

## **Chapter 6**

### **SCOPE FOR FURTHER WORK**

This work has identified the fundamental changes required in weaving with which desired 3D shape can be produced. Accordingly modifications have been made on power loom. Some elements on loom are required to be very different in terms of their construction and working. Conditions of cloth formation are also different from those during weaving a 2D fabric.

The technology of weaving seamless 3D shapes directly on loom, therefore, has many dimensions and can be viewed from several angles. Hence there is a vast scope to extend research in many directions as follows.

- Work can be extended to design and develop differential take up motion. Further improvements can be made in various elements of weaving which are modified, in terms of their design, functioning, performance, versatility of application to wide range of yarns and shapes, fabric specifications etc. those will produce 3D shapes to exact desired dimensions.
- Various aspects of cloth formation during weaving of 3D shape can be studied in detail.
- Role of weave in assisting formation of desired 3D shape can be studied in detail. New theories can be developed those will help in selecting suitable weave for a given 3D shape for given specifications.

- This work was carried out by modifications on shuttle loom basically designed for weaving 2D fabrics. Entire basic loom, with its mechanisms, can be designed, developed and fabricated right from loom frame keeping in view requirements of weaving 3D shapes.
- Structure of fabrics woven into 3D seamless shape is different from that of 2D fabrics and it varies from region to region within the shape. Therefore, testing methodology has to be different. There is a further scope to work towards developing new testing methods for seamless 3D woven shapes with regards to shape conformity, mechanical properties etc.