Chapter - I

INTRODUCTION

About the Problem:

Textiles are manufactured to perform a wide range of functions and are made up of different types of fibre either in pure or mixed form. In general, application of fibres belong to the following three broad categories; apparel, home functions and for industrial (technical) use. Most of the textile products are for short term use (disposable) to medium term use (apparel, household) lasting up to few years in their service life.

It is known that a large amount of textile waste is produced every year by textile/ garment manufacturing sector and household sector. Textile waste can be classified as either pre consumer (former) waste or post consumer (latter) waste. Post consumer textile waste is defined as any type of garment or household article made from manufactured textile that the owner no longer needs and decides to discard. These articles are discarded either because they are worn out, damaged, outgrown or have gone out of fashion. Consumers react to changes in fashion both in clothing and household interior designs. Seasonal changes in fashion mean that clothes can become outdated very quickly and this encourages the replacement and disposal of outdated; yet good quality garments. Economic prosperity also influences this trend.

Recycling is a key concept of modern waste management, which includes reprocessing of waste materials into new or reusable product, in a manner that on the one hand some burden of solid waste
on our ecosystem is lessened and on the other hand sustainability is achieved through replenishable resources. The increasing population on the planet earth has already led to scarcity of resources and to meet out this scarcity one has to search for alternate renewable resources in every sphere of life. Clothing being one of the triumvirates of human’s existence along with food and shelter is also no exception to it. Therefore, clothing and textiles industry has also taken steps in this direction. Renovation of old clothing, mending, darning and carving out clothing from older ones are quite popular in Indian society particularly in middle and lower income group families. However, recycling of rags is more innovative where rags are recycled for yarn-making and that yarn is reused for new clothing. Kalkar rightly opines that 99% of used textiles are recyclable.

Recycling of used clothing is prevalent in society in many ways, ranging from reuse of product in its original form (by second hand clothing market), redesigning of used clothing, using cloth for wiping or polishing, to breakdown of fabric into fibre to make new products. Shoddy industry at Panipat, Haryana is an example of the similar type of industry which recycles rags as raw materials for making yarn and thus paves the way for an eco-friendly enterprise of making yarn out of it, which is further used to make blankets, shawls, sweaters and so on at a low cost for people living Below Poverty Line (BPL Population).

**The Term Shoddy:**

The term shoddy, in origin is probably a factory term and first applied to waste thrown off ‘shed’ during the process of wool manufacturers in England. The term first appeared in *Encyclopedia Britannica (1911)*. Although, various terms like ‘mungos’, ‘extracts’, ‘flocks’, etc. are used to distinguish fibres from woolen, cotton and mixed clothing, yet here term shoddy is confined to
industry based upon rags spinning and making yarn out of it. The yarn made through this process is used for making blankets, shawls, sweaters and so on at a low cost for the benefit of weaker sections of the society. Initially, this industry grew in Great Britain and the term was popularized in Punjab (India), particularly in Ludhiana where this industry developed mainly after independence. The industry developed at Panipat at a rapid pace mainly during 1990s, which has its roots in shoddy industry of Punjab. However, in present study, the term shoddy is confined to the industry which recycles rags for yarn-making, as known popularly by this name in Panipat.

The shoddy yarn making tradition has its roots in cities of Amritsar and Ludhiana in Punjab. Amritsar still produces blankets of wool and shoddy yarn, while in Ludhiana shoddy yarn is mixed with hosiery yarn to produce sweaters, shawls, lois and stalls out of blended yarn. But in Amritsar more attention to woolen yarn and in Ludhiana greater emphasis on hosiery products, shoddy industry could not emerge there in a significant manner, while at Panipat shoddy industry developed in such a manner that Panipat has become biggest hub for shoddy industry not only in India, but in the whole world.

The main objective of the policy for Integrated Textile Development 1978 provided an impetus to growth of shoddy industry though this industry was not mentioned, but an oblique incentive was received from Government in the form of liberal imports. The main objective of the said policy were:

1. Production and availability of adequate supplies of cloths of acceptable quality and at low prices for the masses.
2. Improved arrangement for the distribution to weaker section of the population.
3. Rapid development of the decentralized sector including handloom, khadi, sericulture and maximization of employment thereby.

4. Harmonious balance between the use of cotton and synthetic fibers.

The Study Area:

1. The study area comprises an urban centre of class I, as per Census of India and the industries in adjoining surrounding territory of this leading urban centre, i.e., Panipat, located at latitude of 29° 23’ 20” N and longitude 76° 58’ 5” E. This industrial hub is leading handloom centre of Haryana, which is located on NH-1, Shershah Suri Marg at a distance of 90 km from Delhi and about a distance of 250 km from Ludhiana in Punjab, with which it has interactions in terms of Shoddy industry products. At present, the industrial township of Panipat is having more than 300 spinning units of shoddy yarn, which have a yarn production capacity of 3.90 lacs kgs/day. The number of units in a single industrial hub is largest, not in India, but in whole world (www.panipat.net).

2. The turnover of these units is about 1000 crore (www.business-standard.com), which are producing blankets, shawls and other woolen products at an economical price tag, particularly for poor people and Army people. The importance of this industry is apparent from The Tribune report dated April 18, 2003.

“...shoddy industry manufactures shoddy yarn from old and pre-mutilated rags. The yarn is then woven on power looms to manufacture cheap blankets for the masses and the Army. As a consequence of the favorable industrial climate, 90% of the shoddy industry is concentrated in Panipat, 9% in Ludhiana and Amritsar and 1% in rest of the country.”
“. . . currently, Panipat – the blanket capital of India caters to about 99% of the blanket needs of the inter-national and national relief agencies. Besides, almost 100% of the Army supplies are routed through local entrepreneurs.” (www.tribuneindia.com)

Similarly, Textiles Committee by Ministry of Textiles, Government of India, underlines development of the industry at Panipat in following manner –

“The shoddy industry has picked up sharply in Panipat during the last 15 years. There are about 300+ units of shoddy yarn and woolen industries here, which cater to weaving units at Panipat, Amritsar, Bikaner, Bhadoi. The mutilated rags that are used as raw material in this industry are imported from the European Countries. The cheap blankets produced out of these, have replaced the previously used thick cotton fabric, i.e., Khese.” Panipat Homemade – UPS Cluster, UNIDO (www.smallindustryindia.com)

The Rationale behind the Study:

The basis of all fabrics and garment is Yarn. In general, a yarn may be defined as a linear assemblies of fibres or filaments formed into a continuous strand having textile like characteristics – good tensile strength and high flexibility. So the yarn must be strong enough to withstand wear and tear in everyday use. However, the cost factor involved is also of much greater concern when one talks about clothing for working class or lower income group population. Policy for Integrated Textile Development (1978) by Government of India, clearly demarcates this necessity in its draft proposal:

“The adequate availability of woolen and blanket at reasonable prices is a matter of considerable importance, particularly for the weaker section living in the hilly parts of the country. The past
difficulties of raw material would be met by more liberal imports of wool, as well as shoddy and increase use of acrylic.”

The present study has been attempted by taking both economic and ecological implications, which make the basis of rationale behind study. As stressed in earlier paragraphs the products of shoddy are more cost-effective then the yarn made from agro-based or synthetic yarns and, this is why, the industry is known for low cost products like blankets, sweaters and shawls at attractive price tags. Geetanjali Krishnan (2006) rightly opines that –

“Many people would dismiss shoddy yarn as being second hand and dirty. But when I look at shoddy, I see the near magical transformation of torn rags into something of commercial value.”

The clothing now-a-days consists not only of fabrics made of natural fibers but also of synthetic fibers and their blends. The advancement of science and technology has led to manifold increase in the production of the synthetic fabrics and their consumption in garment industry owing to their durability and possibility of their fabrication in various forms. Shoddy Industry utilizes natural as well as, synthetic fibres for blending with yarn made out of re-spun rags, to give the yarn tensile strength, thus deriving suitable yarn for required fabrics at an economical cost. The blending process varies from purpose to purpose, which will be studied in detail in the chapter pertaining to yarn-production process.

Coming to eco-friendly aspects of the industry one finds that this industry through recycling manages disposal of solid waste of rags which are mutilated and then re-spun as yarn, which would have
otherwise been dumped as solid waste on the earth’s surface. Moreover, waste from this industry is usable in other products, which is another eco-aspect. Coming to Indian scenario, one finds apparels and garments are utilized for 70-80 % of the life of the fabric which is far higher than the developed countries, where the corresponding figures are 20-30 %. In other words one may say that in developed countries people throw away their garments much earlier as compared to our society. Moreover, after utilizing old clothing are either exchanged for utensils or given to servants and maids, who in turn wear them up-to tearing stage and then dumped in garbage heaps which is a problem for solid waste management, an environmental problem. Thus, it is a non-judicious disposal of products, which needs attention from environmental perspective, an ecological implication of the rationale behind study. Moreover, main source of yarn in India is cotton, which constitutes about 65% of the total production of yarn (Rao, 1973). However, the area under cotton in India is not able to cope up with the demand of yarn in India (Rao, 1973) due to over-population. Similarly, wool supplies are also not sufficient to meet the demand. Shoddy provides a good alternative at cheaper rates for wool yarn and thus both economic and ecological implications justify the rationale.

The present study aims at multifold objective of shoddy industry which have been discussed under the head objectives. By attaining these objectives one can help the society in general and under privileged classes in particular. Analyzing the product of shoddy and their cost effectiveness for consumers of under privileged class will have a positive impact.

On the basis of above contexts the present study has been planned on the topic- **RECYCLING OF RAGS - AN ECO-FRIENDLY AND SUSTAINABLE TECHNIQUE FOR YARN MAKING**
**Objectives:**

The major objectives of the present study are as under:

1. To study the process of yarn making through shoddy and its eco-friendly implication.
2. To study the utilitarian aspects of the products made out of the yarn.
3. To study the cost effective measures by developing a local source for raw material.
4. To investigate the sustainable development aspect of shoddy industry.
5. To study the health hazards, if any, of the workers engaged in this industry and the ways to overcome them.

**Delimitations:**

1. Study has been limited to Panipat of Haryana.
2. Only 60 shoddy yarn making units have been chosen for survey.
3. Study has been limited to 300 consumers and ---- workers.

**Limitations of the Study:**

The present study has some limitations, which have to be kept in mind before proceeding for research in this sphere. These are –

1. Although, there are about 300 to 350 units of shoddy industry in Panipat alone and these are catering to the need of yarn and blanket production for whole India and even exporting the products, yet it has not developed as organized sector. Therefore, there is no single agency from where data can be collected. This is why, the present study relies upon the data collected from
individual industries, selected through random sampling, details of which will be elaborated in Chapter - III, Methodology.

2. The study is primarily based upon survey and authenticity of the data is based upon the industrialists who have been interviewed. As per business tactics some information(s) may have been concealed by the entrepreneurs, though every care has been taken for cross-checking the information(s) provided. But source of data is mainly primary.

3. “Operation Mutilation” on docks has been questioned by some scholars, which provides raw material to shoddy industry, but in this study that aspect has not been taken into consideration as it will deflect the study from its objectives. However, some students of Trade and Commerce may be interested in such studies. Moreover, even critics are also of the view that this industry has served the cause of poor people in developing countries, by recycling of rags as evident from the statement –

“While to the rest of the world shoddy means anything that is inferior, seeking to pass for better than what it is, in the Indian context it acquires different connotations at different levels. In fact, the basic raw material for the shoddy industry is so good that a regular operation mutilation has to be resorted to, to make it good enough – or should one say bad enough? – for processing by the spinners.

Blanket for the common man is one of the main products of the Indian shoddy industry and the Government is naturally keen to extend a helping hand to see that the under-privileged people are well served. And here comes the rub, in its anxiety to do good to the poor, the Government has encouraged liberal import of rags, with which scandals galore have been associated.
The affluent in the west tend to discard their garments at the slightest sign of a change in the fashion scene, giving scant respect to the learned compilers of the Dictionary. These discarded garments, which are as good as new, are often taken up in lots by internationally recognized organizations – let us not name them – as also by the garment dealers in the west who are well aware of the weakness for ‘foreign’ goods among consumers in the under-developed or developing countries of the world.” (Laxminarain, 1978)

4. The study aims at recycling concept from Clothing and Textiles point of view on one hand and environmental impact on the other. While balancing both viewpoints, some inter-disciplinary derivations may come-up, which should not be taken as divergence of ideas. Moreover, environmental impact assessment is essential from viewpoint of Home Science as well.

**In the light of above limitations, this study has been attempted in following manner:**

An overview of the previous studies has been given in Chapter-II, while Chapter-III deals with Plan and Procedure. Chapter-IV concentrates upon the process of Shoddy Industry and its environment implications. Chapter-V deals with Analysis of Results and Discussions while Conclusions, Problems and Prospects of the study have been dealt in Chapter-VI. Chapter-VII underlies further applications of the study and its impact on Society. In the last, Bibliography has been given. Photographs have been incorporated where it was found necessary. Questionnaire used in study has been given in Appendix.

An overview of the previous studies has been given in second chapter, in which history of conservation and historical perspective of the industrial development in study area has been taken into account. The present scenarios of industrial development and sustainability aspects have also been dealt with in this chapter. Moreover, previous studies related to reduce, reuse, recycling, and
redesign of rags and bio-degradable processes have also been reviewed. As most of these studies had been attempted in western society, therefore, Indian studies have also been incorporated in a separate section.

Third Chapter deals with Methodology in which sources of data, sampling procedure, questionnaires and schedule, method of analysis and statistical tools used have been explained.

Fourth Chapter pertains to, Results and Discussions in which inferences drawn from survey of industries and survey of consumers has been given followed by discussion.

Fifth and final Chapter deals with Summary and Conclusions. The problems of shoddy industry and cures thereof have also been given followed by further applications of the research. In the end, Bibliography has been given and the questionnaires used for survey has been given as Annexure. Photographs, tables, diagrams have also been given where these were found necessary.