CHAPTER - 1

INTRODUCTION

"I wish to make cloth that is intimate to our body and also comfortable."

In 21st century the costumer demands both fashion and comfort for the apparel they use. Various types of fibres and fabric's processing techniques along with new concepts of "body scan" and "fashion modeling simulation" has given rise to new fashion trend. But to meet the challenge of costumers' physical intimacy with the fabric, there is a need to objectively define "comfort" and also produce comfort by design rather than by guesswork.

The human perception of fabric is characterized by comfort and handle. The dictionary meaning of comfort is "a satisfying or enjoyable experience" while handle means "to try or examine (as by touching, feeling, or moving) with the hands". Handle basically reflects a mechanical interaction between human skin and fabric in which both the fabric surface and the material bulk are being spontaneously assessed by exerting external body movement. Comfort on the other hand involves physical and thermal interactions between the human body, the fabric, and the external environment.

The physical parameters of the cloth i.e. fibre, yarn and weave particulars and the quality of finish applied on a fabric greatly influence the aesthetics and thus the appeal to the judgment of the buyers. Thus it is multi component in nature and needs to be to be correlated using a mathematical model. Moreover the judgment also depends on the place, season, fashion and personal choice.

KESF – Kawabata's evaluation system for fabric is well known for such an application. But it has certain drawbacks. Primarily it is based on subjective assessment by Japanese experts and may not be suitable for India. The costly

instruments used to test the fabric properties may not be within the reach of many laboratories in India.

Thus it is needed to develop an expert system which can fulfill the need of Indian market and the infrastructure available in India. Such a system should not be affected by human psychology. Thus a truly objective method with the existing testing facilities in India needs to be evolved. It helps to specify, design and produce a fabric with the right combination of performance characteristics for a particular end use.