CHAPTER - 3

METHODOLOGY

Methodology is a scientific way of conducting any research as far as that study is reliable and conducted with accuracy. Keeping this in mind the traditional metal embroidery was explored for socio-economic profile of artisans and raw materials, tools and materials used in this embroidery. Motif of metal embroidery was documented, they were stylized with the help of Computer Aided Designing and catalogue of designs was developed. These stylised design was applied on product. For the dissemination of the knowledge of metal embroidery training was given to the women.

Tracing the objectives of the present study, the following methodology sets forth the methods and procedure which was undertaken for collection and analysis of data. The study was carried out in the following phases-

3.1 Pilot Study

Phase I:
3.2 Documentation of metal embroidery motifs of Zardozi, Gota work, Danke-ka-Kaam, Mukke-ka-Kaam and Aari Tari
3.3 Socio-economic profile of artisans, raw material, tools and techniques used in metal embroidery

Phase II:
3.4 Design Development of stylized motifs with the help of Computer Aided Designing.
3.5 Product Development using combinations of metal embroideries and assessing consumers acceptability

Phase III:
3.6 Training to the women for skill development

3.1 Pilot Study

Pilot study was essential step as the research was exploratory in nature. It created the base of the study enabling the researcher to become conversant towards the
exploration of tools and techniques used in metal embroidery. Ten artisans were visited to get first hand information regarding the profile of artisans, tools and techniques, materials and fabrics used in metal embroidery, and the prevalent motifs so that well structured interview schedule could be prepared.

To standardized the interview schedule some modification were made in it related to size of motifs, age of artisans, colour of fabrics and time taken to complete the product.

The detailed plan of work was as follows:

Phase I

3.2.1 Collection of motifs: In order to document the motifs of Zardozi, Gota Work, Danke-Ka-Kaam, Mukke-ka-Kaam and Aari Tari museum, books, shops and artisans were used as reliable databank. To document the motifs, the investigator personally visited the museums located in Jaipur, Jodhpur, Udaipur, Bikaner, Barmer and Jaisalmer in Rajasthan. Hundred and twenty five motifs of Zardozi, Gota Work, Danke-Ka-Kaam, Mukke-ka-Kaam and Aari Tari were digitally photographed from museum, artisans, books, catalogues and magazines.

3.3.1 Locale of the study: The data base for the study was very vast. The investigator covered the various metal work embroideries in keeping with the region of their prevalence in: Zardozi: Jaipur (Gupta, 1996), Danke-ka-Kaam: Udaipur (Mehta, 1994), Gota Work: Jaipur, (Shrikant, 1998), Mukke-ka-Kaam: Barmer and Jaisalmer, (Hatanka, 1996), Aari Tari: Jodhpur (Rajpurohit, 2008).

3.3.2 Selection of sample: The unit owners were approached purposively for the study. 50 units were selected to explore profile of artisans, the tools and techniques, working condition and health problems faced by the artisans. The artisans who have work experience of 10-15 years, and belong to age group 25-60 years were approached for the interview. Two artisans from each unit was selected.

3.3.3 Selection method: For the conduction of the study, the data was collected by an interview schedule. This particular method was adopted because of the advantage of flexibility over other methods for data collection which gave the respondents an
opportunity for clarification in case of doubt. Further, it allowed the interviewer to ask follow up questions. Interview method was implemented along with photographic documentation for the collection of authentic data.

3.3.4 Interview schedule: The interview schedule was prepared with objectives to get an idea about socio-economic profile of artisans, the tools and techniques used in metal embroidery from the artisans. Preliminary survey was conducted to standardize the schedule. The tool consisted of close ended question to collect the desired information on various aspects:

- Demographic profile of artisans
- Sources of procuring raw material and embellishment
- Prevalent motifs
- Frame, needles, fabric and materials used
- Stitches and techniques used
- Working conditions and problems faced by artisans

3.3.5 Analysis of data: For the analysis of data, the following steps were undertaken:

a) Coding: The data from the interview schedule was transferred to the coding sheet by assigning numerals to responses for tabulation and analysis of data.

b) Tabulation: The data was transferred to the coding sheet. Tabulation was done by arranging the data in the form of tables.

c) Analysis: Collected data was analysed to express the complex and scattered information into simple, clear and logical data which was expressed through the frequency and percentage of the data.

Phase II

Design Development

3.4.1 Selection of motifs: Twenty five documented motifs of Zardozi, Gota Work, Danke-Ka-Kaam, Mukke-ka-Kaam and Aari Tari were evaluated by the panel of judges consisting of five fashion designers, five textile designers and five academicians through ranking scale. The panel selected best ten motifs of each metal embroidery on aesthetics of the design for development of two stylised motifs.
Ten motifs each of Zardozi, Gota work, Danke-ka-Kaam, Mukke-Ka-Kaam and Aari Tari were contemporarised through CorelDraw 13 software with two variations of each motif. Altogether hundred motifs were designed. A catalogue of stylised designs was created through CorelDraw 13.

3.4.2 Evaluation: The developed motifs were evaluated by the panel of judges through ranking scales. The panel of judges consisted of five fashion designers, five textile designers and five academicians through field of designing. The best one motif of each metal embroidery was selected on aesthetics for designing. A total of five motifs were selected for different layout of the designs.

3.4.3 Ranking: For evaluation of motifs, ranking scale was used. Each motif was rated on its suitability through a five point rating scale. The ranks were assigned as follows:

Excellent -5, Very good-4, Good-3, Fair-2, Poor-1
Weighted Mean Score (WMS): To quantify the data regarding the assessment of designs, the weighted mean score was calculated.

\[
\text{Weighted mean score} = \frac{\text{Total Obtained Score}}{\text{Maximum Weighted Score}}
\]

3.4.4 Layout and variation of designs: The five most preferred motifs were arranged in different layouts. They were arranged for the corner design, centre design, allover and border design through CorelDraw 13. Four types of layout were developed for Zardozi, Gota work, Danke-Ka-Kaam, Mukke-ka-Kaam and Aari Tari. All the prepared designs were subjected to visual evaluation in printed form for the selection of ten best layouts. Twenty new layouts of designs were again evaluated by the same panel of judges consisting of the fashion designer, textile designer and academicians on five point rating scale. The ten most preferred designs were used for the product development through combination of metal embroidery.

![Figure 3.2: Steps involved in Design Development](image)
Product Development
Out of the previously selected twenty designs, ten best designs were applied for product development through combination of various metal embroideries.

Combination of Metal embroidery

<table>
<thead>
<tr>
<th>Embroidery</th>
<th>Code</th>
<th>Comb 1</th>
<th>Comb 2</th>
<th>Comb 3</th>
<th>Comb 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zardozi</td>
<td>D1</td>
<td>D1D2</td>
<td>D1D3</td>
<td>D1D4</td>
<td>D1D5</td>
</tr>
<tr>
<td>Gota work</td>
<td>D2</td>
<td>D2D3</td>
<td>D2D4</td>
<td>D2D5</td>
<td>------</td>
</tr>
<tr>
<td>Danke-Ka-Kaam</td>
<td>D3</td>
<td>D3D4</td>
<td>D3D5</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Mukke-ka-Kaam</td>
<td>D4</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Aari Tari</td>
<td>D5</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
</tbody>
</table>

Stoles were prepared through combination of metal embroidery. Fabric selection was done by the same panel of judges. The criteria of judgement were durability, suitability of the fabric for the metal embroidery and overall appearance.

3.5.1 Evaluating Acceptability: The developed products were evaluated for its acceptability by panel of judges, consisting of five marketing personnel, five consumers and five fashion designers. Responses and preference for the product were recorded carefully.

Following criteria was followed for the acceptability of the product:
- Placement of motif
- Suitability of the motif to the end use of design
- Quality of workmanship
- Preference of stole for Elegance
- Acceptability of concept
- Combination of work
- Overall appearance
- Cost of the product

Ranking: For evaluation of stole, ranking scale was used. Each stole were rated on its suitability through a five point rating scale. The rank were assigned as follows:

Excellent -5, Very good-4, Good-3, Fair-2, Poor-1
3.5.2 Acceptability Index

To assess the percentage acceptability of the product an acceptability index was used. The formula was as follows-

\[
\text{Acceptability Index} = \frac{\text{Maximum accepting frequency of design} \times 100}{\text{Total Scores}}
\]

3.6.1 Preliminary survey for locale of the study:

Preliminary survey was done for the selection of locale for the training. NGOs were approached, Bastis were visited in Mansarovar and Shasrti nagar, SOS village were approached but did not got positive response. Finally women were approached in slums of Vidhyadhar nagar Jaipur who were ready to learn the embroidery which would be beneficial for them to enance the knowlegde and skill.

3.6.2 Locale of the study: A short term training of three months was given by the researcher to 25 women belonging to age group of 18-25 years at the slums of Vidhyadhar Nagar, Jaipur. The locale was purposively selected. The training was given from 1st May- 30th July, 2013 for approximately two and half hour every alternate days. The above age group was chosen as they were more open to new ideas and are enthusiastic to learn the art. Care was taken to only include those women who exhibit an interest and keen in learning the skill of embroidery.
The objective of Training:

To enhance knowledge:
- Understanding the tools and materials used in embroidery

To enhance skill proficiency
- Learning different embroidery stitches
- Developing skill to create designs
- Carry out various stitches of embroidery and to prepare different products

3.6.3 Teaching Methods:
Demonstration was given regarding tracing the designs, applying frames on fabric and application of stitches. Samples were shown to the trainees so that they could visualize the stitches taught to them. Handouts formed a part of strategy for showing the schematic drawings of stitches.

3.6.4 Schedule of Training:

<table>
<thead>
<tr>
<th>S.No</th>
<th>Training Programme</th>
<th>Number of Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Introductory session on embroidery</td>
<td>01 day</td>
</tr>
<tr>
<td>2.</td>
<td>Designing and tracing on fabric</td>
<td>04 days</td>
</tr>
<tr>
<td>3.</td>
<td>Basic stitches of hand embroidery</td>
<td>10 days</td>
</tr>
<tr>
<td>4.</td>
<td>Techniques of Zardozi embroidery</td>
<td>05 days</td>
</tr>
<tr>
<td>5.</td>
<td>Techniques of Gota work</td>
<td>05 days</td>
</tr>
<tr>
<td>6.</td>
<td>Techniques of Mukke-ka-kaam</td>
<td>05 days</td>
</tr>
<tr>
<td>7.</td>
<td>Techniques of Danke-ka-kaam</td>
<td>05 days</td>
</tr>
<tr>
<td>8.</td>
<td>Techniques of Aari Tari</td>
<td>05 days</td>
</tr>
<tr>
<td>9.</td>
<td>Developing Articles</td>
<td>05 days</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>45 days</td>
</tr>
</tbody>
</table>

3.6.5 Pre-Test and Post-Test
To study the effectiveness of training, the pre and post evaluation of the research design were conducted. The gain in knowledge determines the impact of training, a well structured questionnaire containing different questions was formulated to assess the knowledge. Each correct answer was given one mark and zero for wrong so that score of each respondent was calculated. The knowledge score of each respondent
were tested before training. The same pre-test schedule was administered to the respondent to study impact analysis after giving the intensive training programme. The difference between pre and post test was taken to find the gain in knowledge.

A pre-test was done for assessing the ability of the women to know the knowledge of embroidery. The test had total of thirty questions. According to the gain in knowledge in pre and post test, the women were categorised into three categories:

- Low Level (0-10)
- Medium Level (11-20)
- High Level (21-30)

Training was imparted to the women for a period of 3 months. During the training they were taught to transfer the design on to the fabric. Initially basic stitches - chain stitch, stem stitch, running stitch, herringbone, buttonhole, satin stitch, running stitch, lazy daisy, long and short stitch, blanket, lazy daisy and couching were taught. Then they were taught the techniques used in metal embroidery. They developed samples; corrections were done for application of stitches according to the design and finishing; suggesting colours of thread to be used according to the fabric.

A post test was also conducted to assess the capability and gain in knowledge of the women to prepare the product. A mean score, standard deviation and t-test were used to analyse the data through SPSS software. After training, the women were asked to developed products using embroideries that were taught to them. In order to assess the developed products, they were evaluated by the five academicians from field of designing on three point ranking scale.

A total of twenty five products were developed by all the trainees. Following criteria was used for the evaluation of the product:

- Neatness
- Quality of workmanship
- Overall appearance
Ranking: Three point ranking scale was used for evaluation of products. The rank was assigned as follows: good-3, fair-2 and poor-1

According to the performance the women were categorized into three categories-

- Highly-Skilled (80-95)
- Semi-Skilled (66-79)
- Less-Skilled (50-65)

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**Figure 3.4: Steps involved in Training**