

Cradle To Cradle: Clothing As Material Culture

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Abstract

The materiality of textiles is essential for its transformative value. This value lies in its distinguishing material properties, its colour, strength and fragility, in its capacity to absorb, to reflect, to be cut and re-stitched. The trade in recycled clothing reveals a complex pattern of interconnected international trade between the developed and the developing countries.

The trade in used clothing as a commodity starts with the recycling and reuse companies which are the direct descendants of the 18th and 19th century 'Rag and Bone' men, now trading in huge volumes in global markets. These clothes are often resold as prized, quality clothing of Western origin and therefore different, new and potentially fashionable, or to provide basic bodily protection for the poor. Governments of importing countries can treat secondhand clothing as an addition to an impoverished economy unable to afford new clothing or as a threat to indigenous industries, imposing various levels of protectionist import restrictions [1]. Based on the volume of trade in recycled clothing in India, the paper proposes a policy intervention to develop recycling of clothing as an organized sector which has potential for large scale employment besides saving tones of discarded clothes going into landfill.

Keywords: Materiality, Recycling, Reuse, Trade

1. Introduction

McDonough and Braungart [2] in their theory "from cradle to cradle", states that the designers should consider the life of the product's materials beyond the first product lifecycle, in order to ensure that they can serve a useful purpose indefinitely, rather than being down cycled and eventually 'disposed' off. A product, when it is conceived should be considered for its impact in its entire lifecycle. This means that designers need to consider how the product will interact with the environment in terms of the material used in production, the process used in manufacture, the modes of transportation used, the

type of packaging used and the areas where the product will be used and the method of its disposal.

2. Review of Literature

Current fashion retailers create an extreme demand for quick and low priced clothes also called as fast fashion. The fast fashion industry is a significant contributor to global environment issues [3]. As lower quality products are offered with cheap synthetic fabrics, fast fashions items are frequently replaced and discarded to follow the newest fashion trends and thereby, the disposed volume of textile waste is higher than before [4]. Significance of textile waste minimization has arisen globally over past several decades in which recycling and reusing textile products have become more important [5].

Textile recycling is a method of reusing or reprocessing used clothing, fibrous material and clothing scraps from the manufacturing process. The idea upholds the concept of "continuous life cycles of a product"; where after the end of one life cycle the product, is either recycled into another product, or used as a raw material for making another product, thus ushering a new life cycle for the discarded product. As per the Council for Textile Recycling [6], this industry prevents 2.5 billion pounds of post consumer textile product waste from going into the solid waste stream annually. Most textile recycling firms are small, family-owned businesses. Majority of them employ around 35 to 50 workers, many of whom are semi-skilled or are marginally employable workers to sort and grade clothes.

Multiple recycling of a woolen jumper in UK is described where a woollen jumper which lasts seven years can be recycled into a woolen coating fabric, which can be made into an overcoat that is good for perhaps ten more years. The discarded overcoat can then go on to become a blanket, which can again yield service for ten years. The blanket can then be recycled as filling for furniture or bedding or perhaps as the insulation or soundproofing in a motor car. So a wool fibre, starting life on the back of a sheep, can

have a useful life of 50 years before nothing more can be done with it [7].

In UK, one million tonnes of textiles estimated at 238 million pounds worth is annually discarded in landfill sites which given the finite landfill capacity would fill current space in ten years time if these amounts continue [8]. In addition the environmental issues are also addressed in connection with soil and air pollution as the synthetic fabrics do not decompose and the garments made of wool and synthetics produce the green house gas methane when biodegrading [9]. Second-hand clothes consumption to some extent avoids the manufacturing of clothes from virgin material. The normal disposal of clothes may also involve recycling of the textile or energy generation from incineration [10].

It is estimated that least 50% of the textiles that is thrown away by an individual is recyclable, but only 25% of wastes are recycled. An outlook on the future market of textiles show that India is expected to grow around 3-5% in the area of disposals. An average lifetime of any clothing is deemed to be for about 3 years, after which, they are thrown away as old clothes. Sometimes even 'not so worn garments' are also discarded as they become unfashionable, or undesirable. Clothing is reported to account for between 2% and 10% of consumers' environmental impacts [11]. Though the processes used in production of the garment can be controlled through new and cleaner technologies that can considerably reduce their carbon footprints but, it is estimated that two thirds of a garment's carbon footprint occurs after it is purchased. That includes the after care that is required by the garment and most importantly the process of disposing of the garment.

3. Materiality of Recycled Clothing

For many sub-Saharan African countries it is a dominant feature of the clothing market (more than 30 per cent of the total value of imports, and much more than 50 per cent in volume terms). In most of these countries, second hand clothing (SHC) is declining as a share of total clothing imports, due to the increase in new imports from Asia, but nonetheless it remains highly significant. The trade has clear consumer benefits. This is especially true in countries with low purchasing power, and for poorer consumers, though in many sub-Saharan African countries it seems that almost all socio-economic groups are choosing to buy SHC. For example, over 90 per cent of Ghanaians purchase SHC. Affordability is the key reason why people buy these goods. Fashion and consumer preferences also seem to be shifting away from traditional, 'African'-style to more 'Western'-style clothing [12].

Field [13] also reported that the recipient countries of used clothing receive significant economic gains. She also adds that, "in relative terms, the trade has had a very positive impact on poverty alleviation during the current harsh economic climate". It is estimated that 5 million people (out of a population of about 30 million) are affected directly or indirectly by the second hand clothing trade in Kenya through employment and income generation. This is against a backdrop of an unemployment rate of 40%.

The total global trade in textiles and clothing is worth more than \$200 billion each year. The SHC trade has grown ten-fold since 1990 but, at roughly \$1 billion per year, still represents less than 0.5 per cent of this total in value terms. In volume terms the proportion is higher, since SHC sells at around 10–20 per cent of the price of new clothes, but it still comprises less than 5 per cent of the total global trade. However, this proportion varies considerably according to the receiving country. Almost all countries are involved in the trade, either as exporters, processors and re-exporters, or importers, with some countries playing more than one role. Developing countries are the major consumers of second-hand clothing. For some countries it plays a more important role than for others [14].

Sub-Saharan Africa is particularly reliant on SHC imports (Table 1). Here they constitute over a quarter of the value of all clothing imports (and a considerably larger proportion of the volume).

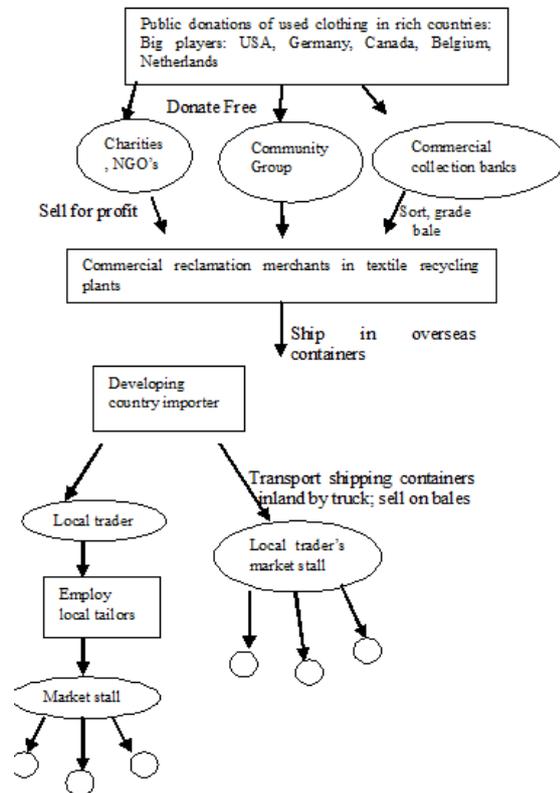
Table1- Import of Second Hand Clothing

Region	SHC as % of all imports (2017, by value)	Region Ratio of SHC imports to all new trade, imports and exports (2017, by value)
Eastern Europe & ex-USSR	4.7%	1.1%
East Asia & Pacific	0.7%	0.1%
Latin America & Caribbean	3.8%	1.6%
Middle East & North Africa	2.2%	0.6%
South Asia	15.0%	0.6%
Sub-Saharan Africa	26.8%	10.3%

Source: UN Trade data from UN^[15] Commodity Trade Statistics Database, 2017.

SHC comprises over 30 per cent of all clothing imports by value (and much more by volume) in

many countries. A typical value chain for trade in SHC is shown below. Most charities involved in the business in the UK sell their (excess) donations to commercial reclamation merchants. Oxfam GB is the only major charity in the UK to have its own processing facility, Wastesaver, which is located in Huddersfield.



Source- Raworth(2004)
Figure 1- Value Chain for trade in SHC.

Nearly 98% of items collected are reused or recycled, of which hundreds of tonnes of clothing are exported each week to developing countries in Africa, Asia, Eastern Europe and Middle East where the affordable and quality clothing are needed [17]. It is estimated that 70% of the world's population uses second hand clothes.



Figure 2- The Trade Origin- Destination of Used- Recycled Clothing

The clothing which can be reused are put up for sale. All collected textiles are sorted and graded by highly skilled, experienced workers, on the basis of fibers used in the fabrics. Once sorted the items are sent to various destinations.

Post industrial waste is often reprocessed in-house. Clippings from garment manufacture are also used by fibre reclaimers to make them into garments, felts and blankets. Some recovered items are reused by designers to fashion garments and bags. However, this is a very small sector within the overall destinations of textiles. Recycled polyester made from recycled drink bottles is now being made and used by companies such as Patagonia, Marks and Spencer, and Armani jeans.

4. An Indian Context

In 2017 the estimated population of India was 1.33 billion and the share of textiles was 4 per cent of India's Gross Domestic Product (GDP), the annual consumer expenditure on clothing and footwear was almost 68 billion dollars [18],[19],[20].

Rapid fashion change and increased buying power of Indian consumers have resulted in significant amounts of SHC. It is prevalent in the Indian middle class, that housewives barter old clothing for shiny steel cooking utensils, a highly valued resource within the woman's domestic economy. What is created through riddance is exchange value, or 'getting something for nothing'. The unwanted clothing thus slips from being transient in value (declining) to rubbish, from where it can be rescued and reinvested with value, on the way to becoming more durable in value once more [21].

Though, recycling of textiles was primarily a domestic craft. However, over period of time, India has taken up the textile recycling business in a significant manner. For decades, second-hand garments from the West have created a thriving business in India, as cheap clothing for millions of the country's poor. The "trendier" lots are resold in urban flea markets such as Sarojini Nagar in New Delhi and Linking Road in Mumbai. Textile clusters and small scale industries also came up to work on second hand imported clothing. These clusters also develop a range of products like recycled yarns, doormats, prayer rugs, blankets and bed linen.

Imported rags are a permitted commodity that attracts a tariff of only 40%. India has insufficient wool to meet her needs, and woollen rags are allowed to fuel the recycling industry known as "shoddy" manufacturing, now located in the Punjab and Haryana. In order to try and control illegal imports of wearable garments, the Indian

government (amongst others) insists that all used clothing is slashed by large machines wielding fiendishly sharp rotating blades before packaging for export by the West, creating a product generically known as ‘mutilated hosiery’[see 12].

Panipat is Asia’s biggest textile recycling hub. From here the yarns are supplied mainly to Amritsar, Ludhiana and other area [22]. Earlier Panipat, was known for its furnishing business, but now it has acquired a new name for textile recycling or in “shoddy” business. The term used for recycled yarn. Bathroom mats that use recycled cotton yarn is Rs 2,000 crore industry. The business of using recycled acrylic and woolen threads for blanket manufacturing has annual revenues of Rs 700-1,000 crore in Panipat alone [23]. Cotton is the mainstay in the Panipat’s Rs10,000 crore furnishings business but the cost of cotton yarn has increase by 40%. To mitigate this increased cost, recycled yarns are used. In Panipat, around 30 units produce 500 tonnes of recycled yarn a day out of cotton pants and T-shirts that are used to make mats [24].

The economics of recycling is compelling. India receives second hand textile imports from at least 90 countries, and oddly, from third-world countries also. The consignments are fumigated by certified international agencies to reduce any health related risk before being sent to various vendors. The Figure 5, depicts the import data indicating the cost of imports which have increased over past seven years. The data shows how this trade has increased. Total cost of imports was US\$ 390.35 million in 2011-12 which has increase to US\$ 460.65 million in 2017-18. Already in the first quarter of financial year 2018, the imports have been US\$ 146.98 million.

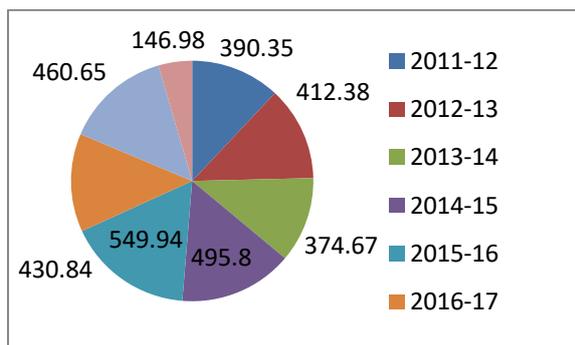


Figure 5- Import Volume of Second Hand Clothing in US\$ million

Source- Export Import Data Bank, Ministry of Commerce [25]

Figure 6 shows the top countries from where the clothing are imported every year. The countries are China, USA, Korea PR, Bangladesh, Nepal, UAE and Canada. The imports from China and USA form the major source of second hand clothing.

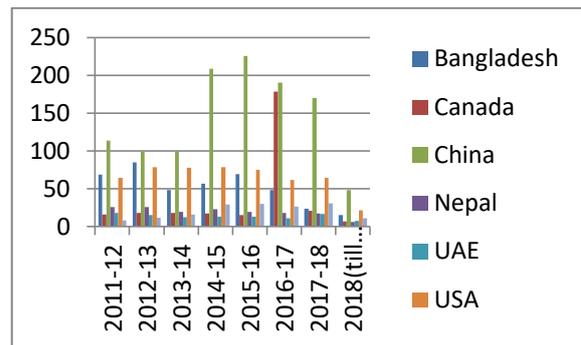


Figure 6- Major Countries from Second Hand Clothing is imported (US\$ million)

Source- Export Import Data Bank, Ministry of Commerce [25]

Figure 7 shows the top countries where the recycled goods from imported second hand clothes are exported and they are USA, Germany, UK, UAE, Canada, France and Australia. The trade with USA shows high prominence.

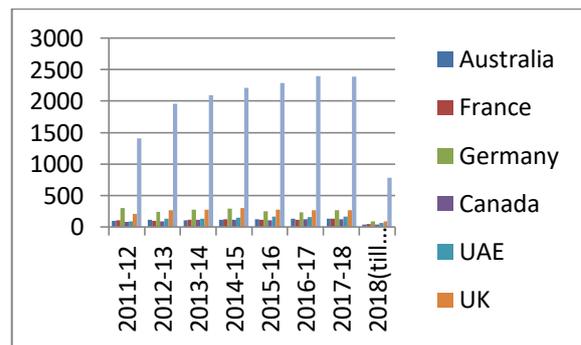


Figure 7 - Major Countries to Export Recycled Products made from SHC (US\$ million)

Source- Export Import Data Bank, Ministry of Commerce [25]

The recycling of imported Western clothing in India shares many of the characteristics of strategies utilised in the recycling of Indian clothes. Knowledge about, and preservation of, signs of the previous individual owner is not given a positive value, in fact signs of the body have to be removed but in an unusually brutal manner [26]. The manufacture of extremely cheap blankets and jumpers from shoddy for the very poor and disaster victims reflects an economy of technology which adds value to cast-out garments, giving them a new lease of life for a year or two at best. However, in order to manufacture a product attractive to the middle classes, it is again necessary to conceal the second-hand, foreign origin of the material, destroying it completely and throwing away the very labels and fashion trimmings that gave the garment its value in the West. This effacement of former lives creates a new exchange value located in the shoddy

fibres; once stamped with a ‘Product of India’ strapline, the blanket has a new value as desirable commodity. The two extremes encompass the approaches needed to add value to ‘rubbish’ for different consumers: one focuses on the foreign origins of cloth, whilst the other denies it completely. Ironically, the clothing given to charity in the West may be helping to keep refugees and disaster victims warm, but through a circuitous route few would imagine, via the recycling of their constituent fibres [see 1].

The domestic SHC generated is recycled by NGOs which use them by either giving it to the needy, shelter homes or as contribution in rehabilitation and relief work posts a natural calamity. However, NGOs are involved in recycling of donated clothes by involving community of artisans for livelihood development. Many brands in India are also working towards up-cycling of the used clothing for further product development. Brands such as Doodlage, Mehera Shaw, Péro and House of Wandering Silk up-cycle clothing and sarees to designer products [27] [28]. The used clothing also lands up in the unorganized second-hand shops while small percentage of recycled clothing is industrially recycled to fibres by semi-organized or organized sectors, such as small scale industries like “Khaloom” [29]. Recycled fibres are used for multiple applications like stuffing of unbranded beddings, mattresses, pillows, cushion, etc. T-shirts and other knitted products are often torn into strips of fabric and woven to mats and rugs. On the other hand companies like “Pure Waste Textiles” near Coimbatore, Tamil Nadu; India recycles industrial textile waste and converts into fibres, which are finally knitted into fabrics [30]. Therefore, **Figures 3 and 4** show the model that is mostly followed in India for recycling of SHC by individuals and NGOs.

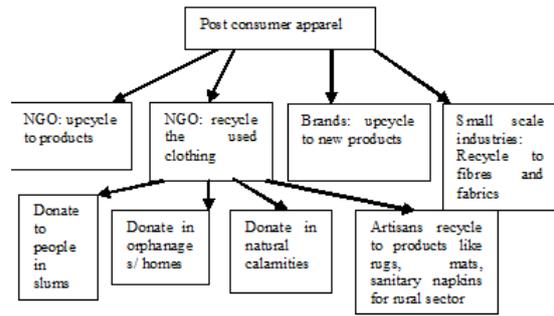


Figure 4– Recycling of SCH by NGO’s and small scale industries in India

5. Conclusion

With the growth in purchasing power and the fast fashion offered by the manufacturers there is going to be significant increase in the amount of second hand clothing that will be “disposed off” by the consumers. The import export data shows that the trade in recycled clothes is increasing on yearly basis. Though the total percentage of this trade remains around 1.4% of India’s total trade, however, when looked at the environmental and the social benefits this trade has, it will be desirable to invest and form better policies to govern the trade and to bring innovativeness.

Till now the recycling industries are majorly dealing with imported second hand clothing, whereas in India too the “disposing off” of garments are indicated to grow by 3-4%. A concerted effort by the government to create new startups and providing financial assistance to small sector industries to recycle the second hand clothes which will boost the economy besides providing employment and entrepreneurship opportunities. A Setup similar to the UK can be adopted where instead of exporting the second hand clothes to other countries, the sorted and graded SHC can directly be sent to the already established recycling units in Panipat in Haryana and Ludhiana and Amritsar in Punjab clusters. By doing so a good amount of foreign exchange will be saved and the wastage of second hand garments by sending them in landfills will also be reduced substantially.

6. References

- [1] Hansen and Tranberg, Dealing with Used Clothing: Salaula and the Construction of Identity in Zambia’s Third Republic, Vol. 6, Public Culture, (1994).
- [2] Braungart and William, Cradle to Cradle: Remaking the Way We Make Things, 1st edition, North Point Press, (2002).
- [3] Birtwistle, Siddiqui and Fiorito Quick response: perceptions of UK fashion retailers, International

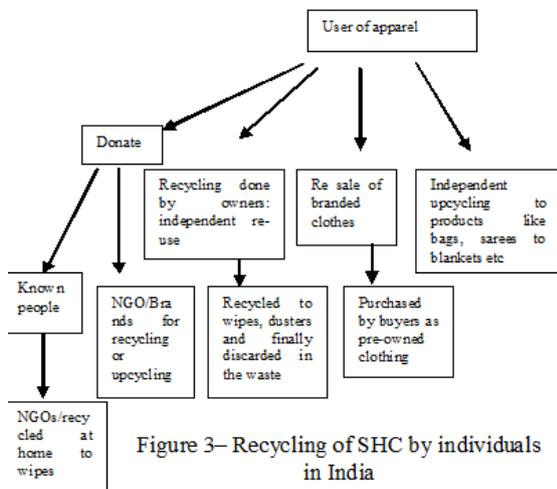


Figure 3– Recycling of SHC by individuals in India

Journal of Retail and Distribution Management, 31(2). 118-128, (2003).

[4] Birtwistle and Moore, Fashion clothing- where does it all end up?, International Journal of Retail and Distribution Management, 35(3), 210-216, (2007).

[5] Morgan and Birtwistle, An Investigation of Young Fashion Consumer's Disposal Habits, International Journal of Consumer Studies, 33(2), (2009).

[6] TRA, (2008), Textile Recycling association. Retrieved from <http://www.textile-recycling.org.uk/> retrieved on 4th October 2018.

[7] Smosarski, Materials recycling", Financial Times Management Report, Pearson Professional Ltd., London, (1995).

[8] Defra (2008, May 24), Waste strategy for England 2006, Quoted in A case study comparing Textile recycling systems of Korea and UK to promote sustainability by Kim et.al., Journal of Textile and Apparel Technology and Management, Volume 10, Issue 1, 2016.

[9] Waste online (2006), quoted in A Case Study Comparing Textile Recycling Systems of Korea and UK to Promote Sustainability by Kim et.al., Journal of Textile and Apparel Technology and Management, Volume 10, Issue 1, 2016.

[10] Farrant, Olsen and Wangel, Environmental benefits from reusing clothes. The International Journal of Life Cycle Assessment, (2010).

[11] EIPRO, Analysis of the life cycle environmental impacts related to the final consumption of the EU-25, European Commission, Joint Research Centre, Institute for Prospective Technological Studies, (2006).

[12] Baden and Barber, The impact of the second-hand clothing trade on developing countries, Oxfam, (2005).

[13] Field, The Second-Hand Clothing Trade in Kenya: Who are the Main Beneficiaries? Presentation to the Bureau of International Recycling, London, (October 2004).

[14] Bankole, Abdurrahman and Oyeranti, Cotton and Textile Production and Trade of Small Producers and their Livelihoods in the Cotton Belt of Nigeria: A Contextual Analysis within the Framework of Fair Trade, Abuja, Oxfam GB, (2004).

[15] UN Comtrade UN Commodity Trade Statistics Database,

<http://unstats.un.org/unsd/comtrade/> retrieved on 1st October 2018.

[16] Raworth, Oxfam GB's Role in Second-Hand Clothing Trade in Developing Countries: A Trade Campaign Perspective, Internal Briefing Note: Oxfam GB, (2004).

[17] Nathans (2006), Nathans wastesavers, Quoted by Kim et.al in Journal of textile and Apparel Technology and Management, volume 10, issue 1, 2016)

[18] Indian States Population, (2017), Population of India, retrieved on 25th August 2018.

[19] Indian Brand Equity Foundation (2017), Textile Industry & Market Growth in India, retrieved on 6th September 2018.

[20] Fashion United (2014), Fashion Industry Statistics, India, retrieved on 5th August 2018.

[21] Thompson, Rubbish Theory: The Creation and Destruction of Value, Oxford University Press, (1979).

[22] Kuchler and Miller, Clothing as Material Culture, Berg Publishers, (2005).

[23] Annual Report Textile Ministry, Government of India, All India Woolen and Shoddy Mills' Association, (2017).

[24] Handloom Exports Manufacturers' Association (2012), fibre2fashion online journal, retrieved on 25th September 2018.

[25] Export Import Data Bank, Ministry of Commerce, Government of India, retrieved on 6th October 2018.

[26] Gregson, Brooks and Crewe, Narratives of Consumption and the Body in the Space of the Charity/Shop' in Jackson, Peter, Michelle Lowe, Daniel Miller & Frank Mort (Eds.) Commercial Cultures: economies, practices, spaces, Oxford, Berg, (2000).

[27] Doodlage, (2017), retrieved on 3rd October 2018, <https://www.doodlage.in/product-category/new-in-men/>.

[28] Fashion startups(2017), retrieved on 4th October 2018, <http://www.dooneeting.in/content-hub-archive/2016/7/4/eight-indian-fashion-startups-committed-to-upcycling>

[29] Khaloom, (2017), retrieved on 3rd October 2018, <http://www.khaloom.com>.

[30] Young entrepreneurs, (2017), retrieved from 3rd October 2018, <https://pulitzercenter.org/reporting/india-two-entrepreneurs-turn-waste-business>.