%)	06(12%)
	Pleats and darts	11(22%)	18(36%)
<b>3.</b>	<b>Embellishment Techniques</b>		
	Trimmings	04(08%)	04(08%)
	Ornamentation material	04(08%)	04(08%)
	Embroidered patch	04(8%)	04(08%)

**\*Multiple responses**

Pleats and darts were the frequently practiced designing techniques used to design upcycled denim articles using pre consumer discarded denim and post consumer discarded denim by 22 percent and 36 percent respondents respectively. Twelve percent respondents also used patchwork and appliqué work as designing technique to design upcycled articles using pre and post consumer discarded denim.

A few respondents i.e. 8 percent commonly used trimmings, ornamentation material and embroidered patch to embellish upcycled denim articles made from pre and post consumer discarded denim.

Thus, stitching as construction technique, pleats and darts as designing techniques and trimmings, ornamentation material and embroidered patch as embellishment technique were the commonly used techniques used to construct, design and embellish various

**Conclusion**

Denims are embraced into our daily life and preferred by almost all the people irrespective of their age and gender.

upcycled denim articles made by using pre and post consumer discarded denim.

The commonly used construction, designing and embellishment techniques indicate the specific knowledge of respondents regarding various techniques which they used to upcycle pre and post consumer discarded denim. It shows that they were not having appropriate knowledge about the innovative construction, designing and embellishment techniques to prepare upcycled denim articles as per demand of consumers with up-market taste. Therefore, majority of respondents were making only a few upcycled articles i.e. pillow and cushion covers as home furnishings and bags as utility article. Further, they themselves also reported the same problem in upcycling of discarded denim i.e. lack of knowledge regarding construction, designing and embellishment techniques of upcycling of discarded denim<sup>[3,7]</sup>.

It is a long lasting fabric and people usually discard it because of changing trends. Respondents, who possessed pre



consumer discarded denim in the form of layout or cutting leftovers and post consumer discarded denim in the form of out grown, worn out and out of fashion denim garments utilized pre consumer denim for repair and alterations of denim garments while gave away the post consumer discarded denims to servants/relatives/ friends and charity. Only a few respondents were making denim apparel & accessories, home furnishing & accessories and utility articles by using pre and post consumer discarded denim by using stitching as construction technique, pleats and darts as

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designing techniques and trimmings, ornamentation material and embroidered patch as embellishment technique. It shows that they were not having appropriate knowledge about the innovative construction, designing and embellishment techniques to prepare upcycled denim articles as per demand of consumers with up-market taste. Therefore, there is a dire need of innovative denim upcycling ideas to enhance the range of designing and productivity of upcycled denim products, which will help in making this art a marketable commodity.