

# AWARENESS AMONG TEXTILE WET PROCESSING UNITS REGARDING ECOFRIENDLINESS

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## ABSTRACT

*The textile industry is the single largest industry in the country. It fully meets the growing needs of the increasing population for one of the basic necessities of life i.e. clothing. It offers the immense scope for employment. Though the textile industry has its importance in the national economy, but at the same time, it is responsible for disastrous environmental impact. Textile wet processing like desizing, scouring, bleaching, mercerizing, dyeing and printing causes severe pollution and health problems. Eco-friendly production is a comprehensive, preventive approach to environmental protection. There is a need for processing units to be aware about the social, economical and ecological benefits of environmentally sustainable products and development processes to implement them further.*

**KEYWORDS:** - Awareness, Ecofriendly, Wet Processing

## 1. INTRODUCTION

Textile wet processing like desizing, scouring, bleaching, mercerizing, dyeing and printing causes severe pollution and health problems. Eco-friendly production is a comprehensive, preventive approach to environmental protection. Eco-friendly textiles are those which do not contain any hazardous or toxic substances and which are biologically degradable so that they do not cause any damage to the environment and ecology [6]. The awareness in eco-friendly textiles in the processing industry has received significant importance in the recent years. Germany was the most prominent country to ban import of textiles dyed with azo group of dyes. They are of the opinion that the use of textiles with harmful dyes and chemicals are carcinogenic in nature and can cause skin cancer. India is exporting fabrics and garments to the various European countries [1]. Therefore, it is important that textile and garment manufacturers should be aware of and should not use those dyes and chemicals [8]. Keeping the importance of eco-friendly textiles in mind, in the present study, an attempt was made to record the level of awareness of the respondents about various aspects of eco friendliness among various processing units. As it is important for textile processing units to take incremental steps in supply chain processes to make it happen that is needed to believe in environmental sustainability. Further, they need to be aware about the social, economical and ecological benefits of environmentally sustainable products and development processes. So, the care for the environment must influence the supply chain to use sustainable processes, run business operations in an environmental friendly way, work to conserve energy and reduce waste [5].

## 2. METHDOLOGY

Research was conducted in and around Delhi (Delhi/NCR). In total 51 units were studied for the present research which included 27 cotton processing units (processing only cotton) and 24 cotton & manmade (processing both). An

Interview schedule was prepared to study the awareness among textile wet processing units regarding ecofriendly fabrics/processes/dyes/chemicals.

### 3. RESULTS AND DISCUSSION

**3.1 Eco friendly fabrics/processes**-Comparison of findings between the two categories of units cotton and cotton & manmade had indicated that (59%) respondents of cotton processing units and (71%) of cotton & manmade processing units had heard about the eco friendly processes /fabrics (Table-1).

**3.2 Seminars/ workshops on ecofriendly aspects**- There are various institutions that arrange seminars / workshops to create awareness regarding eco-friendly textiles. Surprisingly, only (12%) of the present units had attended the seminars/workshops on topics like eco friendly chemicals, quality control etc. It was found that only (7%) of the cotton processing units and (17%) of cotton & manmade processing units had attended the seminars/ workshops on ecofriendly textiles (Table-1). Further, it was found that (64%) respondents were not aware about seminars/workshops, organized by various institutions to generate awareness on various aspects of eco friendliness. Twenty-nine percent of the respondents had reported that they had no time to attend these seminars and (7%) were not interested in attending any such programme (Table-1).

**3.3 Books/journals on textiles**- A number of books and journals are available in the market which creates awareness regarding ecofriendly textiles and other recent developments in the textile industry. An attempt was made to find out the awareness among respondents regarding books / journals of textiles. It was found that (33%) respondents were aware about various books/journals on textiles. Further, comparison of finding between the two categories of units had indicated that cotton & manmade processing units (42%) had more awareness in comparison to cotton processing units (26%) (Table-1).

**3.4 German ban on dyes and chemicals**- German ban was imposed on specific Azo dyes releasing harmful amines and has already come into force with effect from 1<sup>st</sup> April 1996. As per the provisions of the ban, textiles dyed with the problematic dyes cannot be sold in Germany. This is applicable to clothing, bed linen and footwear [8]. The investigator was interested to gather information on this aspect. Analysis of the results had shown that (43%) units were having awareness. It was found that cotton & manmade processing units (54%) had more awareness in comparison to cotton processing units (33%) (Table-1).

**3.5 Indian ban on dyes and chemicals** -The Ministry of Environment and Forests issued a notification on 29<sup>th</sup> March 1996. The notification stated that, it applied in respect of the prohibition on the handling of Azo dyes and other chemicals like chlorine bleaching, PCP, Formaldehyde etc, applied to the whole of India [3]. It was found that (16%) of the units were aware of Indian Government notification regarding ban of certain dyes and chemicals. Further, comparison of finding between the two categories of units had indicated that in cotton & manmade processing units, (21%) of the respondents had awareness in comparison to cotton processing units of which only (11%) units knew about the Indian Government Notification (Table-1).

**3.6 International Eco Labels on Textiles and India's Ecomark** - The Ministry of Environment & Forests, Government of India, has instituted a scheme of labeling "environment friendly". This scheme is known as 'ECOMARK'. Any product which is made, used or disposed of in a way that significantly reduces harm, considered as environment friendly [2]. It was observed that only (1.96%) of the units were aware about the international eco labels on textiles and India's eco mark scheme (Table-1).

**3.7 Awareness while purchasing the dyes and chemicals**- An attempt was made in the present investigation to find the awareness of the respondents regarding purchase of the dyes and chemicals. Analysis of the results had revealed that (71%) units insist on legal binding guarantees from the supplier while purchasing chemicals and dyes that banned chemicals, pesticides and dyestuff and were not used while manufacturing of dyes and chemicals. As it is important to take legal guarantee, in case there is the presence of banned dyes and chemicals, they can be traced or blamed. Further, it was also observed that majority of the units were purchasing the sealed and reputed dyes and auxiliaries and very few were getting dyes and chemicals tested for the presence of the banned amines and for other eco parameters from various labs (Table-1).

A Study had shown the presence of banned amines in some samples. Out of eighty samples, 15 samples had shown the presence of banned azo colourants. Out of fifteen samples (showing presence of banned azo colourants), 13 samples were found out of the permissible limits. Twenty-five dye samples (including Disperse, Base, Acid and Reactive dyes) were collected from local market without brand names. Out of which, four had shown the presence of banned amines [2].

Chemical data relating to the strength, biological oxygen demand (BOD), chemical oxygen demand (COD) and toxicity (metals content, etc) of chemicals are available from manufacturers and suppliers in the form of Material Safety Data Sheets (MSDS). Material Safety Data Sheets are an important part of the chemical manufacturing business, not only from a safety standpoint, but from a regulatory standpoint as well. Chemical manufacturers must make Material Safety Data Sheets available for all clients and products when applicable. In order to provide the proper documentation and labeling, chemical manufacturers must rely on MSDS. These should contain chemical, eco toxicological and environmental information. This will help to prescreen chemicals and select only those with the least effect on effluent strength and toxicity [4]. It was observed that (45%) of the total units were referring Material Safety Data Sheets (MSDS).

**TABLE 1 – Awareness about Eco friendliness**

S.no	Awareness Characteristics	Cotton Processing Units (C) N=27	Cotton & Manmade Processing Units (CM) N=24	Total (%) N=51
1.	<b><u>Eco friendly fabrics/processes</u></b>			
	Yes	16 (59.26)	17 (70.83)	33 (64.71)
	No	11 (40.74)	7 (29.17)	18 (35.29)
2.	<b><u>Seminars/ workshops on eco-friendly textiles</u></b>			
	Yes	2 (7.41)	4 (16.67)	6 (11.76)
	No	25 (92.59)	20 (83.33)	45 (88.24)
3.	<b><u>Books/journals on ecofriendly textiles</u></b>			
	Yes	7 (25.93)	10 (41.67)	17 (33.33)
	No	20 (74.07)	14 (58.33)	34 (66.67)
4.	<b><u>German Ban on dyes and chemicals</u></b>			
	Yes	9 (33.33)	13 (54.17)	22 (43.14)
	No	18 (66.67)	11 (45.83)	29 (56.86)
5.	<b><u>Indian Ban on dyes and chemicals</u></b>			
	Yes	3 (11.11)	5 (20.83)	8 (15.69)
	No	24 (88.89)	19 (79.17)	43 (84.31)
6.	<b><u>International Eco Labels on Textiles</u></b>			
	Yes	1 (3.70)	0 (0.00)	1 (1.96)
	No	26 (96.30)	24 (100.00)	50 (98.04)

S.no	Awareness Charactertics	Cotton Processing Units (C) N=27	Cotton & Manmade Processing Units (CM) N=24	Total (%) N=51
7.	<b><u>Eco Mark Scheme</u></b>			
	Yes	0 (0.00)	1 (4.17)	1 (1.96)
	No	27 (100.00)	23 (95.83)	50 (98.04)
8.	<b><u>Use of dyes and chemicals</u></b>			
	Taking legally bind guarantee while purchasing			
	Yes	20 (74.07)	16 (66.67)	36 (70.59)
	No	7 (25.93)	8 (33.33)	15 (29.41)

#### 4. CONCLUSIONS

The above discussion highlighted that the processing units need more awareness regarding eco friendliness because textile industry, as such is controlled by qualitative and quantitative pattern of demand. The demand for fabrics is influenced by changes in income, growth in population, life-style, climatic conditions and fashion cycles. Textile manufactures aims at catering the needs of the trade and needs of the people. Environmental issues are now superseding other issues and Indian wet processor is required to “bring in” environment as a part of their production process and business strategy. It is important to adopt cleaner production as a preventative approach to environmental protection [6].

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