

**CONDUCTING AN EDUCATIONAL PROGRAMME FOR RURAL WOMEN  
IN GARMENT MAKING**

**BY  
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## **A C K N O W L E D G E M E N T**

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## **I INTRODUCTION**

Rural development has become a matter of urgent concern to most developing countries for considerations of social justice, national integration, economic necessity and expediency. The majority of the population of these developing countries especially in India, live in rural areas and constitute the weakest sections of society. Without their development the present drain of talent and resources from the rural to the urban areas could continue and tend to divide the nation into the exploiters and the exploited and make national integration impossible. Economically without tapping the largest manpower resources, these countries can never hope to reach their optimal capacity of development. In the Indian context, it is agreed on all counts that the national prosperity can be attained only by developing the villages where the country breathes.

According to 1971 census out of the 547,950 thousands of Indian population, 438,856 thousands constitute rural population and 109,094 thousands the urban population. This means that 80 per cent of our population are rural people. Out of this 43.16 per cent are under the poverty line.  
Rao B.K. (1977)

Gandhiji recognized the vital need to develop villages in India, as the vast majority of the population lived in them. True independence according to him could be achieved only when the social and economic conditions of the masses particularly of the weaker sections were demonstrably improved.

Swaraaj for India means above all things a free economic life for the Indian masses. Therefore real planning consisted in the utilization of the whole man power of India and the distribution of sending them outside and rebuying finished articles at fabulous prices. Rao (1977). In spite of Gandhiji's great emphasis on villages where the pulse of India beats, the cities continued to thrive as the logistic and centre of exploitation of the people of the countryside. The rural areas are the main source of supplies, yet their development was not given adequate attention since independence.

In developing regions of the world the overwhelming majority of people still find their livelihood in rural occupations and in general a higher proportion of women than men are found in such activities.

The position of women is found to be neglected to the background throughout the social history of India. In spite of the highest intellectual attainment show to have been possessed by such celebrated women even in medieval ages who have made their marks on the literary and social history of the land, the total picture of the position of women does not seem to be very bright.

Barathi viewed "without giving freedom to women, India would not attain its goal". Swami Vivekananda has pointed out "Just as a bird could not fly with its one wing only, a nation would not march forward if the women are left behind". The general rural literacy among women is lower than among men. Women are not able to come forward to participate and take advantage of the programmes of village development.

In most Indian families the burden of earning falls on the men; but with increasing prices, a rising standard of living and the gradual entry of women into all spheres of economic life, many housewives began to feel the need to contribute to the family income.

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The independence of women and their potential and active power of earning must be realized and put to good use by the country. Their merits and individual talents must be recognized and an economic status must be secured to women who need jobs. When the family income is inadequate it is necessary for a woman to earn. The women of the lower income group find it impossible to support her family on her husband's earnings. She needs a supplementary income to run her home. Unemployment among women who find it necessary to work is therefore becoming more and more evident with the increase in population. A silent socio-economic revolution is taking place in the status of women in India as in other developing countries, due to the progressive forces at work. In the context of the prevailing unemployment and under-employment situation which affects both men and women job seekers, it is necessary to provide employment avenues on a large scale.

It should be realized, however that fuller employment is part of a wider economic and social policy. Besides the direct employment provided, there will be expansion of economic activities in the various territory sectors

including cottage, small-scale and village industries. Small industries and subsidiary economic activities are expected to grow in the villages to fulfil the new needs. Occupations provided to people in this way will be an indirect contribution of the Community Development Programme in the sphere of employment.

The need of women is the demand for employment and the requisite occupational skills for farming, dairying, poultry-keeping, fishing, spinning, weaving and tailoring and a host of handicraft and cottage level activities which can help to supplement the low income from family farming. To satisfy the need of rural women, a rather complex package of integrated services is required, which would lead to the generation of employment and occupational training opportunities for women.

The present Government is firmly determined in giving importance to rural development and will also continue with particular emphasis on projects which will be helpful in quicker rural development.

The programme of Integrated Rural Development has been accepted as the new strategy for rural development during the current Five Year Plan. Chattopadhyay (1978). This programme plays a significant role in implementation of various developmental activities.

Drawing upon the experience of the special programmes it was decided to make a massive onslaught on the problems of rural poverty and rural unemployment through an integrated programme of rural development. The integration which is sought to be achieved is in four major sectors

- (a) Agriculture in the wider sense including Animal Husbandry, fishery, forestry and horticulture
- (b) Village and Cottage Industries
- (c) development of tertiary sector in the various services and processing activities and finally
- (d) labour mobilization, training in skills and organisational ability to tie up the labour with opportunity.

Chattopadhyay (1978).

Although the major emphasis in the new programme has been on agriculture, the secondary and tertiary sectors of cottage and rural industries and the different processing activities have also to find a place of importance in the block plan.

The characteristics of a developing country like India are well suited to the establishment and development of a wide range of traditional occupations which are capable of providing large employment opportunities with a relatively smaller capital investment, without any foreign exchange component and help to reduce different types of disparities - social, economic and regional and to establish a decentralized economy. They provide subsidiary sources of income to the underemployed and unemployed and agricultural labourers and involve comparatively shorter gestation period helping to utilize local skills and local resources. One such subsidiary occupation is tailoring. The modern woman can now practice the ever popular art of sewing with all the advantages of the materials and techniques of the present day. Sewing is one of the most useful skills a woman can acquire.

Tailoring is the art of cutting and sewing. One is the complement of the other and nobody can achieve proficiency in tailoring unless one's knowledge of both the branches is balanced with proper training and skill.

Dress making must surely be one of the most rewarding forms of handicrafts. By this occupation the women in the rural areas can gain some supplementary income. So women in rural areas are mobilized and training programmes are conducted to improve their knowledge and skills. Such training programmes enable them to seek vocations which help them to contribute to their family income.

## II REVIEW OF LITERATURE

The literature collected for this study is reviewed under the following headings:

- A. National Extension Programs of India and its objectives
- B. Rural Development in Plan Periods
- C. Need for Raising the standard of living of rural families
- D. Integrated Rural Development
- E. Women's role in National Development
- F. Clothes making and its importance
- G. Readymade Tailormade and Home made garments - merits and demerits
- H. Constructing garments
- I. Standardizing measurements
- J. Selection of fabrics
- K. Need for Educating Rural Home Makers in clothing construction

### A. National Extension Programs of India and its objectives:

The Community Development as a model of rural development was defined more as a movement than a programme, says

Singh (1976). It was based mainly on self help and was comprehensive to include activities not only agriculture and allied fields but also education including adult literacy, health, drinking water, roads, cottages and village industries.

The underlying philosophy which qualified as a movement rather than a programme or project and distinguished it from other specific and sectoral development efforts was the involvement of the people at the grass root itself.

Indian villages have been known to be though small in size, distinctive, homogeneous and self-sufficient units. Predominantly agrarian in character these villages have an atmosphere of non rational, unsophisticated simplicity combined with astuteness of observation of strangers and new ideas, frugal ways of life, calm resignation and willing acceptance of crises that are beyond their control and frankness of self expression in matters of social importance, Prasad (1976). The revival of such virtues as hard work, thrift, self-control, self-respect, self-help is considered to be the factors involved in rural reconstruction. Agard (1976) points out

that rural development forms the basis of national development since more than four-fifth of our population live in villages.

Rural development to be successful, human mobilization and activation of the vast masses was considered fundamental as it tends to the liberation of their spirit for higher achievements. It does not simply mean economic development but development of the social economic and psychological aspects of the individuals living in the rural areas, NIRD (1978). Therefore all programmes aimed at rural reconstruction are not to be merely economic development oriented but they are to be integrated with the socio-economic activities tempered with justice, Prasad (1976). In all such programmes the rural community has to be the basic unit of development. No problem today is as great as poverty and backwardness in rural and remote areas.

At the prevailing rates of 2 to 3 per cent per annum of growth of population in all the Third World Countries, unemployment in them is assuming menacing proportions.

In India unemployment strictly means rural unemployment, Senachalan (1977). A prominent feature of our agriculture is the increasing amount of agricultural under-employment caused by uneconomic holdings. While it is estimated that the farmers of irrigated areas have no work for about half of the year this type of unemployment is more acute in unirrigated areas.

A quantitative estimate of the magnitude of the problem is difficult to work out but the unemployment and under-employment problem of rural areas is more serious than that of urban areas and for this very reason great emphasis is laid on rural sector.

It is estimated by Joshi (1978) that out of the country's total population of over 560 million people about 40 per cent are living below the poverty line and they are by and large, located in the rural areas. About half of them are landless, and about 25 million unemployed in rural India. In terms of Raj Krishna's (1973) categorisation, they suffer from inadequate income, insufficient inferior and precarious employment. The Congress Working

Committee (1953) have rightly observed that the major success of any plan is the measure in which one deals with the problem of unemployment. Gandhi (1976) points out that the surest means of promoting greater social justice is the provision of fuller employment. In a welfare state, there should be practically no unemployment and opportunities for work should be available to all those who desire it. Shri Meide (1976) said that unless non-agricultural rural employment opportunities were increased it would not be possible to find a solution to the problem of rural unemployment and under-employment.

It is a welcome feature to note that the economic policy of the present Government gives more importance to the total rural development plan than <sup>at</sup> any time during the past. The basic idea behind this seems to be that it will generate more employment opportunities in rural sector, eradicate rural poverty and thus give a higher standard of living to the village people. In any meaningful sense for rural development it is imperative that economic and social life of the rural poor is improved through providing suitable subsidiary occupations, Joshi (1978).

The National Planning Committee observed that vast masses of people in rural areas are unable to get enough requisities. An important means of providing employment is to introduce cottage and small industries which may solve the problem of unemployment. Such industries occupy a predominant position in advanced nations as U.K. and U.S.A. as they act as feeders to large scale industries.

In a developing economy such as India cottage and small industries have great important potential and they are ideally suited to rural India. They need a low investment, minimum skill, short duration and can encourage decentralized production.

Cottage industries have been defined according to number of persons employed and the nature of the work, by different authorities. According to the U.P. cottage industries Report (1947) the term cottage industries is used in contrast with the organized large scale industries carried on in the mills and factories and include subsidiary industries which absorb only a part of the workers.

The National Planning Committee gives the following definitions, "A small scale or cottage industry is an enterprise or series of operations carried on by a workman skilled in the craft on his own responsibility, the finished product of which he markets himself". So in developing countries cottage and small industries occupy an important place which give employment opportunities, requires less capital and encourage decentralized production.

### B. Rural Development in the Plan period:

Economic planning has become a craze in modern times. Dewett and Varma (1969). The Five Year Plans are formulated only to uplift the country especially the rural areas. The main objectives of all the Five Year Plans can be summarised as:

1. Increasing the agricultural production
2. Developing cottage and small scale industries to eradicate poverty
3. Giving large expansion of employment opportunities
4. Developing basic and heavy industries.

The Planning Commission presented the Draft First Five Year Plan in July 1951. The Plan proposed a total outlay

Rs.2069 crores. The amount was increased to Rs.2356 crores but the actual expenditure incurred amounted to Rs.1960 crores. For strengthening the rural base and to solve the food problem high priority was given to Agriculture and an amount of Rs.1000 crores was meant for Agriculture, Community Development, Irrigation and Power projects. Social welfare services received the next priority and Rs.513 crores were earmarked which worked out to 22.6 per cent of the Plan outlay. For small and village industries 43 crores were earmarked which worked out to 2 per cent, Shankaran (1978).

The Second Plan covered the period from 1956-61. In this the first priority was given to basic industries. Next to that small and cottage industries received top priority. The distribution of outlay for village and small industries was Rs.175 crores. Agriculture and Community Development were allotted Rs.568 crores and for social services the allotment was Rs.949 crores.

The Third Plan was formulated to carry out the tasks set out in the Second Plan. The Third Plan emphasized

production in agriculture and key industries. The total outlay was Rs.11,600 crores and the total investment was Rs.10,400 crores. For Agriculture and Community Development the outlay was Rs. 1060 crores and investment was Rs.1089 crores. For village and small industries the outlay was Rs.264 crores. For social service the outlay was Rs.1500 crores and investment was Rs.1493 crores.

In the annual plans the total outlay was Rs.6626 crores. From that the total outlay of agriculture and allied fields was Rs.967 crores and investment was Rs.1166.6 crores, for village and small industry the outlay was Rs.144 crores and investment was Rs.126 crores. For social service the outlay was Rs.992 crores and investment was Rs.976 crores.

The Fourth Plan envisaged a total outlay of Rs.24,882 crores and investment was Rs.22,635 crores. From that for Agriculture and allied sectors the outlay was Rs.2720 crores and the investment was Rs.2410 crores. For village and small industries the outlay was

Rs.293 crores and the investment was Rs.370 crores, for social welfare the outlay was Rs.41 crores and the investment was Rs.50 crores. Shankaran (1978).

In Fifth Plan the actual estimated outlay was Rs.93,491 crores and for Agriculture and Allied fields the outlay was Rs.4730 and for village and small industries the outlay was Rs.307.8 crores. For Social Welfare the outlay was Rs.229 crores. In the draft plan (1975-83) priority is given to growth of employment. The outlay for small scale and village industry is Rs. 1,410 crores in the Draft Plan.

In every plan the priority is given to Agriculture, Village and Small Industries and Social Service.

### C. Need for raising the Standard of Living of Rural Families:

Twenty five years ago there were 16 cities in the developing countries with population of one million or more. Today there are 60 and there may be more than 200 by the turn of the century. More than two-thirds of the people live in rural areas and their number is growing as population expands, despite increasing migration.

Rural poverty which is a part of the rural scene needs no statistical evidence. The problem of unemployment and under-employment is acute in the rural areas, Faizi Azad (1978). The relative neglect of the rural sector during the past has created a dangerous imbalance in the economy, Das (1978).

The dimension of problem of poverty are much wider than those of unemployment since a large number of persons in India are employed in activities which do not yield a sufficient income to meet the minimum necessary expenditure on essential goods and services, Dasal (1978). Unless there are more opportunities for gainful employment in agriculture and in crafts and rural industries, misery and social cleavage will deepen in the villages, Das (1978). Such rural industries as bee-keeping, dairy-farming, weaving, spinning, tailoring may find an important place in rural development.

#### D. Integrated rural development:

The integrated rural development has come to be accepted as strategy of development by most of the developing countries. Subramanian (1974) expresses that integrated development is the goal of all national development efforts.

Tyagi (1975) emphasizes that rural development is a multipronged effort encompassing conservation of resources-land, water and human - with a view of raising the standard of living and quality of life particularly of the poor.

Planning according to Iyer (1977) is a two way process. There is a school of thought which believes that planned development requires centralized planning. There is another school of thought which says that Integrated Rural Community Development and Area Development needs integrated decentralized planning. In short, planning is a two-way process namely planning from above and planning from below and both are necessary for Integrated National Development. So rural development should be linked with the over all national development. The complexity of rural reconstruction demands a lot of reflection, ingenuity and training before it becomes an effective tool. People should decide what is best for them to meet their needs. The programmes in rural reconstruction are varied ranging from the establishment of a small school in a village to the programmes of national importance. It is evident that the country as a whole will not progress unless the rural areas progress in the same manner and speed as the other fields, Prasad (1976).

The programme of Integrated Rural Development has been accepted as the new strategy for rural development, Chattopadhyay (1978). Integrated Development is being increasingly recognised as a new approach for dealing with the problems of rural areas. It aims at the optimum utilization of natural and human resources of a given rural area for material well-being and overall enrichment of the life of all sections of the people. Various complementary aspects and activities like production, distribution, employment, health, education and welfare are to be taken up in a manner so as to reinforce one another. The programme also seeks to minimize the existing unevenness in the distribution of productive assets and economic inequalities, Satra (1978).

The broad objectives of the Integrated Rural Development Programmes are as under:

1. To provide full and gainful employment to the masses
2. To achieve at least 50 per cent increase in agricultural production
3. To revive traditional rural industries and trades
4. To set up cottage, small scale agro-based and ancillary industries
5. To work for full development of local resources.

The Integrated Rural Development Programme could help in fulfilling the Government's pledge to remove unemployment from the country within ten years as under the programme it would be ensured that no person remained unemployed and no one was without a house, Dasal (1977). According to Ram (1976) people's involvement can be secured on the basis of long term Area Development as the approach now is under the Integrated Rural Development Programme by taking up special schemes for the benefit of the vulnerable sections of the people and areas. So Integrated Rural Development Programme is introduced in the rural areas to develop the standard of living of rural people particularly the women. In most of the subsidiary occupations women play a great role. They are taking part in every national development programme.

#### 5. Women's role in National Development:

Verma (1978) points out that in India's rural frame work women have a subordinate role to play. She is a helper to the man and not the master of the show.

A rural woman in our country shares abundant responsibilities. Women constitute 48.2 per cent of the total population in India according to 1971 census, Devi (1978). Agricultural labour and cultivation are the main areas of economic activity for women.

The significant role played by women can be categorized as:

1. home maker of family, being responsible for making all the vital decisions for the family
2. member of village community she influences and is influenced by the community
3. in the village agricultural community she happens to be the producer and the wage earner, and finally,
4. she is an individual in her own right and has to fulfil certain needs and aspirations of her own, to live a bright and satisfying life.

Very soon after the Community Development Programme was started it was realised that the neglect of women was affecting the progress of the total programme.

As pointed out by Davenport (1958) women gain in status and recognition as they take to new professions to help the family and as they take to new tasks to help the development programme of the nation. It is gratifying to note that a large number of women are taking part in the

various activities of the Community Development Schemes all over India as a result of which the women are also discarding the scheduled life and coming forward to share the responsibilities of the welfare state along with the men.

For the economic rehabilitation of the weaker sections of the community particularly the women, Bharathi Gramoon Mahila Sangh in 1948, Central Social Welfare Board in 1954, Keshthuriba Gandhi National Memorial Trust in 1947 were organized and they established many welfare programmes for the uplift of women such as the after care homes in the states and production units in food preservation, weaving, dairying, poultry-keeping, clothes making and other similar subsidiary occupations.

**f. Clothes making and its importance:**

The woman who makes her own wardrobe runs an entire factory single-handedly she is the business manager, the fashion authority, the designer, the layout technician, the machine operator and the purchaser all combined in one.

She must know current fashion and interpret it to her individual advantage, she must be an artist able to select appealing designs and appropriate fabrics, colours and textures, Bone (1976).

The basic difference between the sewing and tailoring is that tailoring techniques are an extension of sewing. They go beyond sewing in that they are additional techniques which are not usually used on dresses, blouses and casual wear. Tailoring upgrades the appearance and the quality of the costume because these additional techniques are employed during construction, Bone(1976). The cut of a garment is important as well as the fabric from which it is made. Since the people are involved in many activities their clothing must have great range of adjustability.

The psychologists of today have found out that clothing has certain influences on the attitudes and success in life of people. Pandit (1967) says that clothes can enhance the charm of any personality. So clothes making is very important for a person.

**6. Ready made, Tailor made and Hand made garments their merits and demerits:**

Most of the garments worn by children are commercially made. In U.S.A. only 25 per cent of the mothers made most of their children's clothes. Studies were conducted by the Market Research Division, Textile Committee in Maharashtra, Andhra Pradesh and in Tamil Nadu (1969) and it was found out that 20 to 30 per cent of the people in Bombay regularly purchased readymade garments. In cities the percentage of buying readymade garments was higher than in villages. The habit of buying readymade garments was prevalent at middle and higher income levels rather than the low income level.

Readymade garments have their own advantages. Readymade clothing meets the needs of emergency and there is no need to spend time in constructing garments. Attractive garments are available, garments can be tried on the wearer before investing any money. Different types can be tried on to judge the most suitable ones. They cater to fashion, give good appearance, and fit. Variety of colours and designs are available. The major problems in readymade garments as stated by consumers are (1) not available in appropriate sizes, (2) in accurate fit (3) lack of serviceability and (4) a high cost.

### Tailored garments:

The family dress maker can not be overlooked as a means of securing clothing. Some families still rely on a local tailor to make many of their garments. This method may be less or more expensive than buying readymade clothing depending on the dressmaker's fee and the cost of fabric, pattern and trimmings. The merits of tailored garments (1) can be as small as per size (2) designs can be introduced by the wearer. The disadvantages are (1) high tailoring charges, (2) not available on time and (3) some times the garment is spoilt.

### Home made garments:

Those who make their own clothing at home have several reasons for doing so. The reasons will vary from family to family. When one makes clothes one saves more than half the price of readymade clothing or save tailoring charges. There would be more pleasure in designing attractive clothes and making pretty clothes by using left over materials, Pandit (1967). The home made garments have their own merits. Clothing made at home provide satisfactory garments with correct fit, help to express individuality, as it caters to creativity and is sometimes very rewarding as well as remunerative.

#### **No. Construction garments:**

Clothing construction is a creative skill and can become an art (INCA\* 1972). For good construction proper equipment are needed. The use of high quality equipment gives good finish in the garments. The necessary equipment according to Bone (1976) are:

1. Scissors
2. Shears
3. Measuring tape
4. Yard stick
5. Pins, and needles
6. Threads and thimble
- 7- Iron box and ironing board
8. Tracing wheel
- and 9. Tailors' chalk.

Several tailoring techniques are used in clothing construction. According to Erwin (1954) they are:

1. bias facing and binding
2. plackets
3. pleats, darts, tucks and gathers
4. seams
5. waistline
6. sleeves
7. fasteners

\* The Iowa Home Economics Association

True bias is the diagonal of a perfect square of fabric. Any diagonal line on the fabric is bias and will stretch somewhat, but the maximum amount of stretch and give is obtained only with the true bias line points out Bane (1974). Facing is a piece of fabric that is attached along an edge, then turned to lie flat on the cloth, visible from one side only, Erwin and Kinchen(1970). A binding is a narrow hem like finish which shows equally on the right and wrong side, Todd (1952). A placket is used to close an opening in a garment of the neckline, waist and wrist. It may be closed at one end or at both ends views, Carson (1955).

Pleats, tucks and gathers are methods of controlling fullness, Chambers, and Moulton (1960). Pleats add fullness to the garment and at the same time give vertical line movement, Wingo (1951). Darts are basic in molding material to the figure, particularly in securing the correct placing of the material, Letzke and Quinlan (1938).

A seam is formed by sewing two or more pieces of fabrics together. The purpose of a seam finish is to finish raw edges to prevent fraying and to make the inside of the garment attractive, Bane (1956). Fasteners,

well-designed and well chosen for their intended use as a commercial design or our own original, can add greatly to the individuality and elegant appearance of a garment, Erwin and Kinchen (1970). All these sewing techniques are regarded as fundamental in clothing construction by different authors.

### Pattern making:

A pattern is made in one of three ways, by drafting, by draping fabric on a dress form or by flat-pattern designing. Drafting is a system of drawing patterns with mechanical precision based on body measurements. Draping or modelling is a more expensive method but probably achieves more artistic products because the design is created in harmony with the fabric. Flat pattern designing based on the manipulation of a plain foundation pattern is simple, economical and practical, Erwin and Kinchen (1970).

### 1. Standardizing measurements:

Good fit in a garment depends upon correct measurements, Kumar (1962). A standard is a criteria for comparison.

Standards conceived properly will provide a base or pattern for consumers says Helen (1954). The 13th Indian Standard Convention (1971) claims that standards should be developed for readymade garments. Mansfield (1966) indicates that human figures are not standardized. He opines that commercial patterns are uniform and convenient in pattern making for ready-made garments, Khuller (1971). Standardization eliminates confusion of different manufactures in adopting their own method of size.

In the field of readymade garments the importance of standardization was highlighted. Though the garment industry is still at its infancy, it has bright prospects for further development. The need for standardizing basic dimensions and size rolls was recognized and in this convention the techniques involved in evolving rationalized size rolls by conducting anthropometric surveys of representative cross sections of population for arriving at Key-body - Measurements followed by fitting trials to determine the fit range was discussed.

Krishnabel and Alexander (1972) point out lack of artistic sense and the non-availability of standard measurements as some of the problems that confront making suitable good clothes at home. Even manufacturers of readymade garments face the problems of the size of garments, because successful construction of garments depends upon the size of the pattern and body measurements. So all these prove standardization is essential to control the quality of readymade varieties as well as to get a correct size.

Studies were conducted by many in standardizing body measurements. The Measurement Standard Committee of the pattern, fashion industry has established standard body measurements which have been adopted by all the major pattern companies, Sans (1970).

Krishnabel and Katherine (1974) conducted a study on body measurements and they developed the slopess for different garments for preschool children and these were tested.

### Style and fashion:

Style is fashion applied to the wearer and must take into account the figure, build, complexion and personality, colour, the purpose of the garment, the material width and price, Hapworth (1960).

Style in dress or any other art refers to the characteristic or distinctive form, outline or shape an article possesses. Some styles are in fashion or recur almost periodically, Erwin and Kinchen (1970).

High style is a term of the fashion world used in advertising and fashion magazines for whatever is the newest fashion.

Style and fashion are improperly used as synonymous terms. That which is stylish is always fashionable, but that which is in fashion is not always good style. In planning clothing budgets, the current fashions should be studied, Featherstone and Macck (1944). Stuart (1971) points out that fashion is a hobby that made more creative home dressmaking in a wonderful way to express an individual reaction to the exciting world of fashion.

### J. Selection of fabrics:

Fabrics are a lot like people. They have very distinct personalities and behaviour patterns. They can be stiff and unyielding, crisp and business like soft, fluttery and feminine, even whimsical and fun, Nemign (1964). Studying the personality of fabrics is almost as interesting and profitable as studying people.

If a garment is to be completely successful the personality of the fabric must be utilized to full advantage. The fabric in a garment as well as the design must be in good taste. Developing perfect taste in fabric selection is not an easy task but neither is it an impossible one. It requires skill to select the right fabric for every design.

A survey was conducted by Market Research Division, Textile Committee in 1977 regarding the Consumer Purchases of Textile. They found out that among the household purchases of cotton textiles the purchases of saris,

ladies' dress material, dhoti, poplin, long-cloth/sheeting and shirting occupied the prominent position. The second in order came the off take of polyester-cotton. In 1969, a survey was conducted by Market Research Division, Textile Committee in Tamil Nadu which revealed that 98 per cent of the respondents preferred cotton as their first choice for shirts. Cotton was the most important and preferred fabric for blouses by 98 per cent of female adults who used blouses. Pure silk was second in order of importance in Madras city. As income and education increased, the number of persons preferring cotton tended to decrease, correspondingly there was an increase in preference for man-made fibres. Also, among the younger age groups less number preferred cotton compared to older respondents.

#### K. Need for Education Rural Mass-awareness in Clothing Construction

Clothing is second in the triumvirate of fundamental necessities, says Bigelow (1953). Feldman (1957) points out that the basic purpose of clothing is to provide protection against the elements of nature.

Kamala and Nuthulekhal conducted a study in 1973 which revealed that the attitude of rural girls could be changed after motivating them to attend classes in clothing maintenance aspects.

Rural women need some jobs to utilize their leisure time. Tailoring can be recommended as an ideal subsidiary occupation. Sewing is easy and can be learnt and the skills mastered. With increasing tailoring charges it helps to save money. To develop the standard of living and to supplement family income, education and training in clothing construction can be advocated.

A study was conducted in Tamil Nadu by Sreedas, Vijayalakshmi and Kamala in 1970 about educating rural women in garment construction. In that the amount of money saved by the members by constructing garments themselves ranged from Rs.1 to Rs.9 in which nine out of the fifteen had saved upto Rs.7 per month. By interviewing the other members in their families, it was found that the <sup>in the family were very much satisfied with the</sup> elders performance of these candidates.

A study was conducted by Krishnabai and Kalaimani in 1977 regarding imparting skills in garment making to rural girls. This showed that all were interested in joining sewing classes to learn ~~and~~ embroidery and to construct simple garments and it was found to be beneficial, giving them a lot of satisfaction.

These classes helped them to utilize their leisure time profitably and fulfil their requirements.

Hence sewing is an easy and useful subsidiary occupation which a village girl can take up and benefit at home.

Another study was conducted by Krishnabai and Saramma in 1976. It revealed that home sewing was done in most of the houses and nearly 25 different items of clothing were constructed at home. On an average a home maker could realise a sum of around Rs.20/-per month at home sewing. Home sewing often proves to be a hobby to many homemakers. Aesthetic satisfaction could be achieved by clothes making at home.

### **III EXPERIMENTAL PROCEDURE**

The experimental procedure for conducting an educational programme for rural women in making garments consisted of the following steps:

#### **A. Conducting the survey:**

A survey was conducted to find out consumers' preferences in selected garments such as the petticoats and blouses. The survey included the following major steps

1. Selection of area
2. Selection of sample
3. Selection of the method
4. Preparation of the Questionnaire
5. Conducting the survey
6. Analysis of data
7. Interpretation of findings.

#### **B. Organizing the sewing class:**

A sewing class was organized for rural young girls and this involved the following steps:

1.
  - a) Selection of area
  - b) Selection of the samples
  - c) Establishing the unit.

2. Plan: an educational program:

This included the following features:

- a) Framing objectives
- b) Duration of course
- c) Curriculum content
- d) Teaching methods.

3. Evaluation of the sewing class:

The performance of the candidates in the sewing class was evaluated under the following steps:

1. Self assessment by candidates
2. Evaluation of the finished garments.

4. Standardizing measurements for petticoats:

Body measurements were standardized for the petticoats.

1. Standardization of measurements for petticoats included the following steps:

- a. Selection of area
  - b. Selection of the sample
  - c. Standardizing the measurements.
2. Designing petticoat patterns
  3. Constructing petticoats
  4. Evaluation of petticoats.
- A. Conducting the survey

To find out consumers' preferences a survey was conducted.

1. Selection of area

The investigator was interested in selecting the area in Coimbatore city which would be easy for her to collect the data. Hence she selected Sri Avinashilingam Home Science College for Women in which she happened to be a student. This college was selected since it was within the reach of the investigator to get samples of teenagers and youngsters for the blouses and petticoats which formed the main garments.

## **2. Selection of the samples:**

From Pre-University to Post Graduate level 200 students were selected between the age group of 17 years to 24 years for this study since they happened to use petticoats and blouses.

## **3. Selection of the method:**

The questionnaire method was adopted for collection of the data because of its several advantages. In the above method, a list of questions pertaining to the enquiry was framed. A questionnaire contains a number of exact questions and blank spaces for answers. These blanks are expected to be filled in by respondents. This method is widely employed by private individuals and research organizations. According to Sivathu Pillai (1971) a large field of enquiry can be covered very easily by this method. It is also relatively cheap and expeditious provided the informants respond in time. Gupta (1977).

The success of this method depends upon the skill with which the questionnaire is drafted and the extent to which willing co-operation of the informants is secured. This method is appropriate in case of extensive surveys, Sivethanu Pillai (1971).

#### 4. Preparation of the Questionnaire:

The investigator prepared a questionnaire to find out the consumers' preferences regarding petticoats and blouses. The questionnaire consisted of the following details.

- a. Purchasing habits
- b. Details about Tailormade garments
  1. Problems faced
  2. Materials selected
  3. Suggestions for improvements.
- c. Details about readymade garments.
  1. Sizes
  2. Type of material preferred
  3. Type of petticoat and blouse designs preferred
  4. Texture of material
  5. Problems in readymade varieties as faced by them.

The questionnaire was pretested with 25 persons and was modified. The questionnaire prepared by the investigator is shown in Appendix I.

### 5. Conducting the survey:

The survey was conducted within four weeks in Sri Avinashilingam Home Science College, Coimbatore. The finalized questionnaire was distributed to the students of the age group of 17 to 24 years. They extended utmost co-operation and extreme willingness and interest in filling up the questionnaire.

### 6. Analysis of Data:

The answered questionnaires were consolidated analysed and the results in detail are given in Chapter IV, Results and Discussion. However the major findings of the study are outlined in this chapter since this information formed the criteria for extending further research work.

### 7. Interpretation of findings:

From this survey it is evident that 50 per cent of candidates used only readymade patterns. As for blouses

70 per cent used only tailor-made blouses. Poplin for petticoat was widely used by around 80 per cent of the consumers followed by long cloth by 40 per cent. While for the petticoat a medium texture was approved and used by 95 per cent of consumers since it gave comfort, for the blouse, a soft texture was used by 91 per cent. In tailor-made blouses they were not satisfied with the fit. In general, the problems faced in readymade garments were the improper cutting, improper fitting, lack of colour fastness, weak stitches. The above formed the major findings of the study.

## B. Organizing the Sewing class:

### 1. Selection of area:

The investigator was interested in selecting the village Vivekananthapuram in Keoraneer which formed the centre for integrated rural development which is situated in Seelihar Panchayat and is 44 kilometers away from Coimbatore. Surrounding this village other villages like Devenapuram, Thekkampatti, Vijaynageram, Nedour are situated. The main occupation of the people is agriculture. A subsidiary occupation carried out by the people is spinning. This area is developing slowly.

### B. Selection of the Samples

The rural girls between the age group 15 to 22 year old were selected for this study since they were very much interested in learning tailoring and also they were in their homes without any job after completing their S.S.L.C. Altogether ten members joined the sewing class.

### C. Establishing the Unit

The members were willing to attend the class for full day. The tailoring unit was established with minimum equipment. The equipment used for establishing the unit are enlisted in Appendix II. This tailoring unit was established in December 1970, in Vivekanandhapuram. The following registers were maintained.

1. Attendance register for candidates
2. Register for consumable articles
3. Register for lesson plans.

## **2. Planning an Educational Programme**

### **a) Learning objectives:**

The main objectives of this educational programme were

1. To develop knowledge and skill in tailoring techniques to the rural young girls
2. To train them up for a Vocation
3. To enable them to earn an income by leisure time occupation.

### **b) Duration:**

In December, 1978 this programme was started. Ten members joined the course. Since the investigator wished to give individual attention to her students, the members were divided into two batches and the teaching programme was conducted. While for the first batch the class was conducted in the morning, for the second group the class was conducted in the afternoon. This programme was conducted for six days a week. The investigator could be on the spot for three days a week and for the other days she had to make arrangements to implement the programme.

### **c) Content:**

The content of the programme was outlined. A syllabus for teaching was framed. This included basic

sewing techniques and lessons on making selected garments. The formulated curriculum is given in Appendix III.

#### 4) Teaching methods

The teaching method selected by the investigator was mainly demonstration. Demonstration method is simple to understand. Demonstration may require nothing more than observation on the part of pupil, or he may be asked to do what he has just been shown how to do. Dale (1952). A demonstration is a means where by pupils can see how certain things are done. Demonstration is a simple and effective teaching method. It can be used for showing how something is to be done and how something is not to be done, Kulandavel (1961).

Giving demonstration is a valuable activity for students, Brown, Lewis, Hazelwood (1977). In schools where students have to learn skills and do various activities, scientifically and efficiently demonstrations will be very helpful. When the teachers give demonstration, they gain by participating in a process of communication that involves multiple responsibilities. Because of its own advantages this method was followed by the investigator.

## C. Evaluation of the Sewing class

The evaluation phase of study is the time for students to take stock, to see what they have learned, or to understand how they have changed as the result of the study.

Evaluation procedures are used continually in the systematic approach to education, Brown, Lewis, Hershler<sup>2</sup> (1977). As each element of instruction is completed, evaluation is needed to reveal the extent to which students have for the next steps. When the entire program is completed, a final evaluation will be necessary. Evaluation of student performances provide essential information about

- (1) faults in the instructional plan, content, procedures, materials and other elements
- (2) the readiness of students to undertake instruction
- and (3) the adequacy of objectives
- and (4) the adequacy of instruments used to measure students' achievement.

## **1. In-class assessment of Candidates:**

A proforma was prepared by the investigator to evaluate the interest, knowledge and skill of the students. The proforma is given in Appendix IV, and the data is presented in Chapter IV, Results and Discussion.

## **2. Evaluation of the Finished Garments:**

A proforma was prepared by the investigator and the Post Graduate students of Textiles and Clothing were used to evaluate the finished garments. The proforma consisted of details as general appearance and construction such as seam, hem, band and placket. The proforma is given in Appendix V A and V B. The finished garments were shown to the ten judges and they evaluated the performance. Based on the evaluation marks were allotted and prizes were distributed to the best candidate in the learning programme.

## **3. Standardizing Measurements for Petticoats:**

Since the results of consumer's survey revealed that most of the petticoats were purchased readymade, as one aspect of this study the investigator attempted to standardize body measurements for the skirt.

## **1. Standardization of Measurements for Petticoats:**

### **A. Selection of Area:**

The area selected by the investigator to take measurements for petticoat was her own college as the sample selected could be approached very easily.

### **B. Selection of the Sample:**

The investigator selected 500 college girls between the age group of 17 to 24 years for standardizing the measurements. The girls who were selected were studying from Pre-University to Post Graduate level. The measurements taken were waist, hip and length from waist to ankle.

### **C. Standardizing the Measurements:**

The investigator found out the mode by using the statistical formula for standardizing the measurements. The mode or the modal value is that value in a series of observations which occurs with the greatest frequency (Gupta S.P., 1977). While the results are presented in

Chapter IV, Results and Discussions, the major findings are given in this chapter. The results of standardized measurements for petticoat gave as the outcome of the length from waist to ankle is 101 cm., the hip measurement is 91 cm and waist measurement is 61 cm.

### 2. Designing patterns for Petticoats using Standardized Measurements:

Based on the standard measurements the paper patterns were developed. Before designing the paper patterns consumers' preferences and the preferences of girls of sewing class regarding four gore and six gore petticoats were ascertained and this showed that only six gore petticoat was preferred by the consumers. So the six gore pattern was developed after reviewing the works of Kumar (1962) and Deongaji ( ) and these were modified and the investigator evolved a suitable pattern. The draft thus prepared is given in Appendix VI.

### 3. Constructing Petticoats:

The material selected for constructing the petticoat was poplin since the results of the survey regarding consumer preference revealed that all preferred and used poplin petticoats. The petticoats were constructed and given for evaluation to five pupils. Various aspects such as fit, comfort, drape and construction aspects, <sup>etc</sup> evaluated by means of a proforma. The proforma is given in Appendix VII. The results of the study are discussed in Chapter IV, Results and Discussions.

## **IV RESULTS AND DISCUSSION**

The results of the study comprised of the following major aspects:

- A. Survey on consumers' preferences and problems**
- B. Evaluation of the Educational Programme**
- C. Standardising measurements for the Petticoat and evaluation of the same.**

### **A. Survey on Consumers' Preferences and Problems**

The most common garments of women in India happen to wear be the petticoat and blouse. Therefore a survey on consumers' preferences and problems was conducted on the above two selected garments. The questionnaire method for collection of data was adopted from a sample of 200 consumers who actually used these garments.

The data were collected, analysed and the results were discussed under the following major headings.

- 1. Purchasing habits of consumers**
- 2. Details of tailor made garments and problems faced**
- 3. Details of ready made garments and problems faced**
- 4. Suggestions for improving ready to wear garments.**

It was the intention of the investigator to learn how the consumers obtained the garments, whether they purchased petticoats and blouses readymade or got them tailored or made their own home sewings.

1. Purchasing habits of Consumers:

The purchasing habits of consumers are given in Table I.

TABLE I  
PURCHASING HABITS OF CONSUMERS

S.No.	Type of purchase	Petticoats		Blouse	
		No. of persons stating	Percentage	No. of persons stating	Percentage
1.	Ready made garment	100	50	-	-
2.	Tailormade	40	20	144	72
3.	Tailormade and readymade	30	15	16	8
4.	Readymade and homemade	10	5	2	1
5.	Home-made	10	5	0	0
6.	Tailormade, Homemade and read made	2	1	2	1
7.	Tailormade and homemade	-	-	20	10

Scale

Y Axis : 2 Cms : 10 Percent

KEY:



PETTICOAT



BLOUSE

- 1. Readymade
- 2. Tailor made
- 3. Tailormade and Readymade
- 4. Readymade and Home made
- 5. Home made
- 6. Tailormade, Home made and Readymade
- 7. Tailormade and Home made

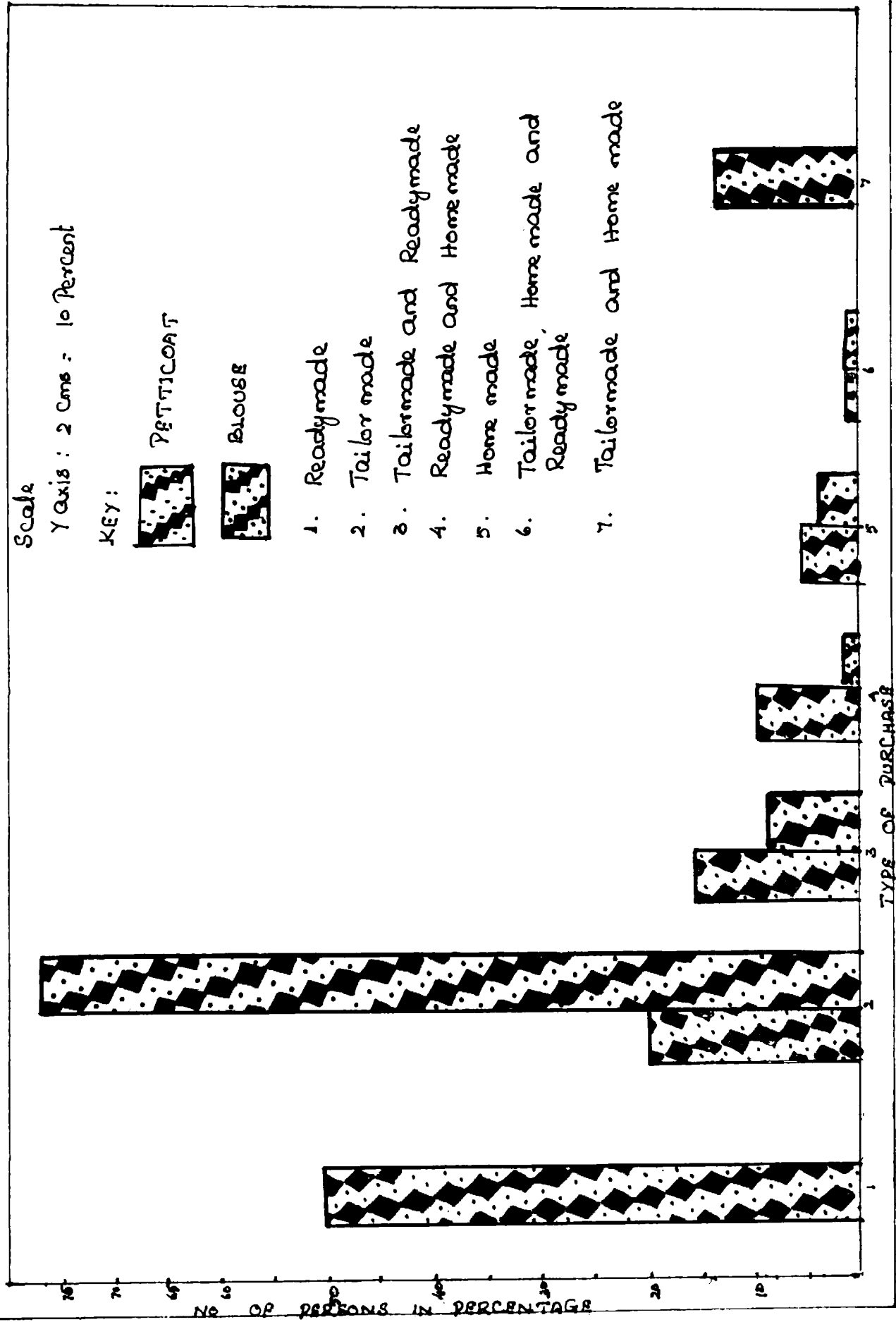


FIG.1 PURCHASING HABITS OF CONSUMERS

From the above table it is clear that 80 per cent of the consumers purchased purely readymade petticoat. Along with the readymade petticoats, tailor-made and homemade petticoats were used by 25 per cent of the consumers. Twenty per cent of the consumers used purely tailor-made petticoats whereas 5 per cent of the consumers used purely homemade petticoats.

As regards blouses 72 per cent of the consumers used only tailor made blouses. Along with tailor-made blouses 24 per cent used readymade and home made blouses. Four per cent of the consumers used only homemade blouses.

## 2. Details of Tailor-made Garments and Problems faced:

Among 96 per cent who gave the petticoats to the tailors 25 per cent gave model garments for stitching. In a few cases along with model garments body measurements also were given. Out of the 96 per cent of the consumers who gave their blouses to tailors they all gave model blouse to the tailor for stitching purposes. Along with model blouse only 6 per cent gave body measurements.

Fabrics used	Petticoat		Blouse	
	No. of persons	Percent- age	No. of persons	Percent- age
Cambrie	0	0	40	20
Two by one	0	0	20	10
Polyester	0	0	20	10
Terylene	0	0	16	8
Silk	0	0	12	6
Terricotton	0	0	10	5
Voile	0	0	2	1
Cats wool	0	0	2	1
Jersey	0	0	2	1

From the above table it is clear that most of the consumers preferred and purchased poplin and long cloth for petticoats and two by two and cambrie for blouses. Lining material was used only for silk blouses and 20 per cent used the above.

The problems faced by the consumers in using the tailor-made petticoats and blouses are given in Table V.

Scale:  
Y axis: 2 cms : 10 Percent

KEY:

- 1. Poplin
- 2. Long Cloths
- 3. Bleached material
- 4. Unbleached material
- 5. Satin
- 6. Tussore
- 7. Cambric
- 8. Tussore by one
- 9. Polyester
- 10. Terylene
- 11. Silk
- 12. Terricotton
- 13. Vole
- 14. Cota wool
- 15. Jersey

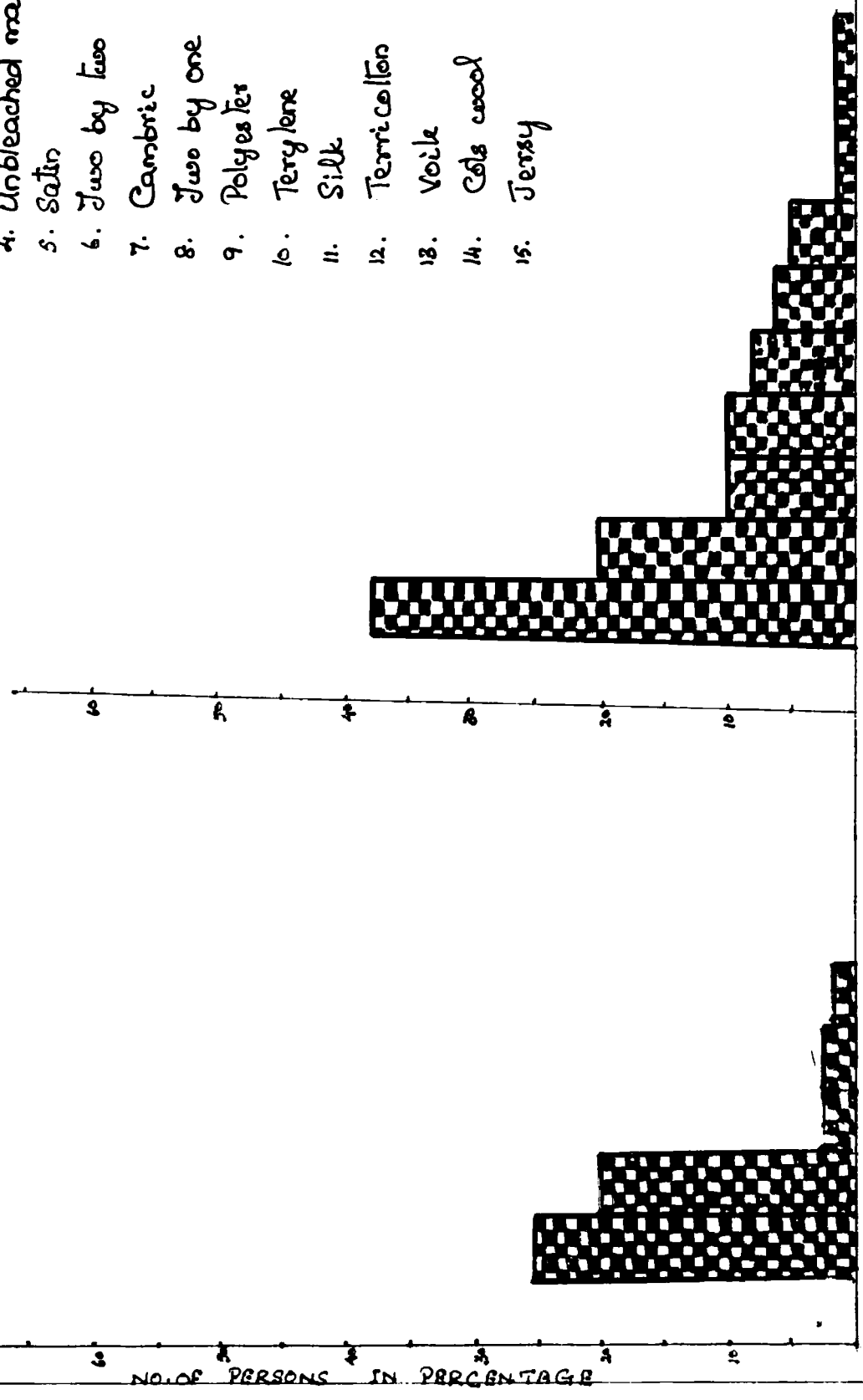


FIG. 2 FABRICS PURCHASED FOR TAILORMADE AND HOMEMADE PETTICOATS AND BLOUSES

**TABLE V**  
**PROBLEMS FACED BY CONSUMERS IN TAILORMADE**  
**PETTICOATS AND BLOUSES**

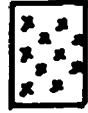
Problems	Petticoats		Blouses	
	No. of persons answered	Percentage	No. of persons answered	Percentage
a. Improper stitching	20	10	50	25
b. Heavy charges	20	10	32	16
c. Shrinkage after first wash	-	-	-	-
d. Improper fitting	-	-	76	38
e. Improper cutting	10	5	32	16

From the above table it is revealed that the major problems faced by the consumers were improper stitching (10%) and heavy charges (10%) in petticoats. As far as blouses 38 per cent of consumers faced improper fitting as the main problem and 16 per cent faced the problem of heavy charges and improper cutting respectively.

Scale

Y axis : 2 cms = 10 percent

Key:



PETTICOAT



BLOUSE

1. Improper Stitching
2. Heavy Charges
3. Improper Fitting
4. Improper Cutting.

Problem	Petticoat (%)	Blouse (%)
1. Improper Stitching	~10	~10
2. Heavy Charges	~10	~10
3. Improper Fitting	~40	~40
4. Improper Cutting	~20	~20

NO OF PERSONS IN PERCENTAGE

PROBLEMS

FIG. 3. PROBLEMS FACED BY CONSUMERS IN TAILORMADE PETTICOATS AND BLOUSES

The suggestions given by the consumers to improve the tailored-made garments were

1. Stitches should be strong
2. Material should be cut properly
3. Charges must be reduced
4. Proper measurements must be taken.

### 3. Details of Readymade garments and Problems faced by Consumers

The different sizes purchased by the consumers in readymade garments are given in Table VI.

**TABLE VI**  
**SIZES OF PETTICOATS AND BLOUSES PURCHASED**  
**BY CONSUMERS**

*****					
Petticoats			Blouses		
Size in cm.	No. of Persons answered	Percent- age	Size in cm	No. of persons answered	Percent- age
-----					
95 (38")	40	20	75 (30")	6	3
100 (40")	110	55	80 (32")	10	5
104 (42")	10	5	90 (36")	4	2
*****					

Seventy five per cent of the consumers purchased readymade petticoats. From the above table it is clear that the most common size of petticoat happened to be 100 cms (40") as 55 per cent of consumers purchased the same. Only 10 per cent purchased readymade blouses and these were in different sizes. Fifty per cent of consumers purchased readymade petticoats and 10 per cent, readymade blouses.

Material preferences of consumers purchasing readymade garments are given in Table VII.

TABLE VII

FABRIC SELECTION BY CONSUMERS IN READYMADE PETTICOATS AND BLOUSES

Name of Fabric	Petticoats		Blouses	
	No. of persons stated	Percent- age	No. of persons stated	Percent- age
Poplin	78	39	-	-
Knitted	2	1	12	6
Long cloth	20	10	-	-
Two by two	-	-	4	2
wool	-	-	4	2

From the above table it is very clear that around 40 per cent preferred poplin for readymade garments. Very few, namely, of the 10 per cent who purchased readymade blouses they preferred only knitted fabric. The type of petticoat preferred by the consumers was six gore petticoat since 93 per cent used only six gore petticoat and of these 70 per cent used petticoat with single frill. Next preference was given to petticoats attached with laces by 10 per cent and around 10 per cent preferred embroidered petticoats.

Cut blouses were used by 98 per cent of consumers. In every cut blouse yoke was attached and round neck and short sleeves were preferred by 70 per cent and 30 per cent preferred a boat shaped neck.

For petticoats 95 per cent of the consumers preferred medium textured material whereas for the blouse 91 per cent preferred a soft textured fabric.

The problems faced by the consumers while using the readymade petticoats and blouses are given in Table VIII.

**TABLE VIII**  
**PROBLEMS FACED BY CONSUMERS IN READYMADE**  
**PETTICOATS AND BLOUSES**

Problems	Petticoat		Blouse	
	No. of persons stated	Percentage	No. of persons stated	Percentage
a. Improper & poor stitching	100	50	2	1
b. Improper fitting	9	4	12	6
c. Too many decorative trimmings used	16	8	-	-
d. Fading of colour	20	10	6	3
e. Shrinkage of material	4	2	-	-
f. Use of low quality fabrics	4	2	2	1
g. High cost	4	2	-	-

The above table shows that the major problem faced by the consumers in using readymade petticoat is improper and poor stitching as fifty per cent of the consumers have mentioned the above. Fading of colour in both the garments and improper fitting particularly in blouses, were also mentioned as the other problems.

### **B. Evaluation of the Educational Programme:**

Different aspects of the candidates of the sewing class were evaluated and they are discussed below.

1. Attendance
2. Evaluation of the finished garments
3. Self-assessment of the candidates.

#### **1. Attendance:**

The percentage of attendance of candidates to the sewing class is presented in Table IX.

**TABLE IX**

#### **ATTENDANCE OF PARTICIPANTS IN SEWING CLASS**

<b>S.No.</b>	<b>Range of days in percentage</b>	<b>No. of Persons presented</b>	<b>Percentage</b>
1.	70 - 80	1	10
2.	80 - 90	1	10
3.	90 - 100	8	80

Table IX shows that 80 per cent of the subjects had 90 to 100 per cent attendance and another ten per cent got 70 to 80 per cent of attendance. This shows that most of them were regular to sewing class and therefore all had good attendance.

**2. Evaluation of the finished garments:**

The constructed garments were evaluated by ten judges and the results are given in Tables X and XIV.

Table X shows the results of evaluation of garments stitched in the beginning as done by ten judges.

TABLE X

EVALUATION OF GARMENTS AS GIVEN BY TEN JUDGES

No.	1	2	3	4	5	6	7	8	9	10	Total marks	Percent age mark
1.	4	5	4	4	4	5	4	4	4	4	42	42
2.	3	4	3	3	4	4	4	4	3	3	35	35
3.	4	3	4	4	4	4	3	4	4	4	38	38
4.	4	4	5	4	5	5	4	4	4	4	43	43
5.	3	3	5	3	3	4	3	4	3	4	35	35
6.	4	4	4	4	3	4	4	3	4	4	38	38
7.	4	3	3	4	4	4	3	4	4	4	37	37
8.	4	3	3	4	4	4	3	3	4	4	36	36
9.	3	4	4	4	4	4	3	3	3	3	35	35
10.	3	4	4	4	3	3	4	4	4	3	36	36



PLATE. 1. RURAL GIRLS IN SEWING CLASS.



PLATE II. RURAL GIRLS IN SEWING CLASS

From the above table it is clear that the maximum mark secured is 42 per cent and the minimum is 33 per cent in the beginning after a month of the class was started.

Table XI shows the results of evaluation of the four gore petticoat as done by the judges.

**TABLE XI**  
**EVALUATION OF FOUR GORE PETTICOAT AS GIVEN BY**  
**TEN JUDGES**

No.	1	2	3	4	5	6	7	8	9	10	Total marks	Per-cent- age
1.	7	7	8	7	7	8	7	7	7	7	72	72
2.	6	8	6	7	7	7	7	7	7	7	69	69
3.	7	7	7	6	7	7	8	8	7	7	71	71
4.	8	9	9	9	9	9	9	8	8	8	86	86
5.	8	7	8	7	8	7	8	7	7	7	74	74
6.	7	7	6	7	7	7	7	7	6	7	68	68
7.	6	7	6	6	7	7	7	6	6	6	64	64
8.	7	7	7	6	6	7	7	7	7	7	68	68
9.	7	8	6	7	7	7	7	7	7	7	70	70
10.	6	7	6	6	7	6	7	6	6	6	63	63

Table XI shows that the maximum marks scored is 86 per cent and the minimum marks scored is 63 per cent. This shows that all the girls stitched the four gore petticoat in a good manner

Table XII shows the results of evaluation of the six gore petticoat as done by ten judges.

TABLE XII  
EVALUATION OF SIX GORE PETTICOAT AS GIVEN BY TEN JUDGES

No.	1	2	3	4	5	6	7	8	9	10	Total marks	Percent age
1.	7	8	8	7	8	8	8	8	8	8	78	78
2.	6	7	6	7	6	7	7	7	7	6	66	66
3.	6	7	7	7	7	7	7	7	7	7	69	69
4.	8	9	9	8	9	9	9	8	9	9	86	86
5.	6	7	7	7	7	7	6	7	6	6	66	66
6.	6	6	6	7	6	6	7	6	7	6	63	63
7.	6	5	7	6	6	5	7	6	6	6	60	60
8.	7	8	7	7	7	8	8	7	8	7	74	74
9.	7	7	7	8	7	7	7	7	8	7	72	72
10.	7	8	7	7	8	7	7	8	7	7	73	73

From the above table it is clear that the maximum marks scored is 86 per cent and the minimum is 63 per cent. The progress of candidates in their work was evaluated in terms of marks obtained by them. For this the students 't' test as a statistical procedure was applied as suggested by Gupta (1977). The data, procedure and analysis are given in Appendix VII. The analysis showed that the result was significant at 5 per cent level.

TABLE XIII  
EVALUATION OF BLOU E AS DONE BY TEN JUDGES  
No. 1

No.	1	2	3	4	5	6	7	8	9	10	Total marks	Percent -2/3
1.	6	5	7	6	6	6	6	6	6	6	60	60
2.	6	6	6	7	7	7	7	7	6	7	66	66
3.	6	7	6	6	7	6	7	6	6	6	63	63
4.	7	7	8	8	8	8	8	8	7	8	77	77
5.	4	5	5	5	5	4	5	5	5	5	48	48
6.	6	5	5	6	6	6	6	6	6	5	57	57
7.	6	6	5	5	6	6	6	6	6	5	57	57
8.	7	6	5	6	6	5	6	6	6	5	58	58
9.	6	6	6	7	6	6	6	6	6	6	61	61
10.	7	6	6	7	6	6	6	7	7	6	64	64

The above table shows that the maximum marks scored is 77 per cent and the minimum is 48 per cent for the first blouse constructed by the students.

Table XIV shows the evaluation of Blouse No-2 as done by ten judges.

TABLE XIV  
EVALUATION OF BLOUSE AS GIVEN BY TEN JUDGES  
No. 2

No.	1	2	3	4	5	6	7	8	9	10	Total marks	Percent
1.	7	6	7	7	7	7	7	7	7	7	69	69
2.	5	6	5	5	5	5	5	5	5	5	51	51
3.	6	7	6	7	6	7	7	7	7	6	66	66
4.	7	8	8	8	9	7	8	8	8	8	79	79
5.	6	7	6	7	6	6	6	6	6	6	62	62
6.	6	6	7	7	7	6	6	6	6	6	63	63
7.	6	6	6	7	6	6	6	7	6	6	62	62
8.	6	6	7	6	6	7	6	6	6	6	62	62
9.	6	7	6	6	7	6	6	6	6	6	62	62
10.	6	6	6	6	6	7	6	6	6	6	61	61

From the above table it is clear that the maximum marks scored is 79 per cent and the minimum is 61 per cent. The progress of candidates in their work was evaluated as done for petticoats. For this the students' t-test as a statistical procedure was applied as suggested by Gupta (1977). The data, procedure and analysis are given in Appendix VII. The analysis showed that the result was significant at 5 per cent level.

The result of the first performance was compared with the last performance. It revealed that there was a great progress in their work.

### 3. Self-assessment of the Candidates:

A self evaluation was conducted by candidates themselves regarding knowledge, attitude and skills which enabled to show a progress in their work. A profurne was formulated and administered to the candidates which is given in Appendix IV. Before joining the sewing class the students stated that no one knew how to sew and how to construct a garment. After coming to the class they stated that they learnt to construct panty, under wear, petticoat, blouse, frock, shirts and ordinary shirt. At the time of

conducting this self evaluation they had gained confidence in stitching petticoat and blouse very well. All were regular to the class when they were interviewed they all told that the sewing class was very beneficial and interesting. Six members told that they could stitch very well and the others four members told that they could stitch fairly well. All stated that they were much interested before coming to the class and the interest according to them was increased after coming to the class to a considerable extent.

B. Standardizing measurements for the petticoat and Evaluation of the same:

Five hundred women candidates belonging to the AGO group of 17 to 24 years old were taken for standardizing body measurements for petticoat. Measurements of waist, hip, length from waist to ankle were taken for each candidate and recorded. The measurements of 300 persons are given in Appendix VIII. Keeping the length as the basis the waist and hip measurements were standardized.

Table XV shows the length from waist to ankle and the number of persons having this length.

**TABLE XV**  
**LENGTH FROM WAIST TO ANKLE**

Length from waist to ankle in cms.	No. of persons
85 - 87.5	6
87.5 - 90	14
90 - 92.5	25
92.5 - 95	37
95 - 97.5	99
97.5 - 100	88
100 - 102.5	159
102.5 - 105	35
105 - 107.5	29
107.5 - 110	0
<b>Total</b>	<b>500</b>

From the above table it is evident that 159 persons out of 500 had the length between 100 to 102.5 cms. The mode was found out by using statistical formula following Gupta (1977). From the calculation it is evident that the standard length is 101 cms. (Approximately 40 inches) The calculation is given in Appendix IX.

The Table XVI shows the hip measurement based on length from waist to ankle.

TABLE XVI

HIP MEASUREMENT BASED ON LENGTH

Hip measurement in cm.	Length from joint to ankle										Total
	85 - 87.5	90 92.5	95 97.5	95 - 97.5	100 102.5	100.0 - 102.5	105 107.5	105 - 107.5	110 112.5	110	
70 - 72.5				1							1
72.5 - 75					1						1
75 - 77.5		1		4	2		2		3	1	13
77.5 - 80				3			3				6
80 - 82.5	1			12	6		15		5	4	37
82.5 - 85	2	4		7	4		13		2	1	51
85 - 87.5	1	1		9	3		19		3	3	37
87.5 - 90	4	4		8	6		15		9	7	75
90 - 92.5	3	3		6	2		39		5	5	102
92.5 - 95		1		2	1		16		4	3	37
95 - 97.5				2	7		23		4	4	46
97.5 - 100		1		1	2		8		1	1	17
100 - 102.5		1		1	2		6			1	13
102.5 - 105				1							2
105 - 107.5		1		3					1		6
Total	6	14	25	37	99	88	159	35	29	8	500

From the above table it is clear that 102 persons out of 500 had the hip measurement between 90 to 92.5 cms. This shows that a large number had this measurement. By calculation also it was found out that the standard hip measurement was 91 cms and this is given in Appendix IX.

Table XVII shows the waist measurement based on length from waist to ankle.

TABLE XVII

WAIST MEASUREMENT BASED ON LENGTH

Waist measurement in cm.	Length from waist to ankle										Total
	85- 87.5- 90	90- 92.5	92.5- 95	95- 97.5	97.5- 100	100- 102.5	102.5- 105	105- 107.5	107.5- 110		
55 - 57.5	1	2	1	5	1	4	1	2	1	18	
57.5 - 60	2	4	3	10	6	13	3			44	
60 - 62.5	1	4	4	24	10	25	7	7	3	90	
62.5 - 65	1	1	4	11	17	21	6	6	1	97	
65 - 67.5	1	6	1	7	21	42	8	12	2	122	
67.5 - 70	1	3	7	6	15	18	2	2		54	
70 - 72.5		2	2	8	8	14	5		1	40	
72.5 - 75		2	1	2	1	7				13	
75 - 77.5			1	2	2	1				6	
77.5 - 80				1		4				5	
80 - 82.5				1	2	2	1			6	
82.5 - 85				2						2	
85 - 87.5	1									1	
87.5 - 90											
90 - 92.5		1					2			3	
Total	6	14	25	37	99	159	35	29	8	500	

The above table reveals that the majority of the girls had the waist measurement between 65 to 67.5 cms. The statistical analysis was used to find out the mode and the procedure is given in Appendix IX. This shows that the standard waist measurement is 66 cms. (Approximately 26 inches).

A wise choice of suitable material alone cannot satisfy all the requirements. A good drafting system is essential for constructing suitable garments for the masses. Even though drafting systems are available they need investigation as regards the fitting and construction aspects. That the consumers preferred six gore petticoats was evident from the survey conducted. The investigator studied the systems of De ngaji ( ) and Kumar (1962) and taking hints a pattern was developed by her. This draft was utilized for the preparation of the pattern for a six gore petticoat. The measurements for petticoat for the candidates of the sewing class were taken and for each candidate the required pattern for four gore and six gore were prepared. Using these patterns the fabrics were cut and they were taught to make the petticoats for themselves.

The candidates were given a proforma which included such details as comfort, fit, drapes and construction aspects for evaluating the petticoats. The proforma is given in Appendix X. The result of evaluation revealed that all the candidates preferred the six gore petticoat more than the four-gore petticoat. They felt they were comfortable in six gore petticoat and the fitting and drapability were found to be satisfactory. They were satisfied with construction aspects also.

Based on the above result with the standardized measurements for skirts, the length of which happened to be 101 cms, one petticoat was prepared by the investigator using poplin as the selected material preferred by the consumers. Two other petticoats were also designed by using the measurements 97.5 cms, which was 2.5 cms less than the standard length and 103.5 cms which is, 2.5 cms more respectively. The instruction for construction is given in Appendix XIII A. A Proforma was prepared for this assessment which included such details as general appearance, comfort, drapability, fit and also construction aspects. The proforma is given in Appendix XI.

a. General Appearance:

The three petticoats constructed using the standard measurements were evaluated by 5 judges each.

Table XVIII A shows the evaluation done by 5 judges for each petticoat.

TABLE XVIII  
EVALUATION OF PETTICOATS  
A GENERAL APPEARANCE

No.	Grade	Points	97.5 cm s 2nd petticoat		101 cm sized petticoat		103.5 cm sized petticoat	
			No. of persons	Percent age of mark	No. of persons	Per- cent- age of marks	No. of persons	Per- cent- age of marks
1.	Good	4	4	80	5	100	3	60
2.	Fair	3	1	15	-	-	2	30
3.	Poor	2	-	-	-	-	-	-

The above table shows that the standard sized petticoat i.e. 101 cm got cent per cent of marks for general appearance, which happened to be the maximum.

b) Comfort:

Table XVIII B shows the evaluation done regarding 'comfort' of the petticoats.

TABLE XVIII

B COMFORT

No.	Grade	Point	99.5cm sized petticoat		101cm sized petticoat		103.5cm sized petticoat	
			No. of persons	Percent- age of marks	No. of persons	Per- cent- age of marks	No. of persons	Per- cent- age of marks
1.	Good	4	3	60	3	100	3	100
2.	Fair	3	2	30	-	-	-	-
3.	Poor	2	-	-	-	-	-	-
Total				90		100		100

From the above table it is clear that the standard sized petticoats (101 cm) and 103.5 cm sized petticoat got cent per cent of marks each for comfort. Evidently the petticoats happened to be comfortable for wear.

e) Drapeability:

Table XVIII E shows the evaluation done regarding drapeability.

TABLE XVIII

C DRAPEABILITY

No.	Grade	Points	97.5cm sized petticoat		101cm sized petticoat		103.5cm sized petticoat	
			No. of persons	Per-cent of marks	No. of persons	Per-cent of marks	No. of persons	Per-cent of marks
1.	Good	4	3	60	5	100	4	80
2.	Fair	3	2	30			1	15
3.	Poor	2						
			98		100		98	

The above table shows that the standard petticoat and 103.5 cm sized petticoat got the maximum ratings. It is clear that all the petticoats secured more than 70 per cent which revealed that the petticoats had good drapability.

d) FIT:

Table XVIII B shows the evaluation done regarding fit.

TABLE XVIII

B FIT

No.	Grade	Points	97.5cm sized petticoat		101cm sized petticoat		103.5cm sized petticoat	
			No. of persons	Per cent of marks	No. of persons	Per cent of marks	No. of persons	Per cent of marks
1.	Good	4	4	80	5	100	5	100
2.	Fair	3	1	33				
3.	Poor	2						
Total				95		100		100

The above table reveals that there were no complaints regarding fitting. The standard sized petticoat and the 103.5 cm sized petticoat got cent per cent. of marks. All the petticoats fitted the candidates well.

e. Construction aspects:

Table XVIII E shows the evaluation done regarding construction aspects.

TABLE XVIII  
 CONSTRUCTION ASPECTS

Petticoat size	Grade	Points	Waist band No. %	Plechet No. %	Full No. %	Semi No. %	Fast No. %	Grand total
97.5 cm sized	Good	4	5	100	5	100	5	100
	Fair	3	-	-	-	-	-	3
	Poor	2	-	-	-	-	-	2
101 cm	Good	4	5	100	4	80	5	100
	Fair	3	1	15	1	15	6	98
	Poor	2	-	-	-	-	-	2
103.5 cm	Good	4	5	100	4	80	5	100
	Fair	3	1	15	1	15	3	99
	Poor	2	-	-	-	-	-	2

From the above table it is clear that the construction aspects were found to be excellent in almost all the petticoats.

## V SUMMARY AND CONCLUSION

Eighty per cent of the Indian population live in rural areas of which most of them are under the poverty line. Agriculture being the main occupation and seasonal in nature it fails to provide an income all through the year. During this off-seasonal period, to give an additional income, employment opportunities for the rural people can be provided through suitable subsidiary occupations which can augment family income. Among the different subsidiary occupations tailoring is one most suited for rural women. To assess the suitability of this occupation rural women were mobilised and attempts were made to educate them in garment making. This was the main object of the study undertaken by the investigator. A curriculum was framed in which basic clothing construction techniques and simple and functional garments such as panties, knickers, frocks, petticoats and blouses were included. The intention was to develop skill in making selected basic garments as petticoats and blouses.

Based on this educational programme a survey was conducted to find out the preferences regarding petticoats and blouses from college girls. Petticoats are mostly purchased as readymades by consumers. Also standardized commercial patterns are not commonly available in India; the measurements therefore were standardized since it is hoped such standardized measurements might find further use. The findings of the different aspects of the study can be summarized as under, the following headings

- A. Consumers' preference and problems regarding petticoats and blouses.
- B. Evaluation of the Educational Programme
- C. Evaluation of Standardized measurements for petticoats.

A. Consumers' preferences and problems regarding Petticoats and Blouses:

A survey was conducted in Sri Avinashilingam Home Science College to determine the preferences and problems of 200 consumers in relation to petticoats and blouses. The survey revealed that:

1. Most of the consumers used readymade petticoats and tailor-made blouses
2. The amount of material used was 2 metres for petticoats and 70 cms for blouse by the majority of consumers which evidently formed the standard
3. The fabric used was poplin followed by long cloth for petticoat and two by two followed by cambric for blouse. Lining material was used only for silks
4. Most of the consumers faced the problems of improper stitching, improper fitting and improper cutting in tailor-made garments
5. Most of the consumers purchased six gore petticoats of 100 cm size with single frill attached which were made up of poplin and long cloth since the texture preferred by them happened to be medium quality.
6. As for the blouse, most of the consumers, preferred cut blouse with yoke, round neck and short sleeves. A soft texture was preferred for the above.

7. The main problems faced in readymade garments were improper stitching, improper fitting, fading of colour, shrinkage of material, use of low quality fabrics and high cost of items.

**B. Evaluation of the Educational Programme:**

The educational programme was conducted in Vivekanandapuram in Koozhenoor (Sealiyur Post) at Coimbatore District. The performance of ten girls in the sewing class was evaluated by ten judges. The participating candidates in the programme evaluated the sewing class in relation to the knowledge and skill derived by them and the interest developed. The results of the evaluation done by ten judges and also the statistical analysis showed that there was a great progress in their performance. The self evaluation done by the candidates revealed that the sewing class was beneficial to all of them who participated in the vocational training programme.

**C. Evaluation of Standardized Measurements for Pattinams:**

Measurements of waist, hip and length from waist to ankle were taken from 500 candidates to standardize the

measurements for petticoats. The standard length measurement has been found to be 101 cms. After studying the review of literature the investigator developed a pattern on her own for four gore and six gore petticoats for the girls in the sewing class. The petticoats were constructed and evaluated. The results of this evaluation and the results of the consumers' survey revealed that most of them preferred six gore petticoats. A draft pattern for a six gore petticoat therefore was developed with the standard measurements and also for two other related measurements (97.5 cms and 103.5 cms). These were evaluated for such aspects as general appearance, comfort, fit, drapability and construction features. It revealed that all the aspects were satisfactory.

From the consumers' survey it can be concluded that most of the girls used readymade petticoats and tailored blouses. Based on this survey skills were developed in rural young girls to make petticoats and blouses satisfactorily to enable them to produce these garments and earn an income. Petticoat being a loose fitting garment the measurements were standardized which might find a use in the homes, dress maker's units and in industry.

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**APPENDICES**

**APPENDIX I**

**QUESTIONNAIRE TO ELICIT INFORMATION AND PROBLEMS IN  
PETTICOATS AND BLOUSES**

**1. Name of the interviewee**

**2. Age**

**3. How do you make the purchase for petticoats and blouses?**

\*\*\*\*\*

<b>Name of the garments</b>	<b>Tailormade</b>	<b>Readymade</b>	<b>Homemade</b>
---------------------------------	-------------------	------------------	-----------------

\*\*\*\*\*

**Petticoat**

**Blouse**

\*\*\*\*\*

**TAILORMADE GARMENTS:**

**4. Do you allow the tailor to take your body measurements?**

**Or**

**Do you give the tailor, sample garment for stitching?**

\*\*\*\*\*

<b>Name of the garments</b>	<b>Giving body measurements</b>	<b>Giving sample garment for stitching</b>
---------------------------------	-------------------------------------	------------------------------------------------

\*\*\*\*\*

**Petticoat**

**Blouse**

\*\*\*\*\*

6. Indicate the amount of fabric you give the tailor for making petticoats and blouses.

\*\*\*\*\*  
 Name of the garment                      Amount of material required  
 \*\*\*\*\*

Petticoat

Blouse

\*\*\*\*\*

6. How much do you usually give as tailor's charges for petticoat and blouse?

Petticoat                      Rs.

Blouse                              Rs.

7.(a) What kind of material do you select for your petticoats?

Poplin

Satin

Bleached material

Unbleached material

Casement

Long cloth

Any other, specify

(b) What kind of material do you select for your blouses?

- |             |                    |
|-------------|--------------------|
| Voile       | Silk               |
| Cambric     | Cats wool          |
| Mulle voile | Terry cotton       |
| Two by two  | Jersey             |
| Nylon       | Polyester          |
| Terylene    | Wool               |
| Two by one  | Any other, specify |

8. Do you use any lining materials for your blouses?

Yes  No

9. If 'Yes' indicate the type of material you will use for lining.

10. For what type of fabrics you will use lining?

11. What problems do you face in tailormade garments?

.....

Problems	Pattincoat	Blouse
----------	------------	--------

.....

- a. Improper stitching
- b. Heavy charges
- c. Shrinking after first wash
- d. Improper fitting
- e. Improper cutting
- f. Any other, specify

.....



15.(a) What type of material do you prefer for readymade  
petticoats in your selection?

Poplin	Knitted
Mul mul	Long cloth
Satin	Casement
Any others, specify	

(b) What type of materials do you prefer for readymade  
blouses in your selection?

Two by two	Two by one
Jersey	Knitted
Rubie voils	Cambric
Wool	Silk
Nylon	Terylene
polyester	Terrycotton
Cote wood	Any others, specify

16.(a) What type of petticoats do you prefer?

Four gore	Six gore
Single frill attached	Double frill attached
Lace attached	Cut work done
Embroidered	Other attachments, if any
Any others, specify	

(b) What type of blouse do you prefer?

- |                 |                  |
|-----------------|------------------|
| Ordinary        | Cut blouse       |
| Full sleeve     | Short sleeve     |
| Round neck      | V-shaped neck    |
| Close neck      | Boat shaped neck |
| Collar attached | Yoke attached    |
- Any other, specify

17.

(a) What kind of texture do you prefer for your Petticoats?

- |        |        |      |
|--------|--------|------|
| Coarse | Medium | Soft |
|--------|--------|------|

Give reasons

(b) What type of texture do you prefer for blouses?

- |        |        |      |
|--------|--------|------|
| Coarse | Medium | Soft |
|--------|--------|------|

Give reasons

18. Mention the problems faced by you while using the ready made Petticoats and blouses

Problems	Petticoats	Blouses
a. Stitches not strong		
b. Improper fitting		
c. Too many decorative trimmings used		
d. Fading of colour		
e. Shrinkage of material		
f. High cost		
g. Use of low quality fabrics		
h. Any other, specify		

19. Give your suggestions for improving ready to wear items.

## APPENDIX II

### EQUIPMENTS USED TO ESTABLISH THE UNIT

The minimum equipment used to establish the tailoring unit are <sup>enlisted</sup> listed below:

<u>Permanent Equipment</u>	<u>Number</u>
1. Cutting Table	1
2. Folding chair	1
3. Mat	1
4. Iron box	1
5. Sewing machine	1
6. Shears	1
7. Scissors	1
8. Measuring tape	2
9. Metre scale	2
10. Spinner	1
11. Sew driver (big)	1
12. Sew driver (small)	1
13. Bobbin	1 Dozen
14. Bobbin case	1
<u>Consumable Articles:</u>	
15. Thread	1 Dozen
16. Machine needle	2 Dozens
17. Needle	2 Dozens
18. Pins	1 Packet
19. Oil cone	1
20. Brown paper	2 Gross
21. Pencil	12 dozen
22. Red and blue colour pencil	2
23. Rubber	2

## APPENDIX III

### CONTENT

1. Introduction
  2. Sewing machine - (a) Parts  
(b) Use and Care of machine
  3. Placket - Different types
  4. Neck finishes - Different types
  5. Fasteners - Different types
  6. Trimmings and Decorations
  7. Construction Aspects
    - (a) Body measurements
    - (b) Preparation of paper patterns
    - (c) Fabric preparation
    - (d) Fabric layout
    - (e) Cutting
    - (f) Construction of garment
- Garments
- (a) Girl's party
  - (b) Knicker
  - (c) Petticoat - 4-Sare and 6-Sare
  - (d) Blouse - (a) Sample method  
(b) Measurement method
  - (e) Frock
  - (f) Skirt

**APPENDIX IV**

**EVALUATION BY THE MEMBERS IN THE SEWING CLASS**

1. Name
2. Age
3. Percentage of attendance in sewing class
4. whether I know how to sew before joining the class  
Yes  No
5. If yes, how much do you know?  
Know very well   
Don't know so well   
Don't know at all
6. whether I am a regular student  
Yes  No
7. whether sewing class is beneficial?  
Yes  No
8. If 'Yes' how far it has been beneficial.  
Very beneficial   
Not so beneficial   
Not at all beneficial

9. After joining this class garments that I can stitch confidently are

Panty

Knicker

Petticoat

Blouse

Frock

Ordinary skirt

Any other, mention

10. How far have I developed my skill?

Can stitch very well

Not so well

Cannot stitch at all

11. Whether the sewing class is interesting?

I was interested before coming to class

I had no interest before coming to class

I became interested after coming to the class

I am not interested even after coming to the class

**APPENDIX V - A**

**PROFORMA TO EVALUATE THE FINISHED GARMENTS**

**PETTICOATS - FOUR GORE AND SIX GORE**

**MAXIMUM MARKS: 25**

*****							
No.	Name of the student	Seam	Non	Waist band	Placket	Neckline and general appearance	Total
		5	5	5	5	5	25
		marks	marks	marks	marks	marks	marks
*****							
1.	Savithri. R						
2.	Jayalakshmi. G.						
3.	Subbammal. K.						
4.	Shanthamani. K.						
5.	Vasanthamani. S.						
6.	Maragatham. K.						
7.	Kokila. R.						
8.	Dhanalakshmi. K.						
9.	Radhani. M.						
10.	Rathinam. V.						
*****							

**APPENDIX V - B**

**PROFORMA TO EVALUATE THE FINISHED GARMENTS -  
BLOUSES**

**MAXIMUM MARKS: 50**

S.No.	Name of the students	Scam	Neck	Placket	Yoke	Neck Finish	Sleeve attached	Waist band	Bust	Fasteners	Neckline and shoulder	General appearance	Total 50 marks
.....													
.....													
<b>5 marks</b>													

1. Savithri. R.
2. Jayalakshmi. G.
3. Subbammai. K.
4. Shanthenani. K.
5. Veenthanani. S.
6. Naregedhan. K.
7. Kalia. R.
8. Dhanaalakshmi. K.
9. Radhamaani. M.
10. Nathinaa. V.

.....

## APPENDIX VI

### INSTRUCTION FOR CONSTRUCTING SIX GORE PETTICOAT

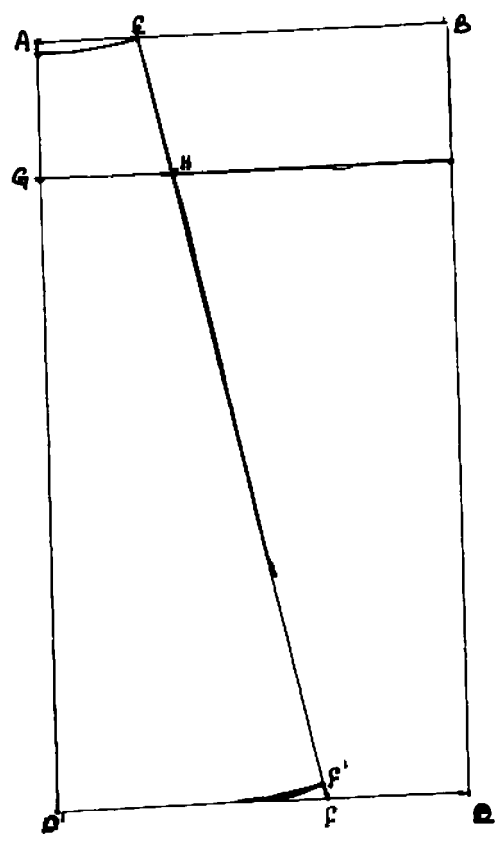
#### Measurements Required:

Waist	..	66 cms
Hip	..	91 cms
Length from Waist to ankle	..	101 cms

#### Preparation of Pattern:

1. Draw a rectangle ABCD
2. From A mark a point E which is equal to  $\frac{1}{6}$  waist + 1.5 cm for loose + 1.5 cm for ease i.e. equal to 14 cms (5.6 inches)
3. From A down 17.5 cms (7 inches) mark a point G and draw a horizontal line
4. From G mark a point H which is equal to  $\frac{1}{6}$  hip + 1.5 cms for loose + 1.5 cms for ease i.e. 16 cms (7.2 inches)
5. From A down mark a point D' which is equal to the length from waist to ankle. No need of allowing any allowance for hemming because at this top the waist band will be attached i.e. 101 cms (40 inches)
6. From D' mark a point F which is equal to double the width of AE + 7.5 cms i.e. 35.5 cms (10.8 inches)
7. Join E, H, F with a straight line
8. EF' is equal to AB 101 cms (40 inches)
9. Join DF' with a curve line.

SIX-GORE PETTICOAT - DRAFT



**Construction:**

1. Keeping the prepared paper pattern over the material on lengthwise grain and trace out the outline of the paper pattern on the material
2. Cut the material following the marked line
3. Cut six pieces following grainline
4. Join central panel of one piece to side panel of other piece
5. Join all the six pieces by following the same rule
6. Before completing the petticoat the open type placket is attached between the centre panel and side panel for 12.5 cms.
7. Join the two sides to complete the garment
8. Waist band of width 10 cms is taken and stitched at the waist in the right side and turned towards wrong side and complete the waist band
9. The bottom is folded to 5 cms and hemmed
10. Fasteners are attached and tape is introduced in between the waist band.

**APPENDIX VII**

**CALCULATION TO FIND OUT t-TEST FOR THE PERFORMANCE  
OF THE CANDIDATES IN SEWING CLASS**

**Solution**

Let us take the hypothesis that the candidates progressed in stitching by attending the training class.

Applying t-test (difference formula)

$$t = \frac{\bar{d}}{s} \sqrt{n}$$

**PETTICOAT**

No.	1st test marks	2nd test marks	d	(2nd test - 1st test) d <sup>2</sup>
1.	72	78	6	36
2.	69	66	-3	9
3.	71	69	-2	4
4.	86	86	0	0
5.	64	66	2	4
6.	68	63	-5	25
7.	64	60	-4	16
8.	68	74	6	36
9.	70	72	2	4
10.	63	73	10	100
			$\Sigma d = 22$	$\Sigma d^2 = 234$

$$\bar{d} = \frac{\sum d}{n}$$

$$= \frac{22}{10} = 2.2$$

$$s = \sqrt{\frac{\sum (d - \bar{d})^2}{n - 1}}$$

$$= \sqrt{\frac{\sum d^2 - (\bar{d})^2 \cdot n}{n - 1}}$$

$$= \sqrt{\frac{234 - (2.2)^2 \cdot 10}{10 - 1}}$$

$$= \sqrt{\frac{232 - 4.84 \cdot 10}{9}}$$

$$= \sqrt{\frac{234 - 48.4}{9}}$$

$$= \sqrt{\frac{185.6}{9}}$$

$$= \sqrt{20.62}$$

$$= 4.541$$

$$\bar{d} = 2.2, \quad s = 4.541, \quad n = 10$$

Substituting the values

$$\begin{aligned}
 t &= \frac{2.2 \times \sqrt{10}}{4.541} \\
 &= \frac{2.2 \times 3.16}{4.541} \\
 &= \frac{6.952}{4.541} = 1.531
 \end{aligned}$$

$$v = n-1 = 10-1 = 9$$

$$\text{for } v = 9, t_{0.05} = 2.262$$

The calculated value of 't' is less than the table value and hence the results do not provide any evidence against the hypothesis. We, therefore, conclude that the candidates have progressed in stitching by attending the tailoring class.

**Solution**

Let us take the hypothesis that the candidates have progressed <sup>to</sup> stitching by attending the class regularly.

Applying t-test (difference formula)

$$t = \frac{\bar{d} \sqrt{n}}{S}$$

- where  $\bar{d}$  = the mean of the difference
- $n$  = the number of samples
- $S$  = the standard deviation of the differences

**BLOUSE**

No.	1st test	2nd test	$d$	$d^2$
				(2nd test - 1st test)
1.	60	69	9	81
2.	66	81	15	225
3.	63	66	3	9
4.	77	79	2	4
5.	48	62	14	196
6.	57	63	6	36
7.	57	62	5	25
8.	58	62	4	16
9.	61	62	1	1
10.	64	61	-3	9
$\Sigma d = 26$			$\Sigma d^2 = 602$	

$$\bar{x} = \frac{\sum d}{N}$$

$$= \frac{26}{10}$$

$$= 2.6$$

$$s = \sqrt{\frac{\sum (d - \bar{x})^2}{n - 1}}$$

$$= \sqrt{\frac{\sum d^2 - (\bar{x})^2 \times n}{n - 1}}$$

$$= \sqrt{\frac{602 - (2.6)^2 \times 10}{9}}$$

$$= \sqrt{\frac{602 - 67.6}{9}}$$

$$= \sqrt{\frac{534.4}{9}}$$

$$= \sqrt{59.37777777777778}$$

$$= 7.706$$

$$\bar{x} = 2.6, \quad s = 7.706, \quad n = 10$$

Substituting the values

$$t = \frac{2.6 \times \sqrt{10}}{7.706}$$

$$= 1.067$$

$$v = n - 1$$

$$= 10 - 1 = 9$$

For  $v = 9$ ,  $t_{0.05} = 2.262$

The calculated value of  $t^*$  is less than the table value and hence the results do not provide any evidence against the hypothesis. We therefore, conclude that the candidates have progressed in stitching by attending the class regularly.

**APPENDIX VIII**

**BODY MEASUREMENT TAKEN FOR PETTICOAT PATTERN  
800 CANDIDATES**

No.	Waist		Hip		Length from waist to ankle	
	in cms.	in inches	cms.	inches	cms.	inches
1.	57.5	23	77.5	31	85	34
2.	57.5	23	80	32	85	34
3.	60	24	80	32	85	34
4.	62.5	25	82.5	33	85	34
5.	65	26	85	34	85	34
6.	85	34	105	42	85	34
7.	55	22	75	30	87.5	35
8.	60	24	82.5	33	87.5	35
9.	60	24	82.5	33	87.5	35
10.	60	24	82.5	33	87.5	35
11.	60	24	82.5	33	87.5	35
12.	62.5	25	85	34	87.5	35
13.	65	26	87.5	35	87.5	35
14.	65	26	87.5	35	87.5	35
15.	65	26	87.5	35	87.5	35
16.	65	26	87.5	35	87.5	35
17.	65	26	90	36	87.5	35
18.	65	26	90	36	87.5	35
19.	67.5	27	90	36	87.5	35
20.	90	36	105	42	87.5	35
21.	55	22	72.5	29	90	36
22.	85	34	80	32	90	36
23.	57.5	23	80	32	90	36
24.	82.5	33	80	32	90	36
25.	57.5	23	80	32	90	36

No.	Waist		Hip		Length from waist to ankle	
	in cms.	in inches	cms.	inches	cms.	inches
26.	57.5	23	80	32	90	36
27.	60	24	80	32	90	36
28.	60	24	82.5	33	90	36
29.	60	24	82.5	33	90	36
30.	60	24	82.5	33	90	36
31.	60	24	82.5	33	90	36
32.	62.5	25	85	34	90	36
33.	62.5	25	85	34	90	36
34.	62.5	25	85	34	90	36
35.	62.5	25	87.5	35	90	36
36.	65	26	87.5	35	90	36
37.	67.5	27	87.5	35	90	36
38.	67.5	27	87.5	35	90	36
39.	67.5	27	87.5	35	90	36
40.	70	28	87.5	35	90	36
41.	70	28	90	36	90	36
42.	72.5	29	90	36	90	36
43.	72.5	29	92.5	37	90	36
44.	80	32	97.5	39	90	36
45.	80	32	100	40	90	36
46.	88	32	77.5	31	92.5	37
47.	87.5	23	80	32	92.5	37
48.	87.5	23	80	32	92.5	37
49.	87.5	23	80	32	92.5	37
50.	60	24	82.5	33	92.5	37

APPENDIX VIII Contd...

No.	Waist		Hip		Length from waist to ankle	
	in cms.	in inches	cms.	inches	cms.	inches
1	2	3	4	5	6	7
51.	60	24	82.5	33	92.5	37
52.	60	24	82.5	33	92.5	37
53.	60	24	82.5	33	92.5	37
54.	62.5	25	82.5	33	92.5	37
55.	62.5	25	82.5	33	92.5	37
56.	62.5	25	82.5	33	92.5	37
57.	62.5	25	85	34	92.5	37
58.	62.5	25	85	34	92.5	37
59.	62.5	25	85	34	92.5	37
60.	62.5	25	85	34	92.5	37
61.	62.5	25	85	34	92.5	37
62.	62.5	25	87.5	35	92.5	37
63.	62.5	25	87.5	35	92.5	37
64.	62.5	25	87.5	35	92.5	37
65.	65	26	87.5	35	92.5	37
66.	65	26	87.5	35	92.5	37
67.	65	26	87.5	35	92.5	37
68.	65	26	87.5	35	92.5	37
69.	65	26	87.5	35	92.5	37
70.	65	26	90	36.	92.5	37
71.	65	26	90	36	92.5	37
72.	67.5	27	90	36	92.5	37
73.	67.5	27	90	36	92.5	37
74.	67.5	27	90	36	92.5	37
75.	67.5	28	90	36	92.5	37

## APPENDIX VIII Continued

1	2	3	4	5	6	7
76.	67.5	27	90	36	92.5	37
77.	67.5	27	92.5	37	92.5	37
78.	67.5	27	95	38	92.5	37
79.	70	28	95	38	92.5	37
80.	70	28	97.5	39	92.5	37
81.	72.5	29	101	40	92.5	37
82.	75	30	102.5	41	92.5	37
83.	85	22	78	28	95	38
84.	85	22	75	30	95	38
85.	85	22	75	30	95	38
86.	85	22	75	30	95	38
87.	85	22	75	30	95	38
88.	87.5	23	77.5	31	95	38
89.	87.5	23	77.5	31	95	38
90.	87.5	23	77.5	31	95	38
91.	87.5	23	80	32	95	38
92.	87.5	23	80	32	95	38
93.	87.5	23	80	32	95	38
94.	87.5	23	80	32	95	38
95.	87.5	23	80	32	95	38
96.	87.5	23	80	32	95	38
97.	87.5	23	80	32	95	38
98.	88	24	88	32	95	38
99.	88	24	88	32	95	38
100.	88	24	88	32	95	38

## APPENDIX VIII Contd...

1	2	3	4	5	6	7
101.	60	24	80	32	95	38
102.	60	24	80	32	95	38
103.	60	24	80	32	95	38
104.	60	24	82.5	33	95	38
105.	60	24	82.5	33	95	38
106.	60	24	82.5	33	95	38
107.	60	24	82.5	33	95	38
108.	60	24	82.5	33	95	38
109.	60	24	82.5	33	95	38
110.	60	24	82.5	33	95	38
111.	60	24	82.5	33	95	38
112.	60	24	82.5	33	95	38
113.	60	24	82.5	33	95	38
114.	60	24	85	34	95	38
115.	60	24	85	34	95	38
116.	60	24	85	34	95	38
117.	60	24	85	34	95	38
118.	60	24	85	34	95	38
119.	60	24	85	34	95	38
120.	60	24	85	34	95	38
121.	60	24	85	34	95	38
122.	62.5	25	85	34	95	38
123.	62.5	25	85	34	95	38
124.	62.5	25	85	34	95	38
125.	62.5	25	85	34	95	38

## APPENDIX VIII Contd....

1	2	3	4	5	6	7
126.	62.5	25	87.5	35	95	38
127.	62.5	25	87.5	35	95	38
128.	62.5	25	87.5	35	95	38
129.	62.5	25	87.5	35	95	38
130.	62.5	25	87.5	35	95	38
131.	62.5	25	87.5	35	95	38
132.	62.5	25	87.5	35	95	38
133.	62.5	25	87.5	35	95	38
134.	62.5	25	87.5	35	95	38
135.	62.5	25	87.5	35	95	38
136.	62.5	25	87.5	35	95	38
137.	62.5	25	87.5	35	95	38
138.	62.5	25	90	36	95	38
139.	65	26	90	36	95	38
140.	65	26	90	36	95	38.8
141.	65	26	90	36	95	38
142.	65	26	90	36	95	38
143.	65	26	90	36	95	38
144.	65	26	90	36	95	38
145.	65	26	90	36	95	38
146.	65	26	90	36	95	38
147.	65	26	90	36	95	38
148.	65	26	90	36	95	38
149.	65	26	90	36	95	38
150.	65	26	90	36	95	38

## APPENDIX VIII Contd....

1	2	3	4	5	6	7
151.	65	26	90	36	95	38
152.	65	26	90	36	95	38
153.	65	26	90	36	95	38
154.	65	26	90	36	95	38
155.	65	26	90	36	95	38
156.	65	26	90	36	95	38
157.	65	26	90	36	95	38
158.	65	26	90	36	95	38
159.	65	26	90	36	95	38
160.	65	26	90	36	95	38
161.	67.5	27	92.5	37	95	38
162.	67.5	27	92.5	37	95	38
163.	67.5	27	92.5	37	95	38
164.	67.5	27	92.5	37	95	38
165.	67.5	27	92.5	37	95	38
166.	70	28	95	38	95	38
167.	70	28	95	38	95	38
168.	70	28	95	38	95	38
169.	70	28	95	38	95	38
170.	70	28	95	38	95	38
171.	70	28	95	38	95	38
172.	70	28	95	38	95	38
173.	70	28	95	38	95	38
174.	72.5	29	97.5	39	95	38
175.	72.5	29	97.5	39	95	38

## APPENDIX VIII Contd....

1	2	3	4	5	6	7
176.	75	30	100	40	95	38
177.	75	30	100	40	95	38
178.	77.5	31	102.5	41	95	38
179.	80	32	105	42	95	38
180.	82.5	33	105	42	95	38
181.	82.5	33	105	42	95	38
182.	55	22	75	30	97.5	39
183.	57.5	23	75	30	97.5	39
184.	57.5	23	80	30	97.5	39
185.	57.5	23	80	30	97.5	39
186.	57.5	23	80	30	97.5	39
187.	57.5	23	80	30	97.5	39
188.	57.5	23	80	32	97.5	39
189.	60	24	80	32	97.5	39
190.	60	24	80	32	97.5	39
191.	60	24	80	32	97.5	39
192.	60	24	80	32	97.5	39
193.	60	24	80	32	97.5	39
194.	60	24	82.5	33	97.5	39
195.	60	24	82.5	33	97.5	39
196.	60	24	82.5	33	97.5	39
197.	60	24	82.5	33	97.5	39
198.	60	24	82.5	33	97.5	39
199.	62.5	25	82.5	33	97.5	39
200.	62.5	25	85	34	97.5	39

## APPENDIX VIII Contd....

1	2	3	4	5	6	7
201.	62.5	25	85	34	97.5	39
202.	62.5	25	85	34	97.5	39
203.	62.5	25	85	34	97.5	39
204.	62.5	25	85	34	97.5	39
205.	62.5	25	85	34	97.5	39
206.	62.5	25	85	34	97.5	39
207.	62.5	25	85	34	97.5	39
208.	62.5	25	85	34	97.5	39
209.	62.5	25	85	34	97.5	39
210.	62.5	25	85	34	97.5	39
211.	62.5	25	85	34	97.5	39
212.	62.5	25	85	34	97.5	39
213.	62.5	25	85	34	97.5	39
214.	62.5	25	85	34	97.5	39
215.	62.5	25	85	34	97.5	39
216.	62.5	25	85	34	97.5	39
217.	62.5	25	87.5	35	97.5	39
218.	62.5	25	87.5	35	97.5	39
219.	62.5	25	87.5	35	97.5	39
220.	65	26	87.5	35	97.5	39
221.	65	26	87.5	35	97.5	39
222.	65	26	87.5	35	97.5	39
223.	65	26	87.5	35	97.5	39
224.	65	26	87.5	35	97.5	39
225.	65	26	87.5	35	97.5	39

## APPENDIX VIII Contd.....

1	2	3	4	5	6	7
226.	65	26	87.5	35	97.5	39
227.	65	26	87.5	35	97.5	39
228.	65	26	87.5	35	97.5	39
229.	65	26	87.5	35	97.5	39
230.	65	26	87.5	35	97.5	39
231.	65	26	87.5	35	97.5	39
232.	65	26	90	36	97.5	39
233.	65	26	90	36	97.5	39
234.	65	26	90	36	97.5	39
235.	65	26	90	36	97.5	39
236.	65	26	90	36	97.5	39
237.	65	26	90	36	97.5	39
238.	65	26	90	36	97.5	39
239.	65	26	90	36	97.5	39
240.	65	26	90	36	97.5	39
241.	65	26	90	36	97.5	39
242.	67.5	27	90	36	97.5	39
243.	67.5	27	90	36	97.5	39
244.	67.5	27	90	36	97.5	39
245.	67.5	27	90	36	97.5	39
246.	67.5	27	90	36	97.5	39
247.	67.5	27	90	36	97.5	39
248.	67.5	27	90	36	97.5	39
249.	67.5	27	92.5	37	97.5	39
250.	67.5	27	92.5	37	97.5	39

## APPENDIX VIII Contd....

1	2	3	4	5	6	7
251.	67.5	27	92.5	37	97.5	39
252.	67.5	27	92.5	37	97.5	39
253.	67.5	27	92.5	37	97.5	39
254.	67.5	27	95	38	97.5	39
255.	67.5	27	95	38	97.5	39
256.	67.5	27	95	38	97.5	39
257.	70	28	95	38	97.5	39
258.	70	28	95	38	97.5	39
259.	70	28	95	38	97.5	39
260.	70	28	95	38	97.5	39
261.	70	28	95	38	97.5	39
262.	70	28	95	38	97.5	39
263.	70	28	95	38	97.5	39
264.	70	28	97.5	39	97.5	39
265.	72.5	29	97.5	39	97.5	39
266.	75	30	97.5	39	97.5	39
267.	75	30	97.5	39	97.5	39
268.	80	32	100	40	97.5	39
269.	80	32	100	40	97.5	39
270.	55	22	75	30	100	40
271.	55	22	75	30	100	40
272.	55	22	77.5	31	100	40
273.	55	22	77.5	31	100	40
274.	57.5	23	77.5	31	100	40
275.	57.5	23	80	32	100	40

## APPENDIX VIII Contd....

1	2	3	4	5	6	7
276.	57.5	23	80	32	100	40
277.	57.5	23	80	32	100	40
278.	57.5	23	80	32	100	40
279.	57.5	23	80	32	100	40
280.	57.5	23	80	32	100	40
281.	57.5	23	80	32	100	40
282.	57.5	23	80	32	100	40
283.	57.5	23	80	32	100	40
284.	57.5	23	80	32	100	40
285.	57.5	23	80	32	100	40
286.	57.5	23	80	32	100	40
287.	60	24	80	32	100	40
288.	60	24	80	32	100	40
289.	60	24	80	32	100	40
290.	60	24	82.5	33	100	40
291.	60	24	82.5	33	100	40
292.	60	24	82.5	33	100	40
293.	60	24	82.5	33	100	40
294.	60	24	82.5	33	100	40
295.	60	24	82.5	33	100	40
296.	60	24	82.5	33	100	40
297.	60	24	82.5	33	100	40
298.	60	24	82.5	33	100	40
299.	60	24	82.5	33	100	40
300.	60	24	82.5	33	100	40

## APPENDIX VIII Contd....

1	2	3	4	5	6	7
301.	60	24	82.5	33	100	40
302.	60	24	82.5	33	100	40
303.	60	24	85	34	100	40
304.	60	24	85	34	100	40
305.	60	24	85	34	100	40
306.	60	24	85	34	100	40
307.	60	24	85	34	100	40
308.	60	24	85	34	100	40
309.	60	24	85	34	100	40
310.	60	24	85	34	100	40
311.	60	24	85	34	100	40
312.	62.5	25	85	34	100	40
313.	62.5	25	85	34	100	40
314.	62.5	25	85	34	100	40
315.	62.5	25	85	34	100	40
316.	62.5	25	85	34	100	40
317.	62.5	25	85	34	100	40
318.	62.5	25	85	34	100	40
319.	62.5	25	85	34	100	40
320.	62.5	25	85	34	100	40
321.	62.5	25	85	34	100	40
322.	62.5	25	87.5	35	100	40
323.	62.5	25	87.5	35	100	40
324.	62.5	25	87.5	35	100	40
325.	62.5	25	87.5	35	100	40

## APPENDIX VIII Contd....

1	2	3	4	5	6	7
326.	62.5	25	87.5	35	100	40
327.	62.5	25	87.5	35	100	40
328.	62.5	25	87.5	35	100	40
329.	62.5	25	87.5	35	100	40
330.	62.5	25	87.5	35	100	40
331.	62.5	25	87.5	35	100	40
332.	62.5	25	87.5	35	100	40
333.	62.5	25	87.5	35	100	40
334.	62.5	25	87.5	35	100	40
335.	62.5	25	87.5	35	100	40
336.	62.5	25	87.5	35	100	40
337.	62.5	25	90	36	100	40
338.	62.5	25	90	36	100	40
339.	62.5	25	90	36	100	40
340.	62.5	25	90	36	100	40
341.	65	26	90	36	100	40
342.	65	26	90	36	100	40
343.	65	26	90	36	100	40
344.	65	26	90	36	100	40
345.	65	26	90	36	100	40
346.	65	26	90	36	100	40
347.	65	26	90	36	100	40
348.	65	26	90	36	100	40
349.	65	26	90	36	100	40
350.	65	26	90	36	100	40

## APPENDIX VIII Contd....

1	2	3	4	5	6	7
351.	65	26	90	36	100	40
352.	65	26	90	36	100	40
353.	65	26	90	36	100	40
354.	65	26	90	36	100	40
355.	65	26	90	36	100	40
356.	65	26	90	36	100	40
357.	65	26	90	36	100	40
358.	65	26	90	36	100	40
359.	65	26	90	36	100	40
360.	65	26	90	36	100	40
361.	65	26	90	36	100	40
362.	65	26	90	36	100	40
363.	65	26	90	36	100	40
364.	65	26	90	36	100	40
365.	65	26	90	36	100	40
366.	65	26	90	36	100	40
367.	65	26	90	36	100	40
368.	65	26	90	36	100	40
369.	65	26	90	36	100	40
370.	65	26	90	36	100	40
371.	65	26	90	36	100	40
372.	65	26	90	36	100	40
373.	65	26	90	36	100	40
374.	65	26	90	36	100	40
375.	65	26	90	36	100	40

## APPENDIX VIII Contd....

1	2	3	4	5	6	7
376.	65	26	92.5	37	100	40
377.	65	26	92.5	37	100	40
378.	65	26	92.5	37	100	40
379.	65	26	92.5	37	100	40
380.	65	26	92.5	37	100	40
381.	65	26	92.5	37	100	40
382.	65	26	92.5	37	100	40
383.	67.5	27	92.5	37	100	40
384.	67.5	27	92.5	37	100	40
385.	67.5	27	92.5	37	100	40
386.	67.5	27	92.5	37	100	40
387.	67.5	27	92.5	37	100	40
388.	67.5	27	92.5	37	100	40
389.	67.5	27	92.5	37	100	40
390.	67.5	27	92.5	37	100	40
391.	67.5	27	92.5	37	100	40
392.	67.5	27	95	38	100	40
393.	67.5	27	95	38	100	40
394.	67.5	27	95	38	100	40
395.	67.5	27	95	38	100	40
396.	67.5	27	95	38	100	40
397.	67.5	27	95	38	100	40
398.	67.5	27	95	38	100	40
399.	67.5	27	95	38	100	40
400.	67.5	27	95	38	100	40

## APPENDIX VIII Contd....

1	2	3	4	5	6	7
401.	70	28	95	38	100	40
402.	70	28	95	38	100	40
403.	70	28	95	38	100	40
404.	70	28	95	38	100	40
405.	70	28	95	38	100	40
406.	70	28	95	38	100	40
407.	70	28	95	38	100	40
408.	70	28	95	38	100	40
409.	70	28	95	38	100	40
410.	70	28	95	38	100	40
411.	70	28	95	38	100	40
412.	70	28	95	38	100	40
413.	70	28	95	38	100	40
414.	70	28	95	38	100	40
415.	72.5	29	97.5	39	100	40
416.	72.5	29	97.5	39	100	40
417.	72.5	29	97.5	39	100	40
418.	72.5	29	97.5	39	100	40
419.	72.5	29	97.5	39	100	40
420.	72.5	29	97.5	39	100	40
421.	72.5	29	97.5	39	100	40
422.	75	30	97.5	39	100	40
423.	77.5	31	100	40	100	40
424.	77.5	31	100	40	100	40
425.	77.5	31	100	40	100	40

## APPENDIX VIII Contd....

1	2	3	4	5	6	7
426.	77.5	31	100	40	100	40
427.	80	32	100	40	100	40
428.	80	32	100	40	100	40
429.	55	22	75	30	102.5	41
430.	57.5	23	75	30	102.5	41
431.	57.5	23	75	30	102.5	41
432.	57.5	23	80	32	102.5	41
433.	60	24	80	32	102.5	41
434.	60	24	80	32	102.5	41
435.	60	24	80	32	102.5	41
436.	60	24	80	32	102.5	41
437.	60	24	82.5	33	102.5	41
438.	60	24	82.5	33	102.5	41
439.	60	24	85	34	102.5	41
440.	62.5	25	85	34	102.5	41
441.	62.5	25	85	34	102.5	41
442.	62.5	25	85	34	102.5	41
443.	62.5	25	85	34	102.5	41
444.	62.5	25	85	34	102.5	41
445.	65	26	87.5	35	102.5	41
446.	65	26	87.5	35	102.5	41
447.	65	26	87.5	35	102.5	41
448.	65	26	87.5	35	102.5	41
449.	65	26	87.5	35	102.5	41
450.	65	26	87.5	35	102.5	41

## APPENDIX VIII Contd....

1	2	3	4	5	6	7
451.	65	26	87.5	35	102.5	41
452.	65	26	87.5	35	102.5	41
453.	65	26	87.5	35	102.5	41
454.	67.5	27	90	36	102.5	41
455.	67.5	27	90	36	102.5	41
456.	70	28	90	36	102.5	41
457.	70	28	90	36	102.5	41
458.	70	28	90	36	102.5	41
459.	70	28	92.5	37	102.5	41
460.	80	32	92.5	37	102.5	41
461.	90	36	92.5	37	102.5	41
462.	90	36	105	42	102.5	41
463.	55	22	75	30	105	42
464.	55	22	80	32	105	42
465.	60	24	80	32	105	42
466.	60	24	80	32	105	42
467.	60	24	80	32	105	42
468.	60	24	82.5	33	105	42
469.	60	24	85	34	105	42
470.	60	24	85	34	105	42
471.	60	24	85	34	105	42
472.	62.5	25	87.5	35	105.	42
473.	62.5	25	87.5	35	105	42
474.	62.5	25	87.5	35	105	42
475.	62.5	25	87.5	35	105	42

## APPENDIX VIII Contd....

1	2	3	4	5	6	7
476.	62.5	25	87.5	35	105	42
477.	62.5	25	87.5	35	105	42
478.	65	26	87.5	35	105	42
479.	65	26	90	36	105	42
480.	65	26	90	36	105	42
481.	65	26	90	36	105	42
482.	65	26	90	36	105	42
483.	65	26	90	36	105	42
484.	65	26	92.5	37	105	42
485.	65	26	92.5	37	105	42
486.	65	26	92.5	37	105	42
487.	65	26	95	38	105	42
488.	65	26	95	38	105	42
489.	65	26	95	38	105	42
490.	67.5	27	95	38	105	42
491.	67.5	27	97.5	39	105	42
492.	55	22	80	32	107.5	43
493.	57.5	23	80	32	107.5	43
494.	57.5	23	85	34	107.5	43
495.	57.5	23	85	34	107.5	43
496.	60	24	85	34	107.5	43
497.	62.5	25	90	36	107.5	43
498.	62.5	25	90	36	107.5	43
499.	70	28	100	40	107.5	43
500.	62.5	25	85	34	92.5	37

**APPENDIX IX**

**CALCULATION OF MODE TO STANDARDISE MEASUREMENTS**

**Calculation of mode from the following data**

Length from waist to ankle in cms.	85-87.5	87.5-90	90-92.5	92.5-95
No. of person	6	14	25	37
Length from waist to ankle in cms	95-97.5	97.5-100	100-102.5	102.5-105
No. of persons	99	88	159	35
Length from waist to ankle in cms	105-107.5	107.5-110		
No. of persons	29	8		

**Solutions:**

**CALCULATION OF MODE**

Length from waist to ankle in cms.	No. of persons
85-87.5	6
87.5-90	14
90-92.5	25
92.5-95	37
95-97.5	99
97.5-100	88
100-102.5	159
102.5-105	35
105-107.5	29
107.5-110	8

By inspection the modal class is 100 to 102.5

$$M_0 = L + \frac{\Delta_1}{\Delta_1 + \Delta_2} \times i$$

where  $L$  = Lower limit of the modal class

$\Delta_1$  = The difference between the frequency of the modal class and the frequency of the pre-modal class, i.e. preceding class (ignoring signs)

$\Delta_2$  = the difference between the frequency of the modal class and the frequency of the post-modal class i.e. succeeding class (ignoring signs)

$i$  = the class interval of the modal class

$L$  = 100

$\Delta_1$  = 71 (159-88)

= 124 (159-35)

$i$  = 2.5

$$M_0 = 100 + \frac{71}{71+124} \times 2.5$$

$$= 100 + \frac{71}{195} \times 2.5$$

$$= 100 + 0.91$$

$$= 100.91 = 101 \text{ cms.}$$

The modal value for the length from waist to ankle = 101 cms  
(Approximately 40 inches)

Calculation of mode from the following data.

size

Hip measurement in cms.	70-72.5	72.5-75	75-77.5	77.5-80	80-82.5	82.5-85
No. of persons	1	1	13	8	57	51

Hip measurement in cms	85-87.5	87.5-90	90-92.5	92.5-95	95-97.5	97.5-100
No. of persons	71	75	102	87	46	17

Hip measurement in cms	100-102.5	102.5-105	105-107.5
No. of persons	13	2	6

SOLUTION:

## CALCULATION OF MOLE

Hip measurement in cms	No. of persons
70-72.5	1
72.5-75	1
75-77.5	13
77.5-80	8
80-82.5	57
82.5-85	51
85-87.5	71
87.5-90	75
90-92.5	102
92.5-95	87
95-97.5	46
97.5-100	17
100-102.5	13
102.5-105	2
105-107.5	6

By inspection the modal class is 90-92.5

$$\begin{aligned}
 Mo &= L + \frac{\Delta_1}{\Delta_1 + \Delta_2} \times i && \times C \\
 &= 90 + \frac{27}{27+65} \times 2.5 \\
 &= 90 + \frac{27}{92} \times 2.5 \\
 &= 90 + 0.73 \\
 &\approx 90.73
 \end{aligned}$$

The modal value for the hip measurement = 90.73cm.  
= 91 cm

Calculation of mode from the following data

Waist Measurement in cms.	55-57.5	57.5-60	60-62.5	62.5-65	65-67.5	67.5-70
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no. of persons	18	41	90	97	122	54
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Waist Measurement in cms.	70-72.5	72.5-75	75-77.5	77.5-80	80-82.5	82.5-85
---------------------------------	---------	---------	---------	---------	---------	---------

no. of persons	40	13	6	5	6	2
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Waist

Measurement in cms.	85-87.5	87.5-90	90-92.5
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no. of persons	1	-	3
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$$\begin{aligned} \text{NO} &= \frac{65 + 25}{25 + 68} \times 2.5 \\ &= 68 + \frac{25}{93} \times 2.5 \\ &= 65 + 0.67 \\ &= 65.67 \end{aligned}$$

The model value for the waist circumference = 65.67 cm. = 66cm.  
(Approx. 26 inches)

APPENDIX X

PROFORMA TO EVALUATE THE FIT OF THE FOUR GORE AND SIX GORE PETTICOAT

1. Name :
2. Age :
3. Did you stitch both Four Gore and Six Gore Petticoats  
Yes  No

If 'Yes'

4. Which is more comfortable to wear?
5. Which one fitted very well?  
Four Gore  Six Gore
6. Which is having more drapability?  
Four Gore  Six Gore

APPENDIX XI

The procedure to evaluate the standardized uniform

1. Names				
2. Age :				
3. Size :				
4. General Appearance:	Good <input type="checkbox"/>	Fair <input type="checkbox"/>	Poor <input type="checkbox"/>	
5. Ease and comfort	Good <input type="checkbox"/>	Fair <input type="checkbox"/>	Poor <input type="checkbox"/>	
6. Drapability	Good <input type="checkbox"/>	Fair <input type="checkbox"/>	Poor <input type="checkbox"/>	
7. Fit	Good <input type="checkbox"/>	Fair <input type="checkbox"/>	Poor <input type="checkbox"/>	
8. Construction Aspects				
a. waist band	Good <input type="checkbox"/>	Fair <input type="checkbox"/>	Poor <input type="checkbox"/>	
b. Placket	Good <input type="checkbox"/>	Fair <input type="checkbox"/>	Poor <input type="checkbox"/>	
c. Frill	Good <input type="checkbox"/>	Fair <input type="checkbox"/>	Poor <input type="checkbox"/>	
d. Seam	Good <input type="checkbox"/>	Fair <input type="checkbox"/>	Poor <input type="checkbox"/>	
e. Fasteners	Good <input type="checkbox"/>	Fair <input type="checkbox"/>	Poor <input type="checkbox"/>	