

Empowering Women through Sericulture: Transforming defective Cocoons into Opportunities

ABSTRACT

In South Asia, particularly India, women face significant challenges due to gender discrimination, poverty, and caste-based inequalities. Self-Help Groups (SHGs) have emerged as a pivotal approach to women's empowerment, promoting economic independence and social awareness. This review paper explores the role of sericulture, particularly the crafting of handicrafts from silk cocoons, as a means of enhancing women's livelihoods in rural areas. By utilizing cut and pierced cocoons, artisans can create a variety of decorative and functional products, contributing to both personal income and community development. The innovative use of by-products in handicrafts fosters creativity and self-employment, allowing marginalized women to gain economic agency. The study highlights the significance of integrating bio-crafts into the broader sericulture industry, thereby enhancing sustainability and providing a reliable income stream. Ultimately, these initiatives not only improve the economic status of women but also contribute to their social empowerment, offering a multifaceted solution to entrenched gender inequalities in South Asia.

Keywords: [Women's empowerment, Self-Help Groups (SHGs), Handicrafts, Economic independence, Caste discrimination and Rural development.]

1. INTRODUCTION

Many people believe that South Asia has some of the worst situations for women worldwide. Considering women situation like gender discrimination and also poverty which related hardships and frequently discrimination is mainly based on caste or ethnicity. These issues have gained traction in India. We are thankful to the country's growing civil society and democratic culture and women empowerment. As a result, both government and non-government institutions have designed and implemented empowering tactics in development (Singh *et al.*, 2022).

In India, Self-Help Group (SHG) projects have become the most widely accepted and adopted approach to women's empowerment. Although it is just one of many goals of SHG initiatives, women's empowerment is now a major propaganda for SHG growth and Development. Furthermore, other proven tactics used by government and non-government organisations have been replaced due to the purported efficacy of SHGs in empowering women (Jakimowet *al.*, 2006).

Beginning in 2002, the programme has supported the federated Self-Help Groups (SHGs) at the village levels, which progressively assumed responsibility for the public distribution scheme's subsidised food grain distribution from commercial operators who had neglected to make it accessible to the intended recipients. The technique of rearing

silkworms and harvesting silk from them is known as sericulture. Sericulture can be different for many people. For some of the people, it is the fountain head of rich fashion fabrics. It is a great source of food, fuel and fertilizer to a nation. (Deiningner *et al.*, 2009).

The most widely grown silkworm species is known as "*Bombyx mori*." India is the second-largest silk producer and first consumer of silk in the world. The greatest silk producing state in the india is Karnataka, where over a million of people make sericulture as their livelihood. Waste is wealth in Sericulture (Kallimani *et al.*, 2014) In fact, from litter to the minute traces of the silkworm body, nothing goes waste. Each waste of its food, body and end products are recycled to create second generation wealth as costly as the original product and sometimes even costlier. In Sericulture, lots of wastes are generated throughout the year due to silkworm rearing, mulberry cultivation and silk reeling (Vijayendra *et al.*, 2014). In adopting any modern technology, it is important to consider the waste utilization aspect, so that better stability is afforded and accumulation of the waste in the environment is minimized (Arindam, 2015). Sericulture being an agro-based industry is having unique feature of reversal flow of income from rich to poor, enormous employment generation potential and plenty of scope to recycle by-products. Planned and judicious recycling of the sericultural by-products helps not only in better utilization of the wastes but also in enhancing the net returns of sericulturists. It is estimated that there could be value addition up to 25 per cent in various sectors of sericulture with effective management and utilization of by-products. The waste round and dumble-shaped cocoons made from silkworm are typically burned or thrown away (Mandre *et al.*, 2006). The pupae that remain after the silk cocoons are mostly employed to produce silk; they are eventually used as fertilizer, animal feed or oil extraction. Crafts can be made from the cut and defective cocoons that are produced by the grainage stations and the cocoon markets. Handcrafted goods are manufactured by hand from unprocessed local materials with the help of conventional creative instruments or even some basic machines for creativity or design. Handcrafted goods are appealing a reasonably priced present with aesthetic value (Savitri *et al.*, 2013).Unreeled silk cocoons could be successfully used as natural raw material for producing various handicrafts in the Seri cultural farms, contributing to production diversification, the increase of productivity and profitability, because handicrafts involve creativeness and imagination, produce a higher value added and are better marketed (Agatha Popescu *et al.*, 2008). Items crafted from cocoons have an aesthetic appeal and hold their lustre for many years. One of the fascinating uses for by products that will allow for the development of human talents in addition to providing opportunities for self-employment and income generation is the visually appealing craft of cocoon crafts (Manohar Reddy, 2008). Handicrafts from waste cocoons can be easily converted into a fulltime enterprise considering of capital initiatives, expertise available, market demand and setting up of sale outlets (Kaul *et al.*, 2014). However, any person/family from a teenage to an aged, irrespective of gender can take up this activity as a source of secondary income even during leisure period as well (Manna *et al.*, 2011). Matei *et al.* (2013) in their study found that most designers are interested to use silk cocoons in order to process, colour and design as such or in combination with other materials, wing mainly the manual method which involves creativity, the setting up of unique original products, reflecting the material warmth and beauty (Chinnaswamy *et al.*, 2014). Silk cocoons, mainly the unreeling ones, could he successfully have processed in handicrafts and decorative art products as an alternative for production diversification, increased value addition and income in the family of sericultural farms (Alexandra *et al.*, 2013).

Materials Required for Crafting

Cut and pierced cocoons are fundamental raw material which are available in government egg/ seed production centres and cocoon markets. These are cut open at one end and the cap and body of the cocoons are thus produced can also be used to prepare handcrafted products (Kallimani *et al.*, 2016). In addition to the heater needed for cocoon dyeing, the other items include scissors, zig-zag scissors, blades, cotton thread, cardboard, drawing sheets, needles, fabric glue, craft paper, glaze paper, velvet paper, adhesive tape, colour tape, stapler, plastic ornamental material, soft binding wire, beads, chemical dyes, and dyeing vessel. Water colours and fabric paint can also be used to create cocoon crafts. It is estimated that for production of one lakh disease free laying a quantity of 4.25 lakh bi-voltine cocoons are required and out of which 163 kg cut cocoon is obtained (Chandrashekhar *et al.*, 2015).

Dyeing Process

An important step in the manufacture of cocoon handicrafts, colouring or dying provides the cocoons a beautiful appearance and colour. Natural colours for the dyeing of cocoons are preferred since they will highlight the artist's originality and add value to the creation. The silk yarn and cloth are also coloured using chemical dyes. When dying the cocoons, soft water is preferable because hard water uses more colour and can cause uneven colouring.

After boiling the water, add the appropriate amount of colour powder. One Kg of cocoons for dyeing requires about 100 gm of dye. The dye powder is first mixed with 100 ml of hot water, stirring constantly to prevent clumps forming, and then the dye solution is filtered. To ensure even colour mixing, add this dye solution to the boiling water and stir constantly. Next, submerge the deflossed, double cocoons and clean cocoons in this mixture. Continue stirring it until the dipped cocoons absorb colour uniformly. Cocoons should only be dipped up to a temperature of 50°C; any greater temperature will affect the sericin concentration, giving the dyed cocoons a distorted appearance. To prevent its colour from fading, the coloured cocoon should then be taken out of the solution and let them dry in a single layer in the shade exclusively (Tzenovet *et al.*, 2011).

Cocoon Craft Products

- ❖ Different kinds of single flowers viz., Rose, Chrysanthemum, Aster, Jasmine etc.
- ❖ Different kinds of garlands-single row, cocoon cap, big VIP garlands etc.
- ❖ Variety of bouquets (Bamboo, Sheet, Thermo coal)
- ❖ Greeting cards
- ❖ Wall hangings
- ❖ Flower pots
- ❖ Buntings (Jasmine, crosandra)
- ❖ Door decorations (Curtains, hangings)
- ❖ Photo frames
- ❖ Marriage stage/Birthday/New year decoration materials
- ❖ Use of natural beads like Jobi seeds/Rudrakshi etc
- ❖ Flower vases and many more.

Pierced Cocoon Flower

1. Cut the cocoon into the shape of petals, so that each cocoon has three or four petals.
2. Arrange three to four chopped cocoons into the shape of a flower.
3. Next, secure the petals with adhesive.
4. After drying the flower cocoons, place a soft decorative needle into the core of each one.
5. Tie a knot or wire at the top and bottom of the flower to serve as its stalk.
6. Cut the additional green-dyed cocoons into leaf shapes.
7. Next, arrange these leaves to create a natural leafy effect surrounding the bloom.

Pierced Cocoon Garland

1. Using zigzag scissors, snip the open end of the "cut cocoon." Stitch or fasten five to six of these cocoons together, securing the ends firmly.
2. To create the appearance of a garland, a thicker thread can be used to sew an even larger circle of cocoons. Multi-coloured cocoons can be used to add elegance to the garland's appearance.
3. Approximately 500-600 cocoons are needed to prepare the garland that has a hefty, bouncy appearance. Garlands made of cocoon flowers appear more elegant and endure for many years.

Pierced Cocoon Bouquet

1. Arrange approximately 25 to 50 bundles of distinct coloured cocoon flowers in the form of a floral arrangement.
2. The size and design of the bouquet to be made determine how many flower cocoons are needed.
3. Next, wrap it in a clear sheet and then a glittery craft paper to make it look like a bouquet.

Other Pierced Cocoons' Decorative Items

Utilising discarded deformed/rejected cocoons and cocoon by-products, little gift/decoration items such as key chains, ear rings, colourful birds or any other objects of aesthetic value that will display the creative skill of workmanship, can be created and designed (Thakur *et al.*, 2022). The cocoons are divided into tiny pieces according to different patterns, which are then put together to create certain forms and adhered on craft, velvet or drawing paper. Once the last artistic touches are added, the fancy product is ready to be given as a gift or placed in a glass frame (Sulochana *et al.*, 2014).

ADVANTAGES OF COCOON CRAFTS

The creativity in the biocraft unit resulted in various cocoon crafts. However, the colours continue to attract, inspire and influence everyone. Realizing this the unit has imparting training to women Self Help Groups (SHGs), farm youths and physically challenged groups to earn their own income through bio-crafts This activity forms as a source of secondary source of income even during leisure period as well as improving health conditions of diabetic and hypertension patients. This activity serves as a source of earning to unemployed and under employed people and suits very well to women as special trainings and children as craft classes for physically challenged people making them self-employed and serves as a best method of physio-therapy improving their health conditions. If the bio-crafts are integrated with the sericulture industry, this become multi-channel income, which generates which helps in attaining sustainability. The eye-catching art of crafting waste/cut cocoons is one of the economical utilities which develops human skills besides providing self-employment (Dandin *et al.*, 2005).

CONCLUSION

The integration of sericulture and cocoon crafting presents a transformative opportunity for women in South Asia, particularly in India. By leveraging the by-products of sericulture, women can engage in creative and economically viable handicraft production, fostering both personal income and community development. Self-Help Groups (SHGs) have played a crucial role in empowering marginalized women, providing them with the skills and resources needed to thrive in this sector. The crafting of decorative items from silk cocoons not only enhances women's economic independence but also promotes their social status within their communities. This initiative serves as a dual approach to addressing gender discrimination and poverty, creating a sustainable income stream while cultivating artistic talents. Furthermore, the training provided to women and marginalized groups facilitates self-employment, improves health outcomes, and contributes to overall community well-being. Ultimately, the successful integration of bio-crafts within the sericulture industry exemplifies a multifaceted solution to entrenched inequalities, showcasing how innovative practices can empower women and promote sustainable development in rural areas.

COMPETING INTERESTS: Authors have declared that no competing interest exists.

ETHICAL APPROVAL: This article does not contain any studies with human participants or animals performed by any of the authors.

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