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DESIGN FOR SUSTAINABILITY: A POTENTIAL MODEL FOR THE PROMOTION OF ORGANIC COTTON CONSUMPTION IN SOUTH AFRICA

by

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DECLARATION

I, Yulia Maratovna Bergevoet, declare that the contents of this dissertation/thesis represent my own unaided work, and that the dissertation/thesis has not previously been submitted for academic examination towards any qualification. Furthermore, it represents my own opinions and not necessarily those of the Cape Peninsula University of Technology.

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ABSTRACT

This study investigates the production, consumption and regulation within the South African Organic Cotton Project (SAOCP). It argues that the implementation of design strategies has the potential to promote the consumption of organic cotton clothing products in South Africa. This is necessary because of growing global concerns about environmental and social issues, such as global warming, environmental degradation and pressurised working condition. These point to a need for fundamental change of our industries to sustain future generations. In the fashion and textiles industry, cotton production specifically is among the most environmentally damaging. Organic cotton production serves as a sustainable alternative to conventional production, and has increasingly been included by brands and organisations in the United States and several European countries. However, in South Africa, organic cotton production and consumption remains in a formative stage. Though sustainable consumer intentions are there, they do not manifest in the consumers' buying behaviour.

This study wants an attempt to promote the consumption of organic cotton apparel products by South African consumers through suggesting a more interconnected, transparent value chain providing a collaborative learning and teaching experience. The literature extensively reviews the cotton fibre industry and notion of fashion and design in connection to the sustainability debate. Further, it presents innovative design projects encouraging sustainable consumer lifestyles, indicating the necessity of a holistic and re-connective strategy to promote such behaviour. A qualitative multi-method research approach is employed – including a consumer survey, an in-context immersion, focus groups and interviews with key informants. These (mainly) participatory research methods aim to include participants in the design process as co-designers. Activity Theory is utilised as an analytical lens in this study to examine the dynamics of a number of actors in the SAOCP who share the objective of promoting organic cotton consumption in South Africa. Consequently, the Design for Sustainability model guides the adaptable design strategies that are relevant and sustainable within South Africa, and possibly also internationally in similar industrial contexts.

This research study concludes that promotion of organic cotton consumption can be achieved through stakeholder re-connection in the organic cotton value chain, and the development of a humanised and transparent system. Ultimately, the strategies attempt to contribute to an increased well-being among actors through a deeper level of understanding of one's role in the SAOCP system.

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GLOSSARY

Apparel: Clothing

Activity Theory (AT): A theory attributed initially to the Soviet psychologist, Lev Semyonovich Vygotsky and his colleagues. AT was further developed by other scholars, including Alexei Nikolaevich Leont'ev and later by Yrjö Engeström used in the analysis of various dynamics in human activities.

BCI: Better Cotton Initiative

Bt-cotton: Bt is genetically modified and stands for *Bacillus thuringiensis*, a toxin producing bacterium found naturally in soils. Scientist have isolated genes responsible for the production of this bacterium and inserted it through genetic modification into cotton and maize to increase pest resistance.

Changing the Change: An international conference on the role and potential of design research in the transition towards sustainability. The conference *Changing the Change* seeks to make a significant contribution to a necessary transformation that involves changing the direction of current changes toward a sustainable future.
Clothing: see apparel

Cotton South Africa: A neutral and independent organisation responsible for the drafting and application of grading standards for the RSA which facilitates the orderly marketing of cotton to the benefit of all role-players.

Consumption: The selection, adoption, use, disposal and recycling of goods and services.

Conventional cotton: Cotton produced using the most common production method that is dependent on a wide array of chemical inputs.

Crop rotation: Sequence of crops grown in a field over several years.

CmiA: Cotton made in Africa

CSR: Corporate Social Responsibility

CS farmer: commercial-scale farmer

Creative communities: people who are able to look at common problems from different perspectives, and change the conventional point of view; they show a non-rhetorical view of the reality, a positive even cheerful attitude, and an intrinsically entrepreneurial spirit (and courage).

Design for Sustainability (DfS): A strategic design activity finalised to conceive and develop sustainable solutions. That is systems of products and services that enable people to live better consuming (far) fewer environmental resources and improving (or, in many cases, regenerating) their physical and social contexts of life.

Emotionally durable design: Design that creates more meaningful product interaction over a prolonged time and employ end-users as co-creators in the design process.
Empowerment: Feeling of having the right to make one's own choices, and having the ability to act on them

Environmental/ethical consumers: People who consider the social or environmental implications of their purchase choices, including not purchasing products that do not, in some way, meet their environmental or ethical standards.

Fast Fashion: A term used to describe cheap and affordable clothes which are the result of catwalk designs moving into stores in the fastest possible way in order to respond to the latest trends.

FT cotton: Fair Trade cotton

Fair Trade: Fair Trade is a trading partnership, based on dialogue, transparency and respect, that seeks greater equity in international trade. It contributes to sustainable development by offering better trading conditions to, and securing the rights of, marginalised producers and workers.

Genetically Modified (GM) cotton: Genetically Modified cotton is pest-resistant cotton. A gene has been inserted into cotton, causing it to produce this natural insecticide in its tissues. This eliminates the need to use large amounts of broad-spectrum insecticides to kill pests.

Greenwashing: A superficial or insincere display of concern for the environment that is shown by an organisation.

Globalisation: In economic terms, globalisation refers to the growing economic integration of the world, as trade, investment and money increasingly cross international borders (which may or may not have political or cultural implications).

Organic cotton: Organic cotton is cotton that is grown without the use of any synthetically compounded chemicals (i.e. pesticides, plant growth regulators, defoliants etc.) and fertilisers.

Organic agriculture: Organic agriculture is an ecological production management system that promotes and enhances biodiversity, biological cycles and soil biological activity. It is based on minimal use of off-farm inputs and on management practices that restores, maintain and enhance ecological harmony.

Organic Exchange: US-based non-profit organization who dedicated to expanding global supplies of organic cotton.

Production-consumption system: Refers to a complex social and technological system in which socio-culturally and economically available natural resources are transformed into a supply of products, services and public goods that responds- or at least is supposed to respond – to a demand of well-being in the given society.

Participation: The freedom of taking part in any socially acceptable and desirable activity thus promoting (within the participant) a sense of belonging and ownership.

Participatory Design: A design approach that actively incorporates the contribution and participation of (potential) end-users in the design process.

PSS: Product-Service System

Product lifecycle: The period of time over which an item is developed, brought to market and eventually removed from the market.

RSA: Republic of South Africa

Sustainability: In the Changing the Change conference the term “sustainability” is used in relation to deep and systematic changes in the ways of thinking, living and producing. In other words, systematic changes, in our view, are the pre-condition to generate visions or proposals that can be presented as “sustainable”.

Sustainable Development: Development that meets the needs of the present without compromising the ability of future generations to meet their needs.

Sustainable consumption: The use of services and related products which respond to basic needs and bring a better quality of life while minimizing the use of natural resources and toxic materials as well as the emissions of waste and pollutants over the life-cycle so as not to jeopardise the needs of future generations.

Slow Design: Slow design’ focuses on ideas of well-being. A manifesto for ‘slow sustainable designers’ suggests subtle and dramatic changes to everyday design practice.

SAOCP: South African Organic Cotton Project

Sustainable fashion: Fashion that has a lasting positive impact on a personal, environmental, and social level.

SDS: System Design for Sustainability

SS farmers: small-scale farmers

Value chain: Value-chain analysis looks at every step a business goes through, from raw materials to the eventual end-user. The goal is to deliver maximum value for the least possible total cost.

Well being: The state or condition of being well; welfare; happiness; prosperity;

CHAPTER ONE
INTRODUCTION TO THE STUDY

1.1 Introduction

This study proposes strategies to promote the consumption of organic cotton in South Africa based on principles of Design for Sustainability (DfS). The model offers a lens for working within an environmentally, socially and economically sound framework and facilitates development of particular design strategies.

The study, investigates factors, including the production, consumption and regulation of organic cotton clothing products in South Africa and identifies key factors for a relevant solution. The solution is viewed holistically and incorporates an analysis of the fashion industry and changing perceptions regarding organic cotton consumption. A case study dealing with the challenges of small-scale farming is discussed and design strategies proposed to encourage social change through responsible consumption patterns.

1.2 Background to the study

In a world facing global warming, environmental degradation and a rapid depletion of resources, the way in which one designs, produces and consumes products has proved unsustainable. The fashion industry has been heavily criticised in the previous 50 years by academics, NGOs and those who argue the industry in its current state is among the most environmentally damaging. According to Dr Kate Fletcher (a sustainable fashion expert):

> *Current evidence suggests that the fashion and textile sector is among the most environmentally damaging, judged on a par with the chemical industry. It consumes vast quantities of resources (most notably water, energy, and toxic chemicals); has a dubious history of worker protection; is dominated by consumption-inducing, fast changing trends and low prices that prompt consumers to buy more than they need. (in Chapman & Gant, 2007:120)*

The cotton industry specifically is identified with unethical production, over-extensive use of chemical pesticides and insecticides and pressurising of producers. Such factors point to a need for fundamental change to sustain future generations. Consumers have become increasingly aware of social, environmental and personal implications of purchasing decisions. *"Since the closing stages of the 20th century, sustainability – as a term of*

reference – has found its way to the very forefront of modern culture to the point that the word has now become a vital addition to our daily vocabulary" (Chapman 2005:7). Within this movement of sustainability, the fashion industry plays a leading role. To minimise negative effects caused by the industry, an increasing number of companies and retailers has included a variety of initiatives such as recycling, eco-labelling schemes, and sourcing more sustainable materials (such as organic cotton, bamboo and hemp) in their business goals to serve consumers and improve public image.

Companies have become aware of the impact of conventional cotton production on its producers and on the land, initiating a search for sustainable cotton alternatives. One of the most common alternatives is organic cotton production. Consequently, the United States and several European countries (including Switzerland, Denmark and The Netherlands) have developed a fairly stabilised organic cotton market to accommodate the sustainability movement.

In the South African context, organic cotton production and consumption is in the forming stage. While the local organic food sector is well established and has enjoyed substantial exposure, the organic cotton sector remains unstable. Nevertheless, recent research shows clear evidence South African consumers will be vital drivers of ethical consumerism (Tustin & de Jongh, 2008:24). In their research (*Ethical consumerism as a key consideration for future brand strategy development in South Africa)* Tustin and De Jongh (*ibid.)* state:

> *[South African] consumers consistently say that they are concerned about the impact of the brands/products that they purchase, and that they prefer to buy from companies that take social and environmental responsibilities seriously.*

Though intent is there, a gap exists between consumer intentions, concerns and their actions. Also, an understanding of, ethical consumerism in South Africa in generally lacking. This calls for a need to encourage organic cotton use and to educate consumers and other players in this industry in South Africa.

In aspiring to follow the Western trends and answering the local industry's request for organic cotton sourcing, the South African Organic Cotton Project (SAOCP) was established. The project was established in 2007 through partnerships between Cotton South Africa, Woolworths, the Agricultural Research Council's Institute for Industrial Crops (ARC), Organic Exchange and ComMark Trust. The project's main purpose was:

to assess the viability of commercially producing organic cotton in South Africa, create a learning experience for all partners involved in the project on how to grow organic cotton in a viable and sustainable way and establish a value chain for the production, marketing and retailing of organic cotton in South Africa" (ComMark, 2008).

The project operates on a number of commercial-scale and small-scale farms in the Limpopo, Mpumalanga and Eastern Cape provinces. In 2009, this resulted in a total of 1.8-million kilograms organic cotton production which was utilised by Woolworths for the first locally produced organic cotton clothing range. The retailer's Head of Design, Sourcing & Technology, Darren Todd, sees great potential in the project: *"We believe more strongly than ever that organic cotton offers excellent prospects ... as a way to empower many of our country's previously disadvantaged small-scale farmers* (Woolworths Holdings, 2008)." In addition, Rebecca Calahan Klein (programme development director of Organic Exchange) indicated the SAOCP has great prospective in developing a feasible organic cotton industry, specifically because South Africa has a strong manufacturing base which allows for a complete production chain in one country (ComMark, 2008). The SAOCP was found very appropriate as a case study in this research.

1.3 Research problem

As the conventional cotton industry has a high ecological, economical and social impacts on the planet, there is considerable interest in and an increased awareness of sustainable cotton farming. Organic cotton production is a sustainable alternative to conventional production. An increasing number of retailers and brands worldwide are implementing integrated strategies that align sustainability and organic programme development with business goals. However organic cotton farming in South Africa needs encouragement since the organic cotton initiative remains in its infancy. The introduction of a Design for Sustainability (DfS) model to promote organic cotton consumption, also serves to help to restore and humanise the disconnected link between farmers and consumers. This in turn contributes to the successful marketing of organic cotton and the support of small-scale farmers by implementing design interventions within identified farming communities and identified retail outlets.

1.4 Role of the researcher

My research interest in organic cotton has been shaped through experiences as an exchange student in 2006 at the TEKO Design Institute in Denmark. One project alerted critical concern about sustainability in the fashion industry, and how people involved in this industry were affected, the planet and possibly the future of humans. During this project I had to develop a fictional fashion brand, keeping in mind the sustainability of materials, dyes and

finishing methods among other considerations. This was the first time I was introduced to organic cotton. At that time it was the most popular alternative for conventional cotton production. The project was a great challenge, but after completion a new reality presented itself to me; needing to know more about sustainable fashion and in particular, organic cotton.

With a background in textiles engineering, and the study being grounded in design practice, I have had to research the discipline area of design, which was fairly unfamiliar to me, intensively for the last two years. This personal learning experience consolidated the intention of contributing towards an environmentally aware existence. The research objective was to enhance personal knowledge on issues of sustainability in the fashion industry, focusing on cotton specifically. Another objective was to engage with a different context. As a Dutch woman living in South Africa I could offer a unique perspective on the two cultural contexts treated in this thesis. As mentioned, in several European countries sustainable fashion production and consumption market was far more developed than that found in South Africa. With a background as a European designer and textile engineer that combination added to the rich perspective on the topic. The efficacy of Design for Sustainability in multiple contexts can also be determined from such a perspective.

1.5 Aims of the study

This study aims at:

- Developing appropriate DfS interventions/strategies as tools to encourage local organic cotton production and consumption in South Africa;
- influencing positively on the perception of the participants in the study about organic cotton apparel through their participation in interactive, educational DfS strategies;
- promoting awareness of sustainable fashion options among South African consumers and;
- determining the efficacy of DfS in multiple contexts.

1.6 Objectives of the study

The overall objectives of this study was to propose strategies for effectively promoting the consumption of organic cotton among South African consumers. To achieve that goal, specific objectives have been addressed by:

- Assessing the relevance of an appropriate Design for Sustainability (DfS) model in the South African organic cotton industry;
- establishing the level of consumer awareness of sustainability related issues when making purchasing decisions with respect to fashion products; and determining the

most effective approach for implementing design interventions to promote the use of organic cotton;

- identifying key factors that might influence or contribute to successful implementation of the relevant DfS model within the South African context and;
- proposing appropriate, sustainable and adaptable design strategies to the various actors in the cotton value chain.

1.7 Rationale for the study

As a designer, textile engineer and researcher, the challenge was to engage with this topic from a creative, technical and educational points of view. Little research has been undertaken with regards to sustainable cotton production alternatives in South Africa even though this type of research is acknowledged today as significant. This study drew strength from recent studies conducted by Kate Fletcher (2007, 2008), Jonathan Chapman (2005), Ezio Manzini (1994, 2007), Carlo Vezzoli (2008) and Alistair Fuad-Luke (2009) who provided strong arguments for the sustainability discourse. Organic cotton is a sustainable alternative to harmful conventional cotton cultivation and local acceptance of this practice needs promoting.

1.8 Research questions

The following three research question guide this study:

1. With reference to Design for Sustainability (DfS), how is organic cotton consumption currently promoted in South Africa?
2. To what extent do key actors in South Africa engage with concepts of sustainability with respect to fashion products?
3. In the South African context, which factors influence the implementation of the DfS model and how can this model promote the consumption of organic cotton

1.9 Basic assumptions

1. In order to promote sustainability in the cotton value chain it is necessary to reconnect key players who have become alienated from one another because of the scale of the production process.

2. To educate the public about organic cotton products, South African consumers need to be reconnected with the clothing they purchase through storytelling. This refers to linking role players through narrative, creating an empathetic understanding of farmers, the process and final products.

1.10 Delimitations of the study

The study focuses on interaction between the consumer, cotton farmers, promoters such as Cotton SA and identified distribution, marketing and sales outlets. Others in the value chain such as manufacturers and distributors, are not focused upon. The re-connection process will mainly be between consumers and farmers.

1.11 Contribution of the study

- To the researcher's knowledge, no studies have been conducted in respect of Design for Sustainability specifically to organic cotton in the South African context;
- the research may point to new design strategies to assist in making the South African cotton industry more competitive;
- the research could be a potential solution to a practical problem. It suggests a possibility of promoting organic cotton consumption in South Africa by introducing the Design for Sustainability model. The design strategies will provide a clearer understanding (to these identified in the cotton value chain) of the real benefits, additional costs and impacts of organic cotton and;
- the research could be a specific aid to practitioners in the field of cotton farming. The research aims to strengthen their relationship with consumers, which might result in profit through connectivity and the encouragement of consumer demand.

1.12 Significance of the study

The research may be significant on different levels within the cotton value chain:

- Farmers may benefit on different levels from design strategies by building a more sustainable relationship with others in the cotton value chain, increasing profitability from implementing design interventions, and by re-connecting with consumers;
- the study might benefit retailers by making a difference through organic cotton by adding the concept to overall business strategies in the area of Corporate Social Responsibility, by supporting farmers and humanisation in the supply chain and a subsequent improvement in brand loyalty and;
- the study could benefit consumers by social reconnection with farmers and by creating greater awareness of the importance of sustainable consumption of organic textiles.

1.13 Lay-out of the thesis

Chapter 1 gives an overview of the topic under investigation, outlining the context of the study, the research problem, objectives, delimitations and the significance of the study. Chapter 2 and 3 provide an extensive review of relevant literature to inform the structure and

content of the study. It focuses on issues in the cotton fibre industry and the notion of fashion and design in connection to the sustainability debate. Further, it presents international and national innovative design projects and concepts encouraging sustainable consumer lifestyles, to inform the design strategies to be proposed in the study.

Chapter 4 discusses the theoretical, conceptual and analytical frameworks utilised in this study. Chapter 5 clarifies the research design an methodology followed in this study. It elucidates the rationale for using the qualitative and participatory case study research methods. Moreover it discusses the data collection methods and data analysis methods used in to analyse the retrieved data. Chapter 6 presents the discussion and analysis of data collected during the in-context immersion in the cotton farmers' community. Chapter 7 elaborates on the consumer questionnaire assessing current levels of awareness, attitudes and beliefs of consumers towards organic cotton concepts. Chapter 8 is dedicated to the Activity Analysis investigating the dynamics between various actors involved in the production and consumption system of organic cotton, in the SAOCP system. Chapter 9 provides a detailed description of current promotional activities for the SAOCP. Further, the section presents the development of design strategies, based on the generated data. Finally, Chapter 10 summarises the main findings and conclusions of the study, followed by a recommendation of the researcher's suggested design strategies. It describes the limitations of the study and defines possible related topics for further research.

1.14 Summary

The fashion and textiles industry has been associated with many environmental and social issues. The increasing global concern about such issues in industries indicate a need for fundamental change within these industries to sustain future generations. In the fashion and textiles industry, cotton production specifically is among the most environmentally damaging. Organic cotton production serves as a sustainable alternative to conventional production, and has increasingly been used by brands and organisations. In South Africa, organic cotton production and consumption remains in a formative stage. The SAOCP is a key driver for promoting organic cotton production and consumption in South Africa. The projects aims to produce organic cotton in a viable and sustainable way, and to establish a national value chain for the production and consumption of the fibre.

CHAPTER TWO

FASHION AND SUSTAINABILITY

2.1 Introduction

In recent years the fashion industry has suffered increasingly from negative publicity for its unsustainable practices. Growing global concerns about environmental problems such as climate change, pollution, biodiversity loss but also social issues related to poverty, health, working circumstances and safety, face attention. Chapter two begins by explaining the notion of fashion, then extensively investigates today's fashion industry and it's issues in terms of sustainability. The cotton fibre industry in specific will be extensively reviewed, illustrating it's problems and the creation of new alternative cotton types (specifically organic cotton) that aspire to be more sustainable (socially, ecologically and environmentally) than conventional cotton fibre. Finally, new modes of consumer behaviour are reviewed to allow the reader an understanding of the origin of behaviour displayed by the consumer.

2.2 What is Fashion?

It becomes clear when reviewing the literature fashion is a powerful instrument/mechanism, and change agent in present-day life. Lipovetsky (in Svendsen, 2006:13) classifies fashion as:

> *a specific form of social change, independent of any particular object; it is first and foremost a social mechanism characterized by a particularly brief time span and by more or less fanciful shift that enables it to affect quite diverse spheres of collective life.*

Fashion can represent status, social class and social belonging, it is embedded in people's lives and living conditions. Klaenthous (2009:18) describes fashion as a powerful agent and the fashion industry being of *"highly significant cultural and economic importance to the sustainability of our species."*

Fashion is embedded in modern life and its system of communication; it is created with human intelligence, creativity, and mankind's innate desire to express oneself (Hethorn & Ulasewicz, 2008) while exceeding the body's constraints. Wilson points to clothing (in the sense of fashion) as "*one of many cultural artefacts that tells a story of human development*

throughout history, and can offer a snapshot of society at a point in time, unfolding collective thoughts, styles, and memories, similar to art and photography" (Wilson 2003).

At the core of the fashion discourse lies the individual's quest for identity, therefore, locating the wearer temporally in time and space (Fletcher, 2008). In Fletcher's (*ibid.*) belief, fashion and clothing are differing concepts fulfilling different functional and emotional needs and desires. Although clothing and fashion could both manifest in the same material way, namely cloth, the two concepts connect with people in different ways. Fletcher (2008:119-120) explains it:

> *Fashion deals with our emotional needs, manifesting us as social beings, as individuals. Clothing, in contrast, is concerned chiefly with physical or functional needs, with sheltering, shielding and protecting. Not all clothes are fashion clothes and not all fashion finds expression in garment form.*

Nevertheless, most clothing moves through trends (past, current and future fashion trends) and could be seen as fashion. One can interpret fashion in divers ways, in particular when originating from different cultural and social backgrounds. The notion of fashion goes beyond material and functional purposes; in society fashion is filled with meaning and thus will always be essential in daily life. In the context of this study, *fashion* is expressed as a symbolic need to dress oneself. *Clothing,* on the other hand, is a physical manifestation satisfying a material and functional need of dressing oneself. The *fashion industry* will be referred to as the raw material production, manufacturing and seller of clothing.

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The essence of consuming material goods is related to a fulfilment of human need, an intrinsic part of human nature and in so doing emotional happiness and health is enhanced (Max-Neef, 1992). Need is a universal concept; the only difference between diverse cultures is the manner in which such needs are satisfied.

Through understanding such needs, one can become aware of why fashion is so significant for human beings. Max-Neef (1992, in Fletcher, 2008) classifies human needs in nine categories, stating them to be equal for all human beings, regardless of religion or culture. Table 2.1 illustrates the nine human needs according to Max-Neef (*ibid.*):

Table 2.1 The nine human needs according to Max-Neef (source: Fletcher, 2008)

The Nine Human Needs		
Subsistence	Protection	Participation
Idleness	Creation	Affection
Understanding	Identity	Freedom

In Max-Neef's view there is no sequence in needs to be satisfied, apart from subsistence. He does, however, identify two main categories in this model, namely the physical (material) needs and psychological (non-material) needs (*ibid*.). The intention is both categories merge in a balanced manner, although in today's developed society satisfaction of needs comes mainly from psychological influences, but in the developing context is usually the other way around. Fashion can therefore satisfy several human needs. According to Jackson and Marks (1994: 421-441) fashion fulfils emotional needs, needs for participation, identity and "*could theoretically be satisfied by participatory processes (personal, social and cultural) rather than by consumption of fashion goods."*

Looking at these complicated and indefinite (so it seems) emotional needs, one realises that the relationship between fashion products and human needs is an important factor in the sustainable consumption discussion in modern day life. As Hethorn and Ulasewicz (2008: xviii) state: *"fashion is a process, is expressed and worn by people, and as a material object, has a direct link to the environment. Thus, fashion is ripe for sustainable action on all fronts."* Before going deeper into this subject, first the circumstances that trigger the discussion on sustainability in the fashion industry will be discussed.

2.3 What is sustainability?

Possibly the most applied definition of sustainability in its developmental context originates from the report of the World Commission on Environment and Development (WCED, 1987), named *Our Common Future*. This report defines sustainable development as "the development that meets the needs of the present without compromising the ability of future generations to meet their own needs." Manzini and Jégou (2003 in Fuad-Luke, 2009:86) define the concept of sustainability as a collective learning experience aiming to an increased well-being through consuming fewer products. Furthermore, Fletcher (2008:2) interprets sustainability as a journey unravelling solutions that will further human well-being, natural integrity and social equity. Nowadays organisations and companies lend their own definitions to sustainability, such as "eco-friendly", "green", "clean", "socially responsible", "ethical" and many more.

In this study sustainability is about taking responsibility for collective actions in a social, environmental and economic way, through these three pillars of sustainability. Sustainability is about producing and consuming in a different, more efficient and humane manner. From a fashion and textile industries' standpoint, sustainability comes into the design and manufacturing of textiles and clothing products. Fletcher (*ibid.*) believes sustainable fashion should reflect a vision of creating and consuming fashion products in such a way to not damage the environment (the planet) and its people, designing products that enhance people's well-being in the course of interacting with it. Fuad-Luke (2009:23) points out the notion of sustainability enjoys many definitions, depending on context and the field of study. However, the classical features of sustainable design are mostly put in a framework of the 'triple bottom line', where environmental, social and/or economical issues are also considered (Eagan, 2010).

2.4 Consumption, products and meaning

Why is it that mankind consumes as it does nowadays? Why does the population binge-buy products as if bulimic? Birt (2006:16) describes consumption as *"the selection, adoption, use, disposal and recycling of goods and services."* Products are essential to human life, as they fulfil needs, serving as a medium for learning experiences, meaning-making and social interactions. Products are not merely functional objects, but convey important signals in human relationships (Chapman, 2005). One is able to constantly 'transform' personal development by means of consuming (fashion) products. Consuming fashion for instance, builds important signals through which a person can characterise himself in the collective society. For instance, a policeman can be identified based on a set of functional clothing, which puts across a specific message to the population.

Engaging with products transforms and translates experiences into meaning and values which subsequently reflect individual position within society. Fletcher (2007:2) argues that: *"Fashion is at the forefront of the consumerist lifestyle, where we meet our desire for pleasure, new experiences, status, and identity formation through buying goods – many of them clothing."* Personally owned and used products communicate stories about one's entire history; they are present and are driven by complex motivations.

Consumption and fashion consumption specifically, move in cycles. This cycle is "*the space of time from when a fashion is introduced to when it is replaced by a new one"* (Svendsen, 2006:31). Nowadays the majority of products promise a utopian, somewhat romanticised future, of how the world could become by buying and utilising these products. Such products

provide alternative versions of reality and set unrealistic expectations which subsequently quickly unfold into disappointment after initial interaction with the artefacts. After such a disappointment consumers decide to discard a product and begin a new search for fresh products in the market. The end of the cycle presents a choice to either forget or remember. Forgetting means one would discard a product; and remembering means the product will be reserved through repurposing or recycling.

The notion of meaning is perhaps most complex. It is influenced by the consumer's previous experiences, while being highly context specific. Consumption is an unfolding process through which external meanings and values are shown with objects (Chapman, 2005:41). Physical objects are not the focus of man's deep desires; they are merely tangible entities, which transport, package and render various meanings perceivable. In this respect, objects facilitate the construct and reconstruct of meaning (Chapman, 2005:65). Chapman identifies a mind-shift where society drifts from interpersonal relationships towards a more contemporary expression of individuality by having relationships with a designed object. This creates object-oriented relationships alongside human-centred relationships (2005:18). Physical objects serve as a deeper and altogether more profound purpose, frequently, overlooked. Consumable objects and experiences provide a means of engaging with the world on both rational and emotional levels. What is experienced might include intense sensation of freedom, independence, control, organisation and status (*ibid*.).

According to Ehrenfeld (2004:7):

> *Our artefacts [products] need to be designed to support conscious choice and reflective competence rather than blind consumption. They should produce long-lasting human satisfaction, [so] we will be able to flourish simply by living life as we encounter it.*

In a modern consumerist society, consumers are defined by what they have and display. Fashion is motivated by an individual's desire either to appear unique or to fit in. In consuming products people determine and exhibit their personality, individuality and taste. Consumerism has become a habit where a person constantly searches for a (constantly changing) social identity (Pears, 2006).

2.5 Today´s fashion industry: Economic enabler and prime polluter.

Fashion has great potential to stimulate industries, identities, policies and processes (Eagan, 2010). The fashion and textiles industry contributes to 7% of all global exports, and is worth in excess of $ 1-trillion (Allwood *et al.,* 2006:2). Furthermore, the industry creates numerous jobs on all levels in the supply chain accounting for globally about 26 million people (in 2006) working in the fashion industry (*ibid*.).

In addition to being an economic driver and job provider, the fashion industry causes many challenges in society. According to Fletcher (in Chapman & Gant, 2007:120):

> *Current evidence suggests that the fashion and textile sector is among the most environmentally damaging, judged on a par with the chemical industry. It consumes vast quantities of resources (most notably water, energy, and toxic chemicals); has a dubious history of worker protection; is dominated by consumption-inducing, fast changing trends and low prices that prompt consumers to buy more than they need.*

Such challenges in the fashion and textiles sector are next discussed more in-depth. After reviewing different forms of literature regarding such challenges one arrives at a following systemised illustration of factors influencing unsustainable fashion production and consumption trends in hierarchical order as seen in Figure 2.1:

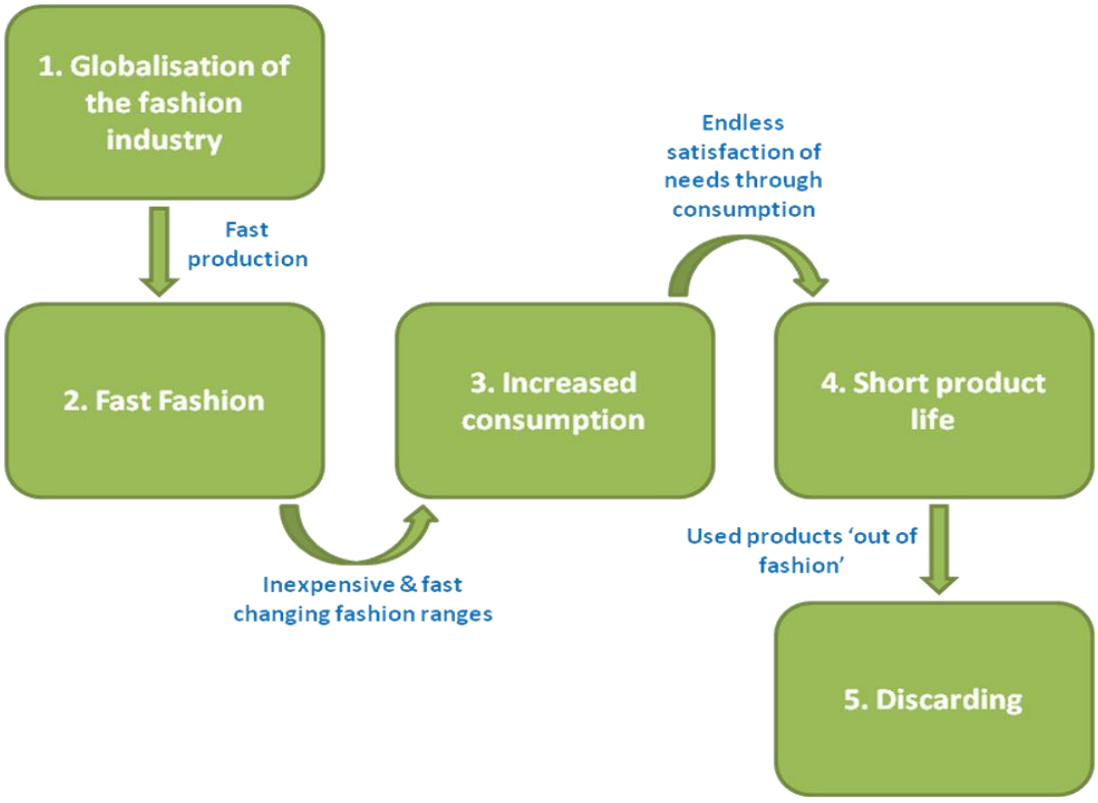


Figure 2.1: Factors influencing unsustainable fashion production and consumption trends (author's construct)

The above mentioned five factors resulting in the unsustainable fashion production and consumption cycle are clarified in heading 2.5.1 to 2.5.5.

2.5.1 Globalisation of the fashion supply chain encourages fast fashion (1)

The industrial revolution at the beginning of the 1900s initiated introduction of mechanisation in the field of textile production, with innovations such as the fashion sewing machine and mechanical textiles weaving. With stardardised clothing sizing this encouraged increasing speed in the production and consumption of clothing (Kleanthous, 2009). Numerous authors, such as Fuad-Luke (2009) and Svendsen (2006), suggest this globalisation of the fashion and textiles supply chain was also significant in the emergence of fast fashion. These two phenomena created the fashion system as we know it today, where "just-in-time manufacturing" enables production of a clothing range in about three weeks at high volume and low prices. In the book *"Fashion: a philosophy",* Svendsen (2006:42) outlines the following cycle: *"The faster fashion develops, the cheaper the items will become, and the cheaper the items become, the faster will fashion develop."* Because of constant rivalry between fashion retailers, technological innovation and export of production to low labour cost and low production cost countries, retail prices have plummeted, furthering consumers' demand (*ibid.*).

The fashion industry has developed itself into a fast-moving, inexpensive and popular way of expression, although individual differentiation is becoming increasingly difficult. Waddel (2004:149) explained retailers divide their collection in small groups of styles, releasing them every few weeks in order to promote buying behaviour.

Globalisation allows fashion to travel the world at high speed via channels such as the Internet, shows, and the media. This and the vast changing nature of fashion, has promoted an increase in production speed and constant cloning of styles. Moreover, increasing consumer and brand pressure does not give designers sufficient time to design innovative ranges, outbalancing innovation and forcing homogenisation of the design process (Pears, 2006). Chain stores, such as H&M, copy catwalk styles in a matter of weeks, affording people to buy high quantity, low price, haute couture making it possible for consumers worldwide to wear identical fashion (Fletcher, 2008). This is called 'fast fashion'; the core of this type of fashion is copying fashion products from high end designers, creating a more affordable version in a fast circulating system.

Pears (2006) puts forward an idea that inexpensively manufactured garments that accompany the fast fashion structure are frequently constructed to last only for a short time (in terms of material qualities) and are not fashionably durable, leading to a quick replacement. Fuad-Luke (2009:141) and Vezzoli and Manzini (2008:170) argue the emergence of globalisation has profoundly changed society's behaviour, relationship

patterns and perceptions of near/far. In addition, Chapman (2005:18) believes society has distanced itself from *"deep communal values toward a fast-food culture of nomadic individualism and excessive materialism."* We have been persuaded by the speed and smooth efficacy of the modern industrialised world (Chapman, 2005:61).

In today's society, there is a never-ending supply of desires and a craving for new experiences through the means of consumption. Consuming fast fashion (particularly quick turnaround "disposable" styles) can be compared to consuming food with a high sugar content. When consuming fashion, it [the sugar] flows quickly into system giving an immediate and brief burst of energy, comfort and happiness. Ironically, this "fashion high" doesn't last long, and just as the "sugar high" loses its energising power quickly, merely making us long for more "fashion sugar", while speeding up our consumer-sensitised metabolism. The constantly changing fashion ranges makes clothes desirable and new experiences, while leading to overconsumption and an increase in fashion waste.

2.5.2 The 'race to the bottom' (2)

Examining the supply side of the fast fashion value chain it is apparent that the production of garments occupies the same time. One cannot speed the process of growing a fibre, spinning, sewing and other processes; it takes the same time in spite of the rapid design and consumption process. This is where the struggle between different speeds emerges.

Svendsen (2006:14) argues the system of fast fashion (with its shorter lead times, fast turnover, at low prices) and retailers' pressure of high profit margins severely affect working condition of fashion producers (having to work overtime for low wages, and being exposed to harmful chemicals). Honoré (2004 in Benammar, 2008:41) adds that the fast production and consumption of fashion exhausts the planet's resources, increasing waste, and is disturbing a capacity for the earth to regenerate itself at a natural pace. This downwards pressure on working conditions and environmental standards is what Svendsen calls a "race to the bottom". This has led to abandoned land in Pakistan, water pollution in China, oil spillage in the Persian Gulf and many similar occurrences (Scheffer, 2008).

The end of the World Trade Organisation's Multi-Fibre Agreement in 2005 eliminated textile and clothing trade quotas and made it easier for retailers and brands to outsource clothing production in great amounts to foreign (generally developing, countries with low-cost pricing policies with a lack of strict environmental and ethical regulations) nations. Countries such as India and China have sprouted into crucial textile production countries (Ernest *et al*. 2005). The physical location of production and the retailer of a product are often thousands of

kilometres apart. Consumers, in both developed and developing contexts, often do not realise the consequences of their purchasing behaviour since most production processes are executed out of their visible zone. This globalised supply chain makes it much more difficult to control what is happening in the factories and there is little transparency in the supply chain. Also, because of the globalised supply chain a T-shirt travels an average distance of once around the world from cotton field to the point of sale.

Adding to the complexity, of the globalised supply chain of textiles, only a small section of the production chain is visible to consumers, as can be seen from Figure 2.2.

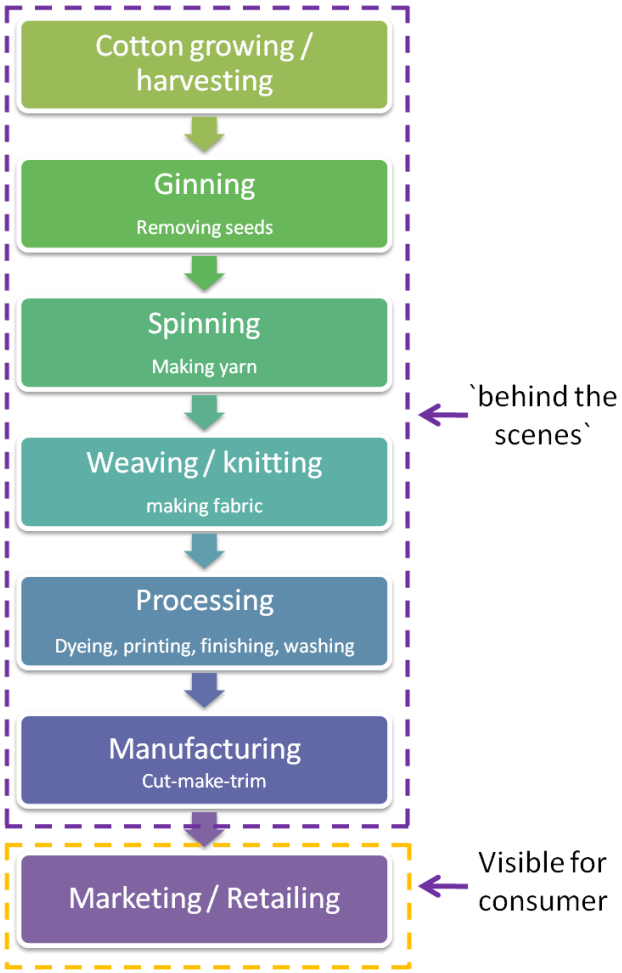


Figure 2.2: Transparency in the fashion supply chain (adapted from Black, 2008)

Figure 2.2 illustrates the supply chain of a fashion product where the duration of a complete production process (from raw material to wearer) is visualised. Hethorn and Ulasewicz (2008:151) call this chain a 'value chain', as at each production stage (presumably) value is added to the materials (Hethorn & Ulasewicz, 2008:151). Producing a fashion product can take up to two years depending on the type of fibre (Waddel, 2004:168). The figure is

partially adapted from Black (2008), the dotted lines have been added to the original. The yellow dotted line in Figure 2.2 demonstrates the part of the supply chain visible to consumers' 'eyes'. This is at the point of sales where the consumer acquires the end product and is also the last process in the chain before a product is consumed or used. The purple dotted line represents the processes in the supply chain that are 'hidden' from consumers' eyes and where many unsustainable practices take place. Nevertheless, it must be mentioned the use phase of a product is where a substantial amount of damage takes place (Chapman & Gant, 2007; Fletcher, 2008; Black, 2008).

2.5.3 Changed consumption patterns (3)

According to Vezzoli (2008) the consumption pattern has been mostly controlled by a product-based well-being, as the industry has created a decrease in effort, time and attention to the consumer of its product. As a result of this, and with the complicated and long stretched value chains the industry has become increasingly lazy, unconcerned and most of all disconnected from the origin of the products purchased. Morelli (2007:5) agrees with this and says in a traditional market-driven approach, consumers are relieved of much physical work and responsibilities by products or services. He calls this the "passivization" of consumers; where a product can be acquired for a certain price and very limited participation. Although this approach is comfortable for the user, *"it compromises the customers' future capability of finding their own solutions to everyday problems [...] disabling people" (ibid.).* Manzini and Vezzoli (2008:33) describe a similar situation as the 'throwaway planet' where "*obtaining functional results and sensory excitement just by paying the smallest amount of attention and making the minimum effort*." Manzini and Vezzoli suggests the issues connected with this idea of well-being carry tremendous social and environmental consequences. Fletcher (2008:130) gives a brief review of some of the escalated consumption patterns, that is:

- The pressure of the consumer to compare one's self to others, such as through the accumulation and display of possessions;
- the rolling replacement of "things", as each new purchase requires the buying of another to "competing product";
- a cultural obligation to experience everything and buy things accordingly and;
- constant financial consumption as part of a continuous process of identity formation.

Fletcher (*ibid*.) consequently points out that fast fashion contributes to excessive consumption making consumers increasingly insecure and, therefore, continuously seeking new experiences and an identity "update". This short-term thinking (initiated by industries' marketing strategies) makes consumers buy more than they physically and psychologically

need and can afford. She furthermore believes this is the worst example of fashion, as it causes peer pressure, homogeneity and leaves one dissatisfied and disempowered. No matter how much is consumed, it seems like psychological needs are insatiable.

Kleanthous (2009:20) argues nowadays consumers show symptoms of addictive behaviour, seeking a quick fix, but knowing needs will never completely be satisfied. Consumers binge-buy garments without thoughtful purchase decisions then dispose of the garments just as fast, causing a "fashion bulimia" as Fletcher (2008) describes it. This process could be described as a cycle of continuous disappointment.

2.5.4 Short product life cycle (4 & 5)

Apart from the issue of consumer "passivization" (fashion) products have become disposable, something anyone can afford and replace frequently. Rapid consumption produces waste that is difficult to dispose of (it pollutes the atmosphere and water resources) and contributes to climatic changes. From a fashion perspective, the dilemma of "fashion bulimia" poses a question: "What does one do with 'used' clothes?" These days a new piece of clothing is bought one seem to discard another piece of clothing before it is physically worn out, perhaps simply because it is out if fashion (Mont, 2002; Chapman, 2005). Quantity seems to outbalance the importance of quality. The current rate of buying and discarding has dramatically shortened the time travelled by a piece of clothing from the retailer to the landfill. In Scheffer's (2008:132) view by 2020 there will be a fibre gap where *"a difference of 20% between global demand and global supply. If all people use the amount of fibre that America and Europe use, the entire surface of India would need to be cultivated with cotton."*

As Fletcher (2007:119) appropriately concludes:

> *Fashion is eating itself. It has become so disconnected from reality that many of the key issues of our times barely register their presence on the high street or the catwalk. Pressures such as the drive to consume faster and cheaper, the ever-present demand for newness and the constant reformulation of identity, damage us as individuals and collectively as a society.*

2.5.5 The 'funnel of unsustainability'

Cataldi, Dickson & Grover (2010) demonstrate today's sustainability issues in the fashion industry with the funnel metaphor (see Figure 2.3). It illustrates a future scenario of an increase in social and environmental issues if the consumption of fashion products continues to increase at the present rate. The authors argue this would ultimately result in restricted space for the industry to tackle the problems faced by society. The inclining walls of the funnel illustrate the growing environmental and social issues within the fashion industry.

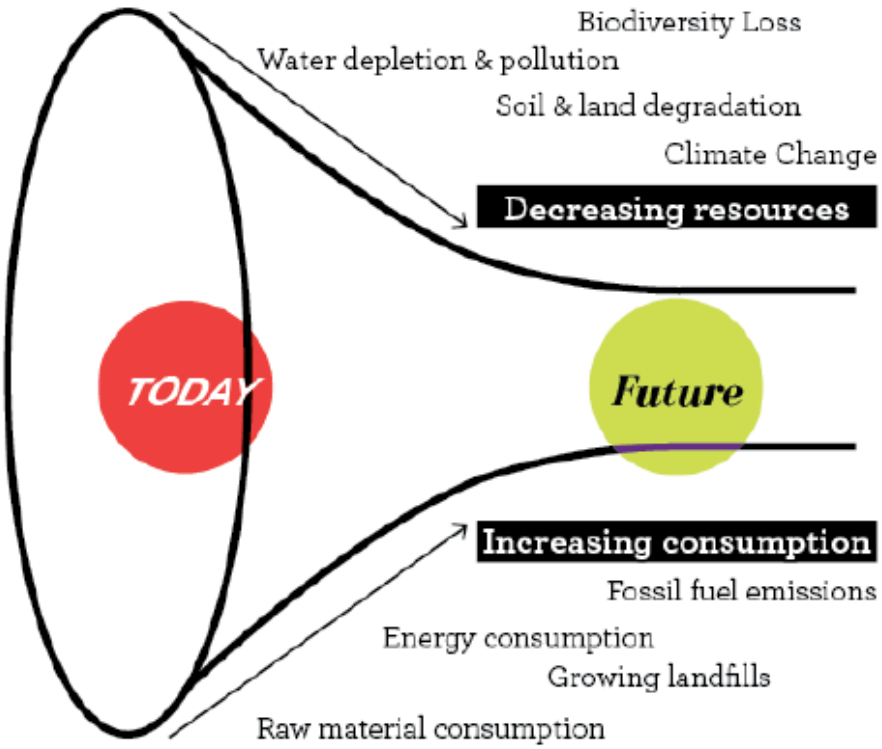


Figure 2.3: Today's sustainability challenge in the fashion industry (Source: Dickson, Cataldi & Grover, 2010)

Looking at the funnel it can be seen if we continues to manage the fashion industry as is today's norm, our current consumption patterns will outgrow the planet's resources. This would cause the compulsory 'narrowing' of our lifestyles. Public behaviour will then compromise the health of mankind and earth. Dickson, Cataldi & Grover (2010) insist society needs to urgently re-consider the manner in which fashion is created.

Nevertheless, Fletcher (2008) argues giving up on fashion is not an option, as it is essential to culture, it is a vital facilitator for relationships, identity, satisfaction of desires and potentially empowers individuals and groups: However, she agrees the consumers and the fashion industry cannot continue in such a manner, *"Fashion as usual is not an option at this day and time"* (Fletcher, 2008:121). The industry needs to make radical changes no longer adversely, in which correspond with sustainability where consumption and production will affect the state of the planet or its people. Consumers must learn how to utilise smaller quantities of resources (water, energy and toxic chemicals), alter the idea of personal well-being and move from a passive to an active role in the fashion system (*ibid.*).

2.6 The cotton industry

Materials play a pivotal role in societal perceptions of what makes fashion sustainable. Many fashion initiatives aiming at sustainability are based on producing clothing from alternative materials. Cotton is one of the world's most significant natural fibres. Until recently it accounted for the largest share (above 60%) of all clothing fabrics produced mainly due to the popularity of denim jeans and T-shirt production (Black, 2008:113) Cotton has an important function as a major part of the textiles used daily, as well as some make-up and food products which contain cotton in the form of seed oil. Furthermore, cotton production is a labour intensive crop, providing numerous job opportunities at farm level. Roughly 75% of cotton production originates in the developing world (Organic Exchange, n.d.).

Annual cotton production (in 2009) stands at about 23 million tons, grown in 90 countries (EJF, 2009). For the African continent, cotton is more than just an important textile fibre. Its cultivation supports the livelihood of roughly 100 million farm households and another 250 million people working in aligned industries, such as ginning, spinning, and manufacturing (Ferrigno, 2010). In South Africa cotton is grown in the Limpopo, Mpumalanga, Northern Cape, North West and Kwazulu-Natal provinces where genetically modified cotton makes up 90% of the local crop. South Africa might be seen as an insignificant cotton producer at global level, contributing less that 0,05% of world cotton production. However, the Department of Agriculture, Forestry and Fisheries views cotton as an appropriate crop for small-scale farmer as it is drought-tolerant and non-perishable (Department of Agriculture, Forestry & Fisheries, 2009). The department adds normally local quality and yield of cotton are excellent, 700kg and 1000kg cotton lint per hectare, about three times higher than the Sub-Saharan average (*ibid*.).

2.7 Impact of the cotton production cycle

Being a natural fibre, cotton might give an impression of better sustainability. However, the cotton production industry has been associated with many issues such as child labour, pesticide poisoning, water shortage and price fluctuation (Word Wide Fund, 2003). Figure 2.4 illustrates an overview of the social and environmental impact in a *conventional* cotton supply chain; illustrating the life-cycle of a piece of clothing from farmer to the user phase. It begins with raw material extraction, the ginning process (i.e. removing of the seeds) up to the retail sale.

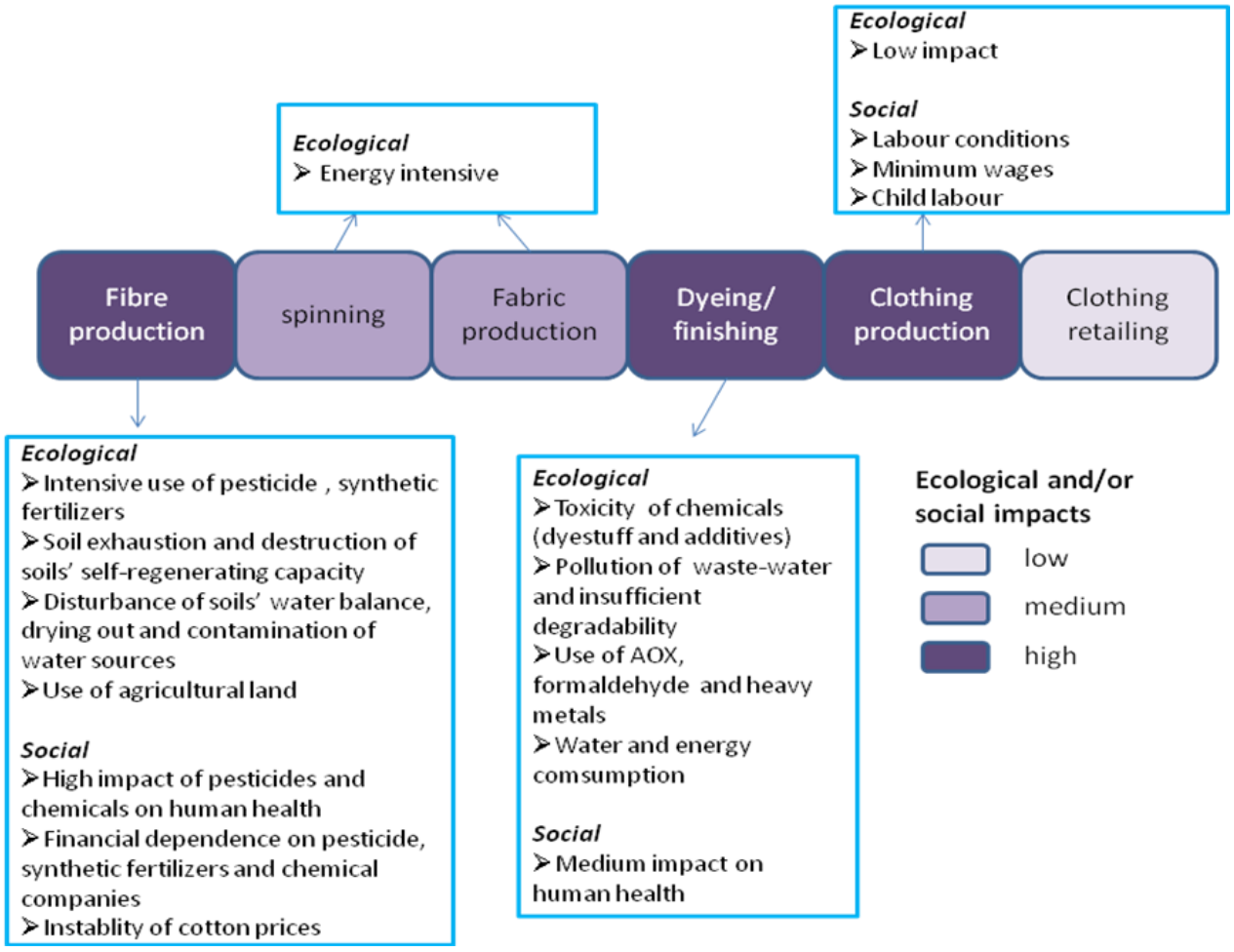


Figure 2.4: Environmental and social impacts in a cotton supply chain (Source: Lakhal *et al.*, 2008).

The processes with the highest social and environmental impact in the conventional cotton chain as illustrated, are cotton fibre production, dyeing, finishing and clothing production. Today's fashion industry's impact may be described as:

- For each T-shirt's worth of cotton, 150 grams of pesticides and fertilisers are used (Fletcher, 2008);
- Cotton is grown on only 2.4% of the world's arable land; during the process of cultivation it represents 25 percent of insecticides and 11% of pesticides consumption worldwide (World Wildlife Fund, 2003);
- Humans are severely affected by exposure to pesticide application. Millions of farmers have been poisoned and neighbouring villages contaminated. (Schacknat, 2008:120);
- Cotton requires large amounts of water both for cultivation and processing. Research conducted by Wageningen University in the Netherlands states an estimated 4% of the worlds' total arable land is abandoned following intensive cotton cultivation, with

soil salinisation given as the main reason (Kooistra, Pyburn & Termorshuizen, 2006:35) and;

- Over time pests become resistant to the pesticides, which lead cotton farmers having to spray more and more chemicals to eliminate these pests. In combination with constantly increasing prices for pesticides, farmers are being trapped in debt (Scheffer, 2008).

These cases are merely a few examples of impact linked to the conventional cotton industry. Partially they emanate from the explosive expansion of the textile industry and an increasing demand from consumers and of the fashion system. The next subsection discusses the relationship between society's consumption behaviour, products and meaning making.

2.7.1 Genetically modified cotton in South Africa

Genetically Modified (GM) cotton has been advertised in previous years as a "sustainable alternative" to conventional cotton in South Africa. In fact, 90% of cotton produced in South Africa originates from genetically modified seeds (Department of Agriculture, Forestry & Fisheries, 2009).[1] GM cotton uses genetically modified seeds designed to be more resistant to pests compared with conventional cotton and require less chemical spraying (Gorden & Hsieh, 2007). South Africa was the first in Africa to adopt GM cotton and is promoted by the GM industry as a success story for small scale cotton farming (Fok *et al.*, 2007). However, the majority of the local GM cotton is produced by commercial-scale farmers and therefore according to Fok *et al.* (2007:468-482): "*it might be misleading to present South Africa's impressive GM cotton adoption figures as evidence of successful GM cotton use by smallholders."*

Gordon & Hsieh argue genetically modified cottons *"greatly reduce the use of insecticides, reduce the use of herbicides, and minimize adverse effects on non-target species and beneficial insects"* (Fitt *et al.*, 2004; Wakelyn *et al.*, 2004; in Gordon & Hsieh, 2007:138). This is not always the case in South Africa, as the Second Africa Environment Outlook (2006) clarifies that although at first GM cotton appeared successful (annual yields increasing with 20-40%), soon pests (insects that are enemies of cotton) became resistant, resulting in farmers spraying more chemicals on their cotton than before. Consequently, total debt among small-scale cotton farmers in northern KwaZulu-Natal was estimated to exceed

[1] Two types of GM cotton are presently used in South Africa: Bt-cotton which makes the crop resistant to caterpillars of certain bollworms, and herbicide tolerant cotton (Department of Agriculture, Forestry & Fisheries, 2009).

US$3-million, in 2004 and 90% of small-scale farmers producing Bt-cotton ended with enormous debts (UNEP, 2006).

Another difficulty with GM cotton is the cotton seed supply in South Africa is dominated by international seed companies. These companies enjoy a monopoly and hold a major influence on all cotton seed supplies worldwide. The most influential seed supplier is Monsanto from the US. In South Africa, one of two dominant companies is Delta and Pinelands, which works closely with Monsanto (using its gene composition) and responsible for introducing GM seeds to the republic. Research conducted by the *University of Pretoria* indicates: "*Since the introduction of GM cotton in South Africa by Monsanto, the number of cotton varieties available to farmers has decreased substantially, falling from 12 to only 4 varieties in the 2003/2004 season"* (Fok *et al*, 2007:468-482). This is a clear indication of monopolistic seed suppliers trying to control the South African cotton industry. Therefore, it is likely a majority of cotton farmers in South Africa will continue to plant GM seeds in the near future.

2.8 The South African clothing and textiles industry

The South African clothing and textiles industry has a long, rich history. It provides substantial employment, especially for women. In rural areas clothing and textiles production *"is often the only source of formal employment and very many families are dependent on it for their survival"* (Vlok, in Jauch & Traub-Merz, 2006:227). The industry is mainly concentrated in provinces such as Free State, the Western Cape, KwaZulu-Natal, and Gauteng. South Africa is an important producer of wool and mohair, also producing a substantial quantity of cotton and some synthetic fibres. Vlok (in Jauch & Traub-Merz, 2006:227) states:

> *Before democratisation and South Africa's integration into the world trading system, the clothing and textiles industry [among others] was highly protected and focused almost exclusively on the domestic market. After the end of apartheid rule, South Africa joined the World Trade Organisation (WTO) in 1994 and opened its market to international trade.*

Today South Africa imports a substantial quantity of clothing and textiles from China which has consequently caused a crisis in the industry resulting in an exponential loss of jobs and a decrease in production capacity. The South African Clothing and Textile Workers' Union (SACTWU) has documented more than 55 500 job losses since 2003 (Vlok, in Jauch & Traub-Merz, 2006:228). The value chains have been weakened by a reduction in competitiveness, weak supply chain management and a lack of investment. In Vlok's (2006:242) opinion:

"The beneficiation of local and regional raw materials must be enhanced, and an integrated value and supply chain comprising agriculture, fibre production, textiles, finished textile products, clothing design and clothing manufacturing developed."

2.9 Sustainable improvements in the fashion industry

The first major move towards sustainable fashion and textiles was in the early 1990s, which was described as the 'eco-chic' trend. People attempted to change the state of the fashion industry by employing alternative materials, such as natural and recycled fabrics, as initiators of change. This was also the first time the production of organic cotton was established. According to Fletcher (2007:276) the 'eco-chic movement was *"dominated by natural-looking colors and fibers that did not reflect real world progress."* The movement can be characterised more as a trend of simplistic fashion styles then a conscious societal change. Fletcher (*ibid*.) explains this was because knowledge of industrial pollution at that time was limited. In a second sustainable fashion movement, during the closing stages of the 20th century, sustainability became much more an integral part of modern culture with deeper understanding of the issues facing the industry, such as climatic change and rural impoverishment (Ferrigno, 2010). Again, alternative materials were at the centre of the sustainable fashion movement, this time mainly focusing on organic, fair trade materials and renewable fibres (Fletcher, 2007). Fletcher (2007:3) identified this second sustainable fashion movement as the birth of design innovation and today the movement remains vital.

In a consumer driven society an alternative agenda for 'disposable' fashion must be found. Although one cannot stop producing and consuming (this could mean the collapse of the economical system), the production and consumption of fashion needs to be re-considered as today's industry is encouraged to become more sustainable.

The public and non-profit groups have developed several approaches, such as labelling, awareness campaigns, standards, regulations and forms of subsidy and taxation to encourage sustainable production and consumption (Thorpe, 2006:70-71). One of such approaches in the South African context is the construction of the *National Strategy for Cleaner Production and Sustainable Consumption* developed by the Department of Environmental Affairs and Tourisms Branch for Environmental Quality Protection (DEAT). DEAT aims to alter production and consumption methods in several important industries in South Africa, one of them being the textiles industry. Moreover, DEAT points out: "g*overnments, relevant international organizations, the private sector and all major groups should play an active role in changing unsustainable consumption and production patterns"*

(South Africa, 2004). These parties have to start making informed choices that can impact positively on the environmental performance of the clothing and textile manufacturers (*ibid.*).

Within the fashion industry an increasing number of large companies and retailers such as Wall-Mart, Marks & Spencers, Patagonia, Woolworths SA, have included similar approaches in their business to increase their customers awareness on the impacts of the industry. In addition, smaller companies, such as the South African Hemporium and Earth Child (see 2.10.1), are also taking further steps in engaging with sustainability issues, such as using locally produced fabrics.

2.9.1 Sustainable cotton initiatives

The challenges faced by the cotton production industry came to people's attention for a first time in the 80s and 90s, during the first sustainable fashion and textiles movement in Europe and the US. However, it seems retailers and consumers are only now beginning to take notice of the potential cotton offers in sustainability.

During the 68th International Cotton Adivisory Committee (ICAC) Plenary Meeting in 2009, Jens Soth (Co-ordinator for Research and Implementation Activities, Helvetas Organic Cotton) discussed the development of cotton types and introduced a model as illustrated in Figure 2.5.

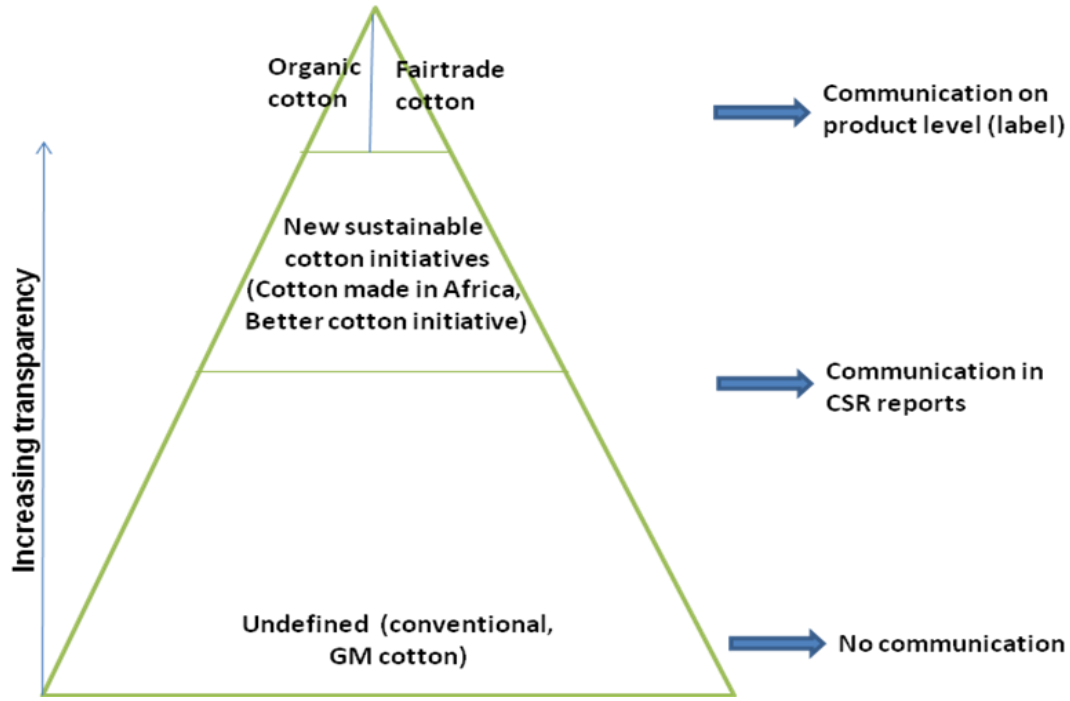
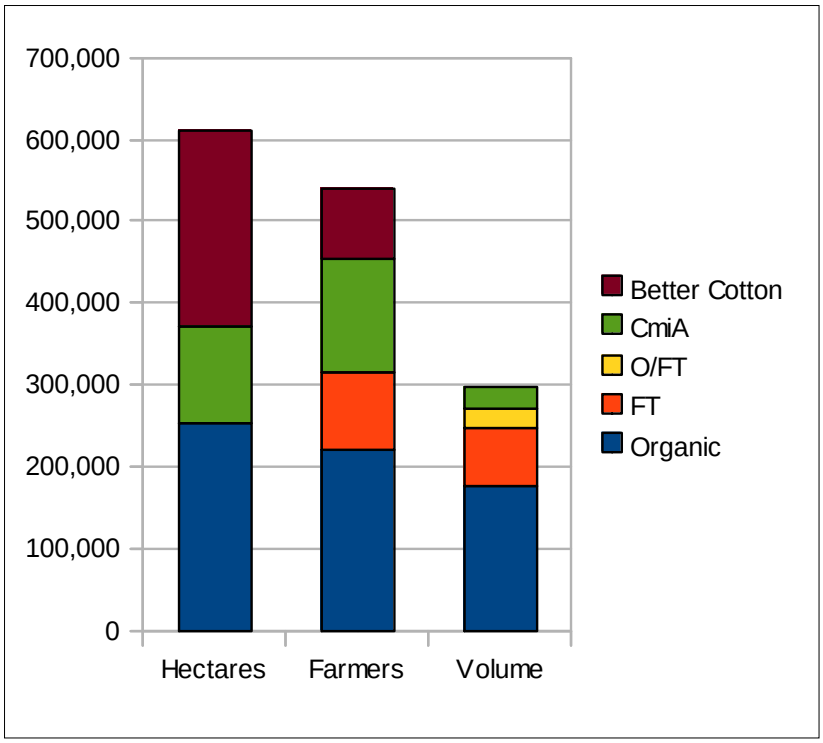


Figure 2.5: The cotton pyramid (adapted from Soth, 2009)

The first layer in Figure 2.5, labelled as ‘undefined’ and representing conventional and genetically modified (GM) cotton, is the largest group of all existing cotton types. There is no transparency on practices and processes in the value chain and also no communication concerning the origin of the cotton. The second group of ‘new sustainable cotton initiatives’ is a strong developing group in the cotton industry. These initiatives communicate through sustainable reports and companies’ corporate social responsibility (CSR). The two upper layers in the pyramid have been labelled as ‘organic’ and ‘Fair Trade’. Both layers communicate on a product level by stating the origin and composition on a product-label. Organic and fair-trade cotton have a high transparency and communicate through NGOs, government reports and sustainable reports from retailers. Furthermore some companies utilise track and trace systems, allowing the consumer to, “trace” the finished product through the production process.

Four main alternatives to conventional cotton have emerged since the first sustainable fashion movement: organic cotton, Fair Trade (FT) cotton, Cotton made in Africa (CmiA), and Better Cotton Initiative (BCI). Whereas the organic and FT initiatives were inspired by earlier organic food products and expanded to the cotton sector, BCI and CmiA were created exclusively for cotton. The first initiative, organic cotton, originates in the late 1980s, while the remainder are more recent, dating from half way the 2000s. Such alternatives can be seen as complementary to one another and at the same time enjoy overlaps (Ferrigno, 2010). For instance cotton can be Fair Trade and organic; statistic from 2008/09 show about 8 500 tons of cotton were certified both organic and Fair Trade (*ibid.*). Table 2.2 exemplifies the different types of sustainable cotton discussed in context of their statistics.

Table 2.2: Sustainable cotton types statistics 2008-2009 (Source: Ferrigno, 2010)



As can be seen in Table 2.2, organic cotton is the sustainable type planted on the most hectares (followed by BCI), by most farmers resulting in the largest volume. When comparing so-called "sustainable" alternatives to conventional cotton, the question arises whether these initiatives can in fact be labelled "sustainable" as they usually emphasise one key issue only of the sustainability concept. Organic cotton primarily focuses on environmental sustainability, while fair trade cotton is more concerned with social aspects, BCI and CmiA focus primarily on productivity in the value chain according to Ferrigno (*ibid*.). Townsend (2009:17), executive director of the International Cotton Advisory Committee, insists sustainable cotton types should involve not only one aspect of sustainability, but true sustainable cotton production should entail all characteristics of the sustainability concept: environmental, economical and social.

Although today these "niche" cottons account for less than 2% of the global cotton market, Soth (2009 in Ferrigno, 2010) anticipates over the next 15 to 20 years, these sustainable cottons will eventually represent 30 to 40%. He also argues the market for sustainable cottons will progressively grow from increasing interest for and transparency of the cotton industry, its environmental footprint and loyalty to codes of conduct. Ferrigno (2010:8) agrees prospects are positive for sustainable cotton types, particularly those and not *"that reduce dependency on oil while improving productivity and making the best possible use of raw material, and eventually, a system that brings used material back into the system."*

2.9.1.1 Organic cotton: a sustainable alternative

As discussed, one of several sustainable alternatives for conventional cotton fibre production was organic cotton. Gordon & Hsieh (2007:130) define organic cotton as: "*cotton that is grown without the use of any synthetically compounded chemicals (i.e. pesticides, plant growth regulators, defoliants) and fertilizers*." In Tons' (2007) view if these harmful chemical were not utilised, it would benefit several areas in the cotton chain plus the environment. Schacknat (2008:120) adds that growing organic cotton results in a 50% increase farmers' income, because of an about 40% reduction in costs and: *"the twenty percent premium they receive for producing organic cotton allows them to feed, clothe, educate and provide healthcare for their children."*

The first certified organic cotton was produced in Turkey and the US in the early 1990s. Today's organic cotton is produced in 22 countries, the largest producers being India, Turkey and Syria. The quantity of organic cotton grown worldwide has grown significantly in the last 10 years. The *2008 Organic Cotton Farm and Fiber Report* reveals that the quantity of organic cotton grown worldwide in 2007/08 increased with 152% compared to the previous year, to 145 872 metric tons (MT), or 668 581 bales (Organic Exchange, 2009c). In spite late rains and subsequent flooding, Africa's organic cotton production continues to increase. During the 2007/08 season, the continent produced 43% more (6 531 MT) organic cotton fibre than in the previous year (Ferrigno & Lizarraga, 2008). Tanzania and Uganda remain Africa's largest producers and contribute 83% of Africa's total production. Until 2007, certified organic cotton was grown on an exceptionally small-scale in South Africa.

Although organic cotton production is increasing at an annual average 50%, demand has outstripped supply, as it takes time and careful planning to meet such demand (Black, 2008). Organic cotton production accounts for slightly more than 1% of global cotton production and, therefore, it might be argued it will remain a niche market. Black (2008:113) admits that *"with the imbalance of scale between organic and conventional cotton so extreme, it will take a consumer and manufacturing revolution for organic cotton to become mainstream."* Nevertheless, he says cotton is a fabric where great environmental and ethical impact can be made as cotton contribution to a great portion of all textile fibres produced (around 60%). Black (*ibid*.) concludes by stating: "*Any movement towards organic cotton will have immediate benefits."* Organic cotton farming is seen as a strategy that would help in the mitigation and diversification with respect to cotton farming. There are several key factors pointing to organic cotton being able to contribute to a healthier and more sustainable fashion industry:

1. Benefits for farmers and their community: Soil fertility is a vital factor for cotton to be sustainable. When soil is well managed, pest pressure is reduced, water use is optimised Yields will improve for all crops grown in rotation (Ferrigno & Lizarraga, 2008). Organic cotton is cultivated in rotation, with every few rows of cotton an intercrop (mostly food crop) planted for cotton's protection. This crop rotation improves farmers' food security, giving them additional income and reducing their dependency on the cotton market by selling the food crop (i.e. sesame or corn). Organic cotton is fertilised with manure which preserves soil fertility, possibly even improving it. The cultivation of organic cotton is conducted without use of synthetic fertiliser, pesticides or genetically modified seeds. This results in less environmental pollution of groundwater, rivers and the soil and fewer health risks for farmers and their communities (*ibid.*).

2. Benefits for traders and retailers: According to the *2008 Organic Exchange Market Report*, the organic cotton market is dynamic; its retail sales globally increase 63% since 2004. There was great potential for companies investing in organic cotton. The fibre was more environmentally friendly then conventional cotton and contributed to sustainable production cycle lending credibility to companies' activities. Furthermore, the organic cotton market was more transparent (Organic Exchange, 2009b).

3. Benefits for consumers: When buying certified organic cotton products, a consumer knows where the product originated from (the origin has to be declared), and was sure that product was less pollutive, was of good quality and more socially responsible.[2] Some retailers worked with projects which, for instance, gave a certain percentage of a product's profit to a schooling project for children in small-scale farmer communities. Buying these products consumers could impact positively on the livelihood of producers and feel good about their purchases.

Gordon & Hsieh (2007: 138-139) claim organic cotton cultivated low yields, was labour intensive and sometimes of lower quality, which consequently affects economics. For developing countries the higher labour intensity does not have to be a negative side effect, providing numerous job opportunities on farm level. According to the *'Organic cotton: An opportunity for trade report developed by the* International Trade Centre: *"organic cotton can be a tool for rural development"* (in Ton 2007:43). In addition, Heinrich Shultz (MD of

[2] The public in South Africa is generally not aware of the risks and impacts of genetically modified (GM) and conventional cotton, as suppliers do not require to declare the origin of the products even though cottonseed oil is used in a variety of food products.

OrganiMark South Africa) argues the fibre quality of locally grown organic cotton is outstanding, and has been judged as 'good middling' quality (Schultz, 2009). 'Good middling' refers to the highest quality of the colour of ginned cotton.[3] This argument counters that of Gordon & Hsieh (2007) who state organic cotton has lower quality grades. In addition, South African organic cotton producers receive a price premium that *"gives the sector the opportunity to diversify into a higher-value, niche crop which may prolong the cotton sector's commercial viability which has been under threat at the conventional farming level."* (Schröder, 2010b:5).

2.9.1.2 Organic cotton market in South Africa

Europe and the US have developed a stabilised organic cotton industry and companies are aware of the impact of conventional cotton production on its producers (farmers, factory workers) and on the earth. As mentioned, a growing number of retailers and brands has been implementing integrated strategies which align sustainability and organic programme development with their business goals, to serve consumers and to improve their public image. In a South African context, the state of organic cotton production and consumption remained in a formative stage. Although the local organic food sector was well established and had considerable exposure, the organic cotton sector has not yet established as a stable industry.

Organic food products were first introduced in the late 1990s and early 2000 in South Africa. Woolworths was the first food retailer (in 1999) to introduce organic foods into its stores. Today all major retail food chains such as Pick n' Pay, Spar and Shoprite Checkers incorporated sales of organic foods. South Africa and Egypt have the largest domestic markets for organic food on the continent (Engel, 2008). According to Engel (2008:13): *"South African consumers are becoming more health conscious and aware of food safety."* It seems in the food sector organically grown products are now widely accepted, but this is not the case with organic fashion products.

In South Africa organic cotton is grown on only a small scale accounting for 0.01% of global production (Organic Exchange, 2009b) The majority of organic cotton (products) circulating in South Africa is imported from India, Tanzania and Uganda. Woolworths South Africa, Mr. Price Home and Pick n' Pay sell product lines containing a blend of organic and conventional

[3] The colour of cotton ranges from white to yellowish and is classed into the groups "White", "Light Spotted", "Spotted Tinged" and "Yellow Stained", in descending order of quality. There are 25 official colour grades of American upland cotton, ranging from "Good Middling" colour through "Middling Yellow Stained" colour (UNCTAD, date unknown).

cotton, mostly existing of a 5% organic and 95% conventional cotton content (Schröder, 2010). Additionally, a number of small retailers and boutiques produce clothes and household products (such as duvets and sheets) from 100% organic cotton, yet these products are imported. The 'South African Organic Cotton Project (SAOCP)' is the first local project to develop 100% locally produced 100% organic cotton products, aiming for an optimised demand of organic cotton products to maximise the domestic market. Schröder (*ibid*.) recognises a continuing growth in consumer demand for sustainable products. He states: "*This relatively new, multi-faceted concept of sustainability holds significant promise for South Africa as the post-1994 Government has pioneered legislative reforms to improve farm workers' social conditions".*

Research by the International Trade Centre (2007:6) explains that in South Africa: "*Little is known about consumer demand and the perception and appreciation of 'organics' in textiles and clothing. Many questions exist about how to communicate 'organics' to consumers."* Companies' communications with consumers about organic cotton involvement is often still limited, but could play an important role in increasing demand for organic cotton textiles, and simultaneously increase general awareness for sustainable fashion product availability (Ferrigno, 2010).

2.10 Sustainable consumption and new forms of well-being among consumers

Although the notion of a "throw-away society" (Vezzoli, 2008) and the "passivization" (Morelli, 2007) is still present, Black (2008) argues the so-called "blinkered mentality" can no longer be maintained and consumers can stimulate positive change. Manzini & Vezzoli (2008:33) suggest: *"People should be considered as an active part in the processes of caring about things, the public goods and the environment in general."* Consumers are able to become co-designers and co-producers of the production-consumption system.

In this study the term 'well-being' is understood as the feeling of content arising when human needs are satisfied. Lately, an increasing group of people have adopted a more social and environmentally responsible lifestyle by changing attitude towards the meaning of well-being. They make significant choices, beyond typical thought and behaviour patterns, such as consuming organic foods, making use of public transport or bicycles, implementing new social services for elders and parents, arranging mother-managed day-care centres and so on (Manzini & Vezzoli, 2008). These 'Creative Communities' remain in a minority, however are promising examples of social and cultural change at grass root level. In South Africa this shift in consumers' mindset is increasing and creative community initiatives are slowly, but

surely, emerging. In 2008, the project Creative Communities for Sustainable Lifestyles (CCSL) was launched in Africa.[4] This project looked into the potential of collaborative everyday life activities (the creative communities) that would potentially generate and diffuse new and more sustainable ways of living in an urban environment (Sustainable Everyday, 2009). Birt (2006) believes that the confrontation with our unsustainable industries has sparked a shift in the consciousness of both the public and industry.

Today one can see a search for authenticity, where a shift in the consciousness of the public (and industry) is apparent. It manifests in many different aspects in fashion as one searches garments with a personal value, customised or one-off. One also looks into who made the garments, from where they came and their history. One can also see the search for authenticity in the way one socialises by looking for real and communally-based relationships (Brand, 2008).

2.10.1 Examples of sustainable production and consumption in South Africa

As mentioned in section 2.9, a new generation of designers and retailers with a sense for sustainability has entered the South African fashion and textiles market. Tustin and De Jongh (2008:25) state that "*companies in South Africa have already started making ethical claims on the intrinsic value and benefits of their brands and products, and they are expected to persist in doing so."* They promote organic and recycled materials, and simultaneously support local communities. A few leading clothing-related cases include:

- the 'No KAK' fashion competition is a fashion design competition focusing on supporting the growth of a cleaner South African textile industry, by encouraging use of ethical, eco-friendly design using organic materials. This is sponsored by the Danish Government (Danish International Development Agency) and the South African National Cleaner Production Centre (NCPC) and,
- the Hemporium (Cape Town) and House of Hemp (Johannesburg) produce hemp fashion products. Hemporium has a range of T-shirts, shirts, blouses and trousers made from 50% hemp and 50% organic cotton. The focus is educating people on the benefits of hemp with a goal of promoting the crop's commercial viability, so South Africa no longer has to import (Urbansprout, n.d.)

[4] CCSL is part of the Task Force on Sustainable Lifestyles, supported by the Swedish Ministry for Sustainable Development, within the United Nations 10 Year Framework of Programs on Sustainable Consumption and Production.

2.10.2 Consumer beliefs and behaviour regarding sustainable consumption in South Africa

There has been limited research conducted on the South African consumer, especially in terms of sustainable consumer behaviour. According to Maqalike-Mokobori, (2005:35), the majority of research conducted is mostly related to marketing issues. She points out there is still insufficient knowledge about South African consumers' views, expectations and perceptions.

A study focusing on ethical consumerism conducted by Professor Tustin and Professor De Jongh (2008:35) is one of the few in this category, it believes *"ethical consumerism is a key consideration for future brand strategy development in South Africa."* Tustin & de Jongh (*ibid*.) describe ethical consumption as follows:

> *It [ethical consumption] refers to a practice of producing/purchasing products and services that actively seek to minimise social and/or environmental damage and the avoidance of products deemed to have a negative impact on society or the environment.*

In the researcher's understanding, the concept of ethical consumerism is similar to sustainable consumption.

The authors argue there is comprehensible proof the South African consumer will be significant in the pursuit of a sustainable agenda. "*A largely 'voiceless society' in South Africa, due to apartheid and an era of exclusion is being transformed into a society currently showing increased ethical purchasing intentions"* (Tustin & de Jongh 2008:25). However, the authors recognise a gap between consumers' beliefs and actual purchasing behaviour. Although actual ethical purchases remained low, Tustin and De Jongh (*ibid*.) were optimistic about the future of sustainable consumerism and believe on sustainable brands would become essential building blocks for brand strategies in South Africa. *"Brands that do not respond to these pressures in their value proposition will have to face consumer boycotts and loss in market share"* (Tustin & de Jongh, 2008:35).

2.11 Critical view on sustainable lifestyles/marketing (green washing)

In the 21st century, sustainability has become an intrinsic part of daily life. In spite of tremendous popularity and recognition gained by this concept, it was not necessarily understood. There was a collection of many initiatives which did not live up to the sustainable ethos and remained disconnected. Most initiatives had a different understanding of

"sustainability" as a definition. One can ask whether such "sustainable" initiatives were feasible.

Chapman (2005:23) states *"the word sustainable has been slapped onto everything from sustainable forestry to sustainable agriculture, sustainable economic growth, sustainable development, sustainable communities and sustainable energy production."* Many corporations have rushed to claim their socially responsible qualification, showing consumers their concern for the planet (Doane 2003a, 2003b, 2004; Kotler & Lee 2006; Henriques 2007; Littler, 2009). This marketing approach is frequently labelled as greenwashing and is yet another challenge in the aspiration of supplying viable sustainable products or services according to Littler (2009). Greenwashing promotes flexible use of claims concerning the state of sustainability, such as 'socially responsible', 'green', 'organic', 'cruelty-free' and many more (*ibid*.).

Some instances of greenwashing encourage consumers to "shop for change"; which comes down to producing and consuming more; more product in the quest of being sustainable or green. As Maniates (2002 in Little, 2009) puts it, *"living lightly on the planet' and 'reducing your environmental impact' becomes, paradoxically, a consumer-product growth industry."* Littler (2009:103) shares this opinion and continues by declaring that green consumption *"is [often] articulated to capitalism."*

Another paradox is most greenwashed products cost more than conventional ones and could be perceived as focusing on middle and higher income classes. Littler (2009:101) argues:

> *Green consumption is clearly still often oriented, and is more available to, those with greater social and material privileges. In other words, buying green [...] might also – intentionally or unintentionally – promote destructive social inequalities.*

Two examples of greenwashing cases are:

- The campaign of 'I'm Not A Plastic Bag' appears to be a classic example of greenwashing. The bags were supposed to be more sustainable, but are actually produced in China under low-cost labour conditions, while the fabric of the bags was neither fair trade nor organic (Littler, 2009).
- Another example was the American Express RED credit card, using a form of charity consumption. For every purchase made with this credit card 1% of the total amount is send to Global Fund 'to help fight AIDS in Africa'. The appearance of a celebrity in the The campaign was supposed to highlight how easy and glamorous it was having a credit card. The advertisement stated: *"Feel great about spending, whether you're*

buying cappuccinos or cashmere" (Littler, 2009:27). This is yet another instance of promoting consumption.

One can say these campaigns aim at making consumers feel more 'relaxed' about over-consuming products, so long as products are green or socially responsible. By purchasing such products consumers are supposed to feel to have contributes to social change through a range of actions, including consumption (Littler, 2009).

Another greenwashing case connected to the RED initiative, is the RED clothing campaign produced in Lesotho. The Red campaign was initiated by American clothing retailer Gap and is promoted the celebrity singer Bono. Gap collaborated with 'Apparel Lesotho Allience to Fight HIV/AIDS' (ALAFA) on this campaign aiming to help African communities severely affected by AIDS, tuberculosis or Malaria. In Lesotho (one in four people is affected by AIDS) the country's economy is dependent on the clothing industry. For each RED-branded clothing product sold, 50% of the profit is donated to the ALAFA foundation (Mediawrites, 2008).

In spite good intentions, an upsetting article in the London *Sunday Times* presented the *"... negligent environmental practices in the garment industry of Lesotho, Africa – practices for which Gap, and most ironically Gap (RED), play a foundational role."* (Times Online, 2009) The Sunday Times uncovered the Nien Hsing factory (GAP accounted for 5% of its production) was dumping harmful chemicals such as sodium hydroxide (can cause chemical burns); and calcium hypochlorite (can cause breathing problems) in Maseru, Lesotho. The chemicals were released in the Caledon River, used by locals for cooking and bathing. The river was named 'Blue River' by locals as it had a "denim blue colour", caused by chemicals released (see Figure 2.6). In addition a worker said that:

> *She and her fellow orphans cough up black root all night. The fumes and chemicals cause her eyes to water constantly and she runs the heavy risk of slicing her hands and feet open in the razors and needles buried in the towering stacks of scrap denim* (Times Online, 2009).

Figure 2.6: The Blue River in Lesotho (Source: Times Online, 2009)

Not only was the RED initiative involved in these unsustainable practices, Levi's and the product range 'One' by EDUN (clothing brand set up by Bono's wife, Ali Hewson) were part of the Nien Hsing owned factory.

Looking at the situation in a more positive way, green washing does have some advantages. The many 'sustainable' campaigns and company strategies have enhanced awareness of consumers in these matters. One must also realise sustainable consumption and production are a complex phenomenon and was of the essence to consumers in forming their identity and satisfying needs.

Eagan (2010:12) suggests *"many environmentalists, designers and consumers are beginning to see a new light for sustainable fashion. This is a new movement where education and purchasing power are eminent."* She continues saying it is up to consumers and the industry to steer the change towards sustainability and demand a new type of fashion based more on transformative acts and less on consumptive ones.

2.12 Summary

This chapter explained the definition of fashion and consumption and introduced the issues in contemporary fashion (and cotton) industry. It was apparent “fashion as usual” is not acceptable if one wants to sustain future generations and create a more sustainable planet. The conventional cotton industry is well-known for its unsustainable and inhumane practices, therefore several alternatives have been introduced as “more sustainable cotton types”. One of these is organic cotton and the focus of this study. Moreover, the chapter discussed emerging patterns of sustainable consumption on a global and local level, concluding with a critical view on so-called greenwashing initiatives. Chapter Three introduces the role of design in the process of moving to a more responsible and sustainable society.

Vezzoli (2008) argues the consumption pattern has been mostly controlled by a product-based well-being, as the industry has created a decrease in effort, time and attention to the consumer of its product. As a result of this, and with the complicated and long stretched value chains the industry has become increasingly lazy, unconcerned and most of all disconnected from the origin of the products purchased. Consumers must learn how to utilise smaller quantities of resources (water, energy and toxic chemicals), alter the idea of personal well-being and move from a passive to an active role in the fashion system.

CHAPTER THREE
THE IMPACT OF DESIGN(ERS) ON THE SUSTAINABILITY MOVEMENT

3.1 Introduction

This chapter investigates literature on impact design and designers share in context of the sustainability discussion. The chapter will identify designers as vital players in the movement towards a sustainable society and present initiatives on how designers might encourage the populace to consume better and less.

Design, according to the International Council of Society in Industrial Design (ICSID) (2005 in Vezzoli, 2008) is: "*a creative activity whose aim is to establish the multi-faceted qualities of objects, processes, services and their systems in whole life-cycles."* In this study's context, design also considers the "system", besides the products and processes (Vezzoli, 2008).

To generate sustainable results, one must first consider the way design emerges and how it best serves consumers and meets their desires, according to Chapman and Gant (2007:76). The authors acknowledge the power of design as it influences perceptions, activities, and states of mind. The designer facilitates the space between people and the activities of consumption (Fletcher, Dewberry & Goggin, 2001:1), and thus could serve as a catalyst in the creation of a sustainable society. However, today, this is not the situation. Van der Ryn and Cowan (1996:9, in Fletcher, Dewberry & Goggin, 2001:1) believe the existing environmentally unsound situation could be seen as a design crisis.

3.2 Design(ers): part of the problem

Victor Papanek, in his book *"Design for the Real World: human ecology and social change"* written in 1984, was (perhaps) the first who highlight the designers' damaging role in respect of increased social and environmental impact from major industries. Many followed his example, such as John Thackara (2005:7-17) who argued 80% of a product or system's impact on the environment occurred during the design stage thus making designers contribute significantly to sustainability problems. Fuad-Luke (2009) pleads a similar message in *Design Activism: Beautiful Strangeness for a Sustainable World.* Fletcher,

Dewberry & Goggin (2001:2) add to this that, although design is a discipline orienting on finding solutions for problems, *"much design-related activity is focused on commerce and profiteering through the proliferation of goods and services"*. Designers still often see themselves as part of the commercial sector. Thorpe (2006:132-133) also points out designers experience commercial pressure from company's commercial assets, such as existing technologies, rather than consider more efficient or socially desirable solutions. This pressure turns designers into "pushers" assisting companies to *"push more and more products and images onto consumers*" (Thorpe, 2006:133).

Chapman (2005:11) points out designers and design not exclusively responsible for today's impatient society which feel a need to constantly consume. Williams (2009:29) agrees and puts forward an idea that *"people feel they have the 'right' to cheap fast fashion*" and are loyal to the brands and retailers selling the clothing instead of the "hands who have made the pieces that are so quickly discarded." Today, closets are full of unwanted clothing that are not required or desired. Moreover, there was a lack of understanding of the background of clothes (where they came from, who produced them, at what cost) (Black, 2008:xx). In addition Black (2008:18-19) argues modern (fast) fashion and the textiles industry account for one in six people's employment globally; thus is significant in its role for a healthy economy. This is what Black (2008) calls the "fashion paradox".

The challenge of this situation is clear, however Fletcher, Dewberry and Goggin (2001) are of opinion designers are those to reconsider their practice, as social players and facilitators. The authors argues designers should become part of the solution in order to best fulfil consumer needs and to enable the formation of sustainable consumption and production (Fletcher, Dewberry & Goggin, 2001).

3.3 Design(ers) as a catalyst for social change and innovation

Designers are increasingly encouraged to take account of environmental and social considerations in their creations (Papanek 1984; Whiteley 1993; Cooper, 2005:57). Margolin (2007:4) believes designers:

> *Operate in situations that call for interventions, and they have the unique ability to turn these interventions into material and immaterial forms. [...] designers still create the artifacts that are put to use in the social world*.

Thus, designers play a vital role in creating a sustainable society and increasingly perceived as a core component in most processes of a company. Today there is movement towards

designers working alongside business professionals such as scientist and engineers, as the boundaries of design disciplines fade.

Tischner (2010) emphasises that "Sustainability Design" (DfS)[5] does not have to restrict designers' creativity. To the contrary, it enables them to drive innovation in design by becoming involved *"much earlier in much more strategic decisions with their clients"* and by not just offering a single finished solution, but facilitating *"a participatory creative process involving other actors in the solution creation"* (Tischner, 2010:84).

In the context of the fashion industry, Black (2008:197) says design can impact the life cycle of a fashion garment and what makes fashion appealing. Fletcher (2007:6) claims designers of garments can *"encourage us to ask deep questions about our sense of place in the natural world."* They are able to advance participatory modes of communication between people and the planet, creating shared participation and social integration (for instance by supporting disadvantaged communities). Thorpe (2006:135) suggests designers should ask themselves how they might provide internally or community driven symbolic resources that have been lost through commercially engineered media and material objects.

3.4 Re-connective design movements – the roots of sustainable fashion

As discussed in Chapter Two there is need for a reduction in the consumption of fast and inexpensive fashion. However, consuming sustainably is not as simple as one might think. How can the industry produce in a sustainable and socially viable manner when fast production and consumption have been the core of the fashion system and a promoter of the global economy? Are consumers really willing to switch lifestyles for the greater cause?

In recent years, however, many design movements aiming to direct our (fashion) industry to a more sustainable level have flourished. Designers increasingly explore the phenomenon of sustainable behaviour and lifestyles by building relationships with consumers and by reflecting how their designed objects might contribute to a healthier planet. The next sections provide examples (mainly in the context of fashion) of initiatives aspiring to resolve one or more key issues of sustainability.

[5] Tishner (2010) uses the term 'Sustainability Design' which in the context of this thesis will be treated as synonymous to Design for Sustainability (DfS).

3.4.1 Changing metabolism of fashion

The movements discussed in this section focus on altering the metabolism of the fashion industry. They promote slower, more gentle rhythms of purchasing usage of (fashion) products, all in different, but complimenting ways.

3.4.1.1 Recycling, re-using, repairing

The accumulation of waste is a significant issue in the majority of industries. It causes air (methane emission) and ground water pollution (through toxic leakage) (Fletcher, 2008). The fashion and textile industry in particular, has a long history of attempting to solve the problem of waste, not on industry level, but also through individuals repairing and reusing household textiles and clothing. Not too long ago, before the industrial revolution, clothing alterations were the norm. Women would make their own clothes and for their families and remodel old clothes, patching up wear and tear. In this way clothes lasted for several generations; a family would save money by not having to buy new ones. Skills such as darning and mending were mastered by many, but today are seen as "*old fashioned and not worth the time*" (Black 2008:235). The skills of repairing and making clothes have been lost. Instead a new piece of clothing is bought as soon as an item of clothing begins to lose its allure.

Many projects have been directed at the textile waste issue, seeking alteration in material cycles. Fletcher (2008:99) extensively discusses this topic and explains the most frequently used approach of tackling waste from a textile product lifecycle is implementation of waste management strategies commonly known as the 3R's: reduce, reuse, recycle. These strategies have been incorporated in the post-production phase and aim to *"extract the maximum benefits from products by extending their life, either as whole products, fabrics or fibres, before throwing them away" (ibid.).* The strategies, however, treat the "symptoms" or negative environmental effects of production and consumption patterns, instead of preventing generation of too much waste. Nevertheless, Fletcher (2008:96) argues such strategies are able to facilitate an evolution of a new kind of society where individuals *"think in terms of loops and cascades; where waste is elevated to a thing of use and beauty; where resources can be saved."* A few examples of waste management strategies on local and international level are discussed next.

SAVED is a T-shirt range (from the UK) introduced by Green Thing (a non-profit organisation aiming to inspire people to lead more sustainable lives), collecting lightly worn and forgotten T-shirts. These are washed and given "new life" by decorating the T-shirts with hand-stitched lettering before re-selling them to new owners (see Figure 3.1). In addition, the labels on the T-shirts show the name of the person who donated the shirt, the reason why the T-shirt had

to be saved, from weight gain to bad taste or neglect, plus the name of the person who restored it. The package of the SAVED products is reusable and includes a free return label, encouraging the customer to continue this process of up-cycling by returning s used T-shirt of their own (Springwise, 2010a).

Figure 3.1: SAVED T-shirts (source: Springwise, 2010a)

Another example is the *'Fortune Cookie' change purse* range (from New York, US) does not only reuse the material, but also uses additional story telling. The change purses, as illustrated in Figure 3.2, are produced entirely from recycled scraps of leather, for instance from furniture and garments which was found unsuitable for production. Each purse has an unique tracking number representing the source of the leather from which the purse was made, and can be traced on a website by the buyer (Springwise, 2011).

Figure 3.2: Fortune Cookies change purse (source: Springwise, 2011)

The Dutch designer Heleen Klopper introduced a wool-repair kit named '*Woolfiller'* to fix holes and hide stains in woollen cardigans, jumpers, jackets and carpets (see Figure 3.3). Woolfiller uses the technique of needle felting to mend holes and stains. Users place a small piece of patching wool on the area that needs to be recovered. *"They repeatedly prick the old*

and new wool with a needle, working from both sides over a foam block, until the new patch has bound (Sprinwise, 2010b)".

Figure 3.3: Woolfiller (source: springwise 2010b)

In South Africa the *'Ithlabolole Waste Management'* initiative was established by a group of women from Ikopeleng village in the North West Province. Ithlabolole stands for "develop yourself" in the SeTswana language. The women make traditional Tswana clothing, bags, shoes, mats and other products from discarded materials (see Figure 3.4). Today the co-operative employs 18 women. The Department of Trade and Industries Deputy Minister Elizabeth Thabethe admired the project: *"This is a project that shows that women are an economic power in rural areas and are determined to fight poverty* (South Africa Info, 2010)".

Figure 3.4: Pair of shoes created from a waste (source: North West Craft and Design Institute)

Aside from turning waste into beautiful products, the women who are part of the initiative also attempt to raise awareness among the youth about the necessity of a clean environment for South Africa (South Africa Info, 2010).

These project illustrate the potential of waste management projects, yet Fletcher (2008:96) says reuse and recycling initiatives still have limitations, as the industrial system still produces wasteful products which need to be “cleaned up” after being discarded. These movements will work best in collaboration with other types of sustainable initiatives described further in this chapter.

3.4.1.2 Slow Movement

According to Fuad-Luke (2009:141), our society does not benefit from the constant upgrading and replacement of products, mechanisation and standardisation which have been normalised in our daily life. These issues decrease the use of artisan techniques and locally produced products. As a reaction, a *Slow* counter movement has emerged. The Slow Movement emerged in the late 1980s with Slow Food being the first sub-movement. The movement is based on the concept that the contemporary fast pace of living most likely reduces time for personal reflection and relationships (Thorpe, 2006). Strauss and Fuad-Luke (in Thorpe, 2006:10) suggest that artefacts can assist people in slowing down and regain *“temporal stability, partly by enabling us to shift value from material objects to experiences that perhaps help us tune our consciousness.”*

The phrase Slow Fashion was coined in 2007 by Kate Fletcher, who compared the sustainable fashion industry to the Slow Food movement, highlighting a similarity in terms of processes and production. The essence of Slow Fashion according to Fletcher is about:

> *combining ideas about a sense of nature’s time (of regenerating cycles and evolution), culture’s time (of the value of traditions and wisdom), as well as the more common timeframes of fashion and commerce. Its emphasis is on quality of environment, society, working conditions, business, and product* (Fletcher, 2008:173).

Cooper (2005) explains Slow Fashion in its current context as slowing the rate at which products are consumed by increasing their inherent durability and providing careful maintenance. In addition, Cooper (*ibid.*) suggests that Slow Fashion products should preferably be produced with locally sourced materials and slow production techniques.

Fletcher (2008) insists the Slow Fashion is not the opposite of Fast Fashion, but an alternative approach towards fashion production and consumption where key players in the supply chain (designers, retailers, consumers, and others) *“are more aware of the impacts of products on workers, communities and ecosystems”* (Fletcher, 2008:173).

I-did (The Netherlands) is an example of a Slow Fashion concept in Europe aiming to create:

> *design which reflects the time, attention and pleasure devoted to its creation. All items are handmade in our own studios, a centre of employment opportunity, social interaction and traditional craftsmanship. We offer honest, personal fashion which is of value to its makers and wearers alike. This is our vision of sustainability* (I-did, n.d).

I-did sources natural textiles and yarns, offers a platform for young designers, and has utilises traditional handwork methods such as knitting and weaving. Moreover, I-did has creates employment for women, often with originates in ethnic minorities (I-did, n.d). In South Africa such concepts are often seen in the craft sector were community development and local production is important.

Fletcher (2008) claims a healthy rhythm of production can be strengthened by using the concept of Slow in the fashion industry. Healthy rhythms refer to a peaceful and healthy co-existence between environment and mankind allowing the earth to have time to regenerate during production cycles (Fletcher, 2008). Niinimäki (2010:118) adds to this: *"The slow design approach can result in deeper product satisfaction, hence slowing consumption, i.e. purchasing less, but high quality, meaningful, reliable and durable products".*

Essential in the Slow Movement is the idea of evolution, where products evolve jointly with the user, aiming to strengthen and encourage long-term relationships between people and products (Thorpe, 2006:10). This "emotionally durable" design will be described in the following section.

3.4.2 Emotionally durable design and product longevity

Today, marketers often provide negative signals about attachment on their products to consumers. Cooper (2005:62) explained this is not unexpected as advertising aims to encourage consumers to constantly renew possessions even if old ones might still function. Thorpe (2006:180) rejects this concept of using material means to satisfy human needs, as we might miss out on cultivating understanding, creativity, and caring relationships.

Jonathan Chapman's (2005) work is one of the leading initiatives on deepening people's relationships with products. Chapman (2005:97) suggests *"the language that designers deploy to describe objects frequently ventures into emotional accounts of how they make us feel, what they remind us of, or what persona the objects seem to portray."* The majority of

products is able to create empathy or meaning at the point of purchase; but he also recognises many products fail to evolve WITH users (and their psychological needs), resulting in disposal (Chapman, 2005). To counter the early disposal of products and to re-connect people and their possessions, he offers a set of guidelines (in his book *Emotionally Durable Design)* to involve users in empathetic relationships with products.

Other authors also express a need for improved relationships between consumers and products. In Manzini's (1994) view of a sustainable society, a designer should create "longer lifespans" and simultaneously facilitate the forming of deeper attachments and care of consumers for their products. Fuad-Luke (2009) indicates such "empathic" and "emotionally durable" designs create more meaningful product interaction over a prolonged time and employ end-users (and other players in the supply chain) as co-creators in the design process.

Why is it that one becomes so attached to some products, while other products are easily disposable? Chapman (2005) explains the product longevity is dependent on the type of relationship the user has with the product (the empathic lifespan). Mugge *et al.* (2005) adds if a consumer feels emotionally attached to a product he/she will handle that product with good care even repairing it, to postpone its disposal or replacement. If an item means something special, it is likely to "survive" much longer. With this new consumption (organic cotton consumption in this case), new meaning to well being is stimulated.

The creation of meaningful product relationships is not simple design consideration, as it is connected to an individual's personal experiences, *"history, sensitivity level and situated in a temporal and socio-cultural context"* according to Niinimäki (2010:117). However, Chapman (2005:51-52) proposes in order for a consumer to keep a product for longer, it requires flexibility to change and adopt to the consumer's desires. Cooper (2005) suggests improved maintenance patterns through repairing, upgrading and reusing should be applied to achieve increased product longevity. What Cooper implies is in agreement with the point made earlier in section 3.4.1.1; and therefore, different re-connective design movements have to work in partnership to increase product longevity, thus sustainability.

An example of emotionally durable design is the Dutch *Eternally Yours* project. This established products that age with the user, to search to strengthening and lengthen relationships. One designer in the project Sigrid Smits, created a furnishing fabric that offering opportunity for a collaborative ageing process of user and fabric. Smits' blue velour fabric is pleated, tucked and shorn to enhance ageing of the fabric and to highlight a unique experience and quality from user engagement (Fletcher, 2008:168). The orange reverse side

of the velour fabric becomes more and more visible with increasing user interaction. According to Fletcher *"witnessing it [the velour furnishing fabric] change over time and in response to the user's actions and behaviour, is fertile ground from which emotional attachment and long-term product use springs"* (Fletcher, 2008:168).

Another common example, is the ageing process of one's favourite pair of jeans or leather jacket. These products age well, revealing new colours or fading marks from wearing (Thorpe, 2006). This adds more value to the product through empathy aging well with the user. As Chapman (2005:130) says, in spite being "damaged", these types of products own empathy and *"challenge our social desire for a scratch-free world, illustrating how the onset of ageing could concentrate rather than dilute the gestalt* [appearance]."

To conclude, a more emotional engagement with fashion promotes *"better consumer self esteem, more knowledge about the design process, and a greater understanding about the psychological reasons behind our need to consume"* (Fletcher, 2009:25). These products, [such as the favourite pair of jeans] confirm the authenticity of a product and unpick a narrative to the "nature of its life" (Chapman, 2005:132). The importance of these narratives and stories connected to products (and also their longevity) on a route to a sustainable society are significant and are explained in the next section.

3.4.3 To cut a short story long

According to Birt (2006:11) people are disconnected from the origin of their products. They think food "comes" from supermarkets, instead of farms and soil, which makes it more difficult for people: *"to see the link between a healthy natural environment and the food they eat when the food comes pre-made in a plastic bag."* They do not see the story, the background of their possessions. According to Chapman (2005:120) stories "move societies further," they are inspiring, engaging and bring meaning to activities and the products interacted with. Chapman (2005:120-122) argues companies (and their marketing campaigns) have 'lost the ability' to tell and share true stories to their customers, as they have become superficial, repeating a catchy opening line over and over to a "disenchanted audience of non-participatory users, projecting us forth into a disposable realm of superfluous materialism."

According to Birt (2006:12) communicating backgrounds[6] in the form of storytelling, through disclosing a product's background and CSR (Corporate Social Responsibility), is a medium to promote transparency within a company or organisation.

Chapman (2005) believes people cannot intensively interact with products if there is no growth and no narrative in the products. Consumers are in need of *"steadily unfolding narratives map the particular development of human-object relationships, thus closing the gap between self and other to create a unified experience"* (Chapman, 2005:128). Moreover, he believes consumers add shape to the nature of narrative experiences 'by the very nature of interaction that occurs between two parties'. He continues by stating:

> *"with this form of design, the 'product' would be a fusion of psychological and external 'realities', … [and] the consumer takes the role of a co-creator of a story rather than passively witness the one-way product communication that we see nowadays" (Ibid.*).

Worldchanging.com (a non-profit media organisation, which contributes to solutions-based journalism about the planet's future) also advances in the significance of the "backstory" of products people use and buy. Alex Steffen (Worldchanging, 2005) clarifies "making visible the invisible" is a crucial approach of Worldchanging, revealing flows and systems of industries previously hidden in a new way presenting people, with a new form of reality of how the world actually functions. On the website, Worldchanging (2005) states:

> *A big part of making good choices involves knowing where things come from, what's inside them, and how they got to point of use. A focus on the back story takes us to the "cradle" stage of a product's lifecycle, where the entire rest of its life is determined. This is the stage where change towards sustainable practices must start, and the most powerful place from which to begin a redesign of the material world*

An excellent example of communicating the origin of products and illustrating flows of production previously invisible to the consumer, is *Background Stories* project by Arlene Birt. The project was part of the fulfilment of her Master's degree from Design Academy Eindhoven in The Netherlands, where she posed the question: *'How can we strategise radical transformation of food systems that facilitate action at different scales?*' Birt addresses this challenge by employing Background Stories which *"provide a foundation*

[6] 'Backgrounds' or 'back stories' reveal the product's upstream and downstream (production) impacts (Fuad-Luke, 2009:67).

for consumers to navigate products' social and environmental information at their own pace, or not at all" (Worldchanging, 2007)

The Background Stories serve as a tool to describe the life cycle of a product in a visual way with graphics, facts and captions in a storyline. Birt (2006) designs simple and accessible communication campaigns for edible products, focusing specifically on chocolate, illustrating the value chains from the raw cacao beans until the consumption of the chocolate bar (see Figure 3.5). Birt (*ibid.*) sees the communication of background stories as a learning tool for people that over time could change consumption patterns.

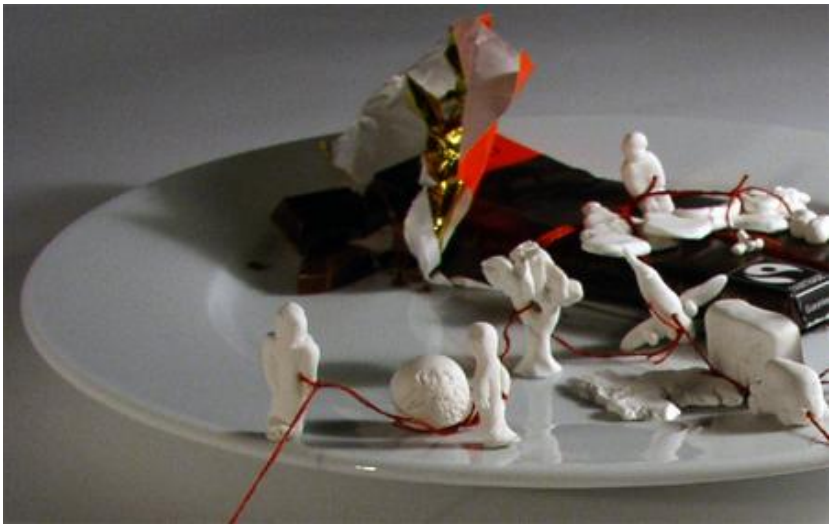


Figure 3.5: Processes in the production of chocolate (Source: Backgroundstories,n.d.)

On the website of Worldchanging (2007) she puts forward the idea that this framework is able to support product certification labels such as organic and Fair trade. Furthermore, in this way companies are able to back up claims by posting data on the website where the production flows of several products are shown. Figure 3.6 illustrates designs by Birt which she used in a workshop to research consumer awareness of food products and their origin.

Figure 3.6: Designs for fruit products awareness (Source: Backgroundstories, n.d.)

Icebreaker, an outdoor clothing company based in New Zealand and also the largest manufacturer of merino wool clothing in the world, has established the "*Baacode" Programme* as part of their ethical and environmentally sound manufacturing process. Every merino wool garment produced by Icebreaker includes a label with a code which the consumer can enter on the company's website to read about the product's back story (see Figure 3.7) .

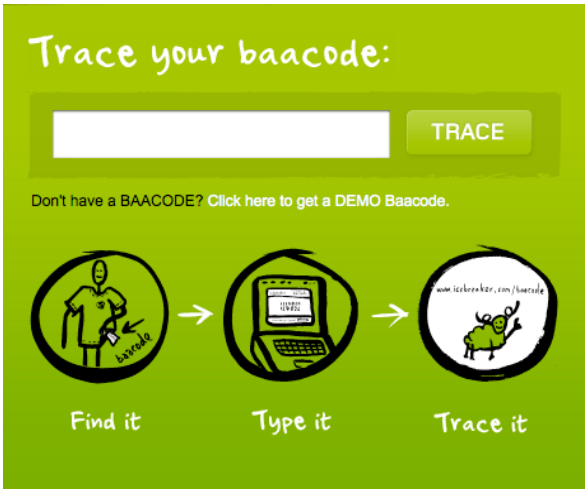


Figure 3.7: Trace your Baacode (source: Icebreaker, n.d.)

Icebreaker's website states: *"Your unique Baacode will let you see the living conditions of the high country sheep that produced the merino fibre in your Icebreaker garment, meet the*

farmers who are custodians of this astonishing landscape, and follow every step of the supply chain." Figure 3.8 illustrates examples of the Icebreaker product's origin.

Figure 3.8 Traced Icebreaker product (source: Icebreaker, n.d.)

Another example of a company using storytelling to create product awareness is the *Track My T system* of Anvil Knitwear (US). According Ecosalon (n.d.), Anvil Knitwear is a leader in the sustainable clothing industry and also has the sixth-largest organic programme in the world. The company has joined the Cotton Made in Africa project, the first North American clothing manufacturer in the initiative. The Track My T is an interactive website where Anvil "tells" the journey and environmental impact of a T-shirt, from raw cotton to consumer. The educational website, which specifically focuses on youth, allows for users to discover the cotton farms, gins, textile mill, etc via a unique tracking code printed in the care label of Anvil's T-shirts (see Figures 3.9 and 3.10).

Figure 3.9: Track my T showing the spinning process (source: Trackmytee, n.d.)

The Track My T website is interactive, including images, videos, certification, tips for environmental shirt care/washing, history/lesson plans and more. Anthony Corsano, Anvil's CEO says: *"Our goal in creating this site was not only to comply with industry requirements, but to turn it into an educational experience and teach about our footprint and ecological impact"* (Ecosalon, n.d).

Figure 3.10: Track my T showing the cotton farm (Source: Trackmyt, n.d.)

Another way to re-connect (and empower) consumers and their product is by making them active participants in the design processes.

3.4.4 Design WITH, FOR and BY society

Manzini and Jégou (2008:29) suggest design and designers have an ability to become a vehicle of social innovation, changing the way individuals and communities act by solving problems and/or introducing new opportunities. Wahl and Baxter (2008) and Suri (2004; in Niimäki, 2010) agree conversion to a more sustainable society should involve a process of inclusion and participatory dialogues of involved actors. Designers, as social players have to participate in peer-to-peer with these people (such as consumers and producers) to engender shared ideas and potential solutions more efficient and accessible. Their role is undertaking user research, visualising systems and structures and creating a shared language between involved to solve a problem (Thorpe, 2006:11).

The co-design movement distributes an idea users of designed products have a right to voice their opinion on how such products are designed. This interaction and participation aspires for a mutual (holistic) learning experience. As Maina and Bergevoet (2010:17) explain it: "*This paradigm shift sees the occupant and consumer playing a more prominent role in the culmination of a design intervention."* Therefore, this movement can be seen as inclusive, including people from varying cultures, ethnic, political and social backgrounds. Additionally, co-design can create a more transparent lifecycle of a product, therefore, potentially encouraging people to live more sustainably.

An example of design with, for and by society is the *"Design with the other 90 percent: Cities"* initiative developed by the United Nations. It exists out of a variety of projects initiated by designers in collaboration with the "users" or served communities. The developed solutions for the complex issues are carefully designed after a prolonged in-context immersion in order to create real change, and most essential; community empowerment (Core77, 2011). One project is the *Community Cooker,* designed by the architect Jim Archer in an informal settlement in Kibera, Kenya. There had been a growing concern about the increasing amount of discarded waist in Kenia, as well as the unhealthy, typical Kenian cooking methods. As an alternative the Community Cooker *"uses trash as fuel, burning at a high heat without toxic fumes. Simple, inexpensive, easily built and repaired by local communities, residents collect trash or pay a small fee in exchange for time cooking or distilling drinking water. (ibid.)"* This is an excellent example of a bottom-up initiative which also encourages social exchange within the community (see figure 3.11).

Figure 3.11: Residents utilising the Community Cooker (Source: Core77, 2011)

The British Design Council was the first to use "co-creation" (same as co-design) by reinventing public services (Thorpe, 2006:11). In the context of sustainable fashion Fletcher (2008 in Thorpe, 2006:11) reports several projects encouraging the participation of consumers in the design process: *"by cutting garments to fit, inventing with mix-n-match or unusually sized garments, or drawing with fabric pens on undergarments."*

Fuad-Luke (2009) argues workers (producers/manufacturers and more) are often forgotten in the process of co-design, whereas they are vital actors in encouraging sustainable production. *Connecting Lines* by Judith van de Boom (the Netherlands) is a project that includes factory workers in Jingdezhen (China) in workshops and poetry readings. As a designer (and thus facilitator) she aims to *"humanize processes and encourage collective intelligence to create a 'smart factory' where designers and employees co-create, co-design and co-make"* (Fuad-Luke, 2009:104-105).

Wahl and Baxter (2008:72) suggest sustainability involves widespread participation where communities (all over the world) should construct local, regional, and global visions of sustainability. In addition, Thorpe (2006:138) sees an opportunity for designers to become "community designers" who work in-context full-time, observing, participating and discussing how our material consumption could establish engagement. This type of designer " *breaks the one-way flow of visuality and allows for a much fuller discussion, at the local level, not only about what it should or could be with respect to human well-being."*

3.4.5 Localisation

The textile industry is known for its extensive disparities between different production processes. Textile products are transported several times, often through different countries, before reaching a consumer. It has been said the average T-shirt travels the equivalent distance of once around the world during its different production stages (Fletcher, 2008:139). To reduce the carbon footprint caused by this transportation, more and more companies have began producing locally, a movement referred to as "localisation". Although this is an appropriate first step, minimising the transport is only a part of the movement towards that aim according to Fletcher (2008:141).

"Localisation" is described by Fluxtrends.com as a movement of locally-produced and locally-sourced raw materials and goods. Fluxtrends (2009) states:

> *In a world that is seemingly ruled by globalization, mass production and 'cheapest of the cheapest', a growing number of consumers are seeking out the local, and thereby the authentic, the storied, the eco-friendly and the obscure. Localisation taps into the sense of familiarity, sense of community and the feeling of doing the right thing and a time when everything seems to be going wrong.*

Fletcher (2008:140) emphasises localisation is part of a remedy for unsustainable industries. She believes *"in small communities people see and sense the effects of their own actions on each other and the environment and are quicker to enjoy the benefits of change."*

Locally produced products keep sustainability in mind through job creation and of nearby resources. In addition, sustainable design experts such as John Thackara (In the Bubble, 2005) and Stuart Walker (Sustainable by Design, 2006), identify products produced locally as the "best products", creating awareness and job opportunities at neighbourhood level.

Many international companies and brands recognise this potential and have established, or are re-arranging, more locally orientated supply chains. A good example of companies with a localised supply chain in the fashion and textiles industry is *American Apparel* (biggest T-shirt manufacturer in the US). American Apparel has distanced itself from the criticism on companies ignoring negative labour and working conditions in their production chains (out of sight, out of mind) (Fletcher, 2008). The firm established a vertically integrated supply chain in "Downtown Los Angeles." On its company website, American Apparel (n.d.) states:

> *We believe that having manufacturing under the same roof as design, marketing, accounting, retail and distribution gives us the ability to quickly mobilize all departments, to respond directly*

to changes in the market, and to have complete visibility over our product - start to finish. An added bonus - this business model is inherently sustainable.

American Apparel pays above the US minimum wage and provides multiple staff benefits such as free English language classes, bus passes and company-subsidised lunches (Fletcher 2008:69). The company's website states that *"the average factory worker makes $12 to $14 dollars an hour – the highest pay worldwide for the manufacturing of apparel basics, and significantly more than California's minimum wage. For us, higher pay means heightened efficiency, a better and more consistent quality of work, stronger employee morale, and ultimately, retention rates of skilled operators. For them, higher pay is often a path to the American Dream for their families."*

Another, smaller-scale example of a company with a localised (and participatory) vision is the British *Grannies Inc*. The company describes itself on its website (n.d.) as:

an innovative business that opens the door for everyone out there who has always wanted homemade knitted accessories made with all the love of a grandmother... We [Grannies Inc.] believe in supporting the UK's knitting industry and want to reignite the nation's passion for handmade, ethically produced fashion. We are all about creating a connection between the customer and the knitter, who put time and loving care into turning their knitwear designs into reality.

Grannies Inc. allows for consumers to design (with help of templates on the Grannies Inc. website) their own knitwear accessories in different colours, styles and textures. There is also a pre-produced collection available. Once design is finalised, consumers can choose a granny they would like to make their product (see Figure 3.12). The material utilised for the knitwear accessories is a 100 percent locally spun merino wool yarn.

Figure 3.12: Knitters at Grannies Inc (Source: GranniesInc, n.d.)

The online trends forecaster Springwise, has identified multiple similar initiatives of 'knitting grannies' such as the Danish *Mormor*, the Swiss *Netgranny* and French *Golden Hook (Springwise, n.d.)*.

The South African trends forecaster Fluxtrends, has also identified "*local is lekker"* as a promising trend. According to Fluxtrends (n.d.), the localisation trend is particularly interesting as the country has one of the highest wealth gaps in the world, exhibiting two separate forms of consumerism (one with excessive spending power and another struggling to make ends meet). Furthermore, the localisation movement is driven by community building and an inherent human need to connect socially with one another. This is today where technology facilitates a significant part of human interaction instead of face-to-face interactions (Fluxtrends, n.d.). Fluxtrends has noticed a movement towards community-made, ethically sourced and fair trade products in South Africa which encourage communication of background stories. They furthermore state:

> *It [the localisation trend'] shows how brands are adapting to a shift at their consumer base that values the human element behind the nameless, faceless corporation. People want to connect with those human stories behind the brand, and they want to engage with the brand that they buy into in an authentic and conversational way, as they would a friend. Increasingly people are using the power of their purchases to express their activism on global issues (fluxtrends, nd,).*

3.4.6 Sharing and leasing products

Another significant method of establishing sustainable consumption patterns is revising the notion of "ownership". By for instance sharing products, as one product can fulfil different people's needs, according to Fletcher (2008). This sounds logical as people have been doing this for a long time borrowing clothes from siblings and friends, for instance. This approach of co-owning (or sharing) encourages creation or maintenance of relationships between people and uses fewer material resources. Another example is community ownership of a car (Thorpe, 2006).

Another initiative, Product-Service Systems (PSS) developed by Politecnico di Milano (a Design University in Italy), looks at ownership of products in a different way by offering services in addition to products. The products are owned only on a temporary basis, relieving the user from the "ownership duties" such as purchasing and maintenance. Manzini (in Thorpe, 2006:11) suggests people do not look for a product, but a result in specific instance. Instead of buying a drill, they want the hole that is created; instead of using a car, people

want to reach a certain location. PSS would potentially reduce the use of material resources and make more time available for people to meet needs in different ways (*ibid.*).

The Belmont (Australia) *Clothing Libraries* is an example of a Product Service System (which will be explained more in-depth in Chapter Four) where a service is offered to consumers who don't physically own it. The organisation offers more than 1500 fashion garments (for men and women) that may be borrowed, free, by unemployed people, so they can look smart for crucial job interviews (treehugger.com). Belmont also works with a men's retail chain (Worth's Menswear) *"who helped the library through a scheme whereby customers buying suits from its stores were offered a R200 trade-in on an old suit that had been dry-cleaned."* These suits were consequently donated to Clothing Libraries. Another initiative similar to Clothing Libraries is the *Maternity Clothes Library* from the UK. Pregnant women can borrow (for only R20) maternity clothing for the duration of their pregnancy. The initiative also encourages its customers to donate used pregnancy clothing when its use cycle has ended (Treehugger, 2008).

The above explored movements do not simply expect society to drastically decrease consumption (as this would influence our identity, status, participation in society and more), but recognise human well-being needs protection to move towards a sustainable production and consumption system

3.5 Summary

Chapter Three discussed the role of design and designers in the sustainable production and consumption paradigm. The review of the "re-connective" movements was just a small portion of all existing projects in the design field. An attempt was made to capture the strategies most relevant to this study. However, these are indications the fashion industry has begun a process of "cleaning itself up." The presented design concepts have a potential to create more sustainable consumption and production. They would work more effectively if multiple movements collaborated (such as background storytelling and localisation). Moreover, some strategies already have common characteristics (such as the slow movement and recycling, re-using and repairing). As Black (2008:243) states*: "there is not one 'right' answer to the seemingly insurmountable contradictions within fashion but multiple solutions to issues can be proposed which are appropriate to each level of action - by individuals, design teams, buying teams, corporate management, lobby groups, charities, education and government departments, nationally and internationally*."

In the end, sustainable fashion should nurture deep relationships between relevant players in a lifecycle of products and services. It should introduce new “rhythms of clothing”. Sustainable fashion should turn consumers from passive receivers to active contributors of products, raising their awareness for issues in the fashion industry and empower them (and others such as producers) to become activists towards a more sustainable society. Chapter Four discusses the conceptual and analytical frameworks utilised in this study.

CHAPTER FOUR
FRAMEWORKS CONSIDERED IN THE STUDY

4.1 Introduction

This chapter presents the development, concept and relevance of a series of cross-disciplinary frameworks employed in the study. The initial and principal theory which will be explored is *Design for Sustainability*. Accompanied by *Participatory Design* and *Activity Theory* these frameworks form the foundation for the proposed design strategies.

4.2 Design for Sustainability

Design for Sustainability (DfS) is employed as the conceptual framework in this study. A conceptual framework according to Maxwell (2005:33) informs the rest of the study with the aim to: *"to help you to assess and refine your goals, develop realistic and relevant research questions, select appropriate methods, and identify potential validity threats to your conclusions."* DfS enables the researcher to illustrate the relationships between different notions to be investigated and serves as a potential model to successfully achieve the research objectives.

DfS presents a new perspective for sustainable design practice focusing on the development of social equity, environmental stability and economic viability. Ezio Manzini describes Design for Sustainability as: *a strategic design activity that generates sets of products, services and knowledge that enable actors (persons, companies, communities and/or networks of persons) to achieve sustainable results in sustainable ways, i.e. adopting sustainable strategies* (INDACO-Politecnico di Milano, 2006).

The concept of DfS emerged in the 1960s when Packard (1963), Papanek (1971), Bonsiepe (1973), and Schumacher (1973) began to criticise modern and unsustainable development and suggested alternative, more sustainable initiatives (Manzini & Vezzoli, 2008). An illustration of the main elements in the DfS model is shown in Figure 4.1.

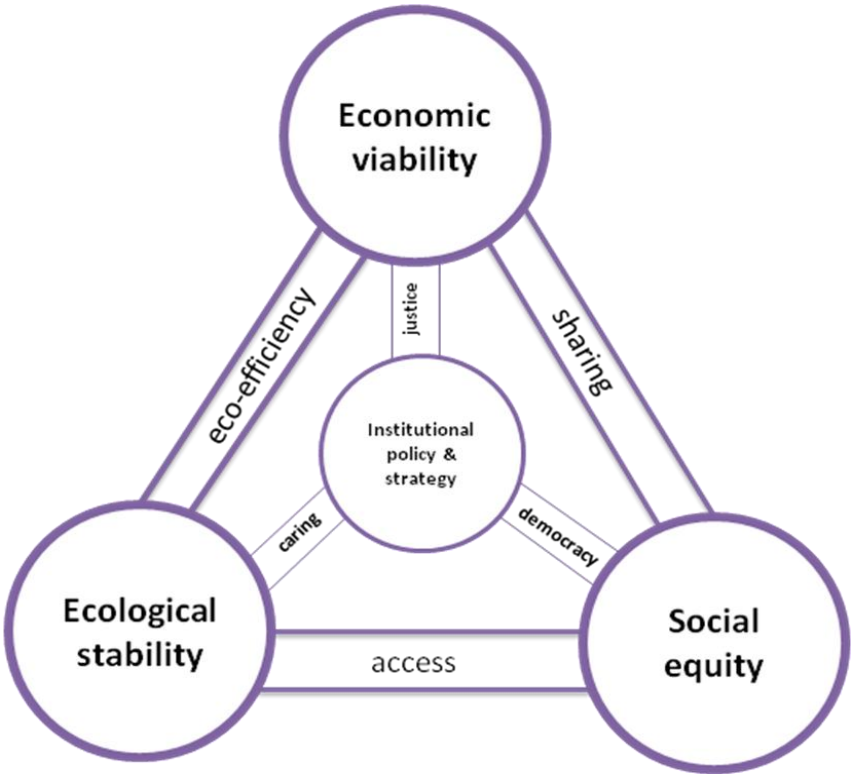


Figure 4.1: The three key elements of DfS (adapted from: Fuad-Luke, 2009)

The three interconnected dimensions of this model are clarified (according to Vezzoli, 2007:16) as:

- **Social equity** – same degree of "satisfaction" for future generations and the fairness in the distribution of the resources (or better satisfaction);
- **Ecological stability (chemical and physical)** – not to exceed the resilience of the biosphere-geosphere; that is an ability to absorb anthropic perturbations without provoking irreversible phenomena or degradation (effects such as global warming, ozone layer depletion, acidification, eutrophisation) and,
- **Economic viability** – same degree of "satisfaction" for future generations and the fairness in the distribution of the resources (or better satisfaction); The economic (and legislative) dimension: economically practicable solutions, in a more or less norms oriented market.

Proponents of DfS (such as Papanek, 1995) believe in an emerging and expanding vision of design; where the design of a product (an artefact, service or system) is connected to the broader spectrum, its lifecycle (the raw material production, manufacturing, use, reuse and discarding). Fletcher, Dewberry and Gogging (2001:1) see this as a holistic vision *"rather than on fragments of systems [and] can reduce overall impact and prevent shifting resource consumption between different lifecycle stages."*

The DfS model, in context of the South African Organic Cotton Project (SAOCP), is used as a lens for the promotion of organic cotton consumption. The SAOCP is consistent with the three core aspects of DfS; ecological stability, social equity and economic viability. Organic cotton farming improves ecological stability, it is cultivated without using any synthetic fertilisers and pesticides, resulting in less pollution of groundwater, rivers and the soil (NCPC, 2003) and less health risks for farmers. Through purchasing organic cotton products consumers can contribute to such environmentally friendly practices. South African organic cotton farmers' economic conditions could be improved by increased farm incomes (approximately 40% more per kilogram cotton) and increasing employment prospects facilitated by the sector (Schröder, 2010b). With regards to social equity, the organic cotton sector improves livelihoods of the farmers through creating a more profitable and healthy farming systems. In addition social improvements occurs through including farmers and consumers in the design process of the strategies, resulting in a democratised and mutually beneficial system.

In the bounds of the DfS model is the concept of PSS (in 4.2.1), offering a service in addition to products in the organic cotton production and consumption system to promote its consumption.

4.2.1 Product-Service Systems (PSS)

The United Nations Environment Programme (2002 in Vezzoli & Manzini, 2006:183) defines a Product-Service System (PSS) as: "The result of an innovative strategy that shifts the centre of business from the design and sale of (physical) products alone, to the offer of product and service systems that are together able to satisfy a particular demand". PSS is a concept within DfS, aiming at *system innovation.* Product-Service Systems encourage producing and consuming differently offering innovation beyond the utility. They are a combination of products and services which jointly aim to satisfy the same need of a user in a more inclusive manner (Vezzoli & Manzini, 2006).

The business offering the PSS, the *service provider*, satisfies the user's needs through *"providing more 'dematerialised' services, which are also often associated with changes in the ownership structure"* (Mont, 2002:240) and provide new forms of socialisation (Manzini, 2010:14). As an example, to fulfil the satisfaction of clean clothing, one needs a washing machine, detergent, water and electricity. Instead of buying a washing machine, people can take their clothing to a cleaning service company where it will be washed. This provides several advantages for the service provider as well as the client, meaning it utilises fewer

resources, has a lower overall cost, and initiates new interaction between players (UNEP 2002:7). Within the SAOCP the ownership structure will remain the same, however, new forms of socialisation are key in the promotion of organic cotton among South African consumers. The interrelationships between actors will be altered thoroughly. Vezzoli and Manzini (2008:185-186) state that PSS can possibly increase local employment and the strengthening of the local economy as it is a more labour -and relationship- intensive process, which is also the case in the SAOCP according to Schröder (2010b).

Manzini and Vezzoli (in UNEP 2002:5) point out that PSS is not necessarily a sustainable design solution. The concept of PSS has potential to develop sustainably, however, this will occur only when *"a PSS actually assists in re-orienting current unsustainable trends in production and consumption practices, that it can be referred to as a Sustainable Product-Service System."*

4.2.1.1 System Design for Sustainability (SDS)

Again, within the notion of PSS a sub-level is found to be relevant to the study. *System Design for Sustainability* (SDS), aims at achieving deeper relationships among key actors in the value chain of a product-service system. Carlo Vezzoli (2008) describes SDS as:

> *The design for eco-efficiency (and/or) social equity and cohesion of the system of products and services [PSS] that are together able to fulfil a particular demand of (customer) "satisfaction" [particularly] the innovation of the interaction of the stakeholders directly or indirectly linked to this "satisfaction system."*

SDS offers a new role to designers where the designer for sustainability is able to:

- To promote/facilitate new locally based "sustainable network enterprise;"
- to elaborate and/or co-elaborate orienting scenarios to build up partnership/ interaction between different stakeholders aiming at sustainable value production and;
- to facilitate participatory design among different stakeholders to define their relationships and offer systems (products, services, communication) (Manzini, 2005; Penin &Vezzoli, 2005; Vezzoli, 2006).

Figure 4.2 illustrates an example of a SDS scenario, a food delivery system ("Green Meal") where small-scale local food producers have built a partnership with local universities, hotels and restaurants. This innovative system of distribution promotes the establishment of new relationships and interactions among local actors in order to achieve more sustainable food chains.

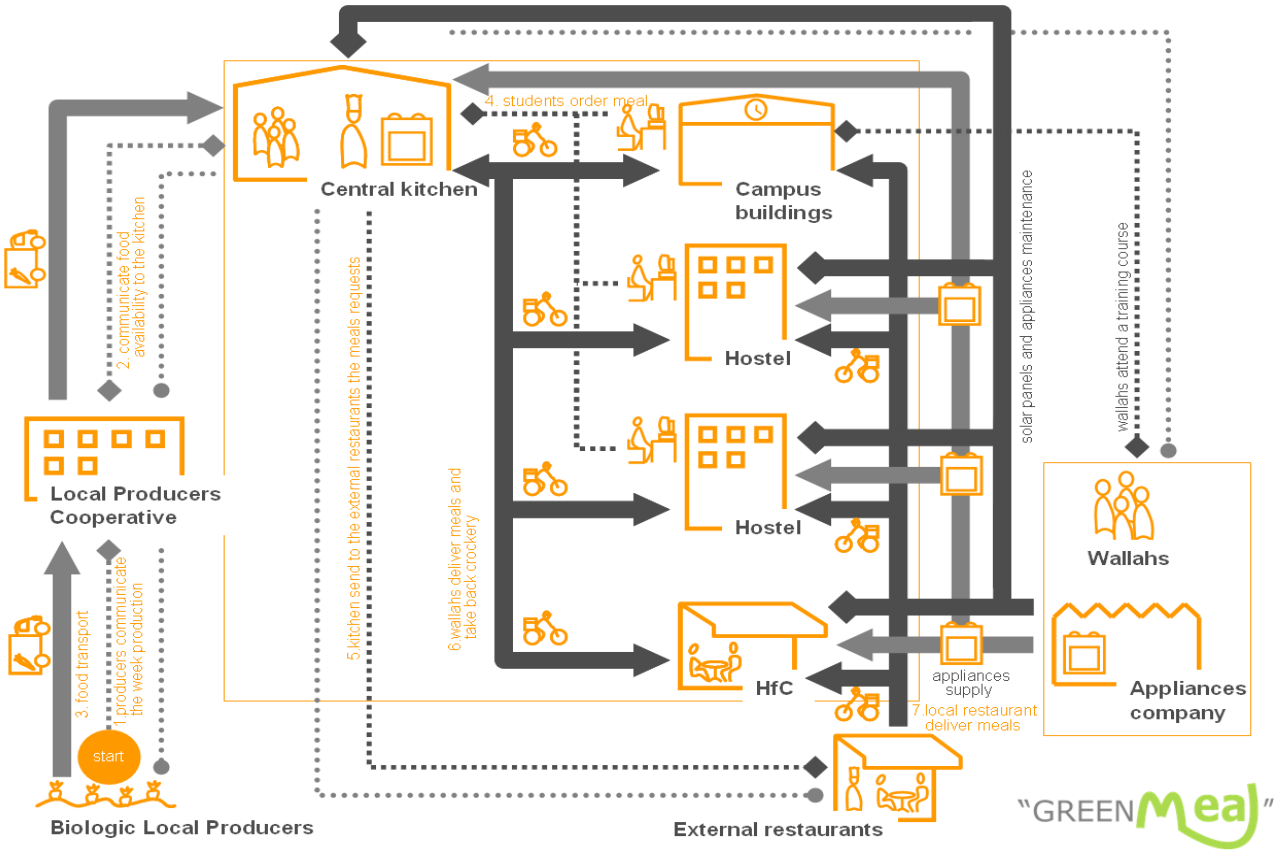


Figure 4.2: Stakeholder system map of Green Meal (source: Vezzoli, 2010)

The SDS is an appropriate concept for the SAOCP as it promotes empowerment and enhancement of local resources (organic cotton) by respecting local cultural identities and diversities (traditional tribal communities). It also adapts systems, stimulating natural and local source, including “weak persons” (small-scale farmers) in these systems (Vezzoli, 2008). SDS enables responsible and sustainable consumption by making the supply chain more transparent to all key players; providing learning experiences through educating them on sustainable behaviour and by involving the consumer (and others) in the design process of the PSS (*Vezzoli, 2008; Maina & Bergevoet, 2010*). This “re-connected” and more inclusive network of actors improves the effectiveness and efficiency within the system, enabling a creation of collaborative communities exchanging information. In this light, ‘the creation of innovative ways to solve problems and create cohesion and can be seen as a birth of social innovation’ (Manzini, 2004; Chapman & Gant, 2007; Maina & Bergevoet, 2010). Moreover, collaborations between a variety of actors in a system who jointly create solutions is defined as “solution oriented partnerships” (Morelli, 2007:1495).

4.3 Participatory Design

A complementary concept to DfS is *Participatory Design (PD).* The concept considers users/consumers, producers and other key actors in a system as (equal) active participants of a design process. PD pleads to democratise the, typically top-down, approach of decision-making (Schuler & Naimioka, 1993).

Participatory design was formed in the 1950s, and applied in co-determination laws in Scandinavia and US labour laws *"aimed at empowering workers to participate in decision-making in the workplace"* (Nieusma, D. 2004 in Fuad-Luke, 2009:148-150). According to Sanders and Van Patter (2004 in Fuad-Luke, 2009:148-150) PD is often used by researchers studying human-computer interaction as the approach in particular, assists systems' design. However, they also note a PD had been *"employed to artefacts and built environments generated by architectural and other design practice"* (*ibid.*).

PD practitioners believe all those affected by design or system have design knowledge, ability and right to bring about change in such a system (Futerman & M'Rithaa, 2007). These participant(s) involved in design solutions should be recognised as "co-designers", "co-creators" or "co-producers" (Ehn, 1988; Ehn *et al.*, 2002; Buxton, 2007; Moalosi, 2007; Vezzoli & Manzini, 2008; M'Rithaa, 2009).

Spinuzzi (2005:166) points out *"the goal [of PD] is not just to empirically understand the activity, but also to simultaneously envision, shape, and transcend it in ways the workers find to be positive".* He further indicated participatory researchers can be seen as *facilitators* endeavouring to empower those involved into making their own choices*(ibid.)*.

Many authors separate participation in PD as "participation as a means" and "participation as an end" (eg: Burkey, 1993; Cooke and Kothari, 2001; Dalay-Clayton *et al*., 2003; Kumar, 2002; Nelson and Wright, 1995; Oakley, 1991; Masanyiwa & Kinyashi, 2008). Kumar (in Masanyiwa & Kinyashi, 2008) presents an analysis of the differences between the two notions in Table 4.1.

Table 4.1 Participation "as a means" versus "as an end" (Adapted from: Kumar, 2002 in Masanyiwa & Kinyashi, 2008)

Participation as a means	Participation as an end
Implies the use of participation to achieve some predetermined goal or objective.	Attempts to empower people to participate in their own development more meaningfully.
Attempts to utilise existing resources in order to achieve the objective of programmes/ projects.	Attempts to ensure the increased role of people in development initiatives.
Emphasises achieving the objective rather than the act of participation itself.	Focuses on improving the ability of the people to participate rather than just achieving the predetermined objectives of the project.
Participation is generally short term.	Participation is a long term process.
Participation as a means, therefore, appears to be a passive form of participation.	Participation as an end is relatively more active and dynamic than participation as a means.

Participation as a means involves achieving pre-arranged objectives by passive processes (Burkey, 1993; Karl, 2000; Masanyiwa & Kinyashi, 2008) Participation as an end is perceived as *"the empowerment of individuals and communities in terms of acquiring skills, knowledge and experience, leading to greater self-reliance" (ibid.)*. Looking at the two notions from a viewpoint of the development of rural communities, Nelson and Wright (1995, in Masanyiwa & Kinyashi, 2008) argue that *"the extent of empowerment and achievement of the local population is more limited in 'participation as means' than it is in 'participation as an end'."* However, Masanyiwa and Kinyashi (2008:9) note the difference between the two forms of participation are not straightforward nor exclusive, but represent different ways to promote participatory development. This study aims at achieving *participation as an end* due to its similar beliefs and approach.

A similar movement to Participatory design is the African principle of *Ubuntu*, where participation "*enables a person to reaffirm their own personhood and humanness through interaction with, and contribution into other peoples' lives*" (M'Rithaa, 2009; Maina & Bergevoet, 2010:145) *Ubuntu* stands for "I am, because we are", it is a people-centred and inclusive spirit which is inherent in the African communities (*ibid.*). It assumes if we act as a collective we will change and benefit the society as a whole. M'Rithaa pointed out that the integration of *Ubuntu* into the design process adds the cultural dynamic into the artefacts (M'Rithaa, 2009). Therefore, when implementing co-design/participatory design in design

practice (in the South African context), *Ubuntu* can inform the quest for sustainable expressions of social equity and cohesion (Maina & Bergevoet, 2010:145).

In this study the researcher (taking on the role of a designer) aimed to facilitate empowerment of those involved in the South African Organic Cotton Project by including them in the creation of the design strategies, as co-designers. PD has mainly been utilised as a research method to engage actors such as designers, cotton farmers and consumers in constructing solutions. This has been accomplished through interviews, focus groups, a card game and in-context immersion which will be discussed in depth in Chapter Five.

4.4 Other concepts informing this study

Activity Theory has been utilised as an analytical lens in this study, allowing for an appropriate observation of interrelationships between the key actors in the case study. In this chapter activity theory will be clarified briefly, stating the fundamental aims of the concept and the way it has been transformed over the years. In Chapter Eight, a comprehensive description is given of the theory, applied in the context of this study.

Activity Theory is a conceptual framework based on the inter-relationships between a broad variety of actors, activities, operations, motives and goals and more, which collectively aims to influence an activity (Van Aalst & Hill, 2006). The first generation of activity theory was found by the Russian psychologist Lev Semyonovich Vygotsky in the 1920s and early 1930s and is also known as the cultural historical activity theory (CHAT) (Korpela *et al*., 2001; M'Rithaa, 2009). The initial AT created the idea of *mediation*; which was based on the concept human activities are established by mediating tools and/or signs (artefacts or instruments) (Van Aalst & Hill, 2006). Figure 4.3 illustrates the first generation of AT and its core elements.

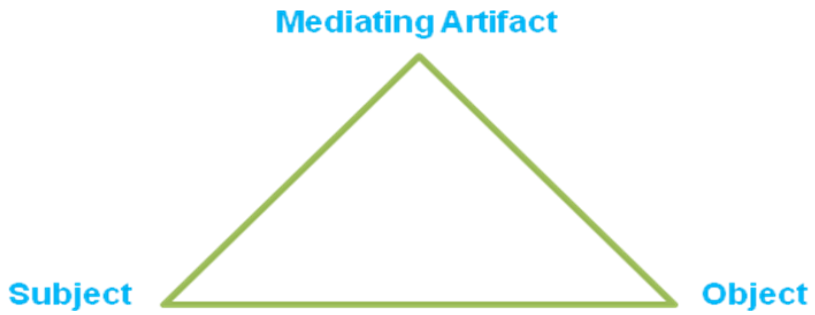


Figure 4.3: The first generation of Activity Theory (source: Vygotsky, 1981)

The three-core elements of the theory are the *subject*, *object* and *mediating artefacts*[7] which jointly create the *activity*. The subject is a person or a group of people engaged in an activity. An object (or "objective") is owned by the subject and encourages the activity. And finally, mediation takes place by the application of several "artefacts" (material or psychological tools) (Kozulin, 1986, p. xxiii-xxiv, M'Rithaa, 2009).

A second generation of AT was developed by Vygotsky's colleague Alexei Leont'ev. He designed a model where the interrelations between individual actions and societal activities were merged into a model of a collective *activity system* (Engeström, 2001:134-135). According to Engeström *(ibid.)* the limitation of the first generation of AT, where the individual was the centre in the unit of analysis, was overcome with the establishment of the second generation where social interaction and interrelations were included (illustrated in Figure 4.4). Leont'ev reconfigured the initial theory by adding several new elements (Engeström *et al*., 1990):

- The *subject:* the individual or group whose point of view is taken in the analysis of the activity;
- the *object* or *objective:* the target of the activity within the system;
- the *instruments:* the internal or external mediating artefacts that help to achieve the outcomes of the activity;
- the *community*: one or more people who share the objective with the subject;
- the *rules*: regulate actions and interactions within the activity system and;
- the *division or labour*: how tasks are divided horizontally between community members as well as referring to any vertical or hierarchical division of power and status.

[7] Whereas Vygotsky uses the word artifact, the researcher uses the word artefact in this thesis according to the British spelling.

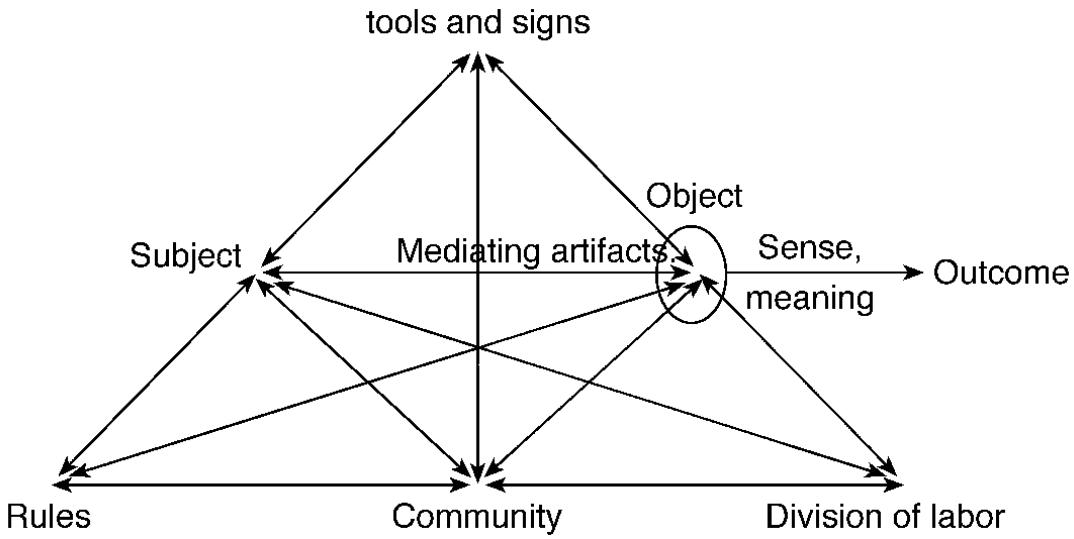


Figure 4.4 Second generation of Activity Theory (source: Engeström, 2001:135)

The activity system (illustrated in Figure 4.4) exists of three hierarchical processes steered by diverse individual and societal intentions. The highest level of the activity system represents actions by individuals and/or groups as part of a collective activity towards the realisation of an objective (Engeström, 2001:134-135). "It is a conscious activity and is driven by an object-related motive, such as the production of new knowledge" (Van Aalst & Hill, 2006). The middle level entails individual action driven by a specific conscious goal (Van Aalst & Hill, 2006:34). The lowest level in the hierarchy is an *"automated and not conscious concrete way of executing an action in accordance with the specific conditions surrounding the goal"*, or as Van Aalts & Hill (2006) call it 'automatic operations'. In other words, the second generation of AT is based on a collective activity being executed by people (individuals or groups). These people are motivated by the subject to solve an issue, which is then mediated by instruments (physical or psychological tools) aiming to realise a goal (outcome). The activity, shared by the broader community, is mediated by division of labour and limited by the rules. The three-level processes utilise operations, actions and activities, illustrated in Table 4.2.

Table 4.2: Leont'ev's Three-Level Model (source: Engeström *et al.*, 1990)

Unit	Directing Factors	Subject
Activity	Object / Objective	Collective
Action	Goal	Individual or group
Operation	Conditions	Non-conscious

As can be seen in the table, operations are directed by conditions at the non-conscious level of the subject, while actions are directed by goals at the individual or group level of the subject. Finally activities are guided by objects/motives at the collective level of the subject (M'Rithaa, 2009). This study mainly concentrates on the last two levels as the research involves group level activities.

AT has been applied in a variety of disciplines, from design to human-computer interaction and co-operative education. Korpela, Mursu, Soriyan, Hakkinen and Toivanen (2008) have constructed the *Activity Analysis and Development* (ActAD) from Engeström's model of mediation as a further enhancement of AT in the discipline of information systems (M'Rithaa, 2009). Figure 4.5 illustrates the ActAD model.

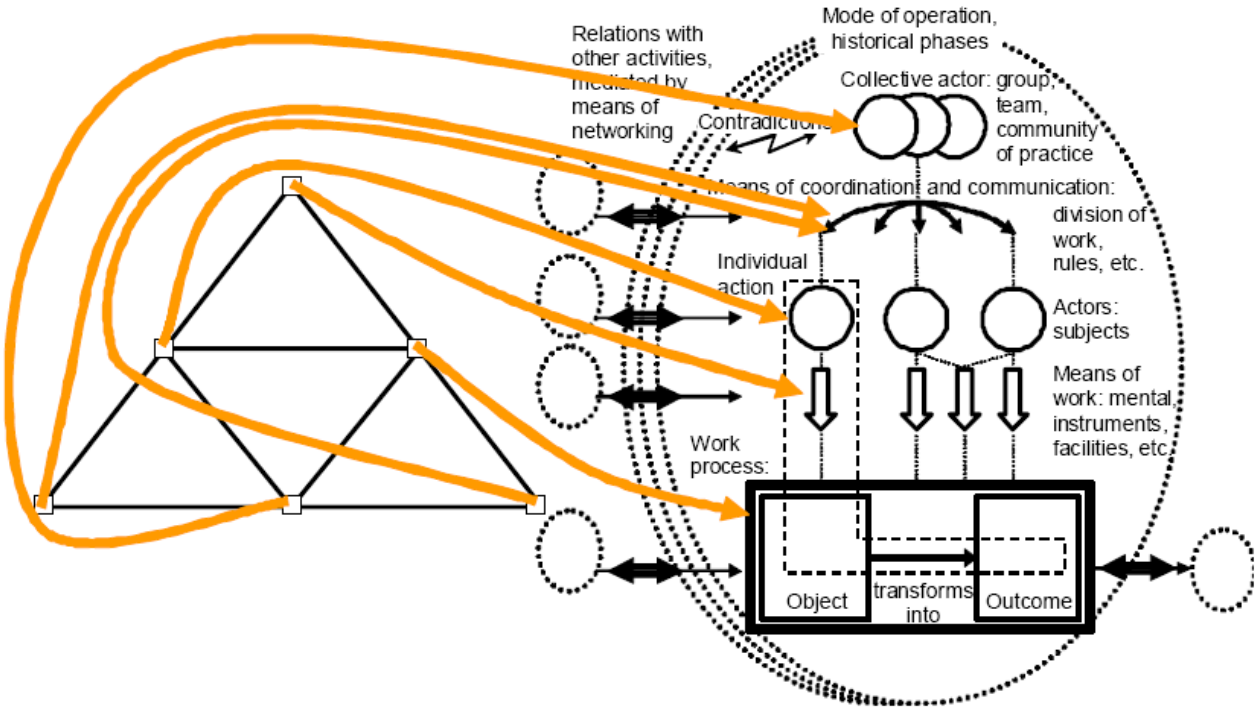


Figure 4.5: Collective work activity as a systemic entity (Source: M'Rithaa, 2009)

4.5 Summary

Chapter Four elaborated on the conceptual and analytical frameworks that are significant to this study. These frameworks contribute to a more inclusive, sustainable and humane model of societal interrelationships. Design for Sustainability (including PSS and SDS) forms the conceptual framework of this study. It has been found appropriate to guide the strategies as it facilitates advancement of sustainable practices, enhancement of local resources, and stakeholder innovation in systems. Participatory Design has been found suitable as it considers consumers, producers and others involved in a system as potential active

participants of a design process. Activity Theory is utilised as an analytical lens in this study to examine the dynamics of a number of actors in the SAOCP who share the objective of promoting organic cotton consumption in South Africa. Next, Chapter Five, examines the research methodology and design applied in the study to best answer the research questions.

CHAPTER FIVE

RESEARCH DESIGN AND METHODOLOGY

5.1 Introduction

This chapter introduces research design and provides a detailed overview of the research methodologies used for gathering data. The research instruments have been carefully developed according to the research questions, research objectives and the literature review findings. Primarily qualitative data collection methods have been employed. A description of the data analysis methods employed in the study is given and the chapter ends with the ethical procedures. Chapter Five's overall approach was designed to address the following research questions:

1. With reference to Design for Sustainability, how is organic cotton consumption currently promoted in South Africa?
2. To what extent do key actors within South Africa engage with concepts of sustainability with respect to fashion products?
3. In the South African context, how can the Design for Sustainability model promote the consumption of organic cotton?

5.2 Rationale for using qualitative research methodology

The nature of the study informed the decision of choosing between quantitative and qualitative research. Whereas quantitative research methods are designed to counter research questions in terms of numeric quantities which can be statistically analysed and displayed in tables and graphs (Wallace, 1984; Baum 1995), qualitative research according to Bannister *et al*. (1994:168) is:

> *attempt to capture the sense that lies within, and that structures what we say about what we do. It is an exploration, elaboration and systemisation of the significance of an identified phenomenon and the illuminative representation of meaning, of a delimited issue of a problem.*

Thus, qualitative researchers are concerned with gaining a deep understanding of social behaviour in its natural setting and what motivates such behaviour, from the participants' perspective. The researcher obtains the data with practical research methods (preferably

face-to-face contact, and prolonged immersion) which thereafter is analysed and displayed in narratives and themes (*ibid.*).

Babbie and Mouton (2010) define the following key aspects of qualitative research:

- Research is conducted in the natural setting of social actors;
- the focus of the research is on the process rather than the outcomes;
- the actors' perspective (the "insider" or "emic" view) is emphasised and;
- the primary aim is in-depth ("thick") descriptions and understanding of actions and events

This study fits into the qualitative research paradigm as this allows one to gain detailed, in-depth insight into issues explored and to understand the social interaction, dynamics and beliefs among the chosen participants in the case study. Holme and Solvang (2003,13) confirm this by identifying qualitative research as an appropriate tactic for the analysis and description of relational interactions between people, places and artefacts. Such insight permits a designer to better understand and empathise with a participant, which in turn can create more suitable strategies (Futerman, 2009).

The data in this study has been gathered as much as possible in a natural setting, such as in the cotton farmer community. Care was taken to investigate the research problem from the point of view of several vital groups in the SAOCP (predominantly the cotton farmers and consumers) as a solution aimed at solving a practical problem in their context.

5.3 Explanatory research

This research is explanatory in nature. Explanatory studies provide a reason for something to exist or occur, they ask "why" and "how" questions (Grey, 2009:36). In this study an attempt was made to understand the characteristics and exploration of the relationships between those in SAOCP and how through such relationships locally produced organic cotton consumption might be encouraged in South Africa.

5.4 Case study using participatory design

This study is based on case study research with the unit of the study being the SAOCP. Cresswell (2007 in Merriam 2009:43) clarified a case study research as:

> *A qualitative approach in which the investigator explores a bounded system (a case) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving multiple*

sources of information (e.g. observations, interviews, audiovisual material, and documents and reports), and reports a case description and case-based themes.

Merriam (2009:42) acknowledges a case study can be combined with other types as a unit of analysis (a bounded system) adds definition. The ethnographic and participatory methods, combined with study method: *"seek to involve users more deeply in the process as co-designers by empowering them to propose and generate design alternatives themselves"* (Jacko & Stephanidis, 2003:89). This study employed such an ethnographic and participatory position for the data collection within the identified farming community, where the researcher occupied an interactive role with its participants.

Another reason for choosing a case study for this research was that these *"do not attempt to eliminate what cannot be simplified. Thus, it is precisely because case study includes paradoxes and acknowledges that there are no simple answers, that it can and should qualify as the gold standard"* (Shield, 2007; Merriam, 2009:53). In addition, the purpose of the study was not to generalise the findings, but to receive in-depth information of a specific phenomenon, the SAOCP (Small & Uttal, 2005; Maree, 2007).

5.5 Research design

The research design was developed according to the literature review findings and research questions and objectives. Yin (1994) describes research design as the structuring logic connecting collected data, results and conclusions with the research questions to prevent clashing. Moreover, a research design functions as an instrument to systematically illustrate the process and interaction of all facets in a study.

This study's research design is divided into three phases (see Table 5.1) before arriving at the results and recommendations. The first is an orientating process with a main aim to familiarise the researcher with the case study. An extensive literature review focused on the unsustainable fashion industry and the role that fibres and design play in this. Next several interviews with experts and a focus group with farmers were undertaken to become acquainted with the case study and to explore the researcher's potential role. Finally, a pilot questionnaire was designed to obtain data on the perceptions and beliefs of South African consumers with respect to organic cotton and related concepts.

The second phase of the study involved an in-depth literature study on sustainable fashion strategies and related theories and frameworks. An extensive field study was carried out in situ (Mpumalanga and Limpopo Province) of the cotton farmers (through an in-context

immersion) and the pilot questionnaire tested on a group of fashion and surface design students at the Cape Peninsula University of Technology, in Cape Town. This questionnaire was adjusted and administrated to consumers. Towards the end of phase 2 the first concepts of possible design strategies were created.

In the final phase of the study, phase 3, several expert-interviews were conducted for in-depth discussion of the concepts of design strategies and to explore further techniques of promotion of organic cotton in South Africa. The consumers' questionnaire were analysed and a focus group with designers was carried discussing the design strategies. After transcribing and analysing results from all obtained data the design strategies were refined.

Table 5.1 Research design (authors construct)

Step 1 Familiarisation with the case study	Step 2 Emergence of Design Strategies	Step 3 Refinement of Design Strategies
•Literature review; familiarisation sustainability cotton industry, the role of designers. •Familiarisation with theoretical and conceptual design theories •Individual interview Cotton SA •Focus group small-scale farmers •Interview commercial-scale farmer •Consumer survey; testing pilot study	•Literature review; emphasis on design interventions •Focus group and individual interviews small-scale farmers •In-context immersion / observation farming community •Individual interviews small-scale farmers •Consumer survey; administration actual survey	•Focus group designers •Interview No KAK! •Interview Cotton SA •Interview Woolworths

Next, paradigmatic assumptions in the study need to be considered to clarify the researcher's understanding of the "world". Hitchcock and Hughes (in Maree, 2007:31) suggest consideration of the following lenses:

1. *Ontological* assumptions (which give rise to).
2. *Epistemological* assumptions (which give rise to).
3. *Methodological* considerations (which in turn give rise to e.g., instrumentation and data analysis).

Table 5.2 illustrates the diverse paradigmatic assumption and perspectives that could be utilised in research (Maree, 2007:33).

Table 5.2: Delineation of paradigmatic assumptions and perspectives (source: Maree, 2007)

Ontological dimensions	Epistemological dimensions	Nature of relationship between researcher and what is being studied
Realist stance: external reality is stable; general laws govern universe	Positivist (modern)	Researcher is an objective, detached observer
Nominalist stance: informant's internal and subjective experiences are important	Interpretevist (postmodern)	Researcher is empathetically and (inter) subjectively immersed in the research
Reality is constructed by persons: researchers need to analyse the informants' discourses	Constructivist (postmodern)	Researcher is suspicious of object of study: political understones can be identified; constructs own version of events

For this study a nominalist ontological stance was used where the researcher's knowledge base originated from an interpretivist epistemology; and an empathetic and subjective immersion of the researcher in the study. The chosen dimensions are clarified in the following sub-headings.

5.6 Ontological assumptions

Ontological assumptions are one's basic assumptions about the nature of social reality. In this study an interpretivist (nominalist) ontological perspective was adopted. The interpretivist ontological perspective identifies social reality as a multiple, emergent and shifting phenomenon, constantly produced and reconsidered by people's behaviour, beliefs and words (Descombe, 2010).

According to Descombe (2010:122-123) in interpretivist research *"observations and explanations of the social world are inevitably coloured by expectations and predispositions that are brought to the research and by the language which mediates what is known through observation*." As a researcher in this study it was believed reality is formed by internal experiences during the study's empirical stages where the researcher interacted with several players. The researcher believes reality to be multiple and emerging and discovered this in specific during the ethnographic part of the study, as the cotton farmers, while being immersed in their community, were closely observed.

5.7 Epistemological assumptions

Epistemology refers to ways people develop and validate their knowledge about themselves and the world around them. The interpretivist epistemological position adopted in this study assumes *"the meaning of human action is inherent in that action, and that the task of the inquirer is to unearth that meaning"* (Schwandt, 2001:134). Throughout the research, data has mainly been collected in a qualitative manner, which is inherent to the interpretivist epistemology, and *"aims at understanding the meaning of human action"* Schwandt (2001:213). Epistemology relates to how truth and reality can be known. This study predominantly sits within an interpretivist paradigm, adopting a more subjective participatory role, while also making some reference to constructivist thinking.

5.8 Inductive approach

In this study a largely emergent, explanatory, and inductive approach has been used, meaning one arrives at conclusions based on observations, instead of formulating existing hypothesis or theory at the beginning of a study (which is the case with deductive reasoning). Babbie and Mouton (2010:282) find an inductive approach in qualitative studies appropriate, stating:

> *The qualitative researcher begins with an immersion in the natural setting, describing events as accurately as possible, as they occur or have occurred, and slowly but surely building second-order constructs, a hypothesis and ultimately a theory that will make sense of the observations*.

The research process was begun with collecting literature and raw empirical data; these two methods assisted the researcher to obtain first-hand knowledge into the research problem which cannot be answered by theories. Thereafter, patterns and relationships were identified from the observed data, followed by the formulation of general assumptions to guide further data collection processes. Finally, after the emergence of data saturation, the conclusions and theories were compared with existing theories to establish fresh concepts. The process of data gathering was mostly an intuitive process.

5.9 Applied social research

This study pursues the applied research course as opposed to pure research. Whereas pure research is designed to test existing theoretical models that do not actually have to be employed, the applied research method examines real-world problems and models or theories developed through social research which can be "applied" instantly in a real-life context (Fielding & Lee, 1998). The objective of applied research is to *"illuminate a societal concern, whilst simultaneously understanding the nature and sources of the specific societal*

concern, in addition to contributing knowledge that will help society understand, intervene and resolve the nature of these problems" (Patton, 2002:213, 217, 224). The design strategies arising from this study attempt to culminate awareness of different actors involved in the case study and will be able to be applied immediately in practice to resolve and unravel the issues presented here.

5.10 Methodological considerations

A participatory methodological approach was selected by the researcher as it encouraged participation of the people involved in the study. As Bless, Higson-Smith and Kagee explain it: *"[participatory research] empowers the people to be involved in all aspects of a project, including the planning an implementation of the research and any solutions that emerge from the research* (Bless *et al.*, 2006:65)." The authors (*ibid*.) argue participatory research in addition serves as an instrument for social change and encourages the increase of the human knowledge. The research methods employed in this study (see data collection sub-heading) investigate individual and collective meaning, perceptions, and state of awareness of the research problem presented in this thesis.

5.10.1 Data collection methods

The data collection methodology includes a series of methods, such as the literature analysis, surveys, case studies, and interviews with experts in the field of study, in order to provide a complete view and a range of perspectives in the research study and to validate and cross-check findings (Merriam, 2009). This methodology exists in two types of data collection. The first is a theoretical one, investigating literature in context of the research problem and its background in depth. A second is an empirical type of data collection providing a framework of perceptions/believes/patterns, to guide the design of the strategies in this study. To collect these perceptions/believes, Yates (2004:155) believes methods such as focus group discussions, observations and in-depth interviews to be appropriate.

This study considers a variety of qualitative (and one quantitative) methods to assist the investigation of the issues presented:

- Review of available and relevant literature.
- Observation.
- Survey using questionnaires.
- Focus group discussions.
- Interviews.

The implemented research methods are clarified and put in this study's context under the sub-headings 5.10.1.1 to 5.10.1.5.

5.10.1.1 Literature review

An ongoing literature review (a secondary form of data inquiry) was conducted as part of the exploratory part of the research. This part of data collection extensively explored the area of the research problem. All essential and available literature was examined and provided an informed understanding of the context of the global and local organic cotton industry, consumers' perception of organic lifestyles and the applicability of different theories in context of sustainable design. The document survey allowed for appropriate questions to be formulated for the empirical part of the research. The following relevant literature was consulted:

- Books;
- Academic journals;
- Internet-based resources;
- Databases;
- Conference proceedings and;
- Government communications and legislation.

In the first phase of the research, the literature review focused on several topics, such as the exploration of the South African fashion and textiles industry, sustainable trends in the fashion industry on a global and local level and the influence that design had on the sustainability of a product. During the second phase of the research, the literature review focused on initiatives and projects in the fashion and other relevant industries that was to increase the sustainability of their products and services.

5.10.1.2 Semi-structured individual interviews

Interviews are a valuable way of gathering a full range and depth of information. Babbie and Mouton (2010:289) state that in a qualitative interview the researcher and the interviewee interact in a open way, where the researcher has a general interview script but not a specific set of structured questions that must be asked in a particular manner. This type of interview is recognised as a semi-structured interview and has been specifically selected in this study. According to Henn, Weinstein and Foard (2009:187), the essential purpose of semi-structured interviews is to capture the interviewees' opinions and beliefs rather than about what the researcher is concerned. The authors later on describe this type of interview could *"uncover issues and concerns of researcher that they themselves had perhaps not previously*

thought of, or had little knowledge of or understanding about (Henn, Weinstein & Foard, 2009:188)."

A semi-structured interview script was used to guide the interview to the discussion of the research problem, however, it gave the openness for questions to arise naturally and the possibility for a in-depth discussion. The general script included:

- The objective of the interview;
- the topic areas to be explored in that specific interview and;
- a rough draft of questions to be raised during the interview.

All interviews were carried out either at the respondent's work place or home environment, except for the expert interview with Ms. Janine Johnston (which was carried out via e-mail interaction). These in-context interviews aimed at making the participant feel more at ease and allowed the researcher to perceive the respondents' daily habitats. All participants received the study's explanatory statement and consent form as a part of ethical practices (see Appendix A and B).

After completing an individual interview, data was instantly analysed in order to inform the researcher of the aims and content of the next interview or other form of data collection, repeating this until it was possible to construct (part of) the design of the interventions.

The overall objectives of the interviews were to:

- Identify specific issues and needs in the context of the local organic cotton value chain.
- Understand the social circumstances of several key informants.
- Determine the most effective approach for implementing design interventions to promote the use of organic cotton and to identify which factors needed to be considered for developing such strategies.

Semi-structured interviews and in-depth discussions were carried out with key informants, such as the identified group of organic cotton farmers, Cotton South Africa (board) and a group of South African consumers. Next follows a description of all key informants interviewed in this study and the reasons for interviewing them.

Small-scale organic cotton farmers: Individual interviews were carried out with small-scale organic cotton farmers involved in the SAOCP. The interviews took place on April the 27th, 28th in 2010 in the Mpumalanga Province, South Africa. Six men and six women were interviewed, interviews lasted between 10 and 15 minutes and were recorded. One farmer

(Farmer Kutumela) was interviewed twice and for a longer period as the researcher was staying with him and his family during the in-context immersion, which allowed more time for interviewing. An interpreter was present at all the small-scale farmers interview sessions, to translate the English interview into the participants' first language, SiTshwane. This was to overcome the language barrier and established trust and familiarity between the researcher and the interviewees and aimed to make farmers feel more comfortable.

Individual interviews with the small-scale farmers aimed at understanding their opinions and experiences with being involved in the organic cotton project. Another aim was to establish farmer profiles (asking about the history, family, and businesses situation) from all farmers involved in the project, to be able to empathise with their backgrounds and use them as part of the strategies. Another aim of the individual interviews was to afford them an opportunity to share individual opinions in private.

Commercial-scale organic cotton farmer: Two interviews were conducted with a commercial-scale organic cotton farmer (male) involved in the SAOCP. The interviews took place on March 5th and April 28th in 2010 in Limpopo Province. Both interviews lasted between a half-an-hour and 50 minutes and were recorded. The aim of the first interview was to understand the farmer's opinion and experience with organic cotton farming. Another aim was to establish the farmer profile, to have a better understanding of his background and possibly use the profile as part of the design strategies. Moreover, the researcher wished to learn if and what kind of connections existed within the small-scale organic cotton farmers set up.

A number of industry professionals were contacted for face-to-face interviews, to gather more in-depth knowledge into key issues in this study and to expand on the topics covered in the farmer interviews and the consumer questionnaire (to be discussed in sub-heading 5.10.1.5). The expert interviews contributed to a different type of knowledge, as these professionals were part of different stages in the production chain. The knowledge obtained from the interviews was used to strengthen the development of the design interventions.

Expert Interview with Woolworths: Woolworths is a multinational retail chain group and has served as the only point of sales of the clothing range resulting from the SAOCP. One of Woolworths' employees was interviewed to gain a full range and depth of information about the project from a retailer point of view. The interview took place on August 23rd 2010 and lasted about a half-an-hour and was recorded. Rebecca Wallis works in the marketing division of Woolworths and is involved in marketing and public relations (PR) activities in the

context of the organic cotton project. The main aim was to obtain in-depth information about marketing/PR strategies for the organic cotton pilot project. Another aim was to discover how the campaign was received in sphere of Woolworths' customers.

Expert interviews with Cotton South Africa: Cotton South Africa is the facilitating company on farming level in the organic cotton pilot project. They provide most farmer training, carry out the quality control of the cotton and assist the project up to the spinning process of the cotton. Hein Schröder, quality control manager of Cotton SA, was interviewed twice; in April 29th and October 28th 2010. The interviews lasted between a half-an-hour and an hour and were recorded. The first interview served as an introduction for the case study. A second official interview served as a feedback session on the created (concept) design interventions, Schröder provided opinion on the interventions and made suggestions for improvement and new ideas. Apart from these official individual interviews, several informal discussions were carried out, while on the way to the cotton farms; notes only were taken.

Expert interview with No Kak!: The interview took place on October 19th 2010. The e-mailed interview was supposed to be carried out in a semi-structured way, however, because technical problems the interview was changed to a more structured manner by e-mailing the interview questions and consent form to Ms Johnston. Janine Johnston is the chairperson of No Kak!, a design competition (Funded by DANIDA) aimed to raise environmental awareness among textile and fashion design students and entrepreneurs in South Africa. Participants in the competition are encouraged to use natural and organic materials – produced without chemicals, certified where possible. The aims of the interview are:

- To become familiarised with the No Kak! competition and its policy towards sustainable materials and manufacturing techniques;
- to obtain information on sustainable production and consumption in South Africa, as there was insufficient knowledge on this topic (shown in the literature review, chapter 2). No Kak! has been active in educating both consumer and designer about sustainable options in the fashion industry for several years and;
- To discuss Ms. Johnston's view on how best to encourage future sustainable fashion consumption.

5.10.1.3 In-context immersion and the Human Centered Design toolkit

As mentioned in heading 5.2, qualitative researchers are keen to gain a deep understanding of social behaviour in its natural setting. This particular research studied the 'natives' point of view in a natural setting in order to understand the farmers' daily life, and opinions and experiences with organic farming. According to the Human-Centered Design toolkit, *"meeting*

people where they live, work, and socialise and immersing yourself in their context reveals new insights and unexpected opportunities" (IDEO, n.d.:32). The Human-Centered Design (HCD) toolkit is created by IDEO (a design and innovation consultancy) offering techniques, methods, tips, and worksheets to guide community-based research. The toolkit *"gives voice to communities and allows their desires to guide the creation and implementation of solutions* (IDEO, n.d.:4)". This toolkit has been used as a guideline during the in-context immersion in the small-scale cotton farming community. It suggests products and services work best when the designers understand the people for who they are designing (on an intellectual and experiential level). Being "in-context" represents gaining true empathy with the context and seeing the world in a new way from the viewpoint of those under investigation being in their real settings and doing the things they normally do. With the gained understanding of the community under study, the designer (as researcher) can make decisions with their perspectives in mind (IDEO, n.d.).

The in-context immersion and observations were conducted from April 26th until May 1st in 2010 in Nokaneng, Mpumalanga Province. The in-context approach of a "family homestay" was used, the researcher stayed with a cotton farmer's family (Farmer Kutumela) for several nights in order allow the family gain confidence with the researcher. This facilitated a greater in-depth inquiry and observation (of a part) of the community's social interactions. During the in-context immersion the individual interviews and one focus group (where the value chain card game was introduced) have been conducted.

Henn, Weinstein and Foard (2009:196) state *"apart from in-depth interviewing and focus groups, the other major method that is used by qualitative researchers is ethnography – study through the observation of institutions, cultures and customs".* Observation of the small-scale farmer community allowed the researcher to gain an in-depth insight into the community's cultural background, organisational and political structure and behavioural actions.

Terre Blanche, Durrheim and Painter (2006:308) argue *"because the interpretive approach emphasises studying phenomena in a naturalistic way, observation most often takes the form of participant observation, where you as researcher become fully involved in the setting being studied."* During the days of immersion, the researcher joined farmers in their daily activities, such as scouting the fields, picking and categorising cotton, and participated in these processes. During most of the observational time, there was interaction with the community in an informal manner, using unstructured observation. Different aspects in the community were observed, such as interaction among the organic cotton farmers (and

conventional cotton farmers) and the daily activities. Journaling and photography (illustrated in Chapter Six and Appendix E) were used to record observations, as well as to follow changes in the participants' behaviour and feelings. Journaling provides an extensive description of the researcher's own experiences, observations and is seen as a continuing research tool in a study. Notes were made after the interaction only in order to keep the contact with the community as natural as possible and make the farmers feel at ease.

5.10.1.4 Focus group interviews

According to Flick (2006:191) *"group discussions correspond to the way in which opinions are produced, expressed, and exchanged in everyday life."* Focus groups provide a means of gathering qualitative data from a group of participants, preferably with some substantial knowledge of the topic of discussion (Krueger, 1994:48). The central purpose of the focus group discussion was to collect data accurately reflecting respondent's thoughts, feelings and opinions. During a focus group discussion the researcher stimulated discussion among the participants and can possibly reveal unexpected facts and reactions. Focus group discussions were found to be appropriate for this study, as they endorsed a different type of interview dynamic, where individual participants, based on engagement with one another could clarify opinions and views on the topic of discussion and could encourage colleagues to speak their minds.

The sampling method in the focus group was purposive wherein participants were handpicked to make sure they had sufficient knowledge (in the researcher's judgment) of the research topic (Webb, 2002). Ary *et al.* (1990:127), Kinnear and Taylor (1996:84) and Williams (2003:95) agree with Webb that by applying a purposive sampling the researcher establishes a sample that suits the specific needs of the study being performed. Focus group interviews are typically based on homogeneous groups which considerable knowledge of the topic of the discussion (Krueger 1994:48).

As the moderator this researcher attempted to facilitate and encourage a deep discussion on the topics presented during interviews. Some participants needed encouraging to engage more in conversation, however the participants were under no pressure to agree on topics and were free to express themselves in any way they wished (also in non-verbal ways such as drawing)

Focus group with small scale cotton farmers: *First group interview with smalls-scale cotton farmers*: The first group interview with the small-scale organic cotton farmers was intended to introduce the research (and its objectives) to the farmers, to obtain their consent to participate and to obtain a brief overview of their involvement and experience in terms of the SAOCP. This was an important meeting as farmers had to be made to feel at ease with the presence of an "outsider" in their community. An interpreter and Mr Schröder from Cotton South Africa were present at this group discussion to assist in the introduction of the study. The focus group took place on March 4th in 2010, fourteen farmers were present; 11 men and 3 women. The focus group took place in Nokaneng, a village in the Mpumalanga Province, South Africa. Figure 5.1 shows some of the farmers present at the first focus group.

Figure 5.1: First meeting with the small-scale cotton farmers

Second group interview with small-scale cotton farmers: nine participants, six farmers (one conventional cotton farmer), the chief of the village, the extension officer and his assistant.
Flick (2006:193) encourages the use of text, images, and other visible tools to stimulate discussion, or to guide, the topic dealt with in the focus group. The researcher created a card game called the *Value Chain Card Game* to encourage an in-depth discussion during the second focus group interview with the farmers. Another aim was to identify to which extent farmers were aware of cotton's lifecycle. The cards in the game illustrated pictures and names of different phases in the cotton production supply chain. The participants in the game were supposed to place all cards in the right order, from the beginning (raw production) up until the end process (consumption) of the cotton lifecycle. The game allowed the researcher to identify knowledge gaps of participants concerning the life cycle and supply chain of cotton and could be implemented in the design of the study's strategies. The *Value Chain Card Game* will be further discussed in Chapter Six. By integrating participatory design methods

(such as the card game) the research allowed for participants' inclusion where they are seen as co-producers of the design strategies. Moreover, by applying these methods the design research could be seen as a facilitator for social innovation and environmental stewardship.

Focus group with Fashion and Surface Designers: The focus group with the BTech Fashion and Surface Design students was held in September 30th 2010 at CPUT as part of a formal lecture. About 10 students participated in this discussion; all were women. These students were important because they were in their last year of studying and would soon become the new generation of designers.

The aim of the focus group was to present and discuss the concepts of design strategies. This study's concepts of the design strategies were first presented as a PowerPoint presentation. Besides introducing the promotional concepts, an overview of the in-context immersion carried out in Mpumalanga was given. This was to give participants background information on this study. The *Value Chain Card Game* was visualised in the presentation and discussed with the focus group to obtain a general idea of their awareness of the cotton value chain. Feedback from the design students on the design strategies, included their opinions, suggestions and new ideas to incorporate in the refined concepts.

5.10.1.5 Questionnaire

The questionnaire was a valuable method of data collection in this study. It is an appropriate method to attain information in a systematic manner about variables often not easy to observe, such as attitudes and intentions (Hutsvedt, 2006). Furthermore, the questionnaire was a quick method in obtaining primary information from the participants in a non-threatening way. The main reason for employing a questionnaire was to address research question two; to determine the level of familiarity, engagement and intention for purchase among South African consumers to concepts of organic–related fashion products in particular. The study's research objectives were to analyse consumer preferences for apparel products produced from organic cotton, as well as to contribute to the understanding of a socially responsible consumer by modelling aspects of the formation of behavioural intention to buy such products.

The questionnaire construct was based on a survey designed for a PhD thesis by Gwendolyn Hutsvedt, of Kansas State University called *"Consumer Preferences for Blended Organic Cotton Apparel".* Approval to use this instrument in this study was given by Hudsvedt. The questionnaire was designed and adapted to a South African context of the consultation with the supervisors of the project and been divided into four sections:

- General questions about the consumer (demographics);
- familiarity with organic cotton-related products;
- opinions regarding organic cotton products and;
- interest in interaction with cotton farmers.

All questions focused on measuring the following variables: General attitudes toward purchasing organic cotton apparel, future purchase intention, scepticism of environmental product claims, environmental/ethical self-identity, personal norm for environmental/ethical consumer behaviour, and demographics (Hutsvedt, G, 2006).

A pilot test was conducted with 12 participants (4th year Fashion and Surface Design students), to evaluate the questions' format and suitability. The pilot questionnaire comprised 25 questions. In the final questionnaire, another question (Q.4) and a sub-question were added.

The questionnaire consisting of both closed and open-ended questions, was used to gather qualitative information in respect to the study (Denzin & Lincoln, 2005). Including open questions was important as it allowed respondents to answer in their own words without being constrained by a fixed set of possible answers. Respondents were allowed to write anything they wished as an answer, as long as it was as honest as possible. The closed questions were of importance to determine consumer themes, patterns of behaviour and attitudes. The questionnaire employed scaled questions according to the five-fold Likert-Scale classification. The answers were graded from 1 to 5, with 5 indicating 'strongly agree'; 4 'agree'; 3 'neither agree nor disagree'; 2 'disagree'; 1 'strongly disagree'.

The methods of analysis of the questionnaires included coding. The questionnaire itself was coded, as well as all the answers – for example ID01, with ID- standing for Industrial Design, 1- for the first questionnaire analysed. Figure 5.3 represents a small part of the coded questionnaire.

Table 5.3: Coded responses questionnaire

			GD01	GD02	GD03	GD04
Q. 17		a	5	5	5	5
		b	5	5	5	4
		c	5	5	5	5
		d	4	5	3	4
		e	4	5	4	3
		f	4	4	4	3
		g	5	4	3	2
		h	4	4	3	3
		i	3	2	2	3
		j	5	3	3	3
		k	4	3	2	3
		l	5	3	3	4
		m	4	2	3	3

Sampling was developed in accordance with the literature review findings, research question, and the research instrument. Apart from practical considerations such as time and financial constraints, sampling methods were in agreement with the author's interpretevist epistemological assumptions. It was also important to note it was not the intention of this thesis to generalise or amplify fieldwork results to a larger audience. A non-probability sampling technique was applied; participants were selected through non-random and purposeful sampling techniques (Patton, 2002).

Non-probability sampling of design students from CPUT was performed in this method of data collection as these young, urban adults represent a pivotal consumer market in South Africa. Moreover, design student combine both qualities of the sample population as well as being creative people themselves and being University students who are constantly on the cutting edge of fashion and trends in general.

The questionnaire consisted of structured questions and was administered, face-to-face, to male and female design students from diverse disciplines at CPUT during the 2nd semester of 2010 (July – December). The condition for recruiting participants was on the basis of their willingness to participate, as well as their fulfilment of set socio-demographic criteria (South African citizens living in the Cape Town area, aged between 18 and 60 years). The questionnaire was accompanied with the study's explanatory statement and consent from as part of ethical practices. Of the 60 questionnaires handed to participants, 43 questionnaires were returned. All were completed. Of the 43 respondents, 41 were design students, and two staff members. The two staff members showed differences in demographics and certain responses. In order to avoid bias in the data, wherever it was relevant in the analysis, the researcher noted the inconsistency.

The results of the questionnaire are discussed in both qualitative and quantitative manner in Chapter Seven to determine the underlying meanings, levels of awareness, perceptions, attitudes and proposed relationships between observed variables identified in the questionnaire. The questionnaire can been found in Appendix D.

5.11 Reliability of data and reduction of bias

Objectivity in the qualitative research paradigm can be understood in two ways according to Babbie and Mouton (2010:273). The first recognises the researcher as the centre of the research (as observer, interpreter), which makes the researcher a significant "instrument" in the research process. The qualitative researcher should be as unbiased as possible in descriptions and interpretations. Collecting data should be done without trying to control irrelevant variables and instead creating truthful and reliable inter-subjectivity (*ibid.*). This principle was essential for collecting data from focus groups and interviews. The researcher attempted to be open towards possible towards unexpected occurrences and discussion topics, not pushing the participants to a certain theme or answer.

To strengthen this study, the data collection utilised a multi-methods approach (see Figure 5.2), retrieving data from multiple sources, in different ways while carrying out cross-data validity checks. This is called triangulation and is done to reduce the occurrence of researcher bias and to ensure the validity of the study. Mouton states (2001:275): *"Triangulation is the best way to elicit the various and divergent constructions of reality that exist within the context of a study is to collect information about different events and relationships from different points of view".* In addition he believes it to be one of the best methods to enhance validity and reliability in qualitative research (*ibid.*). Triangulation can be used according to methodologies, methods, researchers, paradigms, and more (Denzin, 1989:236).

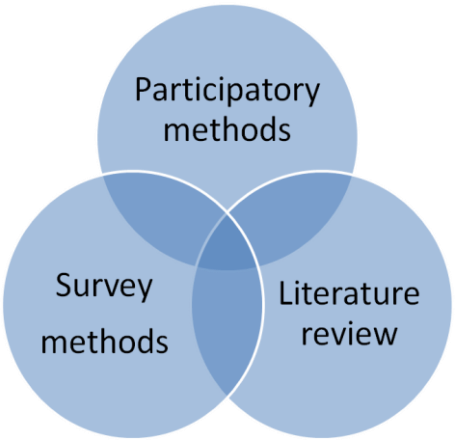


Figure 5.2: Research methods triangulation (adapted from Futerman, 2009)

5.12 Rationale for the data analysis

The researcher used several methods for analysing the collected data, which will be clarified below.

5.12.1 Analysis of the questionnaire

The first step in analysing the questionnaires was the removal of those that were not completed to satisfaction. Respondents who failed to complete at least 80% of the questionnaire were removed from further statistical analysis. Next, Excel 2007 was used to analyse the quantitative data. The open questions were analysed through descriptive analysis identifying patterns and themes. The results of the questionnaires were illustrated in graphs and tables and in narrative form (open answers). The findings are interpreted and described in Chapter Seven of this thesis.

5.12.2 Analysis of the qualitative research methods

Thematic analysis and the Activity Theory (AT) were used to analyse the qualitative data in this study, retrieved from individual interviews, focus group interviews and observations. The observed data were arranged in the form of tables in order to illustrate occurrence and other patterns. Additionally, a narrative (descriptive) format was used to directly cite participants.

Hayes (2000:171) explains the aim of thematic analysis as the identification of particular themes, which arise in the transcribing of the material that is being studied. Themes may come forward before the analysis or may emerge during the data analysis. The labels were then interlinked with the questions and the objectives that guided the interviews. Themes emerged from combining labels.

Activity Theory is an appropriate method for analysing and presenting interactions between different participants in the case study. This analytical framework illustrates the tensions in interactions among participants and gives direction to where the design interventions in the SAOCP should be placed and how participation and inclusion from actors might be obtained.

5.13 Ethical procedures

Social research that employs a qualitative methodology is highly personal as the qualitative inquiry is based on human interaction and includes close personal involvement or immersion with participants in the study. Patton (2002) explains qualitative inquiry seeks understanding and empathy of the participants' reality and, therefore, may be more intervening compared to a quantitative approach. As part of the ethical considerations, participants received an explanatory statement and an informed consent form when they showed willingness to participate. The forms clarified the purpose of the study, method of data collection, and

additionally rights participants' in the study. Written permission was granted by participants. The confidentiality and anonymity of respondents was preserved at all times. No recordings were made when participants indicated that they felt uncomfortable. Confidential information provided by experts in the field is retained.

Ethics requirement were complied with as stipulated by the CPUT Ethics Committee:

- The study will not involve participants unable to give informed consent;
- the study will not require co-operation of a gatekeeper for initial access to the groups or individuals to be recruited;
- participants will not take part in the study without their knowledge and consent at the time;
- the study with the research subject will not involve discussion of sensitive topics;
- the study will not involve invasive, intrusive, or potentially harmful procedures of any kind;
- the study will not involve prolonged or repetitive testing on sentient subjects;
- financial inducement will not be offered to participate and;
- the study does not involve environmental studies which could be contentious.

In addition, the primary funding for this study came from the Cape Peninsula University of Technology (CPUT). It must be noted that the sponsor did not manipulate the study because the research was not performed for the sponsor but for academic purposes.

5.14 Summary

This interpretive study is based on a participatory research approach where several key actors in the SAOCP and in related areas of the value chain were accessed to participate in individual interviews, focus groups, observations and questionnaires. The collected qualitative data was analysed through descriptive analysis, thematic coding and the Activity Theory to enhance the understanding and perceptions of consumers and producers of organic cotton value chain. Activity Theory is utilised to show tension in this understanding and connection among participants in the value chain. The following four chapters deal with the presentation and analysis of the finding in the study. Chapter Six will elaborate on the case study, the South African Organic Cotton Project.

CHAPTER SIX

RESEARCH FINDINGS: IN-CONTEXT IMMERSION

6.1 Introduction

Chapter Six addresses the findings of the participative research method of in-context immersion in the cotton farming community. Individual interviews, a focus group, observational techniques, observation and photography were embraced to gather accurate information, obtain a deeper understanding about the SAOCP from a farmer perspective and eventually to conceptualise design strategies. Organic production difficulties and opportunities were identified through participatory focus group discussions and individual interviews. Moreover, this chapter allows for an in-depth (and insiders) insight into the farming community's cultural background, organisational and geopolitical structure and behavioural action.

6.2 Initial interaction with organic cotton farmers

The first meeting with commercial-scale and small-scale farmers, was facilitated by Schröder (Cotton SA), a key player in farmer training. The first group interview with the small-scale (SS) farmers and the individual interview with the commercial-scale (CS) farmer was intended to introduce the study (and its objectives), to obtain consent for participating in the study, to analyse the group's opinions of their involvement in the SAOCP. Mr Schröder, the extension officer, as well as an interpreter were present to facilitate the session and to ensure the farmers understood the study's aims. Fourteen farmers were present, 11 men and three women.

After an initial introduction and attaining consent from farmers for further participatory research, an in-context immersion was planned. The key research methods used during this phase of the study were a focus group session, individual interviews and the *Value Chain Card Game*. An interpreter was present at most sessions for translation and farmers assisted one another with translation.

6.3 The geographical location of the in-context immersion

This case study investigated a small area/number of organic cotton farms. These specific farming areas were selected for their accessible geographical locations, the communal organisation and the peri-urban formation of the small-scale farming community. The commercial-scale farmer was chosen for the farm's accessibility as well as the farmers' relationship with the small-scale farmers. The small-scale organic cotton farms are located in several villages, Nokaneng, Seabe, Loskop, and Rust de Winter, on the fringe of Mpumalanga and Limpopo provinces (Figure 6.1).

Figure 6.1: Geographical location farming area in Southern Africa (Source: GoogleMaps)

All farms are situated within about 80km north of Pretoria (in the case of Nokaneng) and 140km north of Johannesburg. The commercial-scale organic cotton farm is situated in Marble Hall, Limpopo (160km north east from Pretoria and 200 km north-east of Johannesburg). Locations of the organic cotton farming areas are illustrated in Figure 6.2.

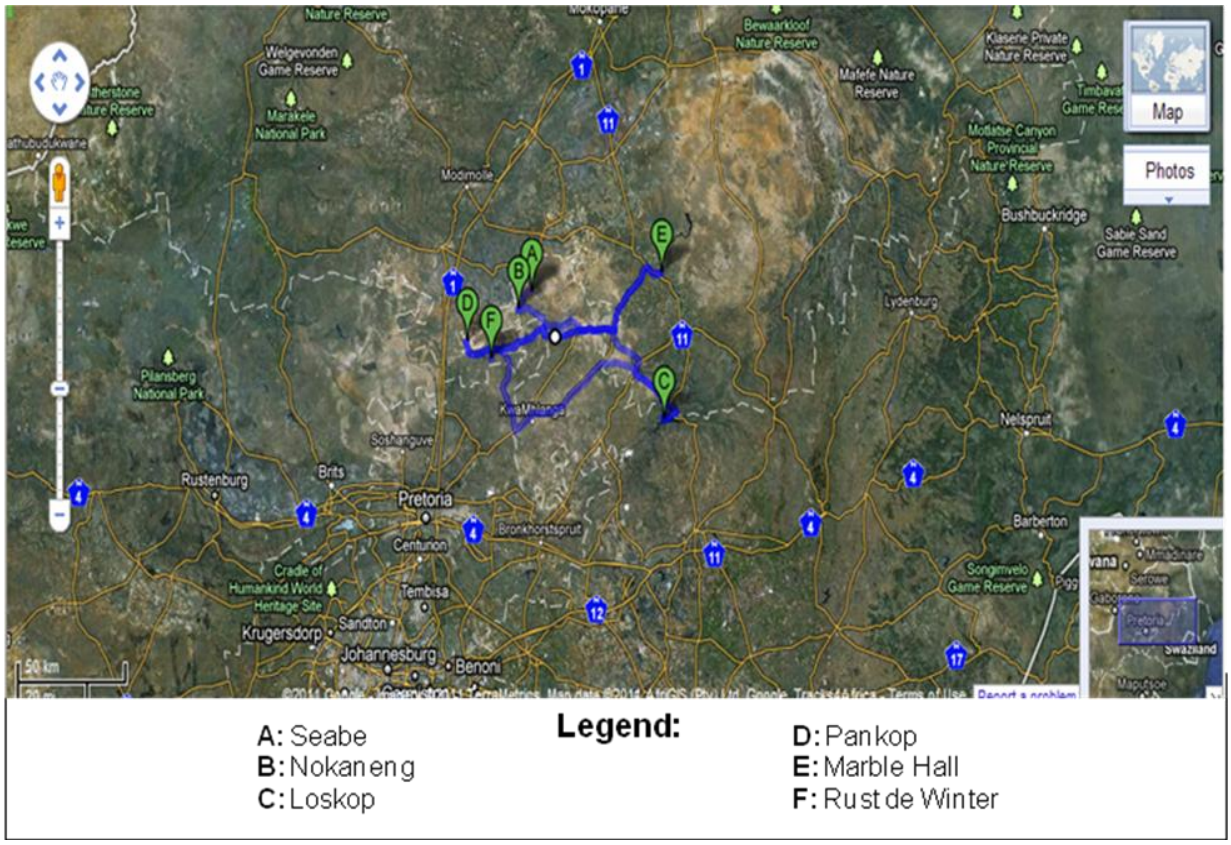


Figure 6.2: Farming areas, Mpumalanga and Limpopo, South Africa (source: Google Maps)

6.4 The organic cotton farmers

Both small-scale (SS) and a commercial-scale (CS) farmer participated in this study. Several significant differences existed (observed by the researcher) between the two, illustrated in Table 6.1.

Table 6.1: Comparison organic cotton farmer profiles

SS Organic Cotton Farmers	CS Organic Cotton Farmers
Grow 1 to 2 hectares of cotton	Grows more than 10 hectares of cotton
Absence of mechanisation	Full mechanisation
Need for external training and guidance	Low need for external training and guidance
Mainly dry land cotton production	Mainly wetland production
Very limited harvest, no profit made	Medium size harvest, profit made
Produce no other organic crops (besides inter cropping)	Produce other organic crops as learning space
More time for maintenance crops	Limited time for maintenance crops
Insufficient income to purchase seeds, cotton sprays and manure	Sufficient income to purchase seeds, cotton sprays and manure
Extension officer provides technical support	No technical support needed
Landownership by Chief of community	Owner of the land

The table illustrates some significant differences between the SS and CS farmers and has significant impact on the production of organic cotton. Both type of farmers will be introduced in sub-sections below.

6.4.1 The commercial-scale farmer

The commercial-scale organic cotton farm involved in the study is situated in Marble Hall and owned by Mr Terblanche (see Figure 6.3). Today the farmer grows citruses, wheat, corn, soya and cotton, of which citrus the main cash crop. The farmer began growing (genetically modified) cotton in 1990 and was introduced to the SAOCP by Cotton SA in 2008. Apart from growing organic cotton, the farmer established a trial project with an assortment of organic crops such as pumpkins and citruses on a plot of 1ha. He intended to use the plot as a "learning area" about organic agriculture. Moreover, farmer Terblanche is part of the Greenery Project with his citrus production. The project encourages farming using fewer chemicals on crops.

Figure 6.3: Farmer Terblanche in his cotton field (Bergevoet, 2010)

The CS farmer has indicated to interact with the SS farmers in this study by proving technical assistance and necessary mechanisation. In his own words:

> *I help them with what to do, a kind of a mentorship. If they don't have certain mechanisation, I will send my tractor there. I helped them plant the soya beans before and from now on I am going to support the organic cotton so that they can plant more cotton* (Terblanche, 2010a).

6.4.2 The small scale farming community

The small-scale farming community under study is comprised of 12 organic cotton farmers, six men and six women. It must be said five of the women farmers collaboratively work on one plot and have organised themselves into a "Women's Forum". The majority of the farmers grows 1ha of organic cotton, begun in 2008.

The farmers meet twice a week in Nokaneng or Seabe, the main areas of production. At these they discuss one another's experience in producing organic cotton, usually under the guidance of the extension officer, who also provides technical support and updates from the chief and Cotton SA. Hein Schröder (Cotton SA) visits farms weekly, exchanging information, discussing possible agricultural difficulties, inquiries, monitoring the progress of the fields and providing farmers with instruction in agricultural matters. In addition, he visits diverse cotton fields jointly with farmers to scout (such as inspection for pests, plant diseases), to provide hands-on information and instruction. According to Schröder (2010a) the sessions provide

information which the SS farmers understand. The collaborative scouting session keep positive competition among farmers. Moreover, he finds practical help more advantageous than a theoretical approach.

6.4.2.1 The Tribal Community

The SS farming community in this case study is part of a traditional South African Tswana tribal community. This means farm lands are held in trust by the Nkosi (traditional chiefs). As farmer Kutumela (2010a) explains:

> *In this area the fields are not owned by the farmers. All the land belongs to the Chief, but there is a portion where we plant various crops [...] He gives us the freedom of deciding ourselves what we do with it.*

It was a necessity for the researcher to meet the Chief of Nokaneng, Mr. Lenaka (see Figure 6.4) and obtain his consent before starting the immersion.

Figure 6.4: Mr. Lenaka and his wife (Bergevoet, 2010)

The researcher was granted right of entry to the farming community with a proviso a chief's representative would be present at interview sessions.

6.4.2.2 The Family Home stay

After approval to begin field research with the SS farming community it was decided the researcher would reside with the Kutumela family (in Nokaneng) for three nights. This was to experience “full” immersion and to allow farmers to become acquainted with the researcher. Moreover, the “family homestay” facilitated a more in-depth inquiry and observation (of a part) of the community’s social interaction. Philemon Kutumela lives with his wife, a daughter and two grandchildren, as illustrated in Figure 6.5. More pictures of the family home stay and immersion can be found in Appendix E.

Figure 6.5: Kutumela family (Bergevoet, 2010)

6.4.2.3 Other production activities in the area

Apart from the organic cotton projects there are other initiatives running in these areas. The community has consolidated around the various other things to create self-sufficiency and income. During the immersion the researcher was introduced to craft projects in the Nokaneng and Seabe area. The community proudly displayed their craftwork all managed by women from both villages, mostly textiles, stuffed animals and beadwork (as seen in Figure 6.6). The women design craftwork and textiles for their own community and for sales at local markets and showed willingness to participate in SAOCP or other projects where the women could produce such work.

Figure 6.6: Examples of craftwork (Bergevoet, 2010)

6.6 Rationale for farmers to participate in the SAOCP

It was important to identify the motivation of farmers in participating in the SAOCP, whether it was from their own initiative or through stimulus from other parties. The SS farmers indicated they found out about the organic cotton project through an arranged presentation by Cotton SA, which introduced organic farming processes, its potential, and experiences of other organic cotton farmer. The majority of the SS farmers indicated to be impressed with the presentation. As farmer Nambo (2010a) said:

> *"I was very impressed by the way they presented it. Organic cotton seems very healthy and they sell our cotton to Woolworths. I belief that if we prepare the soil better [organically], it is going to grow very well."*

A significant motivational factor for all SS farmers was the price per kg. a farmer was to receive for organic cotton. According to farmer J Mathe (2010a) this was far higher than for genetically modified cotton. He indicated it would be a welcome extra earning for his family. Moreover, farmer R Mathe (2010a) said he began growing organic cotton as he realised it was a drought-tolerant plant in comparison to maize and sunflower: *"Even at the various places where I planted it [organic cotton] at the same date, cotton is still remaining better".*

The rationale for the CS farmer to grow organic cotton was through experience using pesticides on his cotton fields. In his own words:

> *I started thinking about the chemicals that I was using and the effect on the environment of my production, and that is why I came to the organic cotton. I was noticing that some of the small [beneficial] insects were disappearing [when producing GM cotton] and then I started with the organic cotton campaign. I realised that is was important to do this, and after a while I noticed the insects and birds were coming back again (Terblanche, 2010a).*

6.7 Farmers' experiences with organic cotton growing

During focus group and individual interviews CS and SS farmers identified negative and positive experiences regarding organic cotton farming. Table 6.2 and 6.3 provide a comparison of agricultural difficulties and improvements identified by SS and CS farmers.

6.7.1 Difficulties experienced by farmers

The SS farmers initially experienced difficulties with an organic farming operation, as for most farmers this was a new type of crop and took time to optimise (Schröder 2010a). The CS farmer indicated fewer negative experiences, probably of growing organic cotton for more than 10 years.

Pest control was a critical issue experienced by both CS and SS farmers. The majority of the SS farmers believed natural insecticide (Dipel) did not work long-term or effectively. Farmer Bakoba (2010b) said: *"The problem that I found with organic [cotton] is the problem with the insects. With conventional cotton [GM cotton] we would only spray it once and could leave the field for a long time. I had to visit the field for the 3rd time this week."*

The CS farmer (Terblanche, 2010a) confirmed the issues of pest-control:

> Controlling some of the pests becomes more difficult [compared to GM cotton], it is very intensive farming. The biggest problem for me is, actually I haven't got time to spend in the fields and I have to rely on other people. That is why I think on the small scale farming [level] it will do much better, because the owner of the cotton is there every day.

An example of pest contaminating cotton is illustrated in Figure 6.7. The figure shows stainers on a cotton plant. These insects contaminate the cotton by leaving yellow marks. The presence of this type of pest forms the biggest challenge for SS organic cotton farmers.

Figure 6.7: An example of pests contaminating the cotton plant (Bergevoet, 2010)

Aside from the pest-control issues, farmers experienced difficulties with the intensive farming methods of organic cotton. Moreover, the hire of labour to keep up with the weeds and pests was a challenge. Farmer J. Mathe (2010a):

> *you see this one is a lot of job because every time after growing the bolls and flowers, you must keep on monitoring. My mielies [corn] I can leave for 2 weeks, I don't need to look after it. But this one, you must be here always, you must check everything.*

A contradicting response came from farmer Nambo (2010b) who indicated no differences in GM and OC cotton with respect to farming intensity. Although two other farmers who had grown GM cotton before did not confirm this, it could be suggested farmers with experience of growing cotton before had less trouble adjusting to the organic cotton farming intensity. Moreover, three farmers professed insufficient knowledge on when to apply insecticides to organic cotton; two farmers indicated a lack of knowledge on how to execute land preparation.

Three SS farmers indicated that mechanisation would be very welcomed by the community. However, this would have to be financed from household income as the external financing merely covers certification, seeds, manure and sprays. The inadequate financial means of SS farmers creates a hurdle to pay for farming mechanisation and labour.

In addition Schröder (2010a) identified two other main issues during organic cotton production. Weather (long periods of droughts and long periods of rains) made the farming process and the growth of high quality cotton challenging. Moreover, he indicated due to absence of local policy on organic cotton farming, certification has been carried out by international certification bodies, increasing the costs of certification. This makes organic cotton farming unappealing for SS farmers (*ibid.*). Lastly, the researcher observed extension officer lacking in technical skills and knowledge with regards to organic farming procedures and could not assist the SS farmers in some instances. Table 6.2 summarises the difficulties experienced by organic cotton farmers with organic procedures.

Table 6.2 Experienced difficulties by the cotton farmers

	Small-Scale Farmers	Commercial-Scale Farmer
Pest-control	X	X
High labour costs	X	
Intensive farming method	X	X
Poor knowledge of technical farming aspects	X	
Insufficient availability of mechanisation	X	

Finally, Schröder (2010b) indicated most difficulties would be overcome when SS farmers were more experienced with organic farming. He said international experience suggests it takes up to 5 years for soil to achieve optimal health. In spite of the difficulties, all farmers were positive towards organic cotton farming.

6.7.2 Positive farmer experiences

The positive experiences regarding the production of organic cotton were mainly receiving a high price per kg, increased personal health and biodiversity improvement. In terms of improving biodiversity Terblanche (2010a) indicated when growing organic cotton several beneficial insects and birds returned to the cotton fields they had deserted because of harmful insecticides applied in GM farming. Farmer J. Mathe (2010b) indicated that intercropping used for organic cotton farming was beneficial: *"Most of the intercrop such as*

maize is used for feeding our chickens. And cowpea you can pick it and sell it for human consumption. And the other crops I take home to feed my family."

The farmers were optimistic about the price of organic cotton and lower farming costs. Farmer Terblanche (2010a) indicated to have generated profitable income from organic cotton farming. Farmer Bakoba (2010a) said:

> *Organic [cotton] is very much important for us because it is the best way to make clothes. When I compared it to conventional, organic is better. With conventional we get paid less, so organic encourages us because we are looking for to improve our living standards and also standards for agriculture.*

Schröder (2010b) confirmed this by pointing out that in 2009 organic cotton farmers received a price premium of 46% over conventional cotton in South Africa. Farmer J. Mathe (2010b) added to this: *"We stopped growing conventional [GM] cotton this year, because we never know the price of that cotton, it is a problem."* In addition, farmer Kutumela (2010b) declared growing organic cotton was a cheaper option for him in comparison with genetically modified cotton as it does not require as many farming inputs.

In total three SS farmer produced GM cotton in the past, of who two noticed several health problems especially during spraying. Farmer Nambo (2010b) said: *"I was using a mask but with harvesting we inhaled some fumes, and we became of short breath".* Farmer Kutumela (2010b) additionally indicated: *"Even if you wear a mask, after spraying your face and body start itching. And it's not good for inhaling, we cough a lot. It does not feel healthy".* Both farmers agreed it was no longer an issue farming organic cotton and farmer Nambo (2010b) said his children could now safely help in the fields. Table 6.3 summarised the farmers' positive experiences with organic cotton farming.

Table 6.3 Identified positive experiences by the cotton farmers

	Small-Scale Farmers	Commercial-Scale Farmer
Higher cotton price per kg	X	X
Improvement biodiversity	X	X
improvement personal health	X	
Less farming inputs	X	X

Schröder (2010b) in addition noticed Cotton SA received an increased number of inquiries from clothing and textile manufacturers, retailers and farmers for assistance in developing the organic cotton value chain. Moreover, Schröder mentioned an estimated 1 500 jobs would be created (of which 50% seasonal) if all organic cotton would be sourced locally (*ibid.*).

6.8 Value Chain Card Game

The first group interview with small-scale farmers demonstrated a lack of knowledge of the production process of (organic) cotton. Although workshops, where several pamphlets and guidelines (present at the usual meeting point) were offered, the SS farmers indicated to be uninformed on the subjects.

Schröder (2010b) indicated the SS farmers had a "1 hectare" frame of mind and were disconnected from other processes in the value chain. *"They should ask themselves, so what happens if we hand over our cotton to the gin?"*

The researcher created the *Value Chain Card Game* (see Figure 6.8) as a research tool to identify familiarisation among cotton farmers with regards to the cotton value chain in a simple and communicative manner. The card game could be seen as a visual language of communication.

Figure 6.8: The Value Chain Card Game (author's construct)

The game is interactive and encourages the participant to trace the 9 main processes in cotton clothing production, from farmer level up to consumption. Each card represents a specific, hierarchical and value adding process in the chain and is illustrated with an image. Also the specific process has been written on the card (in English) in case the participant would not recognise the image. The *Value Chain Card Game* is adaptable for use in different

contexts and languages and encourages in-depth discussion when analysing the diverse processes.

The nine specific processes of production of cotton illustrated on the cards are (Fletcher, 2008):

- *Farming:* growing the cotton plant and harvesting the cotton fibre;
- *Ginning:* the fibre is separated from the seed for further processing. The seed is used for animal feed or is processed into oils and food products;
- *Spinning:* the fibre is cleaned and "combed" to align the fibres. The fibres are pulled together into a loose yarn called 'silver', which is then twisted under tension to create yarns.
- *Knitting or Weaving:* the yarns are made into fabrics.
- *Dyeing and Finishing:* fabrics are dyed into the desired colours and receive other characteristics.
- *Garment making:* patterns are cut, pieces assembled, and the final product is sewn, pressed and packaged, ready for the journey.
- *Retailing*: sales and marketing of the clothing product.
- *Consuming*: consumers purchase, use and dispose clothing.

Figure 6.9: SS farmers interacting with the Value Chain Card Game (Bergevoet, 2010)

Analysing the game helped to identify knowledge gaps among SS farmers with reference to the cotton value chain (in Figure 6.9). The farmers could identify merely the first two (the cotton farmer and the cotton gin) and last processes (the consumer). When the researcher elaborated on all processes involved in producing a cotton product, the farmers were evidently excited to learn more about the value chain of organic cotton. Farmer Nambo (2010b) said:

> *I would like to know more about all parts of the production. I would like to meet them and see what they do. Maybe we can go to Woolworths [retailer] one time and see our clothing and proudly say that we made it."* Farmer Kutumela (2010b) also expressed curiosity towards the other processes and said: *"Hein [Schröder, Cotton SA] took us to the cotton gin last year and we learned what they do there, it was very interesting and important to see. In a fact, I would like to see the other people [processes], see it step for step, and I can show to them what I do.*

When SS farmers were asked whether they would be interested in inviting other key players to their cotton fields, all farmers responded positively if financial resources would be provided for necessary costs. The extension officer, Mr. Moutha (2010), mentioned previously several primary schools visited the SS farmers as part of their education on agricultural crops (corn in specific). The farmers indicated that this was a positive experience for them and they felt proud to show their work and teach youth about agricultural practices.

The CS farmer also participated in the card game, even though Terblanche (2010b) indicated not to have physically seen the entire value chain, he did recognise all nine processes, put them in the right hierarchical order and understood which "value" was added by which process. The results of the SS farmers were discussed and Terblanche (*ibid.*) stated awareness and a holistic view of the entire production chain was a fundamental subject in successfully producing organic cotton, especially for SS farmers. Schröder (2010b) in addition pointed out:

> *The [SS] farmer is unaware of the whole process of organic cotton. They need to broaden the way of thinking, look at the other processes in the value chain. Not being aware of the whole process keeps the consumer and farmers always a bit suspicious about the other participants in the value chain."* Schröder indentified the need for a promotional campaign for SAOCP that would "pull" the farmers and consumers through the value chain.

Analysing the *Value Chain Card Game* the researcher identified an opportunity for SS farmers and their communities to potentially improve their livelihood, by implementing the attained knowledge and by engaging more actively in the value chain of organic cotton. The

members of the craft and textile projects in the SS farming area aspiration connecting with SAOCP manufacturers in a possible collaboration; creating an outlet for their products. Such collaborations could be community sowing projects. Farmers also had potential to connect with consumers or retailers to sell intercrops (corn, sugarcane and more) used as organic cotton intercropping. In Zambia for instance, organic cotton farmers sell intercrops on the local market, directly to urban supermarkets or through box schemes that supply individual households (van Elzakker, B. & Eyhorn, F. 2010).

6.9 Summary

This chapter discussed the in-context immersion in the SS farming community and the interviews conducted with the CS farmer. The farmers are optimistic to become successful organic cotton producers but face several difficulties with the organic practices. SS farmers are not able to become independent organic cotton farmers due to limited knowledge of and experience with organic farming processes and a lack of financial means. Moreover, the *Value Chain Card Game* revealed a need for re-connection with the organic cotton value chain among SS farmers. By getting familiarised with other stakeholders and the mapping of production processes, this card game and additional training can teach the SS farmers about the cotton sector. Both the SS and CS farmers indicated to be interested in getting in contact with other key actors. Chapter seven discussed the presentation and analysis of the consumer survey conducted in Cape Town.

CHAPTER SEVEN
PRESENTATION OF THE RESEARCH FINDINGS FROM PARTICIPANT QUESTIONNAIRE

7.1 Introduction

In Chapter Six, the findings of the in-context immersion were presented and analysed. Chapter Seven tackles the findings obtained from a questionnaire answered by 43 consumers in the Cape Town area. The design of the questionnaire was based on a study conducted by Hudsvedt's (2006). It was executed with an intention to measure a set of variables such as general attitudes toward purchasing organic cotton apparel, environmental/ethical self-identity, interest in contacting the cotton farmer and method of promotion by the SAOCP.

7.2 Respondent Demographics

For the purposes of this study, the researcher utilised an urban, well educated design/visually literate cluster of respondents to represent consumer categories. Notwithstanding, the typical consumer in South Africa would not necessarily fit this profile.

The questionnaire was administered to Btech Design students from several disciplines at the Cape Peninsula University of Technology in Cape Town. The study used 18 Fashion and Surface Design students in the survey, accounting for 81.9% of all registered Btech students in its department. Another 15 Industrial Design students participated, presenting 35.7%, and 25 Graphic Design students, accounting for 32% of all registered Btech students in the department. The age of participants ranged from 18 to 60. The majority (86.4%) of respondents fell into the 21 to 30 year age category. The minimum age for respondents of the survey was limited to 18 years, only five respondents (11.6%) fell in the category of younger than 21 years. One staff participant fell in the category of 31-40 years; another fell in the category of over 65. The sample, therefore, tilted toward younger respondents, meaning that generalisation would be more appropriate for young consumers. Moreover, the gender of the respondents was not evenly divided; male (32.6%), and female (67.4%). More than 95% of respondents had reported that they have completed a part of a University Degree. One respondent had completed a degree; another completed a Diploma.

The sub-sections of the questionnaire that follow cover the psychographics of informants; offering insight into the psychology of consumers and predict behaviour (Hudsvedt, 2006).

7.3 Behaviour regarding apparel purchasing

When respondents were asked about the percentage of income spend on apparel, the majority (44.2%) indicated they spent less than 5% of their income on apparel. Another 25.6% of respondents spent 6-10% of income on apparel. The two categories accounted for 69.8% of all responses, whereas only 16.7% spend 11-15% and 14% spent more than 15%. It was deducted only a limited proportion of participants' income is spent on apparel. This could be caused by 95.3% of respondents being students on a limited budget.

Moreover, participants spent an average amount of R288.30 on apparel a month, with the minimum of R0.00 and a maximum of R1 200. This demonstrates a substantial difference. Subsequently, respondents were asked to indicate in which shops they usually purchased apparel. The question offered numerous options and respondents were allowed to chose multiple sales outlets. The results are illustrated in Figure 7.1.

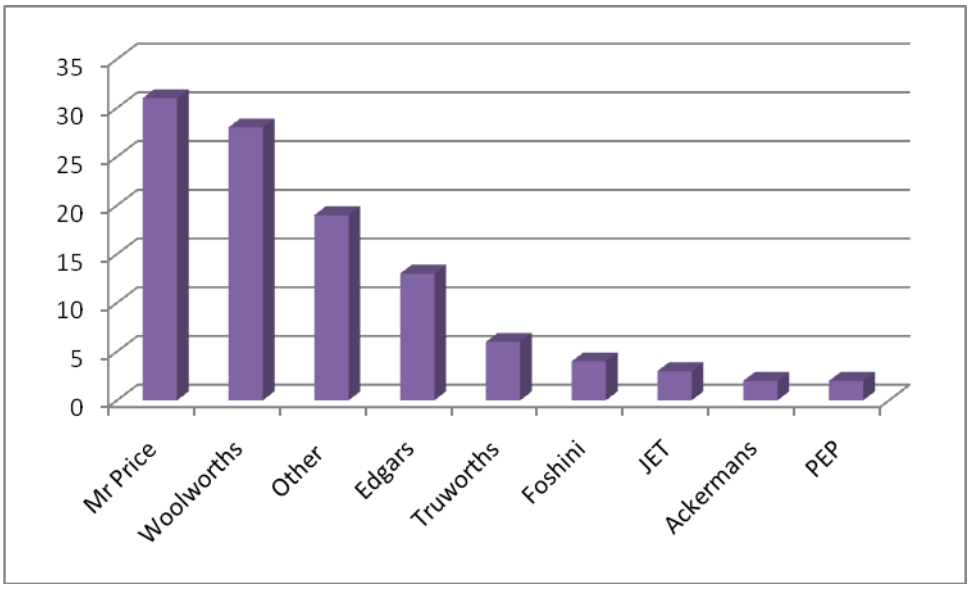


Figure 7.1: Results apparel outlets in South Africa

The four best rated outlets of apparel was Mr Price (34.9%), Woolworths (31.5%), other (not mentioned) outlets (21.3%) and Edgars (14.6%). A remaining five options were more or less at the same level. Within the "other" option, participants submitted outlets such as: Cape Union Mart, Young Designers Emporium, Identity, H&M, Sell Out stores, China Stores, Jay-Jays, Vertigo, second-hand shops, Markhams, and Sportzone (See Appendix F for the categorisation of all outlets offered in this question).

Interestingly the difference between the top two apparel outlets was substantial when comparing them in terms of price, quality and sustainability of products. Woolworths is a medium to high end retailer, using high quality garments with slow throughput while Mr Price focuses on low prices, weekly refreshment of products and fairly low garments qualities.

Criteria for purchasing apparel

In regard to the criteria of purchasing apparel, the majority of informants selected *comfort (12.9%)* and *design/colour (12.6%)* as the most vital purchasing criterion, together contributing to 25.5% of responses. The criteria *style*, *price*, *durability* and *fabric* were more or less of equal importance and contributed to 47.1% of responses. The full range of responses is provided in Figure 7.2.

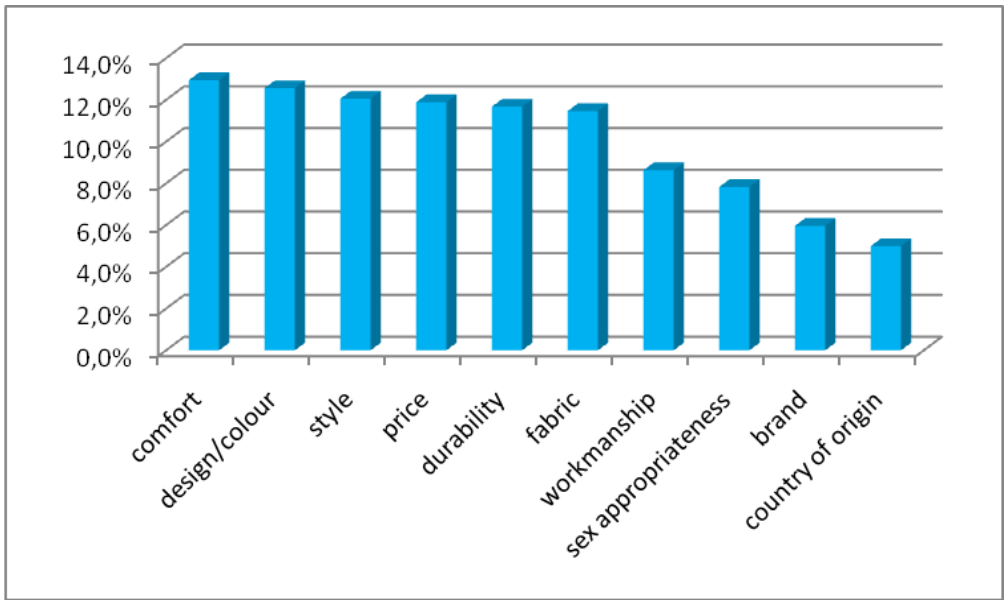


Figure 7.2: Criteria for purchasing apparel

Interestingly, respondents saw the *country of origin* as the least important criterion for purchasing apparel. This indicates these consumers are not bothered where their apparel was produced. Thus, merely promoting a patriotic feeling towards locally produced organic cotton would not work effectively for this type of population. Also brand was rated as one of the least important criteria, it could mean that creating brand loyalty would not be a priority with the design of the strategies.

7.4 Familiarity with organic cotton-related products

The discussion that follows will concern the analysis of several questions connected to the consumers' familiarisation with organic cotton-related products.

Participants were asked to provide a *brief description* (in their own words) of what they know of organic lifestyles: The categories associated most with the concept of organic lifestyles were: environmentally friendly (41.9%), consuming organic products (25.6%), conscious choice (18.6%), and expensive (13.9%). Table 7.1 shows several responses and categories that were ought to be important with respect to organic lifestyles.

Table 7.1: Descriptions of organic lifestyles by respondents

Category	Responses
Environmentally friendly	* Organic is a lifestyle which is better for the earth. Using no chemicals which harms human health/environment. It's sometimes a healthier option (GD01). * Eco-friendly, recyclable, use less non-renewable resources (GD03).
Conscious choice	* It is about being conscious about the environment around you (ID11). * More in tune with world & environment. A more connected style of living, in tune with what is really important (ST02). * People who are conscious about the environment and who produce the smallest carbon footprint as possible (ID10).
Consuming organic products	* Basically, they are lifestyles that are environmentally-conscious and put emphasis on using organically grown/produced in the hope of helping the environment or deflecting guilt (ID02). * Using only organic products in your lifestyle, i.e. foods, clothing etc. These product don't adversely affect the environment (ID09). * When a consumer only purchases/consumes organic products that are 100% natural, free range, not processed etc. (GD05).
Expensive	* It's expensive, seems hard to obtain (ID03). * They can be expensive and take effort (ID07). * Organic lifestyles are for the rich & famous (ID04).

On average, most respondents held positive perception about organic lifestyles such as: *"More in tune with world & environment. A more connected style of living, in tune with what is really important (ST02)." "Living a healthy lifestyle (GD06)."* Four respondents indicated they do not have enough knowledge about the concept of organic lifestyle. *"I do not know enough (ID14)"* and *"I think I know quite a lot about such lifestyles, but not everything (ST01)."*

A number of respondents (14%) believed living an organic lifestyle an expensive pursuit. Moreover, they perceived organic lifestyles as hard to obtain and affordable only by the rich. This is a somewhat skewed perception, as Rebecca Wallis (2010) from Woolworths indicated a minimum retail price (few Rand) difference between conventional and organic cotton products. There is an understanding that the organic cotton products are more expensive than mainstream products. Based on the researcher's own observations during a visit to Woolworths, this is what indeed found to be true. The current men's T-shirts cost R99, a few rand (10%) more expensive than Woolworths regular printed T-shirts. The researcher observed in Europe (in a H&M outlet) that similar organic cotton T-shirts cost the same as regular ones. This equal sales price is possibly achieved through subsidising organic cotton projects in Europe. In South Africa this is not the case, the price difference could be reduced if local organic cotton production becomes mainstream (through Government assistance).

When respondents were asked if they consumed organic food products, a majority (58.1%) answered yes, but 41.9% replied they did not. These findings suggested the majority of respondents had adopted an organic lifestyle, as consuming organic food was part of this lifestyle. Those who gave a negative response might be influenced by perception organic food was affordable for wealthy people only. These respondents could possibly be encouraged to consume organic food products through education in the value of 'organic', also for informants who indicated insufficient knowledge about sustainable lifestyles.

The majority (37.2%) of respondents first heard about organic cotton products three to four years ago, followed by one to two years ago (34.9%); 16.3% of the respondents familiarised themselves with the concept of organic cotton products more than four years ago. Finally 11.6% indicated less than one year ago. The results are illustrated in Figure 7.3.

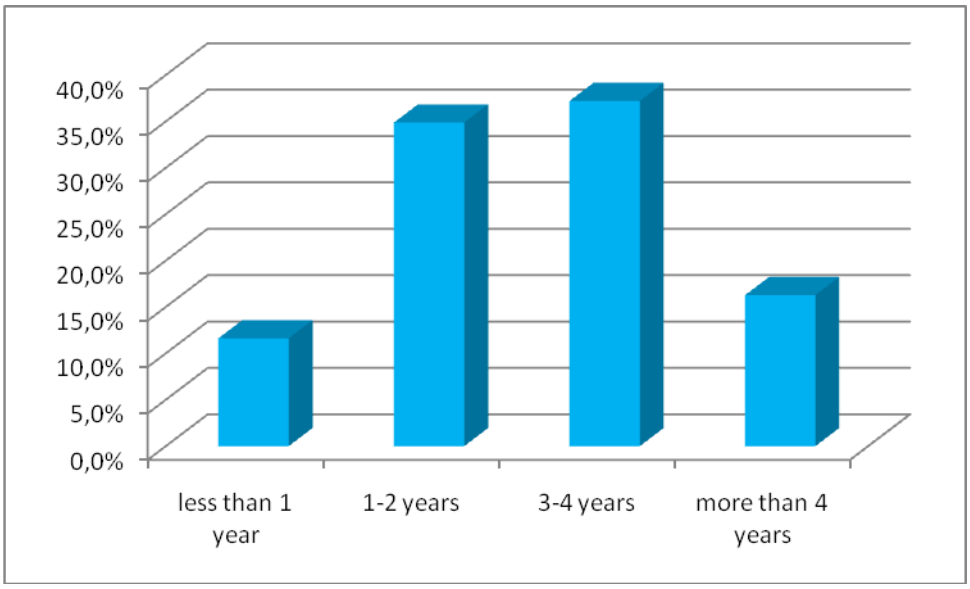


Figure 7.3: Period of familiarisation with organic cotton products

In regards to means through which respondents first heard about organic cotton apparel, the following answers emerged:

- 30.2% of respondent first heard about organic cotton apparel through their education, mainly from research projects and lecturers;
- 27.9% of respondents first heard about organic cotton apparel through media, predominantly magazines and television;
- 18.6% of respondents first heard about organic cotton apparel through Woolworths;
- 14% of respondents first heard about organic cotton apparel through family and friends;
- 4.7% of respondents first heard about organic cotton apparel through advertising and product labelling in stores and;
- Another 4.7% of respondents had not heard about organic cotton apparel before until this questionnaire.

A pattern emerged when linking this question (Q.12) to the prior one (Q.13). An overwhelming majority of informants (72.1%) indicated initially to have heard about organic cotton apparel between one and four years ago; 95.3% were Btech students. It might be said respondents' education was a major driver in becoming familiarised with this topic: *"I only really learned about sustainability in general when I started studying. We learn a lot about sustainability throughout our course (GD02)." "When I first started [studying] Surface Design (FD01).", "Learned from my lecturers (FD11)."* Between 1 and 4 years of attaining initial knowledge, is when most respondents started their study and are finishing. Thus, educating the young consumer about sustainability on tertiary level could book promising results.

Two vital drivers for education on organic cotton apparel were the media and local retailers (mainly Woolworths). In their own words: *"I bought my own organic T-shirt at Woolworths. That's when I first learned about organic apparel (ID12)." "TV programme on lifestyle channel (ID02)."* Interestingly, two respondents (GD07 and ID04) indicated they had never heard of organic cotton apparel before reading this questionnaire.

When respondents were asked to specify the category of apparel they mostly bought (shown in Figure 7.4), a vast majority of respondents (72.1%) indicated mainly buying non-organic apparel, followed by Fair Trade apparel (14%), organic apparel (9.3%) and finaly other types of apparel (4.7%).

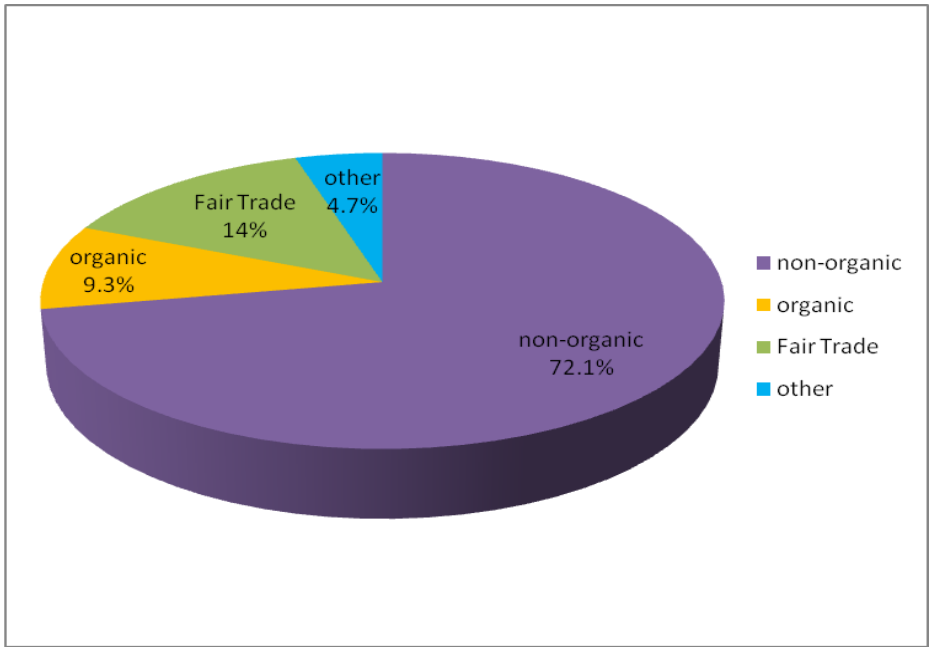


Figure 7.4: Categories describing apparel mostly purchased

74.4% of respondents would like to be informed about organic cotton apparel; 25.6% not. The respondents who did not want to be informed about organic cotton apparel gave the following reasons:

- It is too expensive and not easily available: "*I'm assuming organic cotton apparel is expensive and as a student I don't have a lot of money to spend on clothes* (FD04).", "*I will buy organic when it is easily available (ID10)."*
- The respondent is not interested in organic cotton apparel: "Not really interested (GD06)."
- The respondent rather does his/her own research regarding organic cotton apparel: "*I would probably do more research in my own time. Read clothing labels (GD05)."*

- The respondent indicated that clothing is not a priority: "*Busy life – have other major interests. Clothing is not a priority (ID09).*"

As mentioned, a significant percentage (74.4%) of respondents were interested in being informed about organic cotton apparel. Subsequently, respondents were asked in which way they preferred to be informed about organic cotton apparel. Multiple choices were possible in this question. A majority of respondents (46.3%) preferred the *story label* format for informing them on organic cotton apparel. The story label is a product label attached to explaining a product, about the history and background for that product. Other significant factors were the *website/newsletter* and *virtual farm tour* was the second most preferred formats (both with 20.4% in responses). A small number (11.1%) stated that they would like to be informed about organic cotton apparel through *track & trace*. This is an online platform informing visitors about the production flows and *backstories* of a product, to promote traceability in the production chain. An overview of responses is provided in Figure 7.5.

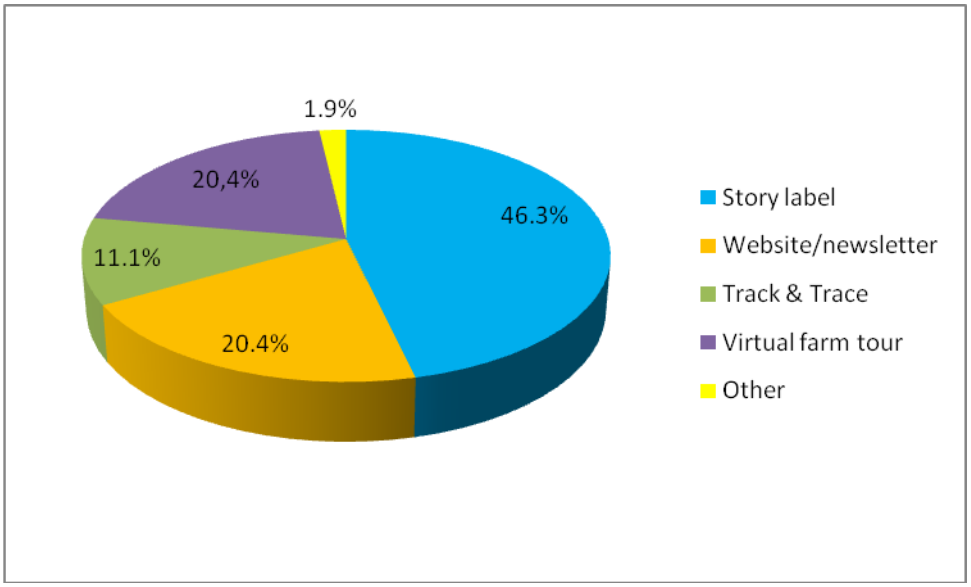


Figure 7.5 Ways of informing respondents about organic cotton apparel

There might be a misunderstanding among some respondents as the researcher did not explain what a *track & trace system* was beforehand. In addition, respondents were able to suggest formats not covered by the question. One respondent preferred to be informed about organic cotton apparel by: *"actually see the farmers work (ID10)."* This was significant in guiding the formulation of the design strategies of this study.

7.5 Behavioural Intention

The behavioural intention (also sometimes called the theory of reasoned action) is derived from a cognitive perspective and *"suggests that the cause of behaviour is the decision (intention) to act in a particular way"* (Hudsvedt, 2006:24). It must be said behavioural intentions and actual behaviour are two different concepts. Fishbein & Azjen (1975 in Hudsvedt, 2006:24) stress in spite of certain intentions, *"specific behaviours may not be possible in a given context".* The Behavioural Intention in this case is measured with two questions, namely:

> Q.18 the next time you go apparel shopping, how likely are you to purchase an organic cotton apparel product?
>
> Q.19 If you find an appealing organic cotton apparel product the next time you go shopping for apparel, how likely are you to purchase it?

Question 18 is referred to as the *Search Intention*; it does not provide informants with an assumption they will find an organic cotton apparel product and might require to actively search for it. A second question (19) is referred to as the *Purchase Intention*, allowing informants to assume the decision to purchase does not depend on searching for the product. The results of the behavioural intention are illustrated in Figure 7.6.

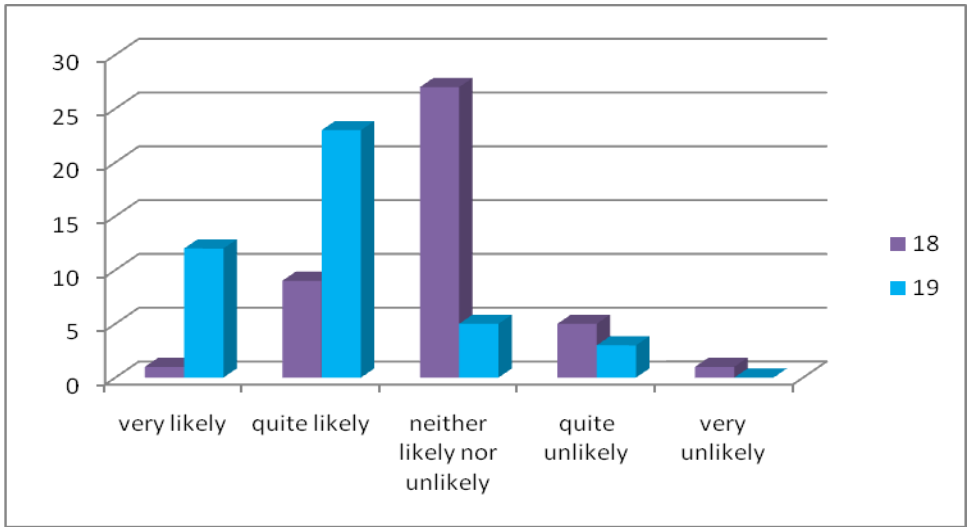


Figure 7.6: Behavioural Intention of respondents

A significant number (62.8%) of informants answered they would *neither likely nor unlikely* purchase an organic cotton apparel product next time they went apparel shopping. The positive responses accounted for 23.2%, replying they were quite likely (20.9%), while 2.3% were *very likely* to purchase organic cotton apparel products; 13.9% of all informants were

generally negative about purchasing organic cotton apparel products next time they went shopping for apparel, with 11.6% answering *quite unlikely* and 2.3% *very unlikely*.

When asked about the likelihood of purchasing an organic cotton apparel product if they found an appealing item, encouraging responses were elicited. Some 81.4% of responses were positive – with 53.5% replying they were quite likely, while 27.9% were very likely to purchase organic cotton apparel if they found an appealing item. A significantly smaller percentage (11.6%) said they were undecided - *neither likely nor unlikely*; 7% were *quite unlikely;* no one indicated being very unlikely to purchase organic cotton apparel products when next they shopped for apparel.

As might have been expected, the *purchase intention* was more positively evaluated (with an overwhelming 81.4% of respondents giving a positive likelihood) then the *search intention*. This meant respondents were more likely to purchase organic cotton apparel products if they were easily available (see heading 7.4 for elaboration). When these same respondents had to search for organic cotton apparel products, they indicated highly indecisive as to they would purchase a product.

7.6 General Attitudes related to organic cotton and apparel production

The following section of the questionnaire is adapted from that conducted by Hudsvedt (2006). The general attitudes measure general attitudes associated with organic cotton and apparel production. This is relevant to this study, as it enabled a deeper understanding into participants' general attitudes. In addition, Hudsvedt (2006) explains that revealing these general attitudes could assist apparel manufacturers in advancing marketing strategies for organic cotton apparel. The general attitudes exist of 10 items (illustrated in Table 7.2), measured with a 1 to 5 Likert type scale (1 = strongly disagree, 5 = strongly agree).

Table 7.2: General attitude related to organic cotton and apparel production

Question	Item
17a	Organic agriculture is good for the environment
17b	Sustainable agriculture is important to me
17c	They dyes and chemicals used in apparel production can be harmful to the environment
17d	I prefer to "buy locally"
17e	I am concerned about the impact of clothing production on the environment
17j	Cotton producers in African countries do not get a fair price for their cotton
17i	I would go out of my way to purchase organic clothing
17k	I would go out of my way to purchase clothing produced from fairly traded fibers
17l	I am interested in organic cotton products, but they seem expensive

The general attitudes were divided into four sections, all measuring differens aspects:

1. Three items (17a, 17b, and 17d) were included to measure general attitudes toward organic agriculture.
2. Attitudes toward the environmental impact of clothing production were measured with items 17c and 17e.
3. One item (17j) was designed to determine if some of the Fair Trade issues of concern, specifically the issues of fair pricing policies for African cotton producers, resonate in any way with consumers.
4. Finally, three items (17i, 17k, and 17l) measured attitudes of support for organic and fairly traded fibre clothing production.

7.6.1 General attitudes towards organic agriculture

The general attitude towards organic agriculture are measured with three items in the questionnaire, that is:

17a: Organic agriculture is good for the environment

17b: Sustainable agriculture is important to me

17d: I prefer to “buy locally”

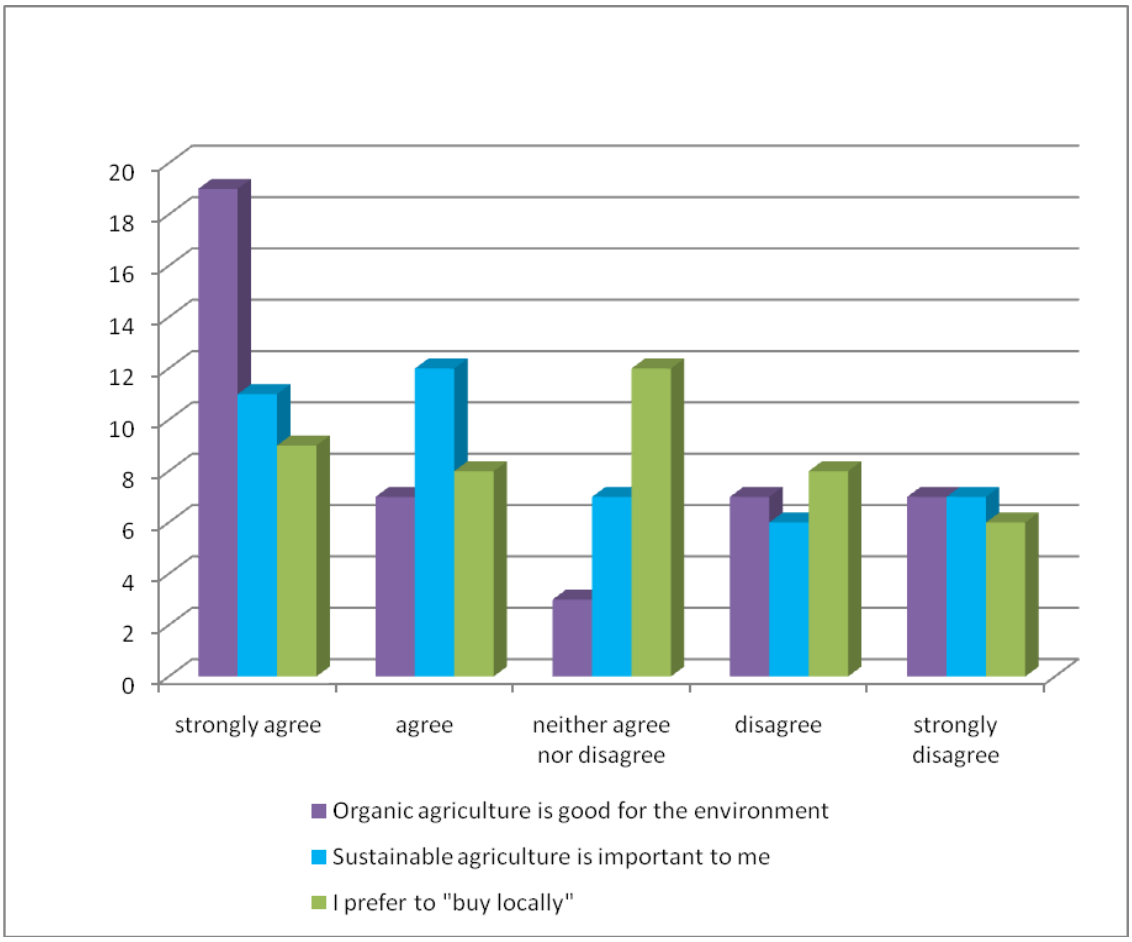


Figure 7.7: General attitudes towards organic agriculture

Figure 7.7 illustrates an overview of all responses with regard to general attitudes towards organic agriculture. In response to the first item, “organic agriculture is good for the environment”, 44.2% of informants *strongly agreed*, and jointly with *agreed* accounted for 60.5% of all responses. 32.6% of the informants *disagreed* and *strongly disagreed* with the item. A small number (7%) stated they *neither agreed nor disagreed* with this item.

In regard to the second item, “Sustainable agriculture is important to me”, the responses were more equally divided on the Likert-scale. 27.9% *agreed* with the statement and together with *strongly agreed* (25.6%) accounted for 53.5% of all responses. 30.2% of informants *disagreed* and *strongly disagreed* with the second item along with 16.3% of informants who *neither agreed nor disagreed*.

A slight majority of informants generally agreed (39.5%) with the final item, “I prefer to “buy locally””, where 18.6% of informants *agreed*, and 20.9% *strongly agreed* with this statement. In addition, a significant percentage (32.6%) *disagreed* and *strongly disagreed*, and another substantial number of respondents (27.9%) *neither agreed nor disagreed* with the final item.

One finds inconsistencies when analysing the diverse responses of informants. They are of strong opinion organic agriculture is good for the environment. But when it comes to whether sustainable agriculture is important to informants, there was a majority who still agreed, but a significant number said not to care for this item. This could mean that although sustainable (or organic) agriculture is considered healthier for the environment most consumers do not consider this a significant personal purchasing criterion. The third item showed a large number of informants *neither agreed nor disagreed* with a preference for buying locally. Other responses were fairly even divided. When comparing this result with previous results in Figure 7.2, it is seen that the previous question showed a much smaller group of people who found the origin of the product important. This indicates confusion about the origin of products, which could be addressed in the strategies by informing consumers about the backgrounds of products.

7.6.2 General attitude towards the support for organic and fairly traded fibre clothing production.

The general attitudes towards the support for organic and fairly traded fibre clothing (Figure 7.8) has been measured with three items in the questionnaire, that is:

17i: I would go out of my way to buy organic clothing

17k: I would go out of my way to buy clothing produced from fairly traded fibres.

17l: I am interested in organic cotton products, but they seem expensive.

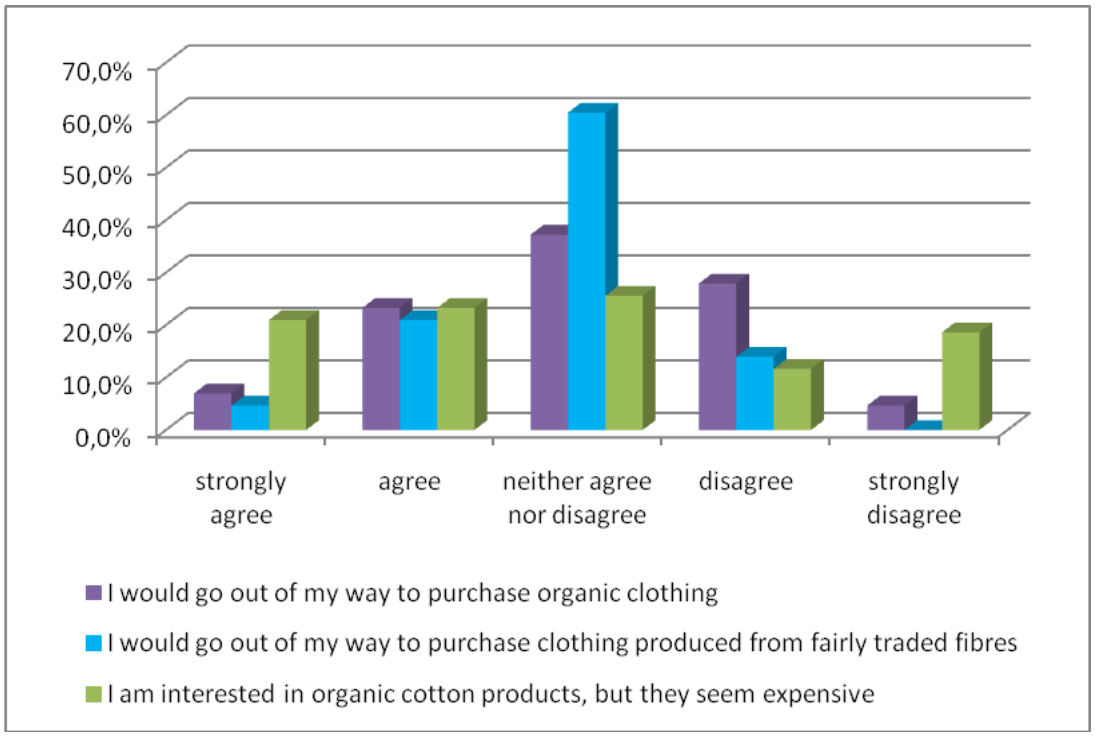


Figure 7.8 Support for organic and fairly traded fibre clothing production

The majority (37.2%) of respondents was non-committal, *neither agreeing nor disagreeing*, to item 17i stating they would go out of their way to purchase organic cotton. Further, 23.3% *agreed* and 7% *strongly agreed (together accounting for 30.3%)*, while 32.6% of respondents generally *disagreed* with the statement – with 27.9% *disagreeing* and 4.7% *strongly disagreeing*. In response to the second item, a significant majority of respondents were also non-committal with 60.5%. In addition 25.6% generally agreed and 14% *disagreed*. Finally, the third item was fairly equally moderated, with *neither agree nor disagree* as a single answer having a small majority (25.6%). Another 44.3% generally agreed and 32.2% generally disagreed being interested in organic cotton products, but seeming expensive.

What can be deducted from this data is a significant number of respondents would not make a concerted effort to purchase organic cotton (although a vast majority agrees that it was important). Therefore the strategic implication is that the philosophy and concept of organic apparel would need to be clearly and robustly discoursed for greater appreciation of its potential usefulness to South African consumers. Respondents are yet more non-committal towards going out of their way to purchase clothing produced from fairly traded fibres. This seems like a contradiction, the results of a previous question (q.9) indicated the second mostly purchased type of apparel is Fair Trade apparel. It appears respondents do not understand what Fair Trade and/or fairly traded clothing is. Moreover, Fair Trade certified apparel is rather difficult to obtain in South Africa, indicating skewed results. Finally, respondents were indecisive about their interest in organic cotton and indicated it seemed expensive. Earlier 13.9% of respondents also indicated they feel organic lifestyles (thus also organic cotton) are expensive. The issue of price might be clarified through educational campaigns.

7.6.3 Attitudes toward the environmental impact of clothing production.

The attitudes toward environmental impacts of clothing production were measured with the following items:

17c: The dyes and chemicals used in apparel production can be harmful to the environment.

17e: I am concerned about the impact of clothing production on the environment.

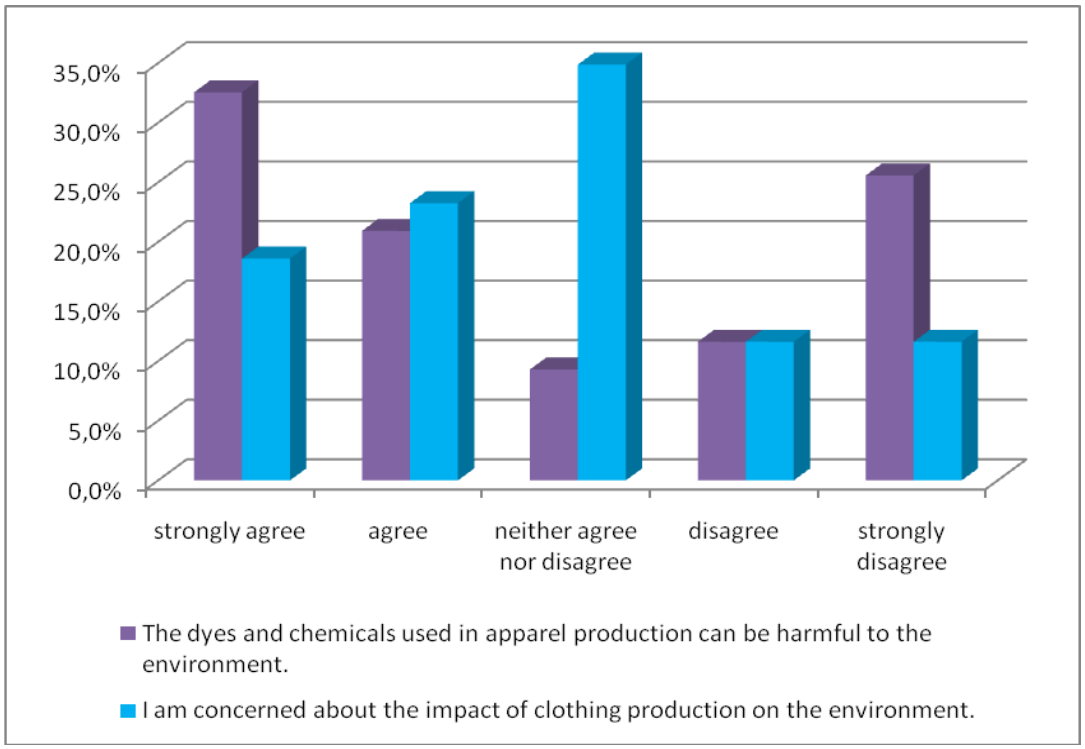


Figure 7.9: Attitudes towards the environmental impacts of clothing production

Figure 7.9 indicates the majority of informants *strongly agreed* (32.6%) and *agreed* (20.9%) with the statement that dyes and chemicals used in apparel production could be harmful to the environment. Interestingly, another substantial number (25.6%) of informants *strongly disagreed* with the statement. This might indicate respondents were unaware of the environmentally damaging impacts of apparel production. Examining the results of the second statement, an overwhelming majority (34.9%) *neither agreed nor disagreed* being concerned about the impact of clothing production on the environment. 18.6% strongly agreed and 23.3% agreed, whereas 11.6% strongly disagreed and another 11.6% disagreed with the statement. The majority of respondents *neither agreed nor disagreed*, which indicated they were not concerned about the item. This is in contradiction to responses on item 17b (asking whether respondents felt sustainable agriculture is important to them) where 53.5% generally agreed. Nevertheless, these indecisive respondents presented an opportunity for the design strategies to possibly transform their opinion to a positive one. The majority of respondents who generally agree with the item can be seen as the target of design strategies, whereas respondents who disagree will be less influenced by the strategies.

7.7 Personal norm for organic cotton apparel purchases:

The personal norm towards purchasing organic cotton apparel is deducted from Hudsvedt (2006). Hudsvedt adapted this approach from Schwartz (in Hudsvedt, 2006:13) who

investigated the personal norm for environmental and/or ethical consumer behaviour and described it as: *"the internal evaluation of consumer behavior in relation to environmental or ethical self-expectations for behavior, with sanctions attached to a violation of the personal norm including guilt or loss of self esteem." In the framework of organic cotton, the personal norm was* measured by the three following items (in Figure 7.10) for an increased reliability:

- I feel that I have an ethical obligation to purchase organic cotton apparel products;
- I have a responsibility to purchase organic cotton apparel products and;
- I am personally obligated to purchase organic cotton apparel products.

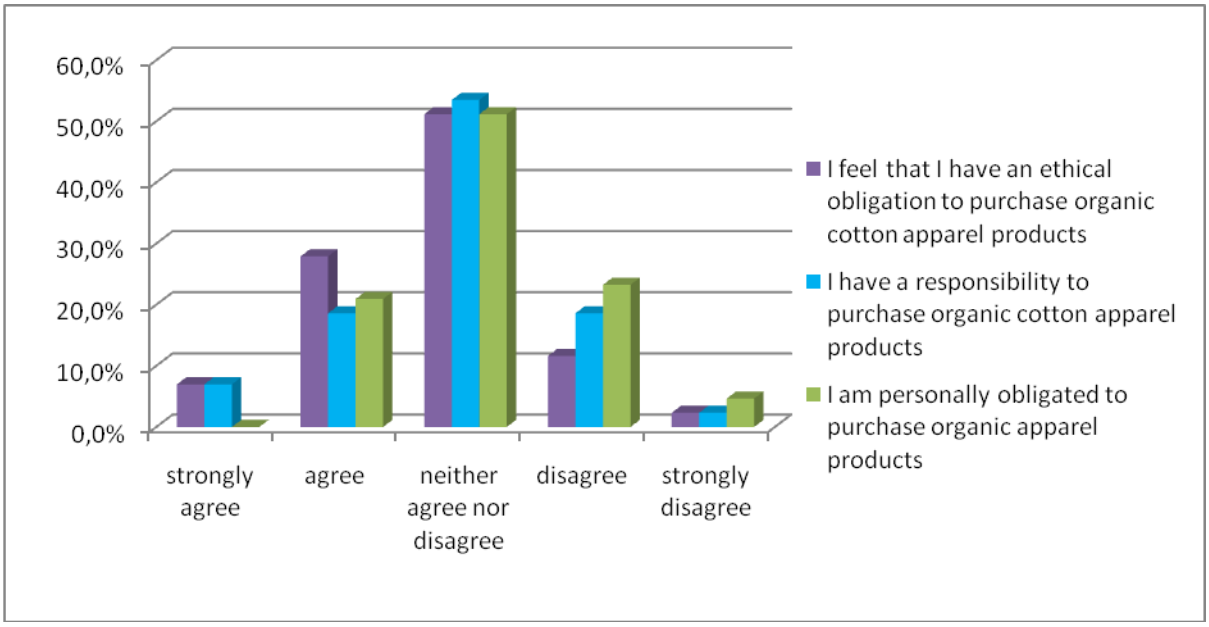


Figure 7.10: Personal norm towards organic cotton apparel purchases

As can be observed, all three items were judged to be fairly similar, with the most popular answer being *neither agree nor disagree* (51.9%), followed by agree (22.5%). Moreover, 4.7% of respondents strongly agreed, 17.8% disagreed and finally 3.1% strongly disagreed. What can be deducted from the results is that informants did not feel they had a personal obligation to purchase organic cotton apparel. It seemed to be a disassociation from what respondents knew as good practice.

Concern about Fair Trade issues in Africa

One item (17j) was designed to determine if informants identify them self with issues of Fair Trade (specifically the issues of fair pricing policies for African cotton producers). The item was: *Cotton producers in African countries do not get a fair price for their cotton"*, the results are illustrated in Figure 7.11.

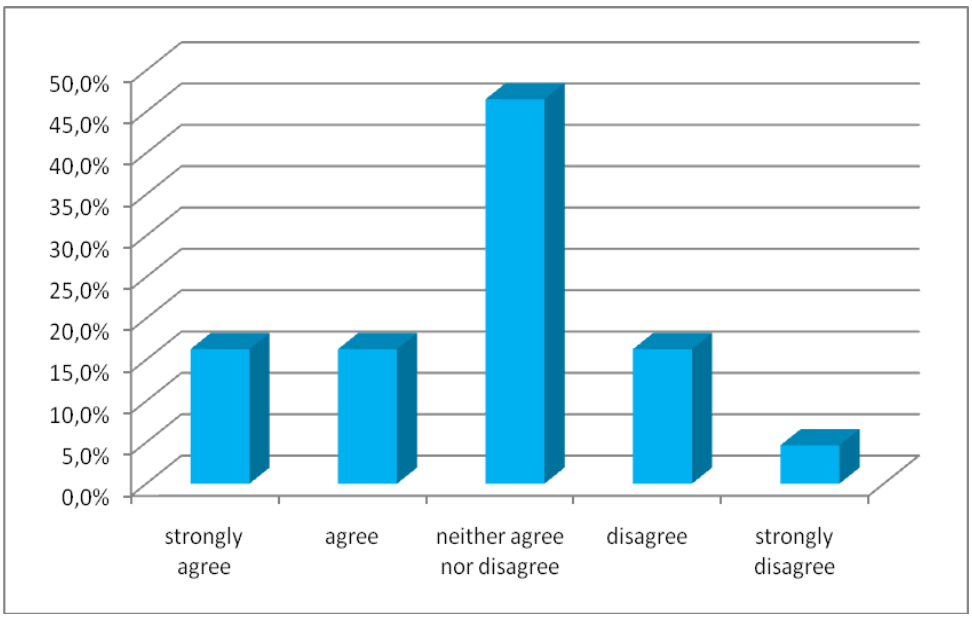


Figure 7.11: Cotton producers in African countries do not get a fair price

Once again, the results mainly indicated respondents *neither agree nor disagree* (46.5%) with this item. 16.3% *strongly agreed*, as did the number of informants who *agreed,* and who *disagreed* (16.3%). Another 4.7% strongly disagreed. These responses were in agreement with item 17k. Again respondents seemed to be confused about the item concerning Fair Trade issues and perhaps therefore indicated they would not make an effort to purchase clothing made from fairly traded fibres.

7.8 Environmental/Ethical Self-Identity

The environmental/ethical self-identity was adopted from Hudsvedt (2006) because it measured participants' personal association with these two vital characteristics of organic cotton. Hudsvedt adapted the measure of environmental/ethical self-identity from Shaw *et al.* (2000) and Sparks and Shepherd (1992) and describes it as: *"The relatively enduring characteristics related to environmental or ethical belief, attitudes and behaviors ascribed to the self, synonymous with self-perception or self-concept as an environmental or ethical concerned person"* (Hudsvedt, 2006:12).

Five items were used to acquire the self-identity:

- I think of myself as someone who is concerned about social issues (20a);
- I think of myself as an 'environmental consumer' (20b);
- I think of myself as an 'organic consumer' (20c);
- I am a socially responsible consumer (20d) and;
- I think of myself as someone who is concerned about environmental issues (20e).

These items were measured on a 5-point Likert scale (1=strongly disagree, 5=strongly agree) and are illustrated in Figure 7.12.

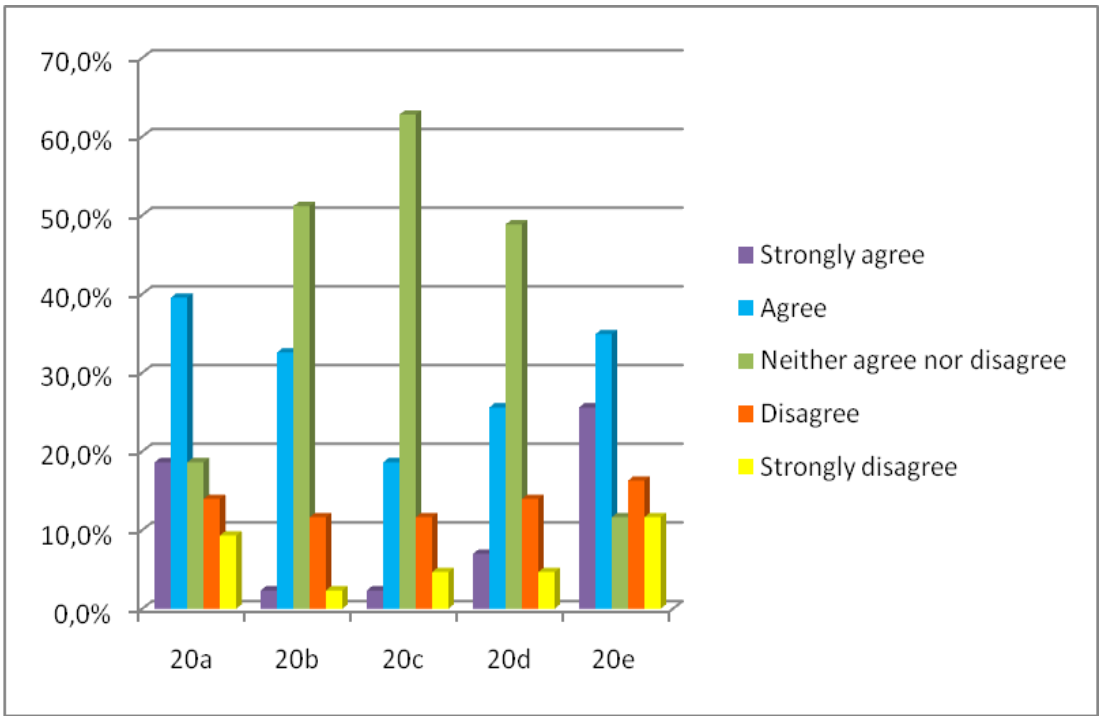


Figure 7.12: Environmental/ethical self-identity

Item 20a was rated fairly positive with respondents mainly agreeing (39.5% *agreed* and 18.6% *strongly agreed*) with a item stating "I think of myself as someone who is concerned about social issues". It must be noticed the general disagreement of respondents was fairly high as well, in total 23.3%. A majority of respondents *neither agreed nor disagreed* (51.2%) with item 20b and a significant percentage (34.9%) generally agreed.

Item 20c, where informants were asked if they identified themselves with organic consumers received most responses *neither agree nor disagree* (62.8%). The remaining answered were rated fairly low. This might imply consumers did not understand the term "organic" or they perhaps did not identify themselves as organic consumers, because they purchase only few organic products. Nevertheless, the group of informants has potential to become an organic consumer as responses *disagree* (11.6%) and *strongly disagree* (4.7%) were rated poorly (16.3% altogether).

Respondents were fairly indecisive (48.8% neither agree not disagree) about item 20d, however a large number generally agreed (42.6%) with being a socially responsible

consumer. Finally, a considerable number of respondents *strongly agreed* (25.6%) and *agreed* (34.9) with identifying themselves as being concerned about environmental issues. Another 27.9% generally disagreed with the item, while 11.6% *neither agreed nor disagreed*.

Item 20a and 20d were linked to each other as the first inquired about the informants' in terms of social issues, while a second question inquires about their personal purchasing behaviour with concern to the same issues. One could conclude that when the item was an abstract notion, informants identified themselves more with the statement then when they had to link themselves as a consumer with power to decide whether to take action. This indicated informants might not believe they could personally contribute to this consumer behaviour. This is an important point that needs to be addressed in the design of promotional strategies making consumers aware of the impacts their purchases have in terms of social, economical and environmental aspects.

Questions 20b and 20e can also be interlinked in the same manner and too have similar results. However, the number of respondents who *strongly disagreed*, with viewing themselves as concerned about environmental issues, was higher than in the previous comparison and the number of respondents answered *agreed* is significantly lower. Comparison between question 20a and 20e indicated social (ethical) responsibility is more important to them than environmental responsibility.

7.9 Scepticism of environmental product claims

The measure of scepticism developed and tested by Mohr, Eroglu, and Ellen (1998 in Hudsvedt, 2006) was used for this study. This measure included four items measured on 5-point Likert type scale (1 = strongly disagree, 5 = strongly agree) to measure scepticism toward environmental product claims. The researcher found this measurement to be significant as environmental messages on product labels are an important and typical manner of promoting sustainable products. It was necessary to know whether current labelling needed alterations.

21a: Most environmental claims made on product labels or in advertising are true.
21b: Environmental claims made on product labels or in advertising are exaggerated.
21d: Consumers would be better off if environmental claims on product labels or in advertising were eliminated.
21e: Most environmental claims on product labels or in advertising are intended to mislead rather than inform consumers.

21f: I do not believe most environmental claims made on product labels or in advertising.

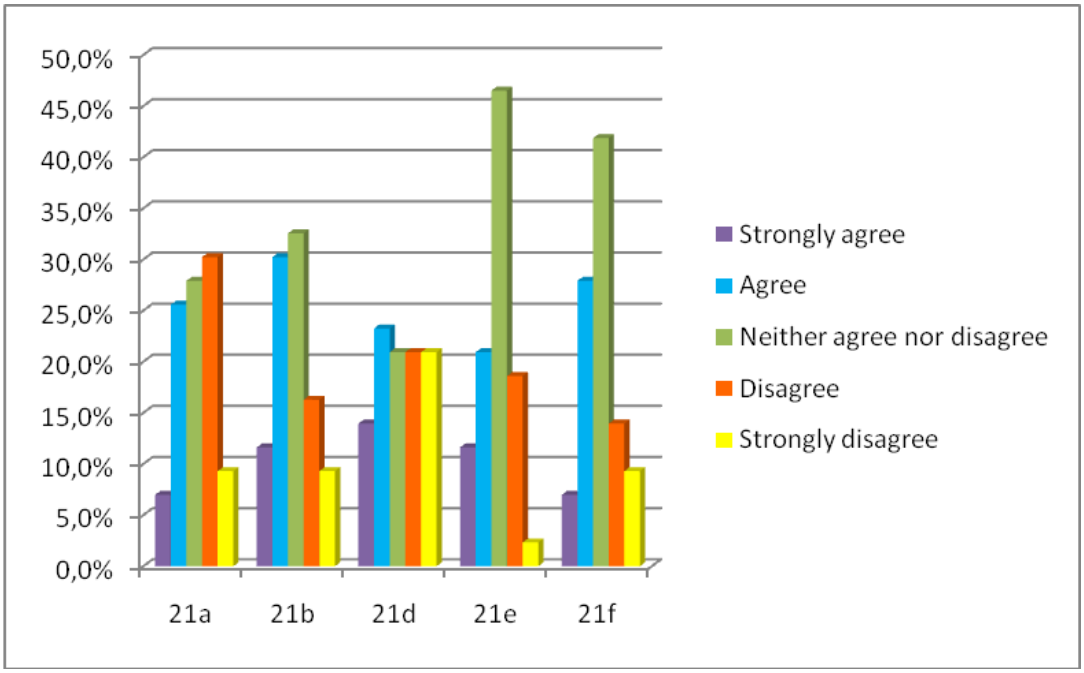


Figure 7.13: Scepticism toward environmental product claims

Figure 7.13 illustrates the results with regard to scepticism toward environmental product claims. A majority of informants *disagree* (30.2%) with item 21a, which indicates most environmental claims made on product labels or in advertising are true. However *agree* (25.6%) and *neither agree nor disagree* (27.9%) show comparable results. These three fairly evenly divided results indicate informants have different believes about the statement and could be placed in different consumer typologies. When linking with item 21a and 21b it might be concluded that informants think it is better to eliminate the claims on product labels and advertising as these are exaggerated and informants do not believe what these insinuate.

A majority of informants *neither agree nor disagree* (32.6%) with item 21b, which says environmental claims on product labels or in advertising are exaggerated. However, a significant percentage (30.2%) of informants has *agreed* with the item. By connecting this response to item 21a, one could say that the reason why the majority of informants believe the environmental claims on products labels and advertising are untrue because these are being exaggerated.

Item 21d, stating consumers would be better off if environmental claims were eliminated, shows fairly even divided results. Nevertheless, a small majority (23.3%) *agreed* with the statement. It must be noted that 21b was reverse coded, meaning similar questions were posed to specify *belief* rather than *scepticism* in comparison with item 21d. Compared to item 21b, less informants were in agreement with the elimination of environmental claims. But a significant number informants do believe these claims are exaggerated.

A considerable majority (46.5%) of informants *neither agreed nor disagree* most environmental claims on product labels or in advertising are intended to mislead rather than inform consumers (21e). Followed closely by *agree* (20.9%) and *disagree* (18.6%), the results indicate informants are indecisive about the item. The *agreed* responses might again be linked to previous items, adding to a negative (misleading) perception of environmental claims on products and advertising. Finally, item 21f states "I do not believe most environmental claims made on product labels or in advertising". Again the majority or responses (41.9%) was *neither agree nor disagree* although this time *agree* had a fairly significant number of responses (27.9%). This question is rather similar to question 21a.

Inherent in this type of topic there are contradictions, misunderstandings and non-consistencies. Respondents previously indicated they want to be informed about organic cotton apparel mainly through product labelling stories (Figure 7.5). However, the items measured in this question indicated informants do not take environmental claims on product labelling serious and often do not even believe these are true. Moreover, the inconsistencies, where there were divided reactions, indicate this consumers group could be separated in different consumer categories (as will be discussed in Chapter Nine)

7.10 Interest in interacting with organic cotton farmers

In response to whether respondents would be interested in contacting the organic cotton farmer, 58.1% said they were interested. 41.9% of respondents was not interested in contacting the organic cotton farmer. This question was added to the questionnaire after analysing the in-context immersion with organic cotton farmers where a need was identified for reconnection among key players in the value chain.

Respondents who specified to be interested in contacting the organic cotton farmers would like to know the following about the farmer and the farming processes:

- *"Employee wages, machinery used, working hours and benefits, fertilisers used etc (ID01);"*
- *"All the processes involved in the production of organic cotton (ID02);"*

- *"Why is there not more organic famers around (ID06)?;"*
- *"Is the environment being harmed? What pesticides are being used? Is it fair trade (FD01)?;"*
- *"How far the farmer is willing to go to maintain organic and sustainable methods. What, if any, unsustainable practices they do (FD08);"*
- *"How much H2o is used. If the workers are paid and treated fairly. Is organic farming harder than non-organic (FD12);"*
- *"Would like to see who does it (FD13);"*
- "How the farm started; what their views are about what they are farming, how they are managing (FD16) and;"
- "What does it make the product much more expensive if at the end of the day the product becomes sustainable (FD17)?"

When respondents were asked in which way they would like to contact the organic cotton farmer (Figure 7.14) a majority indicated they wanted to visit a farm (39.5%) followed by a newsletter or blog with 37.2%. Another 20.9% of respondents would prefer to be informed by visiting a farmer market where cotton farmers will be present. Finally 2.3% preferred another manner of contacting the farmer, but did not indicate in which specific manner.

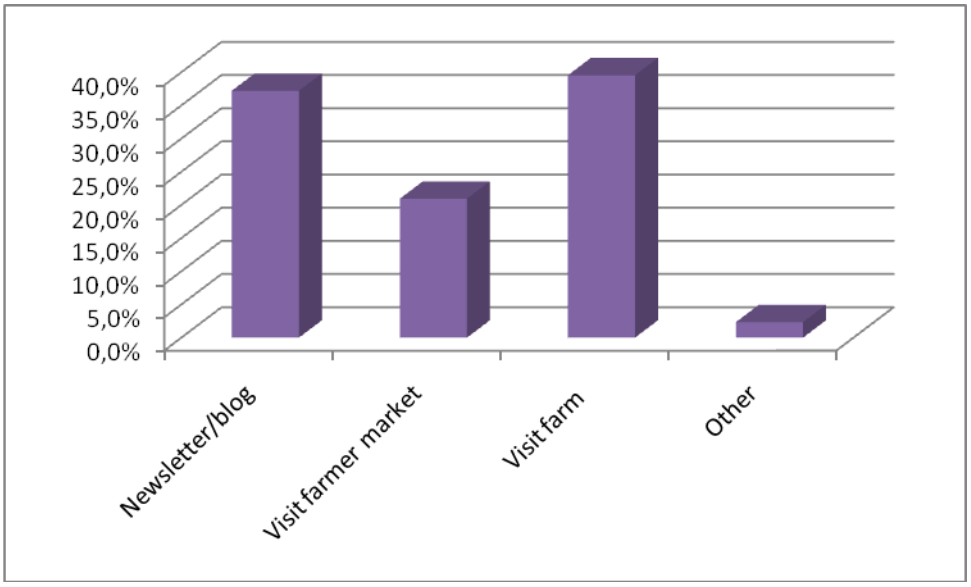


Figure 7.14: In which way would you like to contact the organic cotton farmer?

It must be noticed that farmer market visits would be difficult for the specific respondents (due to their geographical location). For consumers in the Mpumalanga/Limpopo area it would be much more likely to visit a farmer market where organic cotton farmers participate.

Nevertheless, in a future coordinated strategy SAOCP may want to start initiatives such as farmer markets/exhibition/ festivals as there is an interest in this.

Informants not interested in contacting the organic cotton farmers stated the following reasons:

- *"If the information given is true, then why contact? This day and age most don't have the time, better just to have a website to further ones knowledge in they want (GD04);"*
- "*I'm not interested in my individual responsibility for the product (GD07);"*
- *"What would I ask him? (ID03);"*
- *"I don't have an interest in directly contacting the farmer unless it was for my own research, but an indirect, informative source of information that can be verified by a visit to the farm would be a nice experience (FD05);"*
- *"it might be time consuming, I prefer reading the information in my own time (FD02) and;"*
- *"if one had to personally make contact with the producer of everything one consumes, life would get very crowded. We no longer live in a pre-industrial age (ST01)."*

The answers indicate respondents feel it will take too much effort to contact farmers and are missing empathy for the producers of products. They would rather research the farmer connection in their own time.

7.11 Methods for the promotion of the use of organic cotton apparel

When respondents were requested to suggest methods of promoting the use of organic cotton apparel, a majority (41.9%) indicated it should be readily available and affordable. Further, respondents mentioned the usual media advertisement such as TV broadcasts, Radio advertising and online campaigns via websites and social networks. Other responses:

- *"An event at CTICC/ WEB. I would be more than willing to buy organic clothing, but it would be nice to know the background as many people still don't know what is meant by organic-self. And it seems much more expensive (GD01);"*
- *"people don't really know that much about organic cotton. So just informing then extensively on why organic cotton is better is key. If they have access to the info, they will most probably realise that it just makes sense to go organic (GD02);"*
- *"introduce policies of honesty & transparency in labelling. Sell clothes on comfort and style, as well as environmental value. Stop using the 'go-green' image and go mainstream (ID02);"* This answer is in coherence with results from question 21, concerning the scepticism of environmental claims on product labels.

- *“make stylish and fashionable clothing out of organic materials (ID10);”*
- *“people will buy good clothing regardless of organic or not. So make good clothing from organic material and it will sell (ID09);”*
- *“by showing the background to how the organic cotton product came to being through true advertising that looks honest (ID11);”*
- *“keep it simple, don’t force the buyers. Difference between organic and sustainability (ID15);”*
- *“consumer workshops (FD06) and;”*
- *“Celebrity endorsement (FD08).”*

The statements suggest connection to the background of products is important (respondent ID11, GD01, GD02), where consumers need to be educated on the concept of organic. Within this concept honest and transparent communication on product labels is necessary (ID02).

7.12 Summary

The consumer questionnaire revealed that a vast majority (95%) of respondents were familiar with concepts of organic cotton lifestyles; and organic cotton apparel in particular. Respondents indicated to have become familiarised with organic cotton apparel through their academic institution, regular media channels and Woolworths. They had positive associations with organic cotton concept and indicated a significant importance of sustainable agricultural practices. However, a large number of respondents indicated not to feel personally obliged to purchase organic cotton products and did not relate to the notion of an organic consumer. This implies respondents are disassociated from what they know is good practice and might not belief they can personally contribute to this consumer behaviour. This presents an opportunity for the design strategies to possibly transform respondents personal norm towards organic cotton apparel.

Scepticism towards environmental claims on product labels was determined, identifying a need for more transparent and honest communication on product labels. A majority (74.4%) of respondents expressed an interest in further engagement with organic cotton apparel in future. In addition 58.1% indicated to be interested in contacting the organic cotton farmer and a majority preferred to contact them by visiting the actual cotton farm, followed by online connection through a newsletter or blog.

Finally, respondents made suggestions for methods to promote organic cotton consumption in South Africa. A majority (41.9%) indicated it should be readily available and affordable.

Further, respondents mentioned the usual media advertisement such as TV broadcasts, Radio advertising and online campaigns via websites and social networks. Finally, respondents also suggested connection to the product background and honest and transparent communication on product labelling.

CHAPTER EIGHT

ACTIVITY ANALYSIS: SAOCP

8.1 Introduction

Chapter eight presents the Activity Analysis investigating the dynamics between various actors involved in the production and consumption system of organic cotton, specifically the SAOCP system. The analysis was informed by the collected data from the in-context immersion, consumer survey, a focus group with designers and interviews with other relevant actors in the SAOCP.

8.2 The SAOCP Activity System

Chapter four summarised the Activity Analysis as an appropriate analytical framework for the study. The activity system is central to the framework representing separate elements jointly forming a holistic system creating new outcomes (Korpela, Soriyan and Olufokunbi, 2000). Separately the individual elements have different goals, however jointly contribute to a holistic and cyclical production-consumption rhythm. The objective (the promotion of organic cotton use) is shared among the subjects (involved actors in the system) and transformed into a jointly produced outcome (a humanised organic cotton value chain and increased awareness for sustainable fashion and textiles) giving meaning to an activity (*ibid.*). The system is dynamic, if one part changes it affects the other parts.

The following activity system (in Figure 8.1) arose when placed in context of the South African Organic Cotton Project:

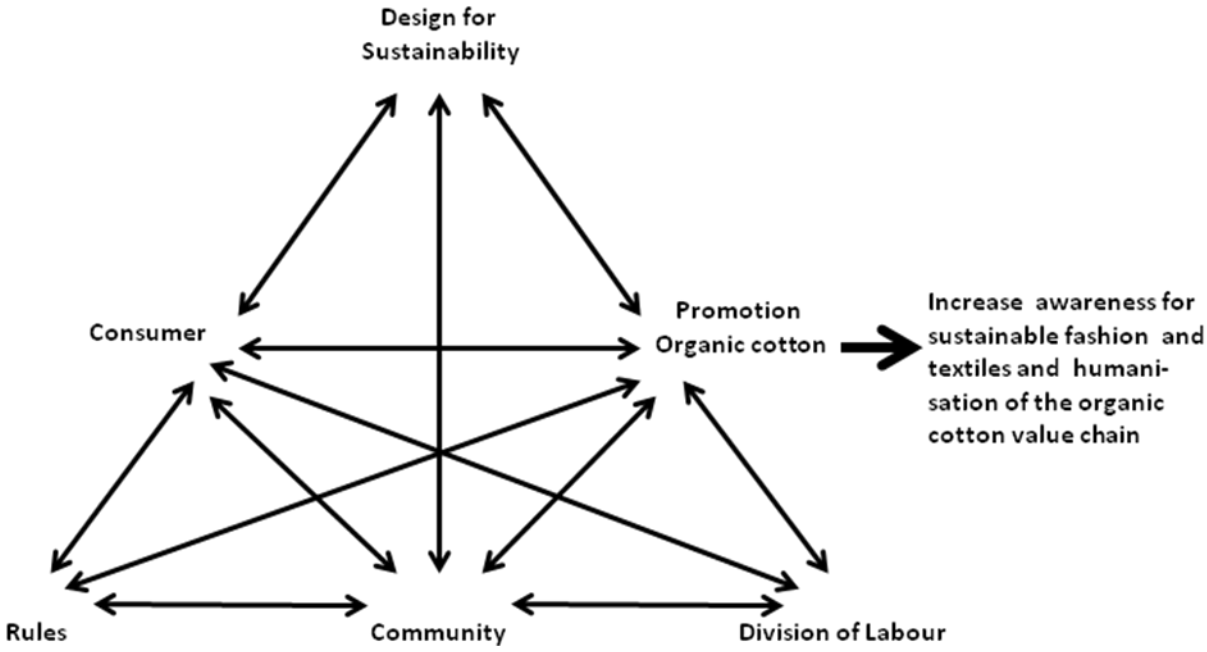


Figure 8.1 The SAOCP Activity System

The activity analysis distinguishes the following key elements:

- *Subject:* the South African consumer who purchases, uses and discards products;
- *Object/objective*: Promoting the use of locally produced organic cotton products among South African consumers;
- *Instrument:* The Design for Sustainability model, focusing on System Design for Sustainability in specific.
- *Community*: everyone who is an actor in the SAOCP project. This includes for instance the extension officer, the tribal chief, Cotton SA and Woolworths.
- *Rules:* There are different types of rules in this context, such as the organic cotton production standards and certification policies. Rules also refer to the socio-cultural and geopolitical matters in the farming community where a traditional tribal chief controls the land tenure;
- *Division of labour:* All people involved in the local production (such as farmers, extension officers and manufacturers), management (Cotton SA), distribution, marketing and sales (Woolworths) of the locally produced organic cotton products.
- *The outcome*: promoting awareness for locally produced sustainable fashion and textiles products among South African consumers. Moreover, the outcome aims for a more humanised and interconnected value chain of organic cotton products.

The objective in Figure 8.1 is the promotion of organic cotton use by South African consumers aiming for a more humanised and interconnected value chain of organic cotton

products, as well as promoting awareness for locally produced sustainable fashion and textiles products. The collective activity is mediated by the Design for Sustainability model, specifically facilitating innovative actor engagement in the value chain. The activity is shared by the wider community, facilitated by the division of labour and regulated by the rules. The particular activity analysis mainly focuses on *actions* and *activities* based on the three-level Activity Theory model by Leont'ev (discussed in heading 4.4).

8.3 Actors in the SAOCP

The South African Organic Cotton Project serves as an excellent platform (and starting point) for arriving at the outcome that increases awareness for locally produced sustainable fashion and textiles products. The SAOCP setting contains a great number of primary, secondary and tertiary actors, illustrated in Figure 8.2.

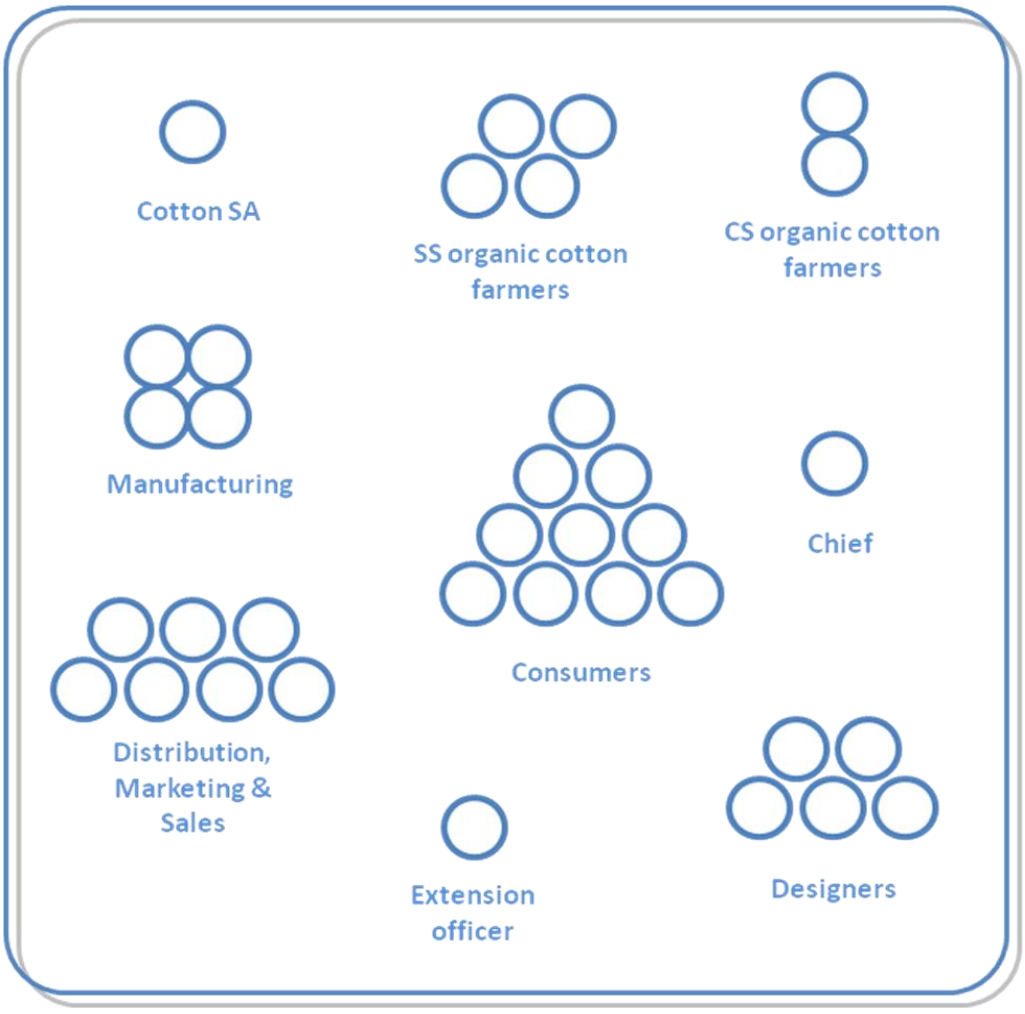


Figure 8.2: Actors in the SAOCP domain

The explicit group level actions of the diverse actors illustrated in Figure 8.2 are:

- Small-Scale (SS) organic cotton farmers: *growing and harvesting of raw organic cotton.* The small-scale farmers are regulated by the Chief and receive specialist input from the Extension Officer.
- Commercial-Scale (CS) organic cotton farmers: *growing and harvesting of raw organic cotton.* The commercial-scale farmers are independent/autonomous producers.
- Chief of the Small-Scale farming community: *regulation of the tribal community, apportioning land for agricultural use.* The Chief is the official gatekeeper in all aspects relating to communal governance.
- Extension Officer: *assisting small-scale organic cotton farmers with technical support.* The extension officer acts on behalf of the Department of Agriculture by offering specialist advice/guidance by mediating between the farmers, the Chief and Cotton SA.
- Cotton SA: *farmer training and inspection of cotton fields, as well as quality control of cotton fibre.* This organisation is responsible for training farmers by carrying out field visits, scouting fields, and facilitating weekly meetings in a designated space. Cotton SA also performs laboratory quality control to ensure acceptable international standards.
- Manufacturers: *these include ginneries, yarn spinners, fabric producers and apparel producers.* Manufacturers are involved in the processing and manufacturing of organic cotton products. Though this is a key actor within the textiles sector, this study precludes ad in-depth analysis of manufacturers as limited design intervention would be required for the envisaged PSS strategy to function adequately.
- Distribution, marketing and sales outlets: *merchandising of the organic cotton products.* At present only Woolworths offers a locally produced organic cotton range.
- Designers: *creating products, services and systems*. This category includes Fashion and Surface designers, Graphic designers, and Service designers.
- South African consumers: *purchasing, using and discarding artefacts.* The typical consumer relies on media advertising and in-store promotions on available organic cotton products.

8.4 Group level analysis

Next, Figure 8.3 illustrates the relations between prominent actors and group activities in order to provide a holistic view of the SAOCP production system.

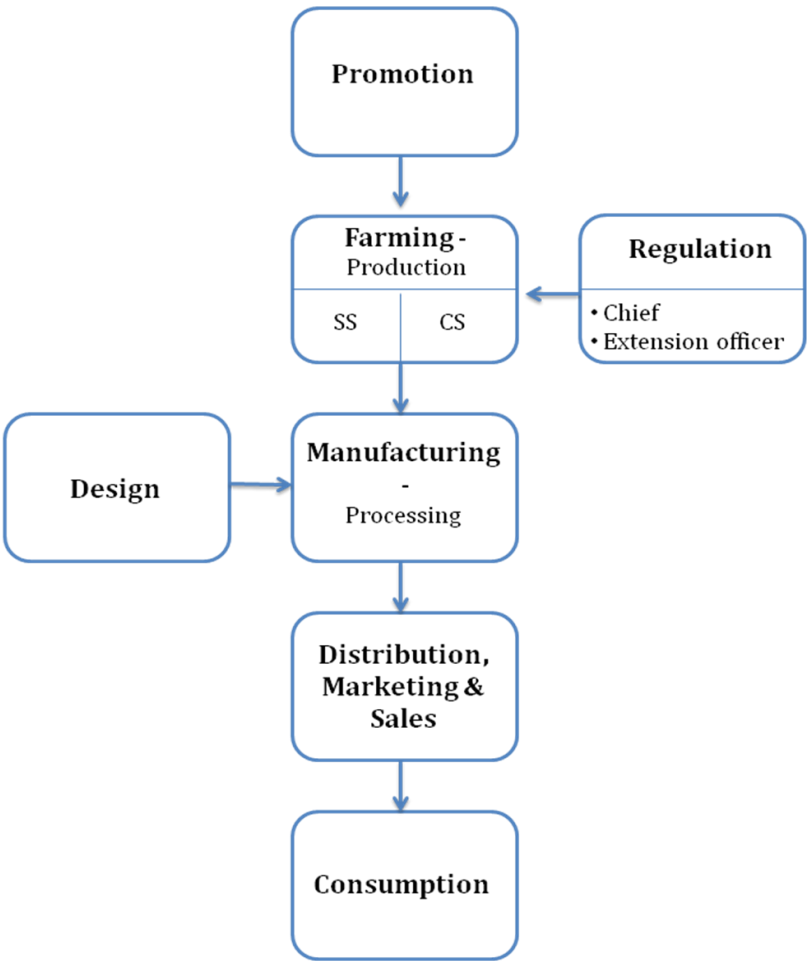


Figure 8.3 SAOCP production system

Figure 8.3 illustrates where each actor and activity transfer value to the eventual product. The starting point of the production chain was the promotional phase in which the SAOCP was founded. Cotton SA among others is involved in this phase. Next the small-scale and commercial-scale farmers grow the cotton. In the small-scale farmer's case this is regulated by the Tribal Chief and Extension Officer. Next the manufacturing phase processes the cotton plant into fabric. The design process plugs into the manufacturing phase deciding on the styles, colours, finishes and more. In this instance the process of designing is carried out by Woolworths who is also responsible for the distribution, marketing and sales of the organic cotton products. The final phase is the consumption of the organic cotton range by South African consumers.

Subsequently, the actions of the variety of actors within the group level are demonstrated in Figure 8.4.

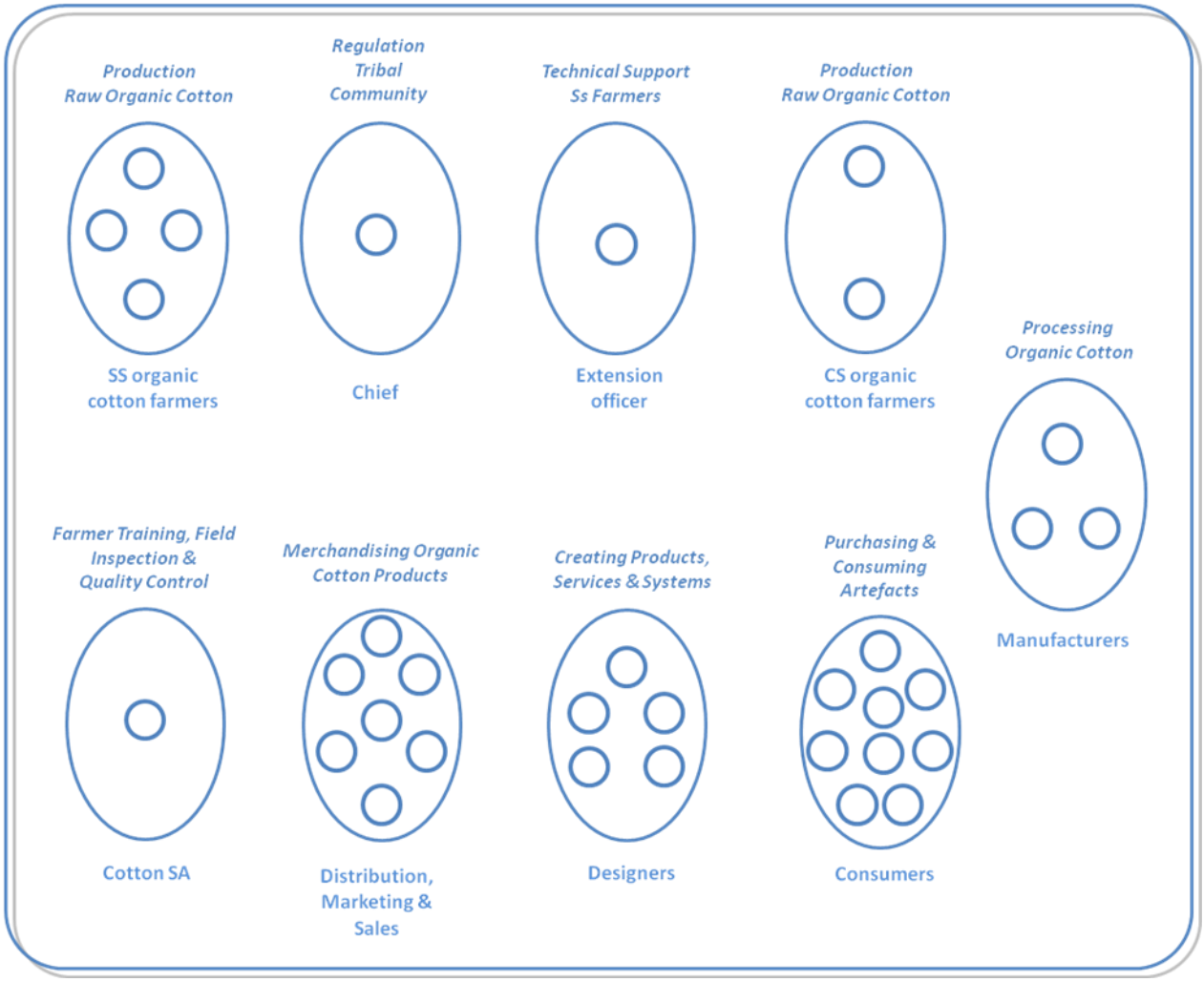


Figure 8.4 Group level activities within the organic cotton domain

The activity analysis has further been separated into an organisational and societal level, discussed in heading 8.5 and 8.6.

8.5 Organisational level analysis

The first level, the organisational analysis level, is mainly positioned in the Mpumalanga Province and partially in the Limpopo Province where the case study has been conducted. Figure 8.5 illustrates an alliance of five main groups of actors and activities on the organisational level: the small-scale organic cotton farmers, commercial-scale organic cotton farmer, chief, extension officer, and Cotton SA. Each group specialises in explicit activities, such as growing cotton or regulation of farming communities. The specific organic cotton farming activities are managed by Cotton South Africa, whereas the chief coordinates land tenure. However, Cotton South Africa and the extension officer share similar activities despite aiming at different goals. Both groups facilitate the SS farmers with (technical) support of organic cotton practices. Less significant actors in this level (such as consumers)

have been faded out in the figure and will be discussed on the societal level analysis. Figure 8.5, and the other activity analysis can be found in a bigger size in Appendix G.

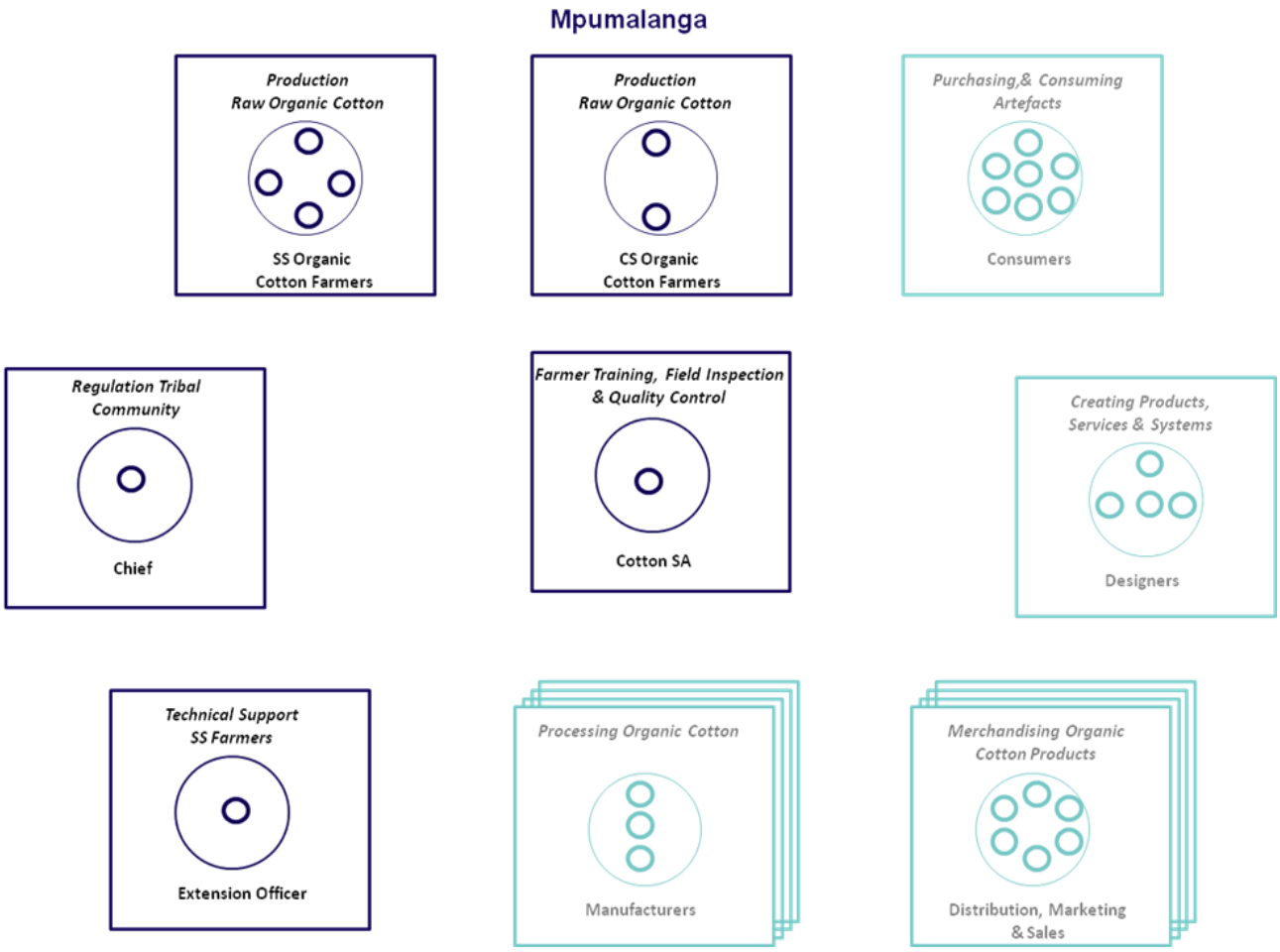


Figure 8.5: Organisational level activities within the organic cotton domain

All actors in this particular level coordinate the raw material production of organic cotton through interacting with one another. The in-context immersion revealed a number of contradictory and positive information flows on organisational level. An overview of these interactions in the network have been demonstrated in Figure 8.6.

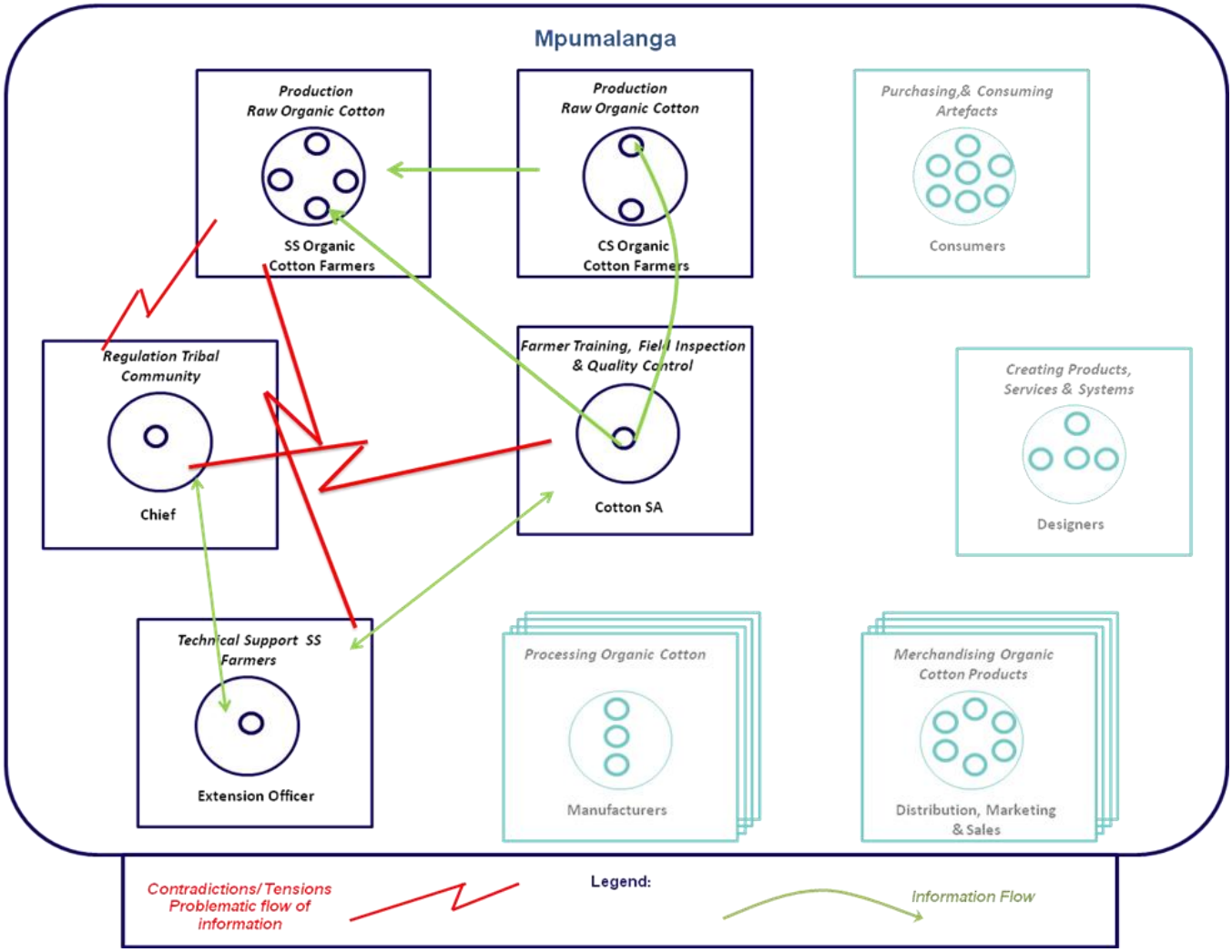


Figure 8.6 information flows on organisational level

The red (lightning strike) lines represent tensions or contradictions between the variety of groups involved in the system, whereas the green lines stand for satisfactory information and interaction flows. Sub-headings 8.5.1 to 8.5.8 discuss these flows among the groups involved on organisational level.

8.5.1 SS farmers and CS farmer

Although not part of the same community or geographical location, a positive information flow is present between the CS farmer and the SS farmers. This has been a one-way flow from the CS farmer to the SS farmers, of lending equipment and offering “mentorship” for growing cotton. As examined in chapter six, the CS farmer has over ten years experience growing cotton and is able to assist the SS farmers in optimising the cotton farming process.

8.5.2 SS farmers and the Chief:

A tension between the SS farmers and their communities’ tribal chief has been observed by the researcher. The farmers are expected to update the chief regularly on agricultural

matters. During a meeting with the chief the researcher noticed the chief was unsatisfied with regards to the frequency of his interaction with the organic cotton farmers. The chief exclaimed that it is important to be kept up to date with regards to the SAOCP. Moreover the SS farmers are part of a traditional tribal community (as discussed in Chapter Six), where, land is owned and controlled by the chief as a custodian of communal lands. Landownership might become a serious threat for small-scale farmers, for instance when the farmer wishes to expand their organic cotton growing practices. Issues of landownership have occurred where for instance the organic cotton field of the female farmers had been destroyed and taken over by other individuals from the community. The reason for this was a misunderstanding with regard to the appointed land by the chief.

8.5.3 SS farmers and the Extension Officer

The extension officer plays a critical regulatory role in the SS farming community, providing technical support, motivating SS farmers and driving the agenda of weekly meetings. This support is essential as SS farmers currently have insufficient knowledge and experience with organic cotton growing. He is also an important link in promoting the SAOCP among other farmers in the surrounding communities by organising informative gatherings. When attending a meeting with the extension officer and SS farmers the researcher observed that the extension officer did not have sufficient technical knowledge on organic (cotton) farming to offer sufficient support to SS farmers.

8.5.4 SS farmers and Cotton SA

There is a positive information flow between the specific actors in the system. Cotton SA carries out farmer training, field inspections and facilitates weekly meetings with the SS farmers. The personal and devoted commitment of the representative of Cotton SA towards these activities was pivotal for creating satisfactory farming management. Over the years, he has established close relations with the SS farmers who agreed to have a pleasant mutual working relationship.

8.5.5 CS farmer and Cotton SA

The information flow is similar to the one with the SS farmers with weekly meetings and inspections. However, the CS farmer requires less management from outside.

8.5.6 CS farmer, Extension Officer and Chief

The CS farmer does not interact with the chief as he is not part of the same community. Moreover, the CS farmer does not have an information flow with an extension officer as the farmer has sufficient knowledge and a proactive approach to farm independently.

8.5.7 Cotton SA and Extension Officer

Cotton SA and the extension officer of the SS farming community have a positive two-way information flow. Cotton SA instructs the extension officer on further (technical) assistance of SS farmers. The extension officer in turn gives updates and feed-back from farmers and the chief.

8.5.8 Cotton SA and the Chief

There is no direct information flow between Cotton SA and the chief, instead, the extension officer (and from time to time the chief's representatives) facilitates between the two parties. This generates a contradiction, where a disturbed interaction or relation between Cotton SA and the facilitator might cause friction in the relationship of Cotton SA and the tribal chief. Having a "middle-man" might increase bias and misunderstandings among actors. Cotton SA should establish a direct connection

8.5.9 Threats within the Organisational Level activities

Two major threats have been identified on organisational level. One of the treats found arises from the involvement of the chief with the organic cotton farmers. The issue of landownership could potentially affect the independence of the sustainability of small-scale cotton farming. This is an issue that might require subsequent research and is not the purview of this particular study.

A second threat might be the extension officer's lack of technical knowledge on organic farming. This can be seen as a threat, as this particular actor is important to SS farmers as the knowledge on organic farming has not yet been internalised. If the extension officer does not perform accordingly, the system could become more fragile. Appointing extension officers with adequate technical, agricultural and organic farming knowledge is a necessity. In this study's context, training extension officers is essential to provide a support system within the farming community.

8.5.10 Opportunities within the Organisation Level activities

The strong collaborative nature of the relationship between the SS farmers, CS farmer and Cotton SA provide a strong foundation for a successful (interconnected) organic farming system as they have already been organised in "cooperatives" which work fairly well. Moreover, the chief offers a structure in terms of how land is utilised. The establishment of even more intensive interaction among the CS farmer and SS farmers provides a new sense of community within a usually disconnected value chain. Moreover the mentorship of the CS

farmer provides a different kind of assistance (from an “insider” perspective) as both parties share the same activity, growing (organic) cotton.

8.6 Societal level analysis

The societal level activities are measured on a national basis (in South Africa) and have been illustrated in Figure 8.7.

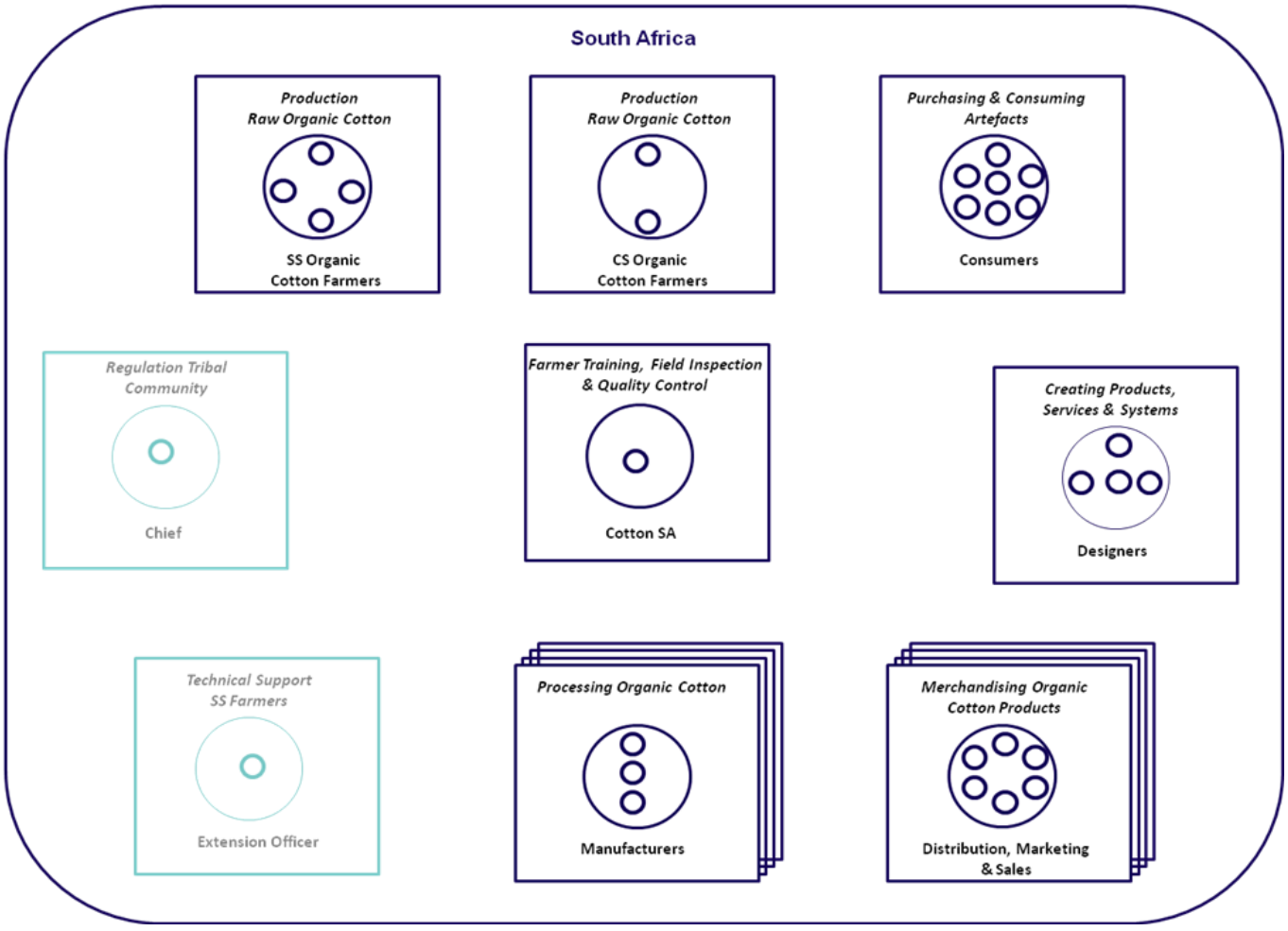


Figure 8.7: Societal level activities within the organic cotton domain

As can be observed, the societal level has a bigger variety of actors as the case study (in Mpumalanga) is part of a much broader spectrum. The societal level includes consumers, designers, manufacturers and distribution, marketing and sales. Two actors (the chief, extension officer) who were essential in the organisational level have been faded as they are less relevant in this context.

The following activity system (Figure 8.8) illustrates the main information flows within the aforementioned societal level.

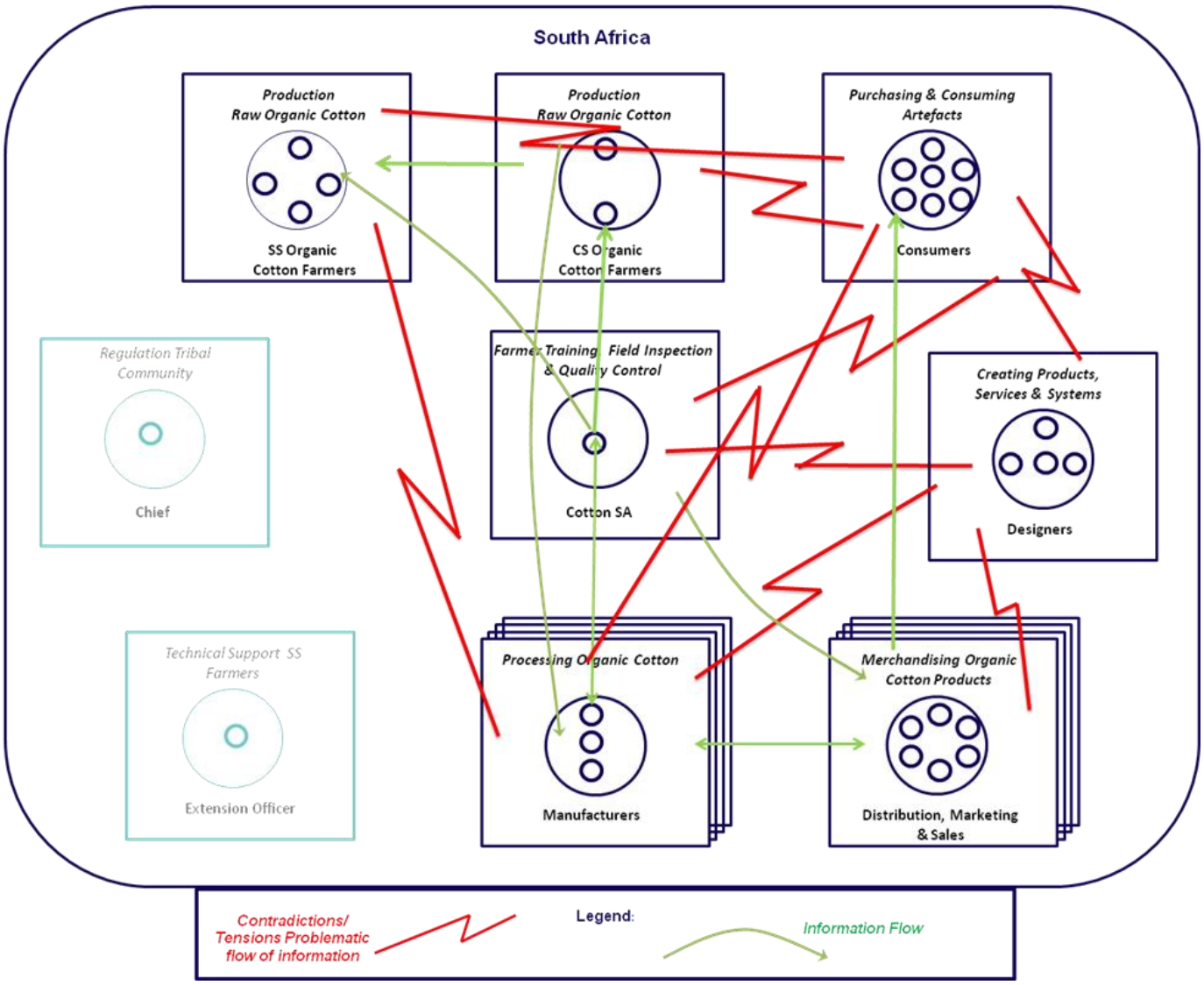


Figure 8.8 information flows on societal level

The red lines indicate the contradictions in the actions and operations of the actors involved on societal level. The green lines show satisfactory information flows between the range of actors. The specific contradictory and positive information flows on societal level are clarified in headings 8.6.1 to 8.6.10.

8.6.1 SS farmers, CS farmer and Consumers

Presently there is no information flow between the South African consumers and both types of organic cotton farmers. The small-scale cotton farmers are unaware of what the end products look like and through which processes it goes through to make an end product. On the other hand, consumers are only “seeing” the last step in the value chain, the retailer

(Woolworths) selling the end product. This could be seen as a contradiction for both primary actors. The consumer (in chapter six) seems to be uninformed about the background of an organic cotton product and feels somewhat unconcerned to make a more "sustainable" purchase. This results in a lack of empathy for the producers of the products they consume. Yet other consumers realise they are uninformed and have shown an interest in getting acquainted (whether directly or via an online platform or other stakeholder) with the producers and production process of organic cotton. From the farmer's viewpoint, getting familiarised with the entire value chain could boost their enthusiasm for growing organic cotton. Moreover, growing organic cotton is experienced as something challenging by SS farmers at present. The *Value Chain Card Game* was visualised in the presentation and "tested" on the focus group to obtain a general idea of their awareness of the cotton value chain.

8.6.2 Consumers and Designers

The designers currently involved in the SAOCP chain are Woolworths' designers who create the locally produced organic cotton products. Other designers such as design students, design educators and other professional designers are not involved in this value chain. The current designers communicate indirectly with consumers via Woolworths' advertising campaigns. For further clarification see sub heading 8.6.4.

8.6.3 Consumers and Cotton SA

Cotton SA at present does not have an information flow with South African consumers with regards to locally produced organic cotton products. The organisation has previously led the promotion of locally produced conventional and GM cotton through the launch of the Cotton Mark, different forms of advertising, publishing cotton manuals and more. Hein Schröder (2010b) has indicated Cotton SA is interested in being involved in the promotion of locally produced organic cotton products.

8.6.4 Consumers and Distribution, Marketing and Sales

Woolworths has been the single actor responsible for distribution, marketing and sales of the locally produced organic cotton products. In addition the retailer has been the main actor for the promotion of the products. Woolworths has been a crucial actor as it was the direct contact (sales point) between consumers and the organic cotton products. Moreover, as seen in Chapter Eight, a substantial number of consumers (18.6%) indicated first heard about organic cotton apparel through this retailer. The information flow between the actors is a one-way flow from Woolworths to consumers. A representative of the Woolworths' Marketing Department, indicated that Woolworths did not request feedback from consumers,

because the locally produced organic cotton products are seen as a niche product group and less profitable. The particular interview with Wallis (2010) is presented and analysed further in Chapter Nine.

8.6.5 CS farmer, SS farmer and Manufacturers

The small-scale organic cotton farmers have a disturbed information flow with the manufacturing responsible for further processing of the product. As discussed in Chapter Six, a knowledge gap among SS farmers has been discovered by the researcher, where they were not able to identify the further steps in the cotton value chain. These actors are not conscious of the collective motive/outcome in the activity system. The farmers indicated to be aware of the ginning process as they have visited the Loskop gin before. Other than that, the SS farmers are disconnected from the value chain of organic cotton and feel a desire to familiarise themselves more with the manufacturers and other key actors in the chain.

The commercial-scale farmer on the other hand has a better information flow with manufacturers, he has close links with the Cotton Gin in Loskop and is aware of subsequent manufacturing processes (as appeared from the Value-Chain Card Game results).

8.6.6 Manufacturers and Cotton SA

Cotton SA has good relations with several manufacturers of the locally produced organic cotton supply chain up to the spinning process. Cotton SA's representative has regular meetings with the cotton gin in Loskop. Additionally, the organisation participates in the price negotiations with cotton spinners. According to Cotton SA's representative Woolworths has been in charge of organising further processing of organic cotton after the spinning process.

8.6.7 Distribution, Marketing, Sales and Designers

As mentioned before, at present Woolworths is responsible for the distribution, marketing, sales and design of the locally produced organic cotton products. Woolworths (distribution, marketing and sales) does not have an information flow with designers outside the retailer. Other designers such as design students, design educators and other professional designers have not been involved in this value chain. There is a need to include these local designers in the SAOCP value chain. Woolworths could facilitate in this process by involving design students or young designers in for instance marketing or design projects for the SAOCP. Moreover, when informed properly, local designers could facilitate the re-connection between the consumers and cotton farmers (or other key actors) in this project.

8.6.8 Information flows among other actors

CS farmer and Cotton SA: see description organisational level analysis.
SS farmers and CS farmer: see description organisational level analysis.
SS farmers and Cotton SA: see description organisational level analysis.

There is currently no information flow between consumers and manufacturers of organic cotton products. The potential exists to re-connect consumers and manufacturers in a similar manner as with consumers and farmers. The proposed design strategies in this study are adaptable and with additional research might be implemented in this context.

In addition there is also no information flow between Cotton SA and Designers. This information flow could be established to possibly unite designers with cotton farmers through design projects and research. The same re-connection between designers and manufacturers could be established but is not the main objective of this particular study.

8.6.9 Threats within the Societal Level activities

The activity analysis in Figure 8.8 reveals a number of threats for the sustainability of the SAOCP. Firstly, the SS farmers currently completely rely on funds from the SAOCP, without this funding and intensive involvement of Cotton SA (for the coming season), SS farmers will face (financial and management) difficulties and the sustainability of the system might become fragile. Another issue identified by the researcher is Woolworths involvement in the project as the distributor, marketing and sales representative. The retailer perceives (according to Wallis (2010), as will be presented in Chapter Nine) the SAOCP clothing range as a niche range with little opportunity of development within Woolworths' practices. The focus is more on promoting their business CSR and adopting the principle as their own instead of promoting the entire SAOCP. The identified threats need to be considered (and interactions need to be revised) to improve future interactions between all key actors involved in the activity system.

8.6.10 Opportunities within the Societal Level activities

The activity analysis reveals the following opportunities and optimised relations:

- Establishing interaction and collaboration between farmers and consumers will have many benefits. Chapter Six and Seven have already revealed a willingness from both parties to contact one another (for educational purposes). The re-connection might enhance the confidence of SS farmers, making them feel more appreciated for their activities. On the other side, the consumers should be educated about the "stories

and people" behind organic cotton products to enhance their awareness for the production process and to promote more sustainable purchasing decisions.

- Designers should be included more in the system as facilitators of processes. They can strengthen relationships between different actors by incorporating participatory design techniques, designing educational advertising (supporting the retailer) and incorporate academic projects with farmers or manufacturers.
- Cotton SA should become more involved in the promotion of the SAOCP, providing consumer workshops and educational information. The organisation has implemented previous marketing campaigns for cotton and facilitates between several actors in the value-chain. Designers (design students in specific) could plug into these activities.
- The retailer responsible for the distribution, marketing and sales should become proactive in advertising the SAOCP clothing range. The retailers should move away from the linear connection with consumers to a more interactive and education focused relationship facilitated by designers who focus on co-design. Moreover, educational campaigns (on organic cotton products and systems) as supportive activities should facilitate a more innovative organic cotton value chain and establish an improved awareness and use of organic cotton among South African consumers.

8.7 Summary

Activity Theory served as an analytical lens in this study to examine dynamics of a variety of actors and groups sharing the objective of promoting organic cotton use in South Africa. The activity analysis proposed innovative stakeholder interactions, that may help re-connect these stakeholders in a generally complex and disengaged value chain.

Chapter nine provides a more detailed description of current promotional activities for the SAOCP. Further, the section provides formulation of design strategies, aiming to re-connect stakeholders involved in the organic cotton value chain, based on a focus group with designers and farmers and individual interview with other informants.

CHAPTER NINE
FORMULATION OF DESIGN STRATEGIES

9.1 Introduction

This chapter starts with an analysis of the state of sustainable production and consumption in South Africa. Next, it provides an in-depth discussion on the current promotional approach of the SAOCP and suggestions for future promotional practices. Finally, the chapter presents the development of design strategies, based on the generated data, research questions and objectives.

9.2 Sustainable production and consumption in South Africa

In this part, a presentation and analysis of findings concerning the sustainable production and consumption (SPC) practices in South Africa. The main informant in this is Ms. Johnston, the chairperson of the No KAK! initiative. The interview sought to establish Ms. Johnston's professional opinion with regards to sustainable production and consumption and other related topics.

When asked about the present situation of SPC in South Africa, Johnston (2010) identified an overall lack of awareness and understanding from consumers, organisation, and leaders; due to insufficient education on this subject. Although Johnston (2010) did believe that local consumers show interest in sustainability, she pointed out:

> *We're in a bit of a catch 22: the younger generation wants sustainability (for their own future's sake) but our society's leaders aren't equipped to pass on the knowledge for this. [...] The other current concern is "green-washing". Because of the lack of public education and awareness, people buy into these "green" products, trusting they're doing the right thing, but they're uninformed, don't stop to read product labels, etc.*

Schröder (2010b) confirms the lack of consumer awareness within respect to organic cotton products in South Africa, stating:

> *The consumers don't know where this [organic cotton products] is coming from, if I go to my grand children, and I buy them shorts and ask them where this is coming from, you know what they will say? "No! Why?" The same goes for other products. Because they are not educated. It comes from the shop; that is all that is important to them.*

In addition, a majority of designers were in concurrence the average South African consumer has a lack of knowledge when it comes to buying green or organic clothing.

Johnston indicated one could learn from African under-resourced communities who by default live more sustainably than the privileged:

> *They share clothing, food, home wares; pass on what they don't need and often inherit goods, thereby reducing waste to landfill. The social challenges [such as availability of water, electricity, sanitation] therefore present our greatest opportunity to develop South Africa into a truly sustainable economy* (Johnston, 2010).

Johnston, however, did identify challenges at advancing the middle and upper income classes to invest in cleaner products. She stressed the need to adjust the perception of "well being" in today's society where one has to distance him/herself from the "*throw-awayism"* and declared the local government should be held accountable for this (*ibid.*). This idea has also been stipulated by Vezzoli (2008) in Chapter Three.

In regard to advancing a sustainable fashion industry in South Africa, Johnston (2010) identified two important factors in this process; retailers and creative communities. Firstly, major retailers"*have an incredible reach and authority and have instilled trust in the community of consumers. They have bigger budgets to spend in promoting better choices, to pay for research and product development, have bigger buying power to impact each step of the value chain"(ibid.).* Secondly, on a much smaller scale were the creative communities who were easier to engage with since they already shared solutions and tools with one another. Johnston saw creative communities as an important social aspect in our generation, however, *"creative communities will always be "fringe" in comparison until their concepts are included into the conventional retail offering" (ibid.).*

Analysing the options, Johnston two (opposite) players are able to promote the advancement of the local sustainable fashion industry. The first, from a major retailer perspective, could be seen as a *top-down* approach. With this approach the power is in the hands of the retailer who is responsible for choosing specific policies or methods. A second, smaller-scale creative community approach could be seen as a *bottom-up* approach, initiated by grass

roots. These communities aim to solve daily ‘issues’ in a collaborative, connected and humane manner.

On its company website No KAK! states their main objective as: *To build a value chain for sustainable consumption and production of design in South Africa*. In response to questions posed on how No KAK! aimed to achieve this objective; how they seek to build a local sustainable consumption and production of design, she (2010) pointed out there are two sides:

> *In encouraging the design industry to produce products and services with the smallest environmental impact, designers will start requesting, researching, and demanding (hopefully!) materials that are produced without the use of harmful and unnecessary chemicals. Designers will influence their supply chain by making these demands. Secondly, by showing consumers and retailers that environmental design is as attractive and achievable, they will start demanding more of these products too. This is why we believe designers play such a vital role in influencing sustainable development – they are the link between the consumer-world and manufacturers, material suppliers etc.*

Johnston (2010) believed an increased availability of good choices would encourage demand the more competition between products, the more the price level would decrease.

In conclusion, Johnston identified a group of appropriate drivers of sustainable consumption and production in South Africa:

- South African retailers and business leaders;
- the younger generation of South African consumers;
- creative communities;
- local designers and;
- local governments, municipalities.

Interestingly, the researcher has identified similar actors as key drivers of locally produced organic cotton. Johnston’s suggestions inspire a new approach to design strategies, based on multi-disciplinary networks of interaction, to create awareness for the importance of a sustainable fashion industry.

In sub-heading 9.3 a prominent retailer explains promotional strategy for organic cotton in their stores and planning to promote this product.

9.3 Present method of promoting the SAOCP-range

Woolworths is the only sales outlet for the SAOCP-range. The retailer has also been the main channel for promoting the project. In an interview with Rebecca Wallis (Marketing and PR, Woolworths), the promotional campaigns of the SAOCP-range were discussed.

Wallis (2010) explained the SAOCP-range was first introduced in July 2010 and existed of a series of men's and women's T-shirts. The SAOCP-range was overarched by Woolworths' *Innovations* campaign which she described as followed:

> *The innovations campaign has a clothing focus and includes things like Magic [slimming clothing], the safety policy that we use on baby clothing, and Eco-walkmates [recyclable kids footwear]. So it includes all sorts of different categories, it is not necessary about something that is linked to sustainability or linked to organic, it is anything that lives within innovation, and obviously includes things that link to sustainability. So the strategy with the Innovations campaign is; every season, which is every 6 months, we will do an in store-launch. This in store-launch includes things like window banners and ticketing. And it also includes elements like plasma screens and online web promotion. Whenever there is stock on the floor that links to that innovation, there needs to be banners and ticketing to highlight it.*

Wallis (2010) mentioned an *Innovations* campaign for products or processes in which Woolworths considers itself an industry leader, in or where the retailer was the very first to introduce a certain material innovation.

When asked about the message (the story) of the 2009 marketing campaign of the SAOCP-range, Wallis (*ibid.*) clarified Woolworths did not particularly communicate an extensive story about the range besides mentioning it was the first locally produced, 100% organic cotton range. In addition, the message of the SAOCP-range was intended to:

> *create awareness of sustainability, but at the same time all of this was part of this Innovations message. [It] does not necessarily have a direct link to the farmers. We could have put the farmers in there, but it would have been a very different kind of message, not the one that we were trying to create.*

When asked about the reason for not including actual producers in the marketing campaign, Wallis pointed out that Woolworths at times does use the "real people strategy" in commercials, but not for this campaign. She explained two different aims could have been followed in the campaign. The first was a commercial, sexy and desirable campaign, "giving it a lifestyle twist". A second choice was a serious campaign communicating the *backstory*

and origin of the product. *"This approach is powerful and moving and beautiful, but less commercial" (ibid.).* In the 2009 marketing campaign the first, commercial, approach was decided, visualising a sexy young couple dressed in the SAOCP T-shirts (as seen in Figure 9.1). Furthermore, Wallis (2010) revealed that the following campaign will not feature people at all; being more technology driven and the "innovation" should be self-explanatory. The range would be expanded in units and in designs of the T-shirts, however, no changes would occur in the marketing campaign from the previous one.

Figure 9.1: Woolworths' SAOCP promotional campaign (source: Wallis, 2010)

Wallis (2010) clarified that the Innovations campaign was successful, however, the SAOCP clothing range was the least successful of all products. She admitted a too small amount of stock played a role in this but in addition said even while the range was available, it did not rapidly sell-out. Wallis (*ibid.*) added: *"To be honest, I don't think there is a huge growth plan for it; we are doing it because it's a point of difference."* As indicated in the previous chapter, it seems as Woolworths has adopted the SAOCP clothing range to promote its own business CSR, as a "temporary" innovative product.

The somewhat unsatisfactory sales of the clothing range could indicate the marketing campaign did not appeal to the consumer and a possible confusion about the campaign might have occurred. Referring to the questionnaire (Chapter Seven) and literature review (Chapter Two) it is seen there is, in fact, an interest in sustainable fashion from the consumer point of view. Several consumers in the questionnaire were of opinion there was a lack of availability of organic cotton products (see subheading 7.4 and 7.11). Woolworths possibly

did not provide sufficient or appropriate information to consumers to create awareness around the SAOCP. If using a similar promotional campaign in future, there is significant likelihood it might again book mediocre results. Moreover, the designer focus group revealed that participants found the commercial promotional approach unappealing and preferred a more humanised and realistic approach.

Schröder (2010b), Cotton SA, responded in the following manner to previous Woolworths' marketing campaigns:

> *What worries me is that the advertising campaign and promotion campaign [of the SAOCP-range], was the commercial approach. When we started with the organic cotton pilot project, I though Woolworths would have used the opportunity to explore that part of the organic campaign [pulling the production process to the surface]. [...] They are focusing on another aspect of what we or I think is important. You see, probably the commercial way will bring them more results. But this is still far away from educating the consumer. [...] We want to get these people [consumers] involved; they must feel part of the whole process.*

What Schröder (2010b) is proposing correlates more with the second promotional approach that Wallis (2010) discussed; communicating the *backstory* of a product.

9.4 Discussion on the method of promoting the use of organic cotton in South Africa

This sub-section explores ideas and suggestions on how to promote the use of organic cotton in South Africa and is derived from a focus group with local designers, two individual expert interviews (No KAK! and Cotton SA) and results from the consumer questionnaire.

9.4.1 General ideas on promoting organic cotton use in South Africa

Several actors in the organic cotton chain were asked to give input on promotional techniques to promote organic cotton use in South Africa. Designers have given input in a focus group where the researcher presented the context of SAOCP, presented initial ideas informed by literature and in-context immersion.

9.4.1.1 Step-by-step introduction

Schröder (2010b) indicated that it is highly important that promotion of organic cotton use in South Africa should be done in a gradual manner. He suggests firstly the consumer needs to get familiarised with the general concepts of organic cotton. Once consumers are more familiar with the concept of organic cotton and its practices, it is important to stipulate the origin and producers in a non-prescriptive and more active manner; *"Before contacting the*

organic cotton farmers, consumers should first know why they should do this" (*Ibid.*). Finally, the consumer will be prepared to engage with producers in an interactive way.

9.4.1.2 A South African oriented approach

Schröder (2010b) stipulated it is of great essence the promotional campaign does not copy the current "western" campaigns but stays true to the typically African context:

> *You have to focus on what will work for South Africa, not what will work for Europe or America. So I think whatever you do, which ever approach, you should look at where you are and who is involved. Because there will be some things that will not be working over here. Within our environment, keep it as simple as you can.*

In addition to this, in the theme of the SAOCP's objective, the focus of South African consumers needs to be re-established where they should support locally produced initiatives. Schröder (2010b) said: *"there is a need for a kind of patriotic feeling about locally grown organic cotton."* This is in accordance with the locality movement described in Chapter Three, creating a sense of community and supporting local manufacturers by purchasing local, story-telling, authentic products (Fletcher, 2008:141).

9.4.1.3 Positive, light and simple

Both Johnston (2010) and Schröder (2010b) feel strongly about a positive approach for the education of consumers on organic cotton and sustainability in general. Johnston (2010) indicated that consumer education on sustainability should not be executed by frightening people and focussing on the negative aspects: *"Fear is no way to motivate people to positive action."* Consequently, Schröder (2010b) clarified:

> *I personally feel that we are faced with so many negative things from morning to night. So why don't we look at scenarios that say, "do you know how fortunate we are that these people are prepared to produce organic cotton under these difficult circumstances?" This is what I feel we should focus on. But honestly I have had it with all these negative stories.*

Apart from communicating a positive message Johnston (2010) felt in today's society across the world consumers constantly have to make difficult choices. In this light, *"the concept of "sustainability" feels too big and out of reach for a consumer to achieve, so the majority just does their best in dealing with their busy lives" (ibid.).* She believes that offering better choices that are manageable would make the process more effortless in a world with an excess of artefacts and information. Johnston (2010) points towards the "KISS: Keep It Simple Stupid" principle as a suitable approach for educating local consumers on

sustainability. KISS can be seen as a philosophy advocating simplicity within business practices as well as human relationships. Schröder (2010b) agreed that a light and simple approach should be utilised: "*As far as I'm concerned, you just got to be careful in not overdoing it. You have to keep it simple, especially when you look at our consumer."*

9.4.1.4 Focus on the producers and reconnection

Schröder (2010b) felt the farmers' importance needs to be highlighted in informing consumers on organic cotton products. This has already been done in the food commodity market through farmer markets, box schemes and more initiatives where consumers (more) directly interact with the producer of their products. In this way consumers can directly empower producers and simultaneously create a richer sense of well-being. Schröder (ibid.) continues: *"What you are saying here is 'reconnecting', as far as I'm concerned this is the keyword for promoting locally sourced organic cotton, to reconnect people."* This is not the case with current cotton production.

Finally, Schröder (2010b) argues other players, such as retailers, in the value chain receive most appreciation from consumers for sustainable practices. Schröder (ibid.) explains:

> *I feel very strongly that not enough is been done to highlight the importance of the farmer in promotional campaigns. If it wasn't for the farmer, I would not have been able to wear this T-shirt. Nobody gives the recognition for the important role which they [cotton farmers] play, for their involvement. While in fact they are for instance helping the job creation. The people must know that these farmers have gone through a lot of risks to put food on the table or to put clothing in your wardrobe. It's not the retailer, they just use the situation as a promotional campaign.*

Schröder (*ibid.*) is arguing that the "value" of sustainability is recognised at the wrong place in the value chain. These actors (retailers) are usually not the ones taking risks and in fact have considerable power in pushing producers in lower cotton prices.

9.4.1.5 Involvement of designers

Both Johnston (2010) and several designers participating in the study put forward the idea of involving designers in the promotion of the locally produced organic cotton products. Johnston saw designers as appropriate drivers of sustainable consumption and production in South Africa. Designer 8 and 1 suggested to involve design students in projects collaborating with the SAOCP, either via Woolworths or through Cotton SA. Both were specifically enthusiastic about participation of designers on farming or manufacturing levels in the value chain. These suggestions are in harmony with Participatory Design (see Chapter Four),

where designers and farmers (or others) collaborate in projects towards solving a problem or creating a design of a product service system. Designers should also be more actively involved in the local organic cotton production and consumption system to facilitate connections between actors in the chain as well as facilitating the promotion. The designer could then be viewed as a social entrepreneur enhancing change at micro level (Maina & Bergevoet, 2010).

9.4.2 Specific promotional techniques presented and reviewed by informants

The following specific promotional techniques have been discussed and reviewed during a focus group with designers, an interview with Hein Schröder and the in-context immersion with the cotton farmers. The researcher identified a range of potential promotional techniques derived from the literature review and the results of the research findings.

9.4.2.1 Farmer days and other direct contact incentives

Subsequent to engaging with the Value Chain Card Game farmers indicated to be interested in communicating with other actors in the cotton value chain. It was also indicated in Chapter 6 (sub-section 6.8) SS farmers had engaged with school children before as to educate them on agricultural procedures and felt appreciated. They pointed out to be interested in participating in similar encounters with scholars, consumers and people involved in the industry. In addition, during the in-context immersion the researcher visited a primary school in Pankop where a sustainable agriculture lesson plan is implemented. The dean of the Pankop Primary School was willing to include cotton farm visits in the school's programme. Furthermore, the SS farmers were keen on visiting all process involved in producing organic cotton. When the SS farmers' experience with school visits was mentioned to the CS farmer, Mr. Terblanche (2010b), too was eager to participate and sketched the following scenario:

> *I can already see this. It could be a competition for primary schools in Pretoria, Joburg [Johannesburg] or other big cities. Students will write an essay on organic cotton and from every school 1 child wins a 2-day trip to the organic cotton farm. They can help us pick the cotton, a small competition can be organised, they experience our daily activities on the farm and afterwards all children will present their experiences at their school. But also with their parents. As an alternative, or in addition, a cotton farm workshop of several days could happen for primary schools more close to the cotton fields as part of their education. These things are a very good way to reach people, and is especially good because the younger generation is our future!*

When the idea of cotton farm visits was introduced to designers during the focus group they appeared to be eager to participate: *"When we were young we had several school camps a*

year, you could easily organise this. (Designer 2)" and *"I think the farm days are a great idea, I can still remember when we were kids, we used to go on school trips and see where milk was produced, seeing a cow being milked. Kids can learn so much from visiting farms, it is important for them to learn about sustainability at a young age*" (Designer 1).

Schröder (2010b) also insisted on organising farm days as to reconnect consumers with farmers, simultaneously empowering the farmers. When the researcher brought up the idea of organising community tourism in the SS farming area Schröder (ibid.) was positive, as long as it remains fairly unobtrusive. He indicated that the SS farming community was surrounded by game lodges which could possibly organise day-trips to the farming community while at the same time selling SAOCP products. In this way the craftwork and textile projects produced in the community could potentially be sold as well. The female SS farmers Selomo (2010) and Maringa (2010) indicated that they were keen on selling craftwork or self-made clothing when consumers would visit the farming community. Additionally the women (ibid.) felt their community would benefit if dressmaking could be integrated in the SAOCP.

9.4.2.2 In-store promotion

Several suggestions were made and discussed in terms of the in-store promotion of locally produced organic cotton products.

The concept of *backstory* labelling was discussed with informants, illustrating examples designer by Birth (2006). These examples illustrated a systemised/simplified supply chain of a chocolate bar on its wrapper. The majority of informants were in agreement that product labelling with a *backstory* would be appropriate in promoting SAOCP products. Schroder (2010b) felt this would be a very suitable method for promoting locally produced organic cotton clothing. He said: *"This could be part of the educational programme of consumers, the first step of establishing awareness." (ibid).* Moreover, the designers were in agreement that his method would be a fairly quick and simple way to find out about the origin of a product, as long it would be concise and visually appealing.

Chapter 6 introduced an idea suggested by the SS farming community to sell craftwork with SAOCP products. The idea was presented in an interview with Hein Schröder and the focus group with the designers. All actors were keen, designer 4 (2010) said:

> *Personally I would buy something like that, even if it costs more. I will buy it because I know what it's contributing towards. If I would just see organic, I would think "oh wow great, I'm saving the earth but it costs me twice as much." But if you know what it is contributing towards, you can*

sell a broche or other product with it and actually say: so and so made this broche and so and so made this T-shirt. That is when it becomes so much more than just a T-shirt.

Schröder (2010b) in addition stated: *"This is absolutely a typical thing you can use in the South African context. You can include craftwork made by the female farmers in the promotional campaign because it is made by the same community. This is a perfect way to express traditions. And the ladies could even create beaded badges with a cotton boll on it."*

In combination with the backstory labelling system this method would have a strong narrative. Designer 1 (2010) felt there is a need to include a narrative in the promotion of SAOCP products:

I really think you should tell a story with your interventions. I can already visualise the whole process, seeing the cotton grow, and a lady farmer without teeth and a big smile. I would immediately buy this product. And why don't you make like a short movie with information? You can even ask students to help you, there are plenty of varsity students who need to do visual assignments.

Two designers suggested this movie could be shown on TV displays in the sales outlet. Designer 7 indicated that these movies could be placed on social network such as Facebook or on YouTube.

Corresponding with this, when the CS farmer Terblanche (2010b) was introduced to the previous promotional campaign, he was surprised to see models on the advertisement. In his own words (*ibid.*): *"I really expected one of the producers to be on it. These models do not tell the right story, Woolworths should include real people in this campaign. Especially in this campaign where we focus on local organic cotton, produced by our own people."*

9.4.2.3 Online Platform

The researcher introduced several online platforms (such as Anvil Knitwear's "Track my T" system in 3.4.3) which aim at creating awareness for sustainable products and reconnection between producer and consumer. This platform might include profiles of producers, a Track & Trace system, educational and technical information, a newsletter, educational game and a virtual farm tour. Schröder (2010b) felt this is an important method of promotion but did emphasise it would probably reach only a certain percentage of the whole target group. He suggested this method would need to focus on the type of consumer who are fairly aware of organic cotton and start researching it on their own. He indicated social networks, such as Facebook, should be included as part of the online promotion.

The Anvil Knitwear “Track my T” website is a perfect example of a Track & Trace initiative, following processes and actors involved in producing a cotton T-shirt. Furthermore it is an interactive and educational system for children to get familiarised with agricultural practices without actually visiting the farms. Schröder (2010b) pointed out a similar, but less extensive system. Several farmers in the SAOCP have been registered on the “String Traceability System” of Organic Exchange, a partner in the SAOCP. These farmers, and their geographical coordinates can be found on the Organic Exchange Website. Schröder (*ibid.*) was keen on incorporating this type of promotion: *“it gives the product more credibility by saying exactly what the position is and illustrating the farmer. The [Web] link could easily be placed on your swing ticket [product label].”* Schröder (2010b) indicated the organic cotton supply chain is more transparent than the conventional one. This has been confirmed by Organic Exchange (2009b) which additionally described the organic cotton supply chain to be more honest (showing processes that were previously not disclosed) and inclusive towards consumers. With respect to the “Track my T” system Schröder (*ibid*.) said:

> *I just wish it was possible to approach children with something like that, in schools etc. It is educational, which is so important, because that is where you start. A long time ago we used to have many booklets and things about cotton, we gave speeches at schools where we told them about cotton, why and what etc. And it really worked. But the financial means is the key word.*

In addition, the designers felt positive about the online platform because it would create a unique relationship between the consumer, product and producer. They said a similar system to the “Track-my-T” should be developed, where people (youth in specific) can learn in a simple, interactive and fun manner. Designer 2 said farmer profiles and stories might be very effective in creating awareness on the importance of choosing local, sustainably produced clothing. In reaction to this, Schröder agreed farmer profiles would be effective, but stipulated that the majority of farmers do not have access to Internet or do not own a computer. This means other actors, such as designers, should collect this information and keep it up to date.

9.4.2.4 Pop-up campaigns and workshops

The researcher illustrated several Pop-up campaigns used to promote products or to create awareness for certain concepts (such as recycling). All respondents felt very positive about this approach, in the words of designer 5: *“That is really cool! I would definitely stop and ask about it if I would pass it.”* Designer 3 additionally indicated this was a suitable way to get a person’s attention, she would take time to explore the pop-up instalment.

Schröder (2010b) identified the cotton pop-up (see Figure 9.1) being a particularly good concept, despite being somewhat unpractical. He (*ibid.*) stated: *"Can you imagine having an expo or pop-up in cities where you explain what cotton is, and consumers know what it is all about they can see it and feel it in real-life. That will immediately draw people's attention. The next time they go shopping they will say: "Mom I want a cotton shirt!"."*

Next, the researcher presents the recommended design strategies as a result of the study's findings and analysis.

9.5 Recommended design strategies

The proposed design strategies have been based on the findings of the study, design principles and the concepts of *(System) Design for Sustainability* and *Participatory Design*. Figure 9.2 graphically represents these strategies united in a holistic system map (which can also be found in a bigger size in Appendix C). It illustrates interactions divided in information, physical and financial flows, between key actors involved in the organic cotton value chain.

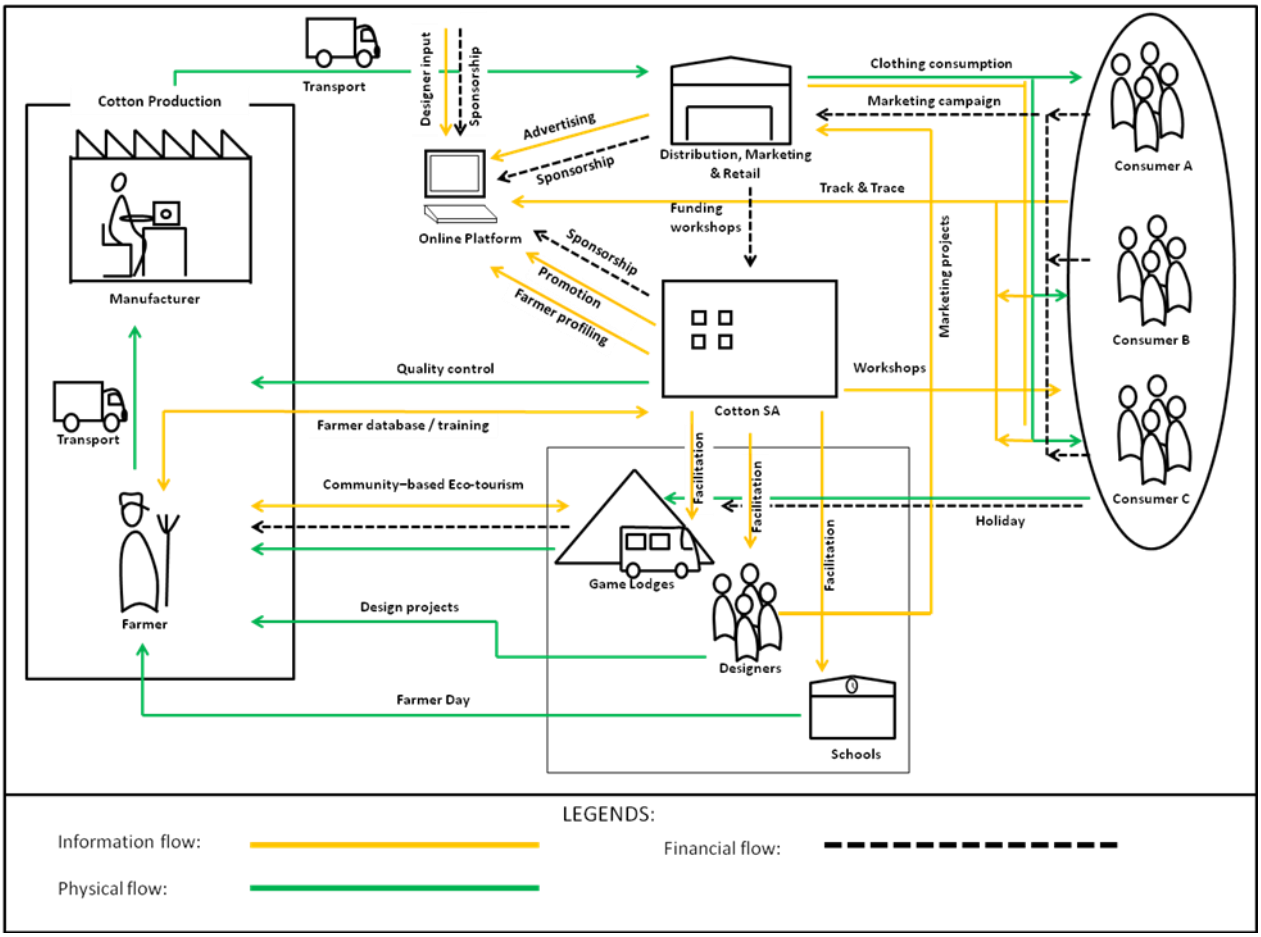


Figure 9.2: Systematic review of the design strategies

Prior to discussion the set of strategies in-depth, the consumer profiles had to be studied and captured with regards to ethical behaviour levels.

9.5.1 Consumer profiles

This study established three rough consumer profiles which have been based on findings from the consumer survey and analysis of the five typical classification of consumer behaviours on ethical purchasing. It is important to avoid the “one size fits all” principle which is often used by marketers and retailers. Techniques for promoting products and services need to be aligned with the dynamic nature of consumers.

The typical five consumer types with regards to ethical purchasing are (entrepreneurs toolkit, n.d):

- *LOHAS (Lifestyles Of Health And Sustainability) consumers*: consumers who have the highest environmental values and behaviours. They favour environmentally and socially improved products as well as healthier products, spend the most on these and are not as price sensitive as other consumers.;
- *Naturalites consumers*: consumers adopt a healthy lifestyle and purchase eco-products in their interest in doing more for the environment. They are loyal to companies identified with well-founded CSR programs and adhere to a healthy lifestyle;
- *Drifters (or Nomadics) consumers*: consumers follow the trends but their commitment to environmental behaviour is not strong. They are price sensitive and choose eco-products if it affects them personally;
- *Conventionals (or Centrists) consumers*: approach environmental purchasing on a practical level more with a view to reducing costs and not wasting than on achieving environmental goals. They will participate in municipal programmes such as recycling and energy saving initiatives.
- *Unconcerned (or Indifferent) consumers*: a consumer group that sees no need nor recognizes any connection between their consumption patterns and the effect they have on resources. They are caught up in the day-to-day challenges, not necessarily looking out for tomorrow.

Three of the five consumer types have been identified to be appropriate in this study’s context and will be discussed in heading 9.5.1.1 to 9.5.1.3. These specific consumers will be targeted in the multi-layered design strategies each interacting with different concepts.

9.5.1.1 Consumer A

The first consumer type is comparable with the *Conventionals* consumer, representing a majority of a typical consumer population. Consumer A is somewhat passive with respect to interacting with the products he or she purchases. He or she is very practical, price-driven, and does not have comprehensive sustainable attitudes. However, this consumer does have some environmental behaviour, such as recycling and other green initiatives that might save in costs or waste. They are loyal to specific products and services and have habitual behaviour and attitude. Consumer a is price sensitive and would not pay more than an additional 5% for sustainable products. He or she falls in a broad age group, from 18 to 60 years.

9.5.1.2 Consumer B

This consumer segment is similar to the *Drifters* consumers. They show sustainable behaviour, but this is mostly based on the concept's trendiness. These consumers engage more with sustainability compared to consumer A. However, this behaviour is not yet deep-rooted in personal beliefs because they feel they don't have real power to make a change. The consumers are more likely to be concerned about environmental and social issues if they are personally affected by it. Being a fairly young consumer group, between 18 and 30 years of age, they are technology driven, fashion and price conscious. These consumer are willing to pay up to 10% more for sustainable products . They are interested in showing their otherness, thus are receptive to brands and organisations offering "limited edition" or exclusive sustainable products (entrepreneurs toolkit, n.d). A majority of consumers used in this study would be considered part of this consumer type.

9.5.1.3 Consumer C

The third consumer type is positioned somewhere in between the *LOHAS* and *Naturalites* consumer categories. They are active advocates of sustainable practices, which are embedded in their entire lifestyle. Moreover, these consumers are seeking for environmentally friendly and socially viable solutions in sectors as: Sustainable Economy, Healthy Living, Alternative Healthcare, Personal Development, and Ecological Lifestyles (Lohas, n.d). They might do yoga, visit farmer markets, eat organic foods and support local craftwork initiatives. Consumer C believes sustainability goes beyond buying eco-friendly products. In their view it is a holistic system of interconnected people, products and services, and the environment. They engage actively with their products and go beyond reading a product label. However, these consumers are less "radical" in their behaviour in comparison to the American LOHAS consumers as sustainable production and consumption is a fairly

new concept in South Africa. This might cause certain paradoxes in their behaviour, where they would buy fairly traded and organic products, while also driving an SUV.

It is important that the design strategies, are situated in a holistic and layered system to best accommodate a variety of consumer types. Next, the four specific strategies are described, all aiming at revised interactions among actors in order to promote organic cotton consumption in South Africa.

9.5.2 In-store promotion

The first proposed strategy is also a common method utilised for promoting apparel. In-store promotion connects retailers and consumers in a physical manner. Figure 9.3 illustrates a section of the previous system map visualising the in-store promotion interaction.

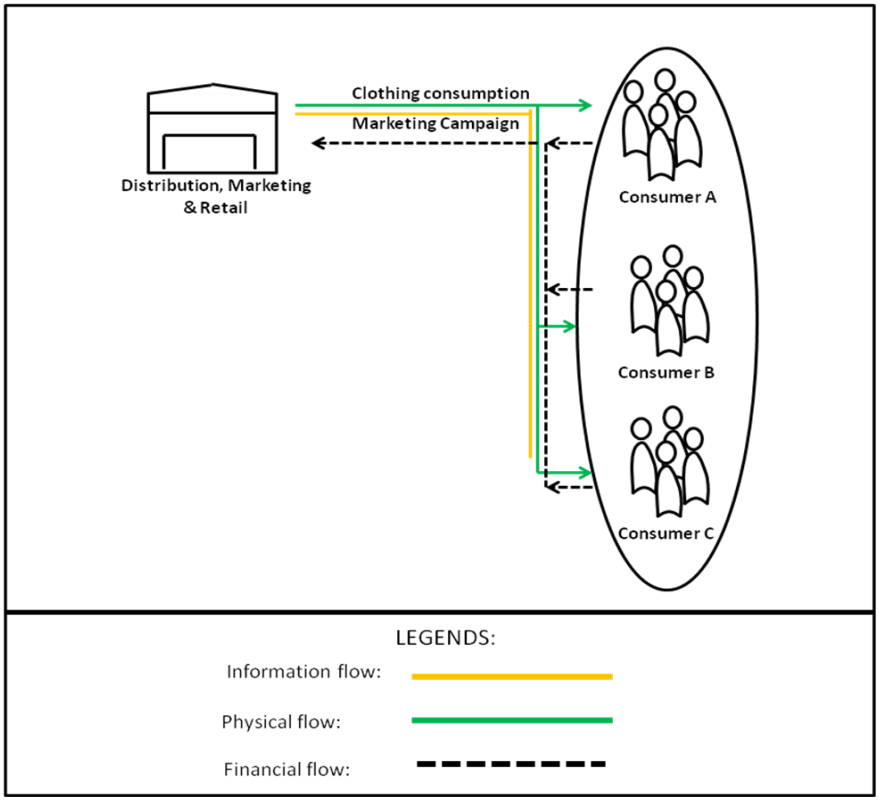


Figure 9.3: Visualisation of the in-store promotion

The stakeholder system map illustrates both a physical and informational flow. The informational flow is advertising attempting to trigger a physical flow (the purchase of a product). The information flow is of great importance for this study as previous information flows were fairly passive. The marketing campaign did not initiate active involvement of consumers. The researcher proposes the following in-store promotional materials for the SAOCP clothing range:

Product labels containing back stories: Product labelling is an essential method to establish consumer knowledge. It should not only contain the usual information such as price, brand and washing instructions; it should have a brief narrative introducing the producers of the clothing. Another option is to visualise a systemised overview of the product's value chain such as Birth (2006) did. Essential in this is to present the big picture instead of providing detailed and technical information, preventing confusion. The label should refer to an online platform, through a web link and a serial number, for more detailed information. The online platform will be discussed in-depth in heading 9.5.3.

TV display: This would be optional, depending on the marketing budget. Showing a short movie where producers briefly clarify their tasks in the production cycle, from farm to retailer. The screen in addition could be interactive, enabling the consumer to for instance listen to a manufacturer's life story and what influence organic cotton has on his life.

Placards and billboards: the placards and billboards should introduce producers of the SAOCP clothing range with a one sentence statement.

Craftwork accessories: Craft products made in the SS farming community could be sold as a supplementary line to the SAOCP clothing range, symbolising community empowerment. Such products could include stuffed animals, brooches, beaded bracelets or necklaces. By purchasing these accessories, the consumer could support small-scale and disadvantaged farming communities. The earning from the products could support educational programmes, women's forums and contribute to the overall well-being of such communities. The accessories could be worn to communicate a message/status (such as the AIDS badge), proudly supporting local communities.

The in-store promotional strategy does not necessarily require more effort from the consumer and represents the primarily used promotional concept. All three consumer types are involved in this strategy. They are able to decide on the depth of interaction with the in-store promotion materials, whether they just quickly read a product label or actively interact with the display. The essential innovation in this strategy is the context connection, where consumers are able to see the people behind the products, giving more meaning to the products and making them realise the influence of their purchase decision. Moreover, including the systemised overview of the value chain serves as an educational tool which might encourage interest to discover more about the product on the online platform. It must

be noted that further research is needed to obtain as many objective as possible farmer stories and profiles as possible.

9.5.3 Online Platform

The online platform is a strategy re-connecting a large variety of actors within (as well as outside) the SAOCP value chain. Figure 9.4 illustrates a section of the system map visualising this interaction.

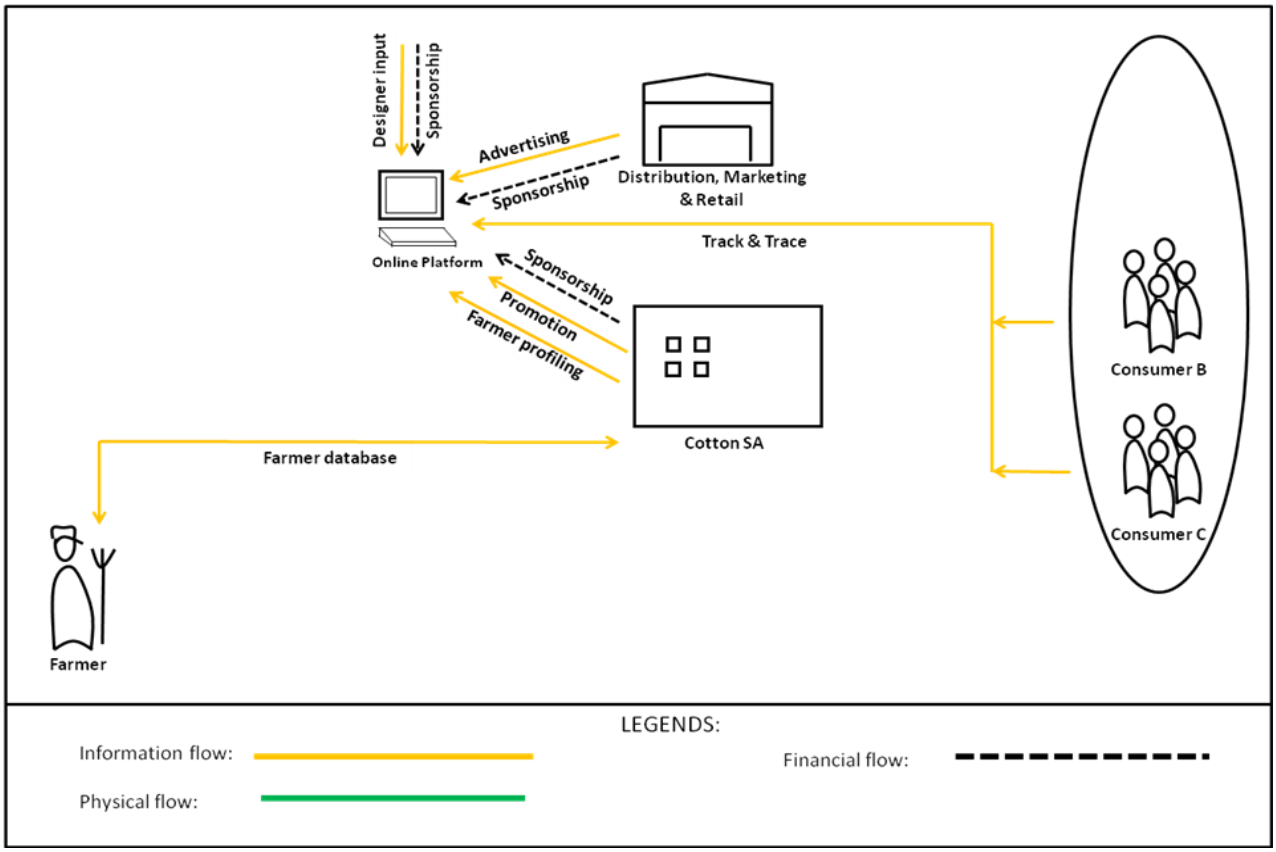


Figure 9.4: Visualisation of the online platform

The stakeholder system map illustrates a financial and informational flow in this strategy. The informational flow connects a variety of actors with one online platform. In addition, the financial flow represents the sponsorship of the platform from several sources.

The researcher proposes the following content for the online platform:

- *Educational information* on the concept of organic cotton: To establish basic knowledge with reference to the concept of organic cotton, it is important to provide background information on the online platform. Here, consumers will read about the origin of cotton, its impact on the planet and people, the production processes and the SAOCP. Again, it is important that his is communicated in a non-prescriptive, informative and objective manner.

- *Farmer profiles*: The farmer profiles (established by Cotton SA or designers) could be and effective manner to create awareness for the importance of choosing local, sustainably produced clothing. Both the SS and CS farmers have given permission to disclose their profiles (including pictures and personal details) gathered during the in-context immersion. The farmer profiles will include stories about the family situation, living conditions, experiences with organic cotton and farmers' hopes and dreams.
- *Track and Trace system*: The Track and Trace system is critical in this intervention as the SAOCP has a relatively transparent value chain, thus offering a unique opportunity to built its product's credibility by openly communicating it on the platform. This would resolve the concern regarding the reliability of product labelling claims raised by consumers in Chapter Seven. With the Track and Trace system the production chain visualised on the product label could actually be traced with location coordinates and certificates to confirming the information stated on the labels. The system may include similar information as the *Baacode* website created by Icebreaker (see 3.4.3).
- *Educational games and virtual tours* for children: The concept of *Track-my-T* by Anvil Knitwear (see 3.4.3) could be translated to work for the SAOCP. There could be a section on the online platform exclusively for children, where they can play educational games, watch videos, and trace the production process in a fun and simple manner with a virtual farm tour. This interactive, fun and educational system for children could be important to get familiarised with agricultural practices without necessarily having to visit the farms. This is very suitable for all schools in South Africa, especially for the ones unable to visit the farms due to their geographical location. Schools can order the game and virtual tour on DVD or play it online and can download lesson plans that could guide a class on sustainable agriculture (similar to the *Track-my-T* website).
- *Connection to social networks*: The online platform could be connected to a variety of social networks (such as Facebook and YouTube) which would especially attract today's highly "connected" young consumers. The SAOCP could have its own Facebook page, posting blogs, newsletters, video's and other information about the project. The page will refer to the online platform for further information.

The online platform strategy is innovative in the way that it provides the experience of an actual interaction, without actually visiting the producers. This is facilitated by the visually rich and interactive concepts such as farmer profiling and the virtual farm tour. The platform also provides an unique opportunity to communicate the transparency of SAOCP's clothing range, ensuring its integrity. This particular strategy requires a higher personal effort from the

consumer making the online platform interesting for consumer type B and C who are familiarised with the organic cotton concept and wish to explore further details “in their own time”. Moreover, they could act more sustainably when receiving sufficient and clear information on how their individual buying behaviour might directly impact national industries.

The online platform should be an autonomous concept, sponsored by a variety of channels, in order for it not to become an extension of a retailers’ own business CSR. It should promote the entire project. Organisations and sales outlets responsible for the sales of the SAOCP clothing range will be listed on the online portal, with a link to the company website, as proud distributors. In response, these would financially support the platform, by for instance funding the website administration. This advertisement could also include game lodges collaborating on the farm level re-connections. Designers (students in specific) could become a critical part of this platform, facilitating the design of the online platform as part of institutional projects.

9.5.4 Pop-up campaigns and workshops

The *pop-up campaign* and *workshops* are part of a strategy aimed at connecting a large variety of actors in the urban areas of South Africa. Figure 9.5 illustrates a section of the system map visualising this interaction.

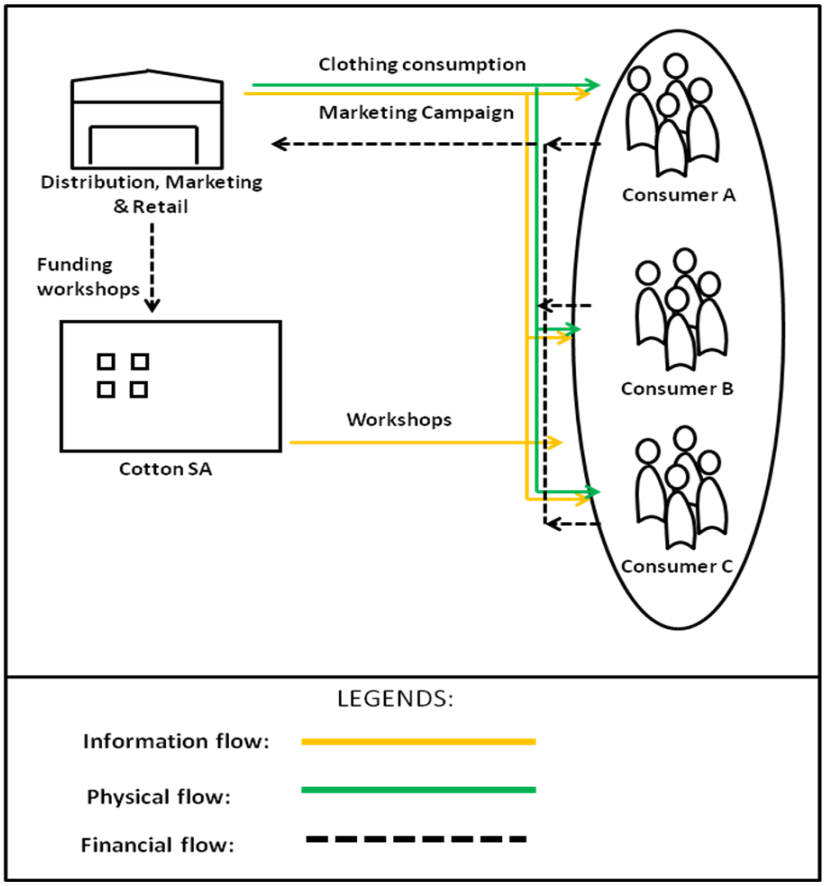


Figure 9.5: Visualisation of the pop-up campaigns and workshops

The researcher proposes the following:

Pop-up campaigns: The pop-up campaigns are innovative ways to connect with consumers and should be endorsed by retailers selling the SAOCP clothing range, as an extension of the in-store campaign. This could be done in several ways, such as creating pop-up stores or through more provocative ways as has been done by *Supima*, illustrated in Figure 9.6.

Figure 9.6: Pop-up cotton field in New York (source: Cottonpromotion, n.d.)

This particular pop-up campaign was implemented in Manhattan, New York. A similar campaign could very well be implemented in South Africa. The concept reinforces the message of "re-connection with the value chain" in a surprising and straightforward manner, instantly getting a person's attention. Several retailer-representatives should be present at the campaign to provide consumers with information and to refer them to the retailer.

Workshops and presentations: These should be facilitated by Cotton SA who have prior experience, organising workshops and presentations to consumers. Such workshops could be part of conventions in major cities, such as the *Natural and Organic Products Convention*. If sufficient funding is available a "tour" could be organised, visiting several major cities for presentations and workshops. Moreover, participation during festivals such as the eco-friendly *Rocking the Daisies* could be very effective. *Rocking the Daisies* is a music festival simultaneously encouraging awareness for sustainable practices and initiatives in South Africa. Throughout the event several brands and organisations promote their sustainable products and services (such as Levi's Strauss SA). This offers an opportunity for the SAOCP to promote its concept through a pop-up construction.

The pop-up strategy does not require the consumer to put effort into the interaction and is suitable for all types of consumers. The workshops and presentations, however, should focus on consumers who are already willing to connect in an active manner. The Department of Agriculture should provide Cotton SA with the necessary financial support as this type of initiatives promote consumer education.

9.5.5 Farm level re-connection

Connection between producers and consumers/users is generally mediated by advertising in-store or through media. Actual connections of these actors are rare but promising for this particular case study. The farm level strategy links consumers and schools directly to the farmers in the form of *Farmdays* and *Community-Based Eco-Tourism*. Figure 9.7 illustrates a section of the previous system map visualising this re-connection.

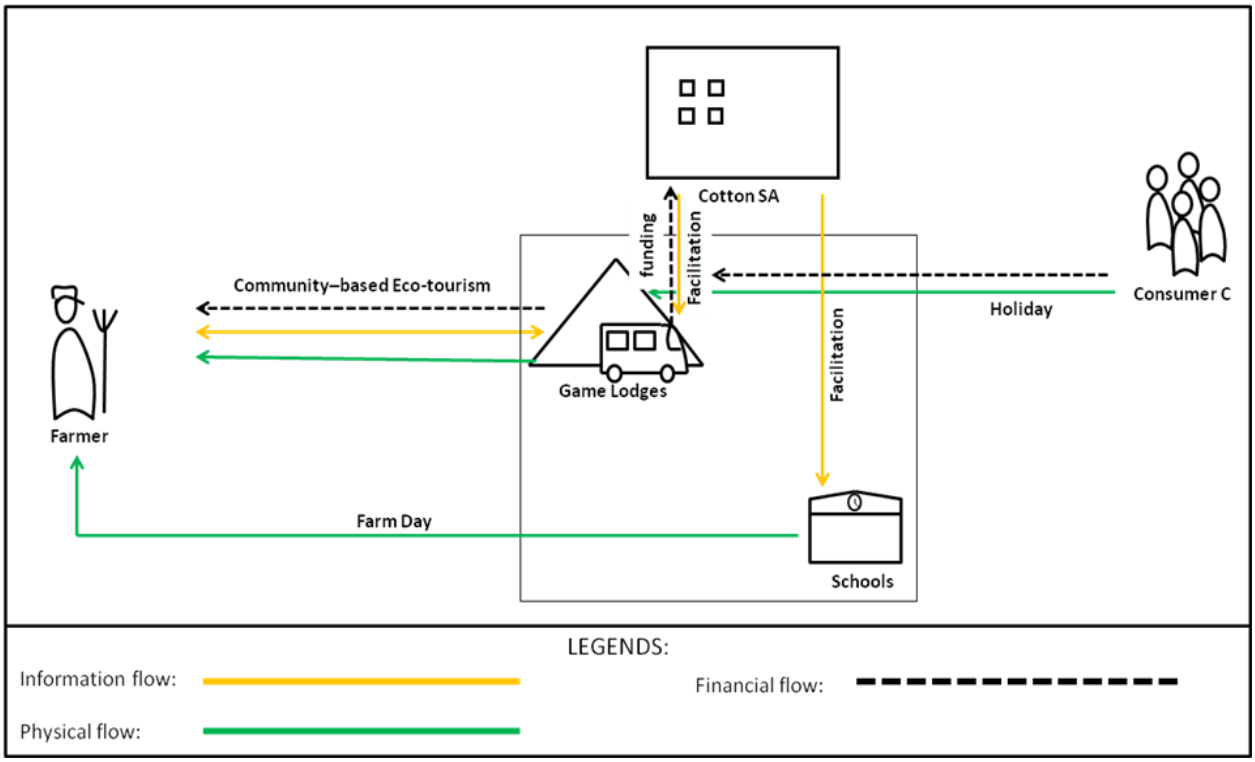


Figure 9.7: Visualisation of the farm level re-connection

The stakeholder system map illustrates the financial, physical and informational flows connected to this strategy. The informational flow refers to mutual interaction between the game lodges and the farming community. Moreover, there is an information flow between Cotton SA and the game lodges where the organisation is positioned as the facilitator for the community-based eco-tourism and school visits. Cotton SA already facilitates several farm level interactions and has built strong bonds with the farmers as well as the extension officer. For school visits from neighbouring schools, a representative of the farming community might also facilitate the visits. The physical flow connects consumers and schools with the farming communities. The financial flow refers to game lodges paying a certain amount to the farming community for organising farm days. Again, also here the Department of Agriculture could provide funding or alternative forms of incentive to farmers who participate in such farm days.

The researcher proposes the following interactions for the farm level re-connection:

- *Farm days* for schools: Farm days are an essential to educate children on sustainable agricultural practices in a fun and practical way. Neighbouring schools have already participated in such initiatives (see Chapter Nine) and found it an effective learning method. In addition, as suggested by the CS farmer, competitions at school in the urban areas close to the community (such as Pretoria and Johannesburg) could be organised where winners (and two relatives) win a two-day visit to the cotton farms where they will work with the farmers and will stay in the game lodges linked to the SAOCP.
- *Community-based eco-tourism* for consumers: Both the SS farming area and the CS farming area are surrounded by several game lodges and reserves. This offers a great opportunity for tourists (local and international) to visits traditional South African communities as part of their holiday. Game lodges could organise day-trips to the farming community where tourists will experience “a day in the life of..” The SS farming community creates beautiful craft works that could be sold during the visits. This unique straightforward and physical connection of consumers serves as an educational and entertaining programme while simultaneously empowering the farming community. Game Lodges could also be provided with textile products (such as towels and bathrobes) made from organic cotton and could sell T-shirts from the SAOCP clothing range. The financial flow in the system map refer to game lodges paying a certain amount to the farming community for their services. This could be directly paid to the community (for school projects and overall upliftment of communities) or to Cotton SA who will allocate it to specific funding relating to the organic cotton practices.

By opening up the processes the value chain could become a national tourist attraction as well as a learning space for consumers and other interested people, while simultaneously supporting local traditions and livelihoods. This strategy is appropriate for Consumer C who deeply engages with sustainable practices, and shows interest to be part of the entire system beyond purchasing sustainable products.

Central to all recommended strategies are the background stories. The researcher felt that these strong narratives are essential methods in educating consumers (as well as other actors in the system) on how to affect themselves and the national environment and society with personal purchasing decisions. This will assist them to alter their perceived circle of influence. Moreover, these background stories and connections in the chain could empower the farmers who face most risks and difficulties in the production chain. Connecting them to

other stages and actors in the chain could contribute to improved knowledge and motivation. Moreover, consumer trust might be re-established and informed choice might be encouraged as the promotional strategies are non-prescriptive and leave room for the consumers to engage in different manners and different levels of participation with their product.

9.6 Summary

The chapter began with an analysis of the state of sustainable production and consumption in South Africa which identified a number of drivers of sustainable consumption and production in South Africa: South African retailers and business leaders, young generation of South African consumers, creative communities, local designers and, and local governments and municipalities.

Next, it provided an in-depth discussion on the current promotional approach of the SAOCP and suggested a variety of future promotional approaches. The designer focus group revealed participants found the commercial promotional approach unappealing and preferred a more humanised and realistic approach.

Finally, the chapter presented a set of design strategies, based on the generated data, research questions and objectives: in-store promotion, online platform, pop-up campaigns and workshops, and farm level re-connection. Central to all recommended strategies were the background stories, that communicate strong narratives, as an essential method for educating consumers (as well as other actors in the system) on how to affect themselves and the national environment and society with personal purchasing decisions.

CHAPTER TEN
CONCLUSIONS

10.1 Introduction

This final chapter reviews the key findings and presents conclusions of the study. Furthermore, the chapter proposes design strategies and recommendations for promoting the South African Organic Cotton Project. Finally limitations encountered during the study will be presented and future research implications will be suggested. The study set out to investigate the ways in which the consumption of organic cotton apparel products could be effectively promoted, by proposing design strategies based on the DfS model. Primary data was obtained from a variety of methods – with a consumer survey, an in-context immersion, focus groups and interviews with key informants. Findings revealed a wish for re-connection and greater interaction among key actors in the SAOCP value chain. This study proposes sustainable and adaptable strategies for promoting organic cotton consumption in South Africa that would increase awareness of sustainable practices and enhance participation by key actors.

This study posed the following three research questions:

1. With reference to Design for Sustainability (DfS), how is organic cotton consumption currently promoted in South Africa?
2. To what extent do key actors in South Africa engage with concepts of sustainability with respect to fashion products?
3. In the South African context, which factors influence the implementation of the DfS model and how can this model promote the consumption of organic cotton?

10.2 Conclusions and recommended design strategies

With respect to assessing current levels of organic cotton (clothing) awareness in the context of South Africa, the consumer questionnaire revealed a vast majority (95%) of respondents were familiar with concepts of organic cotton lifestyles; organic cotton apparel in particular. Respondents became familiarised with organic cotton apparel through their academic institution, regular media channels and Woolworths. They had formed positive associations with organic cotton concepts and stated the importance of sustainable agricultural practices. However, a large number of respondents indicated no personal obligation to purchase

organic cotton products and did not relate to the notion of being an organic consumer. When the idea of organic cotton apparel is an abstract concept, they feel it is an important concept, but when this is linked to them personally as a consumer (who has power to decide to take action or not), a number of respondents did not relate to it. It implies these respondents disassociate themselves from what they know to be good practice, and may not believe they can personally contribute to good consumer behaviour. This presents an opportunity for the design strategies to help transform respondents´ buying behaviour by moulding it into a more positive one, namely supporting and buying organic cotton. The SAOCP operates in a localised and transparent production chain, meaning consumers purchasing these particular products, contribute substantially to a local system. An additional majority of respondents expressed an interest in further engagement with organic cotton apparel and the cotton farmers in future. Similarly the cotton farmers felt a need to become more familiarised with other actors in the cotton production and consumption cycle. The *Value Chain Card Game* was key in unearthing these findings.

The DfS model, in context of the South African Organic Cotton Project, has been used as a lens for the promotion of organic cotton consumption. The SAOCP is consistent with the three core aspects of DfS; ecological stability, social equity and economic viability. As discussed, the project assists the development of a high-value, organic cotton sector facilitating the profitable participation of smallholder and commercial farmers, thereby increasing farm incomes and increasing employment prospects (Schröder, 2010b). Findings in the previous chapters confirmed a desire for re-connection among several actors in the value chain to promote organic cotton consumption. Within the DfS model, the System Design for Sustainability (SDS) concept, which facilitates innovative interaction of stakeholders linked to a locally based and sustainable system, was found to be appropriate for such a re-connection.

An identified threat in the SAOCP is the dependency of SS farmers on external financial and educational assistance, to optimise the organic farm system. Thus, for the design strategies to be effectively implemented in South Africa, the Department of Agriculture should provide the necessary financial and technological means.

The recommended strategies in Chapter Nine are based on a review of relevant literature, the DfS model and research findings. A stakeholder system map (see Figure 9.2) has been utilised to illustrate the strategies in a systemised and straightforward manner, to emphasise the interaction among the variety of actors involved in it. Moreover, the set of strategies aim

for a holistic and layered system of promotion to best accommodate a variety of consumer types and a variety of stages of awareness. The recommended strategies may result in:

- Strong, humanised relationships and social spirit among the variety of actors, thereby encouraging a choice for more sustainable clothing. Sustainable apparel is founded in the concept of a deeper level of understanding and connectedness of human beings in a system, such as the revised SAOCP value chain. It allows for an increased feeling of well-being as it is humans nature to connect socially with one another. Facilitating the opportunity for actors to engage actively will contribute to a more sustainable value chain with an increased understanding of the elements in the system and of one's effect on the industry. In addition, by communicating the product *backstories* and the human elements in sales outlets and online platform, a feeling of empathy, authenticity and human connection could be established without actual interaction between the actors.
- More transparent and easily accessible supply chain; the SAOCP has a fairly transparent and easily accessible (local) supply chain, however, this has not been optimally utilised. There is an interest in and opportunity for linking actors with one another, creating an inter-connected value chain. This is an innovative and rare occurrence in today's complex and globalised fashion and textiles industry.
- Collaborative projects among actors; providing opportunities for designers and schools to engage with producers, enhancing organic cotton-specific teaching, learning and research activities. This facilitates mutual *practical* learning *experiences*.

As discussed, the promotion of organic cotton consumption is recommended to include innovative collaborative networks between the production and consumption systems. In such a network the consumer for instance does not only purchase a products, but also collaborates (directly or indirectly) with other actors in the chain. In this system the actors do not only share a social re-connection but jointly stand for a local environmental concern that needs to resolved.

10.3 Limitations of the study

The researcher has made an effort to address as many questions arising from the research project in the South African organic cotton supply chain as time allowed. Yet, during the fieldwork experiences, implications for further research were introduced that could not be addressed in this particular study.

Initially, the consumer questionnaire was supposed to be performed in collaboration with Woolworths. Several questions were added on suggestion of its representative, the sample

size was increased and it would be disseminated in a number of Woolworths' stores in the Cape Town area. The questionnaire aimed at a large sample population of about 300 respondents. Eventually, Woolworths had withdrawn permission to do the questionnaires in-store. In addition, the shopping malls did not grant the researcher permission to perform such activities. This was a somewhat disappointing outcome; from a quantitative view point the limited number of respondents could impact on the transference of the questionnaire findings. As an alternative, a more focussed and accessible consumer group was chosen as described in Chapter Five. With regard to the research aims and objectives, rich findings were uncovered on a broad spectrum of consumers beliefs, attitudes and understanding. The data provided a strong basis for the establishment of the design strategies.

A limitation experienced during the in-context immersion was the presence of the tribal chief's representative during several individual interviews. This possibly limited the freedom of expressing opinions among SS farmers. Another obstruction during the immersion was the extension officer's promotion of his own agenda, to endorse non-cotton related community initiatives, thus limiting time with the organic cotton farmers. However, profound data was collected rapidly, particularly with assistance from the Value Chain Card Game.

10.4 Implications for further study

There is a need for continued and further research into South African consumers' perceptions and behaviour with regard to organic cotton apparel practices. This should target a large and more diverse population, preferably through participative/qualitative research methods. Such research would enable accurate categorisation of 'sustainable consumer types' and establish understanding of consumers' attitudes for effective and efficient promotional campaigns.

Further research into geo-political issues concerning the small-scale farming community is advised, as these might offer opportunities and challenges for opening up the value chain. The level of authority from the chief for SS farmers are of great importance for further up-scaling and development of the organic cotton practices.

Finally, further study might examine options for implementing the proposed strategies in other phases (such as manufacturing) of the production chain or in globalised production chains.

10.5 Contribution of knowledge

This study made an attempt to promote the consumption (and create knowledge transfer) of organic cotton apparel products by South African consumers through suggesting a more interconnected, transparent value chain serving as a collaborative learning and teaching experience. The proposed design strategies are sufficiently adaptable to allow for application in similar developing and industrial settings.

The *Value Chain Card Game* has contributed in a significant manner, identifying knowledge gaps among SS farmers. The farmers immediately indicated a need to obtain more knowledge about the organic cotton value chain and its actors involved. By getting familiarised with other stakeholders and mapping of the production process, this game and additional training can teach the farmers about the local organic cotton sector. Combining the knowledge attained through the game and reconnection with stakeholders (via participatory design), the farmers are in the position to establish a system where they can create their own micro-enterprises to improve their communities´ livelihood. The small scale farmers could start engaging more in this process by creating direct connections (vertical integration) and close bonds with the manufacturers to for instance establish community sowing projects and craftwork projects. Through this new established knowledge economic risks can be reduced and additional income can be made. Moreover, the *Value Chain Card Game* can be integrated on every level of the production process regardless of the local language, literacy level and exposure to market. The game could become a tool to create a model of social entrepreneurship, extended by introducing new business ideas where the system (steps that need to be taken and their effects) can be measured in a simple way similar to games such as Monopoly (Maina & Bergevoet, 2010).

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APPENDICES

APPENDIX A: Explanatory statement interview

EXPLANATORY STATEMENT INTERVIEWS

To whom it may concern,

I wish to invite you to participate in an interview for a research study. Before you decide, it is important for you to understand why this research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Your participation in this study is voluntary; you are under no obligation to participate and you have the right to withdraw at any time should you so choose. Any information that is obtained in connection with this study and that can be linked with you will remain confidential and will be disclosed only with your permission.

This thesis addresses the significance and impact of organic cotton production in South Africa. The study therefore explores the development, implementation and impact of organic cotton production amongst small-scale cotton farmers. This study will result in my Master's thesis. The aims of this thesis are:

- To explore opportunities to re-connect the organic cotton farmers with consumers.
- To empower the farming communities in rural South Africa
- To raise the awareness among the consumers in South Africa regarding the sustainability of organic cotton apparel.

By the end of this project design interventions based on the Design for Sustainability model will be presented and made available to the participants of the project.
Thank you for your time and contribution to this research, if you have any questions, please feel free to contact us.

For Detailed Information Contact:

Researcher:	Miss Yulia Bergevoet, Tel: 076 – 1398902
E-mail:	yuliabergevoet@gmail.com
Supervisor:	Mrs. Alettia Chisin, Tel: 021 – 4603456
	E-mail: ChisinA@cput.ac.za
Co-Supervisor:	Mr. Mugendi M'Rithaa, Tel: 021-4603670
	E-mail: MugendiM@cput.ac.za

APPENDIX B: Informed consent form

Cape Peninsula University of Technology

Informed Consent Form

Investigator: Yulia M. Bergevoet, Master in Design Candidate

Miss Bergevoet is a Master's candidate studying the factors that influence the promotion of organic cotton in South Africa.

The study supervisors and other appropriate authorities at the Cape Peninsula University of Technology (CPUT), in the Western Cape Province, have approved the study and its procedures. The study procedures involve no foreseeable risk or harm to you. The procedures include:

(1) Participating in an interview.

Please feel free to ask any questions about the study or about being a subject and you may call Miss Bergevoet at 076-1398902 (mobile) if you have further questions. Additionally, you can contact her via email: yuliabergevoet@gmail.com

Your participation in this study is voluntary; you are under no obligation to participate and you have the right to withdraw at any time should you so choose. Your identity will not be revealed while the study is being conducted or when the study is reported or published, unless you give explicit consent for the same. To ensure anonymity and confidentiality, all study data will be collected by Miss Bergevoet, stored in a secure place, and not shared with any other person without your permission apart from supervisors and academics involved.

I have read this consent form and voluntarily consent to participate in the study:

---------- ----------

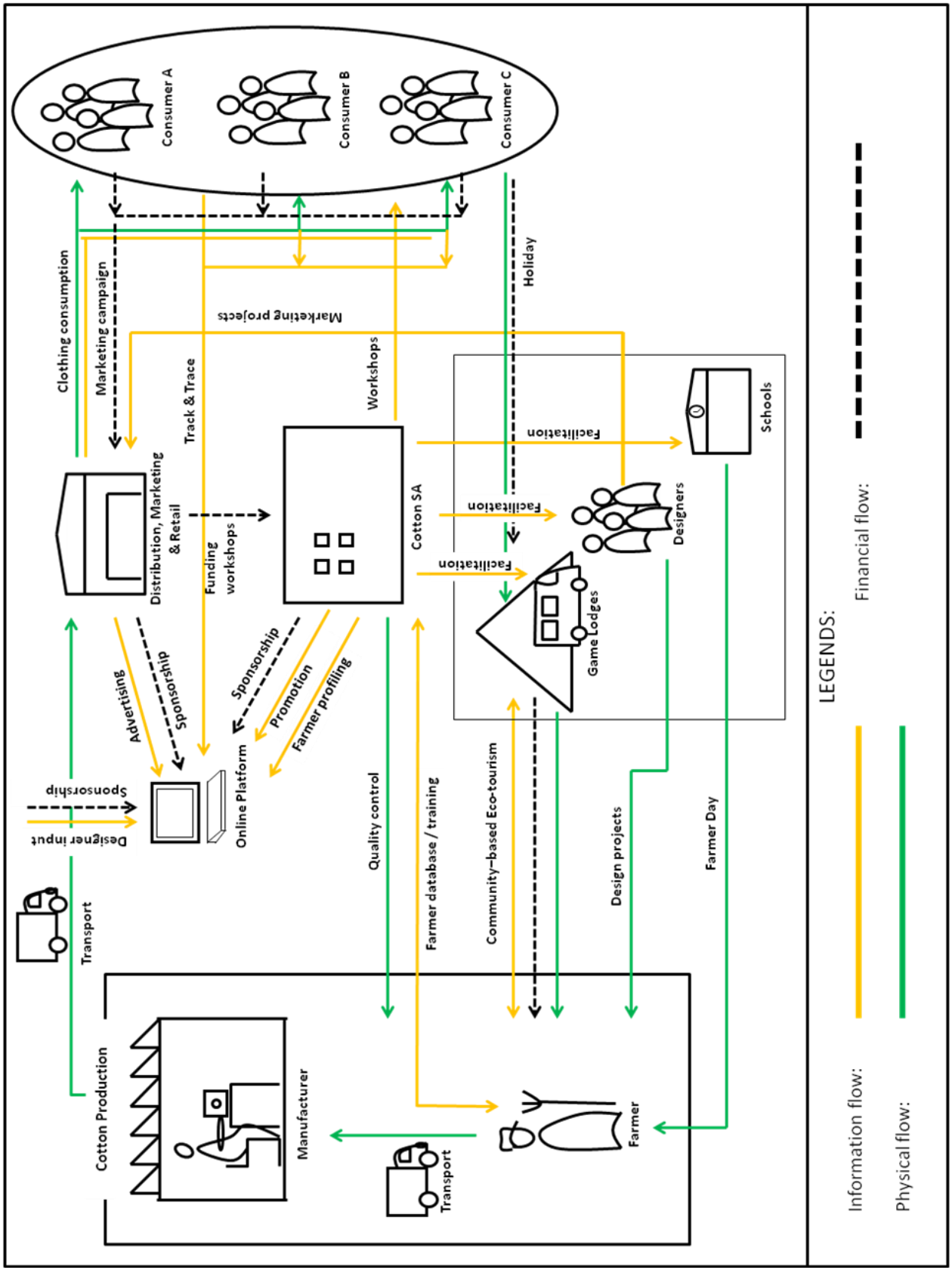
Signature of Participant *Date*

I have explained this study to the above subject and have sought his/her understanding for informed consent:

---------- ----------

Signature of Investigator *Date*

APPENDIX C: Proposed Design Strategies



APPENDIX D: Consumer questionnaire

Good morning/ afternoon. My name is Yulia Maratovna Bergevoet. I am a Master student at the Department of Surface & Fashion Design, Cape Peninsula University of Technology in Cape Town. I am presently conducting a survey to gather opinions from consumers on the use of organic cotton apparel. I would be grateful if you could answer the questions below. If you have any questions please don't hesitate to ask for my assistance.

		Questionnaire Serial Number			
City					
Respondent's Name		Male	1	Female	2
E-mail					

SECTION 1: GENERAL QUESTIONS ABOUT THE CONSUMER

Q.1 Please indicate what age group you fall in: (please circle the appropriate code)

Age	**Code**	**Go to**
Younger than 21	1	Q.2
21 - 30	2	
31 - 40	3	
41 - 50	4	
51 - 60	5	
61 years and above	6	

Q.2 Please look at this card and circle the highest level of education you have attained: (please circle the appropriate code)

Education level attained	**Code**		**Code**
Completed High School (Matric)	1	Completed Higher Diploma	6
Part Certificate	2	Part university degree (BTech or equivalent)	7
Completed Certificate	3	Completed university degree (BTech or equivalent)	8
Part Ordinary Diploma	4	Post-graduate university degree (MTech equivalent or higher)	9
Completed Ordinary Diploma	5		

Q.3 What is your occupation?

Q.4 In your own words, please give a brief description of what you know about organic lifestyles.

Q.5 It is important to know your interest in organic lifestyle choices regarding food. Do you consume organic food products? (please circle the appropriate code)		
	Code	**Go to**
YES	1	Q.6
NO	2	

Q.6 How much do you approximately spend on apparel per month?	
	Rand per month

Q.7 What approximate percentage of your income do you spend on apparel? (please circle the appropriate code)		
	Code	**Go to**
Less than 5 %	1	Q.8
6 – 10 %	2	
11 – 15 %	3	
More than 15 %	4	

Q.8 In which shops do you usually purchase apparel? ((please circle as many codes as apply)	
	Code
WOOLWORTHS	1
EDGARS	2
FOSCHINI	3
TRUWORTHS	4
MR PRICE	5
ACKERMANS	6
JET	7
PEP	8
OTHER, please state:	9

Q.9 Please select the category that best describes the apparel you buy mostly: (please circle the appropriate code)	
	Code
NON-ORGANIC	1
ORGANIC	2
FAIRTRADE	3
OTHER, please state:	4

Q.10 **What is the most important criteria for purchasing apparel?** (Please rate from 1 to 10, with 10 being the most important criteria and 1 being the least important criteria)

	Criteria		**Criteria**
PRICE		FABRIC	
BRAND		COMFORT	
COUNTRY OF ORIGIN		DURABILITY	
STYLE		WORKMANSHIP	
DESIGN / COLOUR		SEX APPROPRIATENESS	

SECTION 2: FAMILIARITY WITH ORGANIC COTTON APPAREL

Q.11 When did you first hear of organic cotton apparel? (please circle the appropriate code)

	Code	Go to
Less than 1 year ago	1	Q.12
1 – 2 years ago	2	
3 – 4 years ago	3	
More than 4 years ago	4	

Q.12 How did you come to first hear about organic cotton apparel?

	Go to
	Q.13

Q.13 Would you like to be informed about organic cotton apparel? (please circle the appropriate code)

	Code	Go to
YES	1	Q.15
NO	2	Q.14

Q.14 If you answered NO in the previous question, please explain your reasons briefly:

	Go to
	Q.16

Q.15 If you answered YES in Q.13, please **select the way you would like to be informed about organic cotton apparel**: (please circle as many codes as apply)

	Code	Go to
Background Story Labels on organic cotton product	1	Q.16
Website / Newsletter	2	
Track & Trace system of organic cotton product	3	
Virtual farm tour	4	
Other, please state:	5	

Q.16 How often do you usually purchase organic cotton apparel? (please circle the appropriate code)

	Code
Once a year	1
Once in 6 months	2
Once a month	3
More than once a month	4
I don't purchase organic cotton apparel	5

Q.17 **What is your opinion on organic cotton, organic apparel production and the apparel industry?** Please rate your agreement with the statements by circling one number next to each statement, even if you haven't purchased organic cotton apparel.

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
5	4	3	2	1

	Scale				
a. Organic agriculture is good for the environment.	1	2	3	4	5
b. Sustainable agriculture is important to me.	1	2	3	4	5
c. The dyes and chemicals used in apparel production can be harmful to the environment.	1	2	3	4	5
d. I prefer to "buy locally".	1	2	3	4	5
e. I am concerned about the impact of clothing production on the environment.	1	2	3	4	5
f. I feel that I have an ethical obligation to purchase organic cotton apparel products.	1	2	3	4	5
g. I don't spend much time thinking about where my clothes come from.	1	2	3	4	5
h. I have a responsibility to purchase organic cotton apparel products.	1	2	3	4	5
i. I would go out of my way to purchase organic clothing.	1	2	3	4	5
j. Cotton producers in African countries do not get a fair price for their cotton.	1	2	3	4	5
k. I would go out of my way to purchase clothing produced from fairly traded fibres.	1	2	3	4	5
l. I am interested in organic products, but they seem expensive.	1	2	3	4	5
m. I am personally obligated to purchase organic cotton apparel products.	1	2	3	4	5

SECTION 3: OPINIONS REGARDING ORGANIC COTTON PRODUCTS AND LIFESTYLE

Q.18 The next time you go apparel shopping, how likely are you to purchase an organic cotton apparel product.

Very likely	Quite likely	Neither likely nor unlikely	Quite unlikely	Very unlikely
5	4	3	2	1

Q.19 If you found an appealing organic cotton apparel product the next time you went shopping for apparel, how likely are you to purchase it?

Very likely	Quite likely	Neither likely nor unlikely	Quite unlikely	Very unlikely
5	4	3	2	1

Q.20 **In order to help me understand your responses, it would be valuable to know how you view yourself.** Please rate your agreement with the statements by circling one number next to each statement.

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
5	4	3	2	1

	Scale				
a. I think of myself as someone who is concerned about social issues	1	2	3	4	5
b. I think of myself as an 'environmental consumer'	1	2	3	4	5
c. I think of myself as an 'organic consumer'	1	2	3	4	5
d. I am a socially responsible consumer	1	2	3	4	5
e. I think of myself as someone who is concerned about environmental issues	1	2	3	4	5

Q.21 **What is your opinion of product labelling and advertising used to make environmental claims?** Please rate your agreement with the statements by circling one number next to each statement.

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
5	4	3	2	1

	Scale				
a. Most environmental claims made on product labels or in advertising are true.	1	2	3	4	5
b. Environmental claims made on product labels or in advertising are exaggerated.	1	2	3	4	5
c. The dyes and chemicals used in apparel production can be harmful to the environment.	1	2	3	4	5
d. Consumers would be better off if environmental claims on product labels or in advertising were eliminated.	1	2	3	4	5
e. Most environmental claims on product labels or in advertising are intended to mislead rather than inform consumers.	1	2	3	4	5
f. I do not believe most environmental claims made on product labels or in advertising.	1	2	3	4	5
g. The information stated on a product label helps me decide on my purchase.	1	2	3	4	5

SECTION 4: INTEREST IN INTERACTION WITH FARMERS

Q.22 If the possibility exists to contact the organic cotton farmer, would you be interested? (please circle the appropriate code)

	Code	Go to
YES	1	Q.23
NO	2	Q.25

Q.23 Please explain briefly what you would like to know about the farmer and the farming activities:	
	Go to
	Q.24

Q.24 In which way would you like to contact the organic cotton farmer? (please circle as many codes as apply)		
	Code	**Go to**
FARMER NEWSLETTER / BLOG	1	Q.26
VISIT FARMERS MARKET	2	
VISIT THE ORGANIC COTTON FARM	3	
OTHER, please state:	4	

Q.25 If you answered NO in Q22, please explain your reasons briefly:	
	Go to
	Q.26

Q.26 Please make suggestions on how to promote the use of organic cotton apparel:

Thank you for taking the time to complete this questionnaire. Your assistance in providing this information is very much appreciated. If there is anything else you would like to tell us about organic cotton apparel, or this survey, please do so in the space provided below.

APPENDIX E: Photography in-context immersion

APPENDIX F: Categorisation of South African sales outlets

Outlet/ Chain	Product mix	Price Category	customer category	Sustainability	Corporate Social Investment
Mr Price	Clothing, footwear, homewares and accessories	Medium-low	family	low	Community upliftment, educational programme employees
Woolworths	Clothing, footwear, cosmetics, mobile phones, homewares and accessories	Medium-high	family	high	Recycled and organic materials, waste minimisation, charity support, educational programme employees, support local producers
Edgars	Clothing, footwear, cosmetics, mobile phones, homewares and accessories	Medium-high	family	high	Community upliftment, reading and literacy, youth pathfinder, employee volunteer programmes
Foshini	Clothing, footwear, cosmetics and accessories	Medium-high	women, children	medium	Community upliftment, educational programme employees
Truworths	Clothing, footwear, cosmetics, jewellery	Medium-high	family	high	Community upliftment, reading and literacy, youth pathfinder, employee volunteer programmes
Ackermans	Clothing, footwear, mobile phones and accessories	Discount store	family	low	
JET	Clothing, footwear and mobile phones	Discount store	family	low	Community upliftment, reading and literacy, youth pathfinder, employee volunteer programmes
PEP	Clothing, footwear, mobile phones and accessories	Discount store	family	low	
Cape Union Mart	Clothing, footwear, travel appliences and accessories	Medium-high	women/men: active	high	Recycled materials, waste minimisation and recycling programme, charity support
H&M	Clothing, footwear, cosmetics, homewares and accessories	Medium-high	family: fashionable	medium	Recycled and organic materials, waste minimisation, charity support
Young Designers Emporium	Clothing, footwear and accessories	Medium-high	women/men: young	low	
Identity	Clothing, footwear and accessories	Medium-low	women/men: young	low	
Jay-jays	Clothing, footwear and accessories	Medium	women/men: young	unknown	
Vertigo	Clothing and accessories	Medium-high	women/men: young	unknown	
Markhams	Clothing, footwear and accessories	Medium-high	men: young	medium	Community upliftment, educational programme employees
Sportzone	Sportswear, footwear	Medium-high	women/men: active	unknown	
Second-hands shops	Clothing, footwear and accessories	Discount store	family	medium	
China stores	Clothing, footwear and accessories	Medium/ medium-high	family	low	

APPENDIX G: ACTIVITY ANALYSIS FIGURES

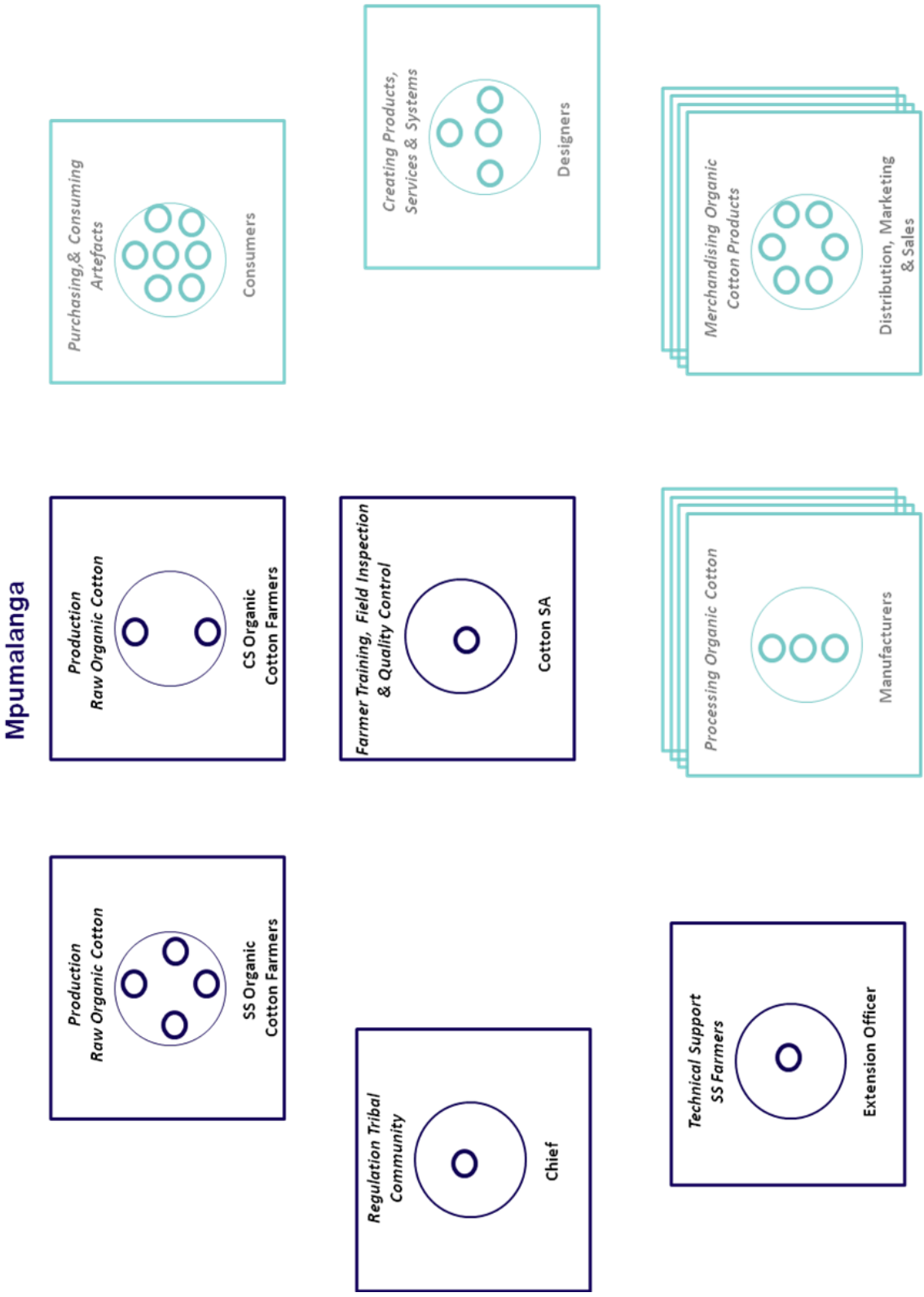


Figure 8.5: Organisational level activities within the organic cotton domain

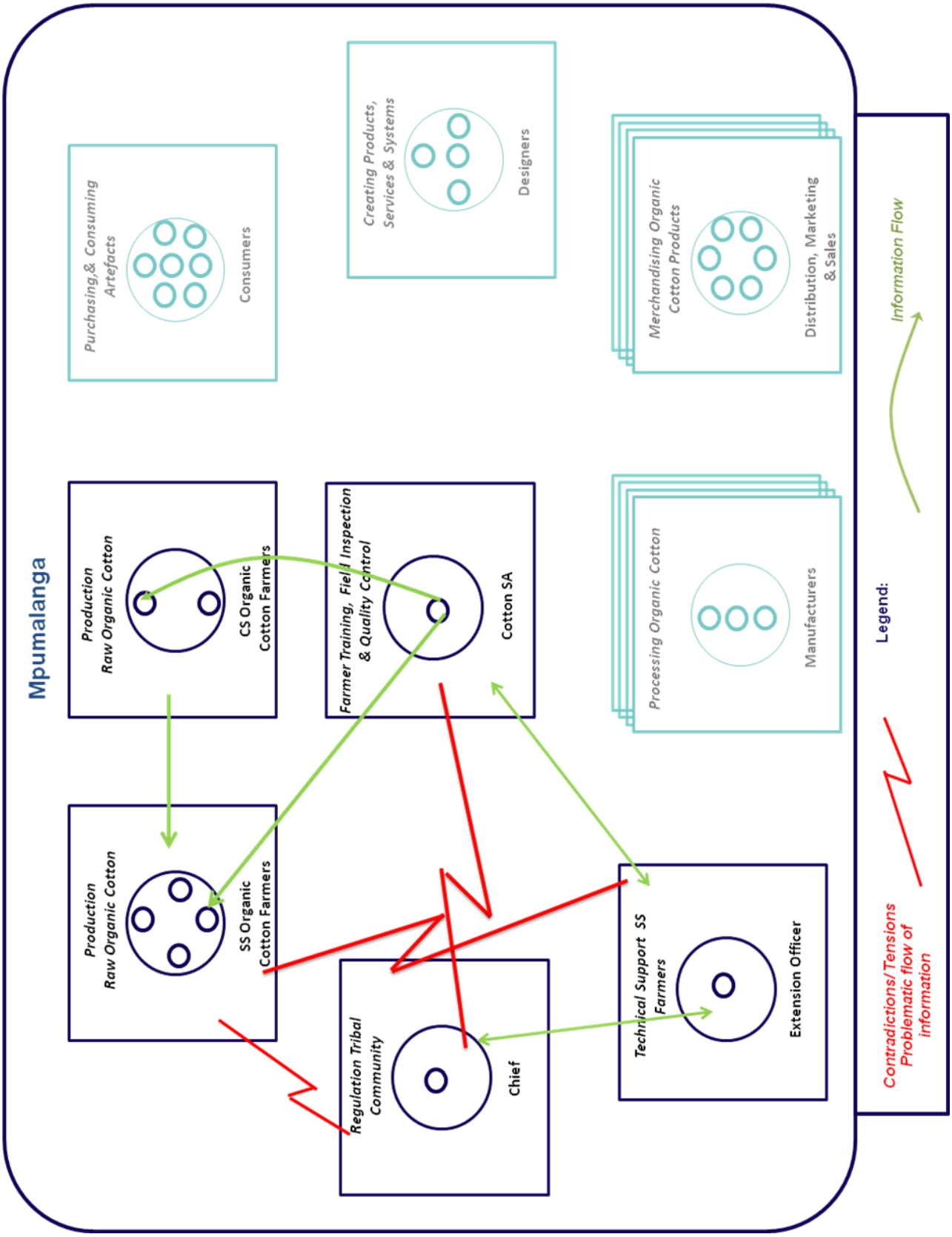


Figure 8.6 information flows on organisational level

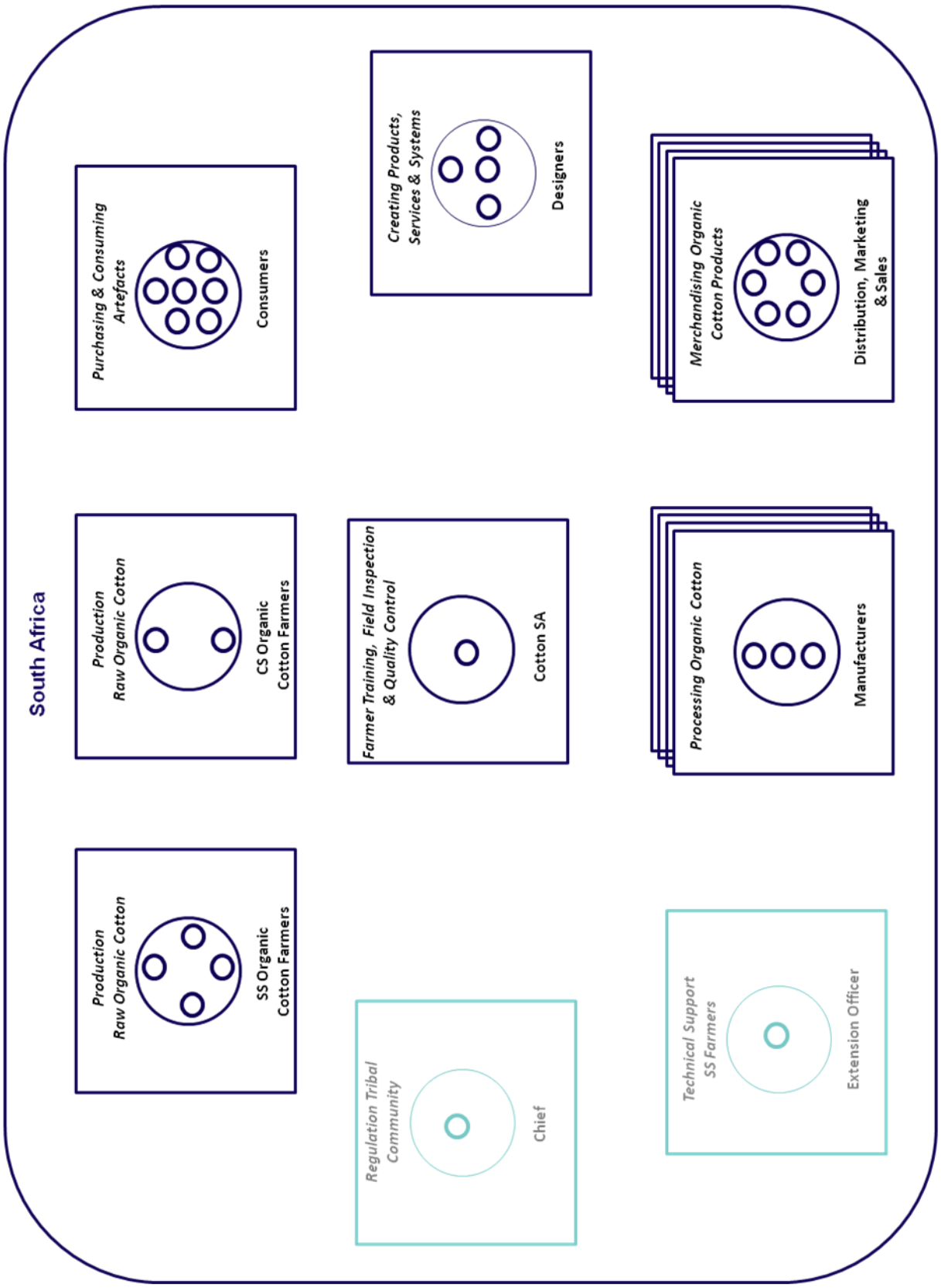


Figure 8.7: Societal level activities within the organic cotton domain

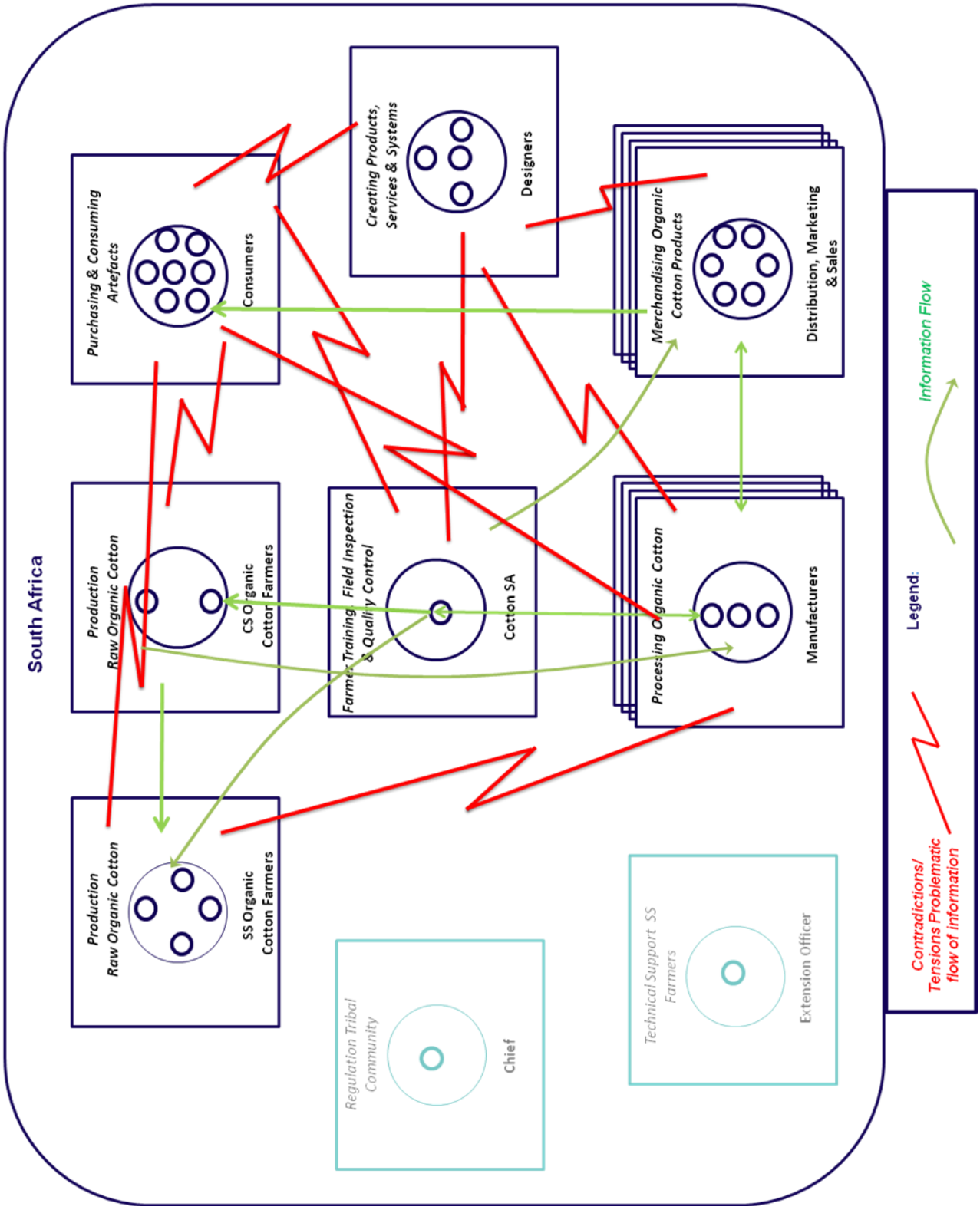


Figure 8.8 information flows on societal level