

## MODELS FOR SUSTAINABLE FASHION AND TEXTILES\*

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### ABSTRACT

This paper is concerned to present and discuss three case studies as models for sustainability in Fashion and Textiles. Two of the case studies can be regarded as operating within the constraints of a traditional cultural continuum necessitating the production of culture objects or artefacts which express cultural significance and symbolic meaning and thereby have an exchange worth beyond the intrinsic value. There is, it is argued, a socio-cultural imperative driving the strategic approach and sustainability is dependent upon a tacit understanding or consciousness level of the value system which can and will support the continuum of the evolution of the culture object. Furthermore it will be argued that globalisation has resulted in a loss of identity both regional and local for individuals both in and of the object which can be retrieved through an engagement and or rediscovery or of identification with tradition, the culture object thereby manifesting the real zeitgeist. The third case study by contrast operates within the commercial commodification condition and constraints of Fashion and Textiles and presents a pragmatic approach to the problematic in focusing upon the environmental impact. By environmental impact audit a reduction and economy can be presented or represented in the object as utility value within the contemporary commodification process masquerading as zeitgeist (the unreal or artificial zeitgeist) of eco design. This is seen as necessary temporary transition paradigm offering short term solution to a longer term problematic.

**Keywords:** Culture Object, Identity, Commodification, Real and Unreal Zeitgeist, Environmental Impact Audit,

### SÜRDÜRÜLEBİLİR MODA ve TEKSTİL DÜNYASI İÇİN MODELLER

#### ÖZET

Bu çalışma Moda ve Tekstil Dünyasında Sürdürülebilir Modeller ile ilgili üç araştırma sunar ve tartışmaya açar. Bu çalışmalardan ikisi; geleneksel bir süreklilik ve kültür koşulları altında, bir işletim sistemi olarak kabul edilebilir. Ve bu işletim sistemi kültürel nesnelere veya insan eliyle yapılan tarihi eser üretimini gerektirir. Böylece kültürel önemi ve sembolik anlamlar ifade eden bu eserlerin içsel değeri aşan bir değişim değerinde olduğunu bizlere gösterir. Bu konuda şu tartışılabilir; stratejik yaklaşım/ sürdürülebilirlik, bizlere sosyo-kültürel bir zorunluluğa sürükler. Ya da Kültürel objelerin evrimleşme sürekliliği bu değer-bilinç düzey sisteminin desteklenmesiyle açığa çıkar. Ayrıca küreselleşme konusu da tartışmaya açılabilir. Küreselleşme bölgesel ve bireyler için yerel bir kimlik kaybı ile sonuçlanmıştır. Kültürel nesnelere bir nişan aracılığıyla, yeniden keşfetme yoluyla veya kültürel nesnelere geleneği olan bir tanımlama yoluyla alınabilir. Böylelikle, kültürel nesne gerçek zamansal yolculuğunu bizlere açıkça ispat eder. Üçüncü çalışma ise; aksine ticari eş değiştirme durumu ve moda ve tekstil kısıtlamaları içinde çalışır ve çevresel etkileri üzerine odaklanarak kendi içinde sorunlu bir pragmatik yaklaşımı bizlere sunar. Çevresel etkili denetim ile bir azalma olabilir ve eko tasarım gerçekdışı gibi davranıldığından çağdaş eş değiştirme süreci içinde yardımcı değer olarak kültürel objeler sunulabilir. Bu uzun vadeli problem için gerekli geçici geçiş-paradigması sunan kısa vadeli bir çözüm olarak görülmektedir.

**Anahtar Sözcükler:** Kültürel Nesnelere, Kimlik, Metaştırma, Gerçek ve Gerçeküstü (Zeitgeist), Çevresel Etkili Denetim.

**Models for Sustainability, “Green Textiles, Slow Fashion” ? Introduction:** Green textiles and slow fashion as concepts are in design terms no different from any other design requirement insofar as all design mediates the current socio-cultural, economic and political contexts with the available means of production and therefore all design solutions however temporary proffer the appropriate aesthetic to the resultant product. I should state at the outset that it is my belief that the only sustainable Fashion and by association textiles production is bespoke which does not preclude the manufactured item but nether does it presuppose there will ultimately be a manufacturing sector as we now know it and our perspectives on the immediacy to find solutions to climate changes precipitated by industry; it all depends upon the time scale which you or I can envisage within which we need to find solutions.

**Contemporary Context:** Two Zeitgeist; Global recession, banking collapse, over-production only, is slowing down a process whereby surplus becomes counterfeit, together with recycling of acquired surpluses and second hand fashion all of which combine to spread fashion and textiles through the official and unofficial supply chains, at ever and ever cheaper prices. Throughout the developed and underdeveloped world economies in a planned commodification process coupled with a spontaneous system compounded by mythology, in supply and demand issues, all contributing to an already identified problematic of ecological crisis.

Sandy Black amplifies in her recent book that: “the clothing and textile sector is a significant player, employing over a billion people worldwide (2.7 million employed in the EU alone) and selling to millions more. Relative to income clothes are now far cheaper than they were a few decades ago. Clothing sales have increased by 60% in the last ten years. We now consume

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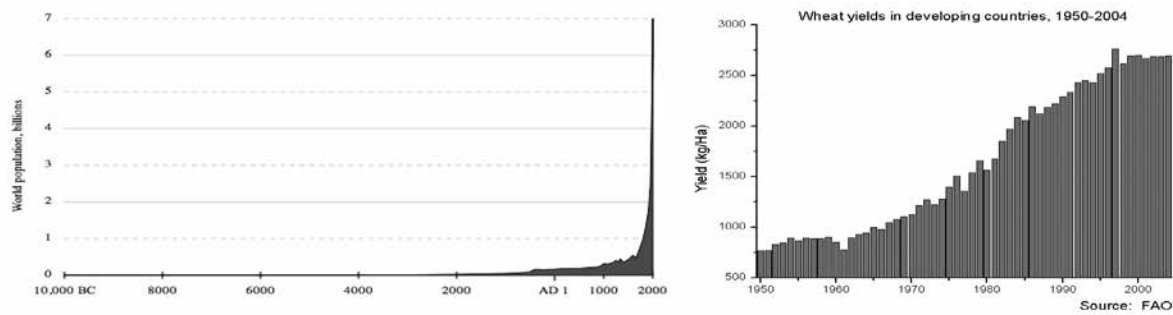
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one third more clothing than ever four years ago” ....”There has been a shift in the way clothing and fashion are sold in the UK and elsewhere with a rise in “value fashion” sold in supermarkets with weekly groceries, and high street stores such as Primark and Matelan who sell specifically on low price rather than longevity. ....”Cheaper fashion means disposable fashion, and encourages more consumption, creating a vicious circle. More importantly, fast fashion also puts pressure on the clothing manufacturers and their suppliers to squeeze more output in less time, impacting those at the bottom end of the production chain who that actually make the cloths.” Whilst defining the problem in this way she asks the important question, how can we change this situation to a more virtuous cycle? Because increased production without consideration for the environment uses ever more non renewable resources causing evermore pollution and environmental destruction disturbing the delicate ecological balance (Black, 2011). Contrary to what is often stated this crisis was not created by or formed out of manipulated consumer perceptions through the commodification of fashion and textile products and purchase/economic choices, but rather it is a problematic of the deregulated management of free- market supply-demand system which is driven by the control of unrealistically cheap capital, materials, labour and energy. Integrated capital production mitigates change, perpetuating adverse environmental impact, because petro-chemical and energy supply/economic production, established monolithic, global capital investment and mobility system which depletes resources and additionally in its self perpetuating conforms to the laws of capital and business once seen as virtuous. The abandonment of the capital led system of supply and demand together with its unifying liberal social democratic principals in favour of a collapse in the advanced economies requiring a rewinding of the industrial clock in favour of a mediated position of advancement analogues to but different from that pre-industry, relying upon the hindsight of knowledge to progress supply and demand in line with future imperatives of sustainability, beginning again knowing now what we did not know then seems not to be practicable or acceptable to those who have only now begun to reap the material rewards for their past labours. Science and its pragmatist technology are natural physical sciences may not yet able to make efficient or effective tangible replacement from replicable or regenerative resources on a scale commensurate with predicted expanding consumption requirement. We therefore find ourselves in a transition period whereby two competing agenda proffer different solutions to the pressing environmental issues and questions. This situation is now being critically re-evaluated and what some call shortermism and others progress/ agree that the ecological damages of the industrial and capital process systems is moving towards crisis in that the continual use of finite resources and the processing thereof causes pollution, increasing greenhouse gasses impacting tempter change and resultant global warming precipitating melting polar ice caps raising sea levels influencing weather patterns the catalyst for a climate change crisis and so on. There are two views of the future and sustainability; is seen by some as regressive whilst others view the concept as non progressive status quo whilst still others understand sustainability to be a strategy for the perpetuation of business irrespective of its form which should always be adaptation. The short term view presupposed that science was capable of determining sustainable future. Science has detected the problematic but as yet to propagate solutions or has it but we have not noticed? The Long term activists support initiatives such as Green Energy research seeks no environmental impact and no finite resource material usage thereby achieving a sustainable supply not dependent upon conversion of materials to energy, therefore not requiring dependency upon the chemical industries which converts materials. But what are the practical implications for the future? It seems to me that it might be all a matter of attitude. In his book *The Enemies of Progress* (the dangers of sustainability) Austin Williams presents opposing views of the future as being either neo-conservative or regressive in arguing his case for a progressive future based upon notions of innovation and creative positivism. In sighting a spat between scholars he says: “Philosophers AC Grayling is so exasperated by John Gray’s assertion that “progress is a myth” that he asked: “Does he thus mean that the movement from the feudal baronies to universal suffrage and independent judiciaries is not progress? If it is not, what is it? Regressive” Actually Gray, like most anti-progress advocates, isn’t in favour of a return to the past or giving up the gains of a liberal society, he is merely frozen-petrified-by what he envisions as the inevitably harmful consequences of human action in the future. We are marching, head down, toward global ecological collapse says environmental campaigner John Feeney, and it is the fear of the future, rather than a delight in the past that drives the demand for social, economic and technological restraint” (Williams, 2008: 9).

It was ever thus that there are paradox and contradictions in the conduct of human affairs leading to alternative zeitgeist ever since the enlightenment there was scepticism about the notion of progress, there we those who advocated control or a harmonious relationship with nature and those who supported the secular theoretical propositions or those the religious theology. Fashion in its many representations suggests many zeitgeists and it is this diversity which truly reflects consumer needs and wants and changing values therefore an understanding of the evolution of the ecological zeitgeist might well inform our thinking about future fears and possibilities. Fear of “the inevitably harmful consequences of human action in the future” motivates immergence of the future fear zeitgeist (Williams, 2008: 9). There is a continuous discourse which has impacted upon the crisis of confidence in science and the reality of supply and demand capital driving global capitalism. It began in Britain as the expansion of empire required exchange goods which demonstrated the advancement of our civilisation and which secured the acquiescence and commitment of colonial subjects to the progressive enterprise of supposed benign subjugation to a socio-cultural system which was not only better than the indigenous but had obvious advantages to that which went before. The industrialisation of Britain in the seventeenth, eighteenth and nineteenth centuries brought advantages to the ruling and entrepreneurial classed but altered the socio-cultural and economic life of the working classes to an extent that they were displaced in their own cultural context. Some adapted to this new reality but some were critical of it and since most came from an ancestry embedded in the rural as opposed to the urban and therefore their critique was primarily romantic nostalgic, but it might also be considered in a contemporary context to be a proto-ecologist critique.

**Fear of the Future:** The fear of the future zeitgeist was kindled in the early days of the British Industrial Revolution reflecting a pluralistic perception of the efficacy of progress and the application of science resulting from what is now referred to as the enlightenment but also sceptical of the consequences. Fear of the future is a reoccurring theme throughout history it re-emerged in the 1960’s as a consequence of the American Soviet Union stand-off or Cuban missile crisis and later in the 1970’s

as the protracted war in Vietnam accumulated ever increasing numbers of dead soldiers. There were however the inevitable optimists amongst which was the maturing Richard Buckminster “Bucky” Fuller (July 12, 1895 – July 1, 1983) was an American systems theorist, architect, engineer, author, designer, inventor, and futurist. Fuller was concerned about sustainability and about human survival under the existing socio-economic system, yet remained optimistic about humanity’s future. Defining wealth in terms of knowledge, as the “technological ability to protect, nurture, support, and accommodate all growth needs of life,” his analysis of the condition of “Spaceship Earth” caused him to conclude that at a certain time during the 1970s, humanity had attained an unprecedented state. He was convinced that the accumulation of relevant knowledge, combined with the quantities of major recyclable resources that had already been extracted from the earth, had attained a critical level, such that competition for necessities was not necessary anymore. Cooperation had become the optimum survival strategy. “Selfishness,” he declared, “is unnecessary and hence-forth unrationalizable.... War is obsolete.” He criticized previous utopian schemes as too exclusive, and thought this was a major source of their failure. To work, he thought that a utopia needed to include everyone. The 1960’s and 70’s period in America were extremely positive with the Hippy movement precipitating important ideas about sustainability and the ecology of our planet. Along with the New Left and the American Civil Rights Movement, the hippie movement was one of three dissenting groups of the 1960s counterculture. Hippies rejected established institutions, criticized middle class values, opposed nuclear weapons and the Vietnam War, embraced aspects of Eastern philosophy, championed sexual liberation, were often vegetarian and eco-friendly, promoted the use of psychedelic drugs which they believed expanded one’s consciousness, and created intentional communities or communes. They used alternative arts, street theatre, folk music, and psychedelic rock as a part of their lifestyle and as a way of expressing their feelings, their protests and their vision of the world and life. Hippies opposed political and social orthodoxy, choosing a gentle and no doctrinaire ideology that favoured peace, love and personal freedom, but always there was the alarmist voice of science re-awakening our fear of the future. In the 1960’s the plural zeitgeists re-immersed simultaneously through the work of scientist by Paul Ralph Ehrlich (born 29 May 1932) is an American biologist and educator who is Professor of Population Studies in the department of Biological Sciences at Stanford University and president of Stanford’s Centre for Conservation Biology. By training he is an entomologist specializing in Lepidoptera (butterflies), but he also a prominent ecologist and demographer. Ehrlich is best known for his dire warnings about population growth and limited resources. Ehrlich became well-known after publication of his controversial 1968 book *The Population Bomb* in which he published two devastating graphs illustrating the dramatic increasing population.



**Fig. 1:** Graph of human population from 10,000 BCE–2000 CE, showing the immense population growth since the 19th century. Together with a graph indicating commensurate basic food supply requirements.

**Fig. 2:** Wheat yields in developing countries, 1950 to 2004, kg/HA baseline 500

In the years since, some of Ehrlich’s predictions have proven incorrect, however his general thesis that the human population is too large and is a direct threat to human survival and the environment of the planet is a factor to be consider not lease because many of the sustainable textile fibre as raw material use in cloths and fashion production compete in the aquiculture sector for the same land and growing condition. “The topic ‘nature’ is one of perennial concern to the textile industry. Current concerns about ecology, which now seriously influence consumer decisions, have switched on a fierce red light which may confine fabrics to wool, silk (possibly) and so-called ‘green cotton’ grown on non-arable land.” (Graves & Padget, 2008).

**Esprit de Corp Model One Sustainable Fashion:** Fuller and the hippies coincided to produce at the time however a positivist approach in an endeavour to find solutions to the gathering problematic of environmental impact by human industry, and it was out of this period and coincidence of spirit that the first model of sustainable fashion I wish to present was conceived as a continuing project designed to minimise environmental impact. Notwithstanding the complexity of the issues of supply chain, commodification of fashion and free market supply and demand Esprit from its inception was determined to minimise any damaging environmental impact associated with their business development. Esprit were probably the first ethical fashion company concerned to manage the transition from mass consumerism to ethical trade and controlled supply and demand at least as much as they were able given their scale of operations. The transition can in some cases be managed in others it cannot however surplus can play a part in buying time but the length of transition requires the perceptual changes needed to be both proselytised by the commodification process and to harness innovative thought which slows consumption and conditions an awareness of the “real cost” to those who can afford and de-stigmatises the exclusion of those who cannot afford. Ethical

control of the supply and demand commodification process will potentially establish a transitional norm alleviating the disproportionate under valuation of commodities caused by current surpluses thereby fostering sustainability in the long term at the same time causing a paradigm shift in the supply, demand and rate of consumption but also buy time for the necessary scientific breakthrough needed. This was to be an approach which if proliferated by others operating within their specific circumstances could change the nature of fashion worldwide Esprit de Corp. Designs, manufactures, and distributes a wide variety of apparel and fashion accessories for women and children. Renowned for fostering a sense of social responsibility among its employees and customers, the company built its image on commitment to such causes as AIDS awareness and environmental conservation. Having soared to high-profile success from the mid-1970s to the late 1980s, by 1992 the company had plummeted to a state of financial ill-repute where it remained until the late 1990s, when the company launched a comeback under new leadership that freely capitalized on the brand recognition won during Esprit's glory days. The Esprit brand is marketed in 44 countries and is available in department stores, specialty stores and over 350 freestanding Esprit retail stores. The late 1990s saw the addition of a web site and a reinstated catalogue as important alternative marketing venues. Esprit approach was and is modelled upon Action Research which is a type of participatory research initiated to solve an immediate problem or a reflexive process of progressive problem solving led by individuals working with others in teams or as part of a "community of practice" to improve the way they address issues and solve problems. Action research involves a process of active participation in an organization change situation whilst conducting research and therefore (Burns, 2007).

**Goals of Action Research include:** The improvement of professional practice through continual learning and progressive problem solving; A deep understanding of practice and the development of a well specified theory of action; An improvement in the community in which one's practice is embedded through participatory research.

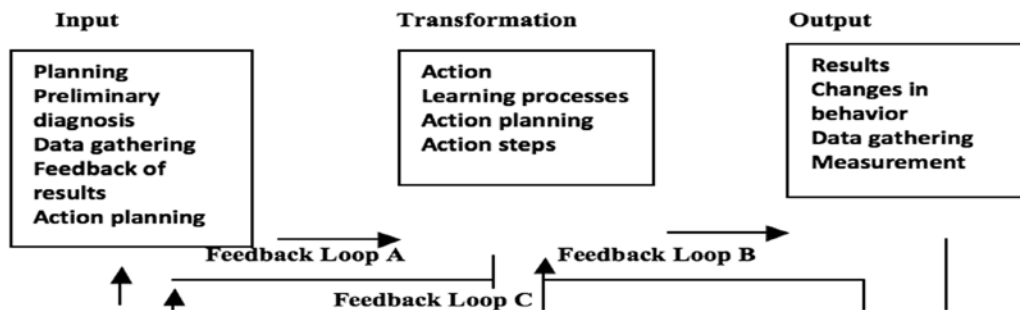


Fig. 3: Standard Model of Action-Research Process (Internet 1).

**Systems Model of Action-Research Process:** Business organisational changes must be fed by research which focuses on informing replacement processes, supply-chain, cash flows and so on together with retraining and the issues and objectives in the emerging new mission objectives. In this case the issue of environmental impact necessitated an environmental impact audit. An Environmental audit reviews the performance of an organisation against its environmental benchmarks. As part of corporate social responsibility programs, many organisations set targets in relation to recycling, carbon emissions, waste management and health of employee and stakeholders. An environmental audit provides an opportunity to gather data to assess the current performance of the organisation and to determine where there are gaps in performance.

**Setting the Standard for Environmental Audits – ISO 19011:** The international standard ISO 19011 sets the benchmark for undertaking quality and environmental audits. It suggests that there are four main components of an environmental or quality audit: establish, implement, monitor and review. ISO 19011 also details the required skills, knowledge and experience required for each member of an auditing team.

**Establishing an Environmental Audit – Deciding What to Measure:** The first step in undertaking an environmental audit is to decide what to measure. Appropriate measurements are individual to each organisation and, in fact, may need to change within departments. For example- a manufacturing business may need to measure air quality within its factory settings and paper usage in its office areas.

**Measuring Environmental Impact:** Measurements to be taken in an environmental audit include: Air quality, Water quality, Land and soil quality, Carbon emissions, Energy Use, Noise, Use and storage of hazardous materials, Recycling programs, Waste management. A separate audit, the health impact analysis, can be undertaken to assess the effect of business operations on the health of members of the public and employees of the organisation.

**Assess Performance of Environmental Management System:** The environmental audit is an opportunity for a business to assess the performance of its current environmental impact management system. If the environmental management system has been created in accordance with the principles set out in ISO 14001, specific measurable targets and objectives will be outlined. Data gathered during the measurement phase of the environmental audit can be used as a benchmark for assessing future performance against the objectives set out in environmental policies and legislation. Results of the environmental audit impact must be shared with the organisation's stakeholders through the corporate social responsibility report. The environmental audit is an opportunity for an organisation to assess its performance against stated environmental impact objectives and targets. The results of the environmental audit provide the basis for future targets and can be reported to stakeholders via a variety of means including through the corporate social responsibility report and open days.

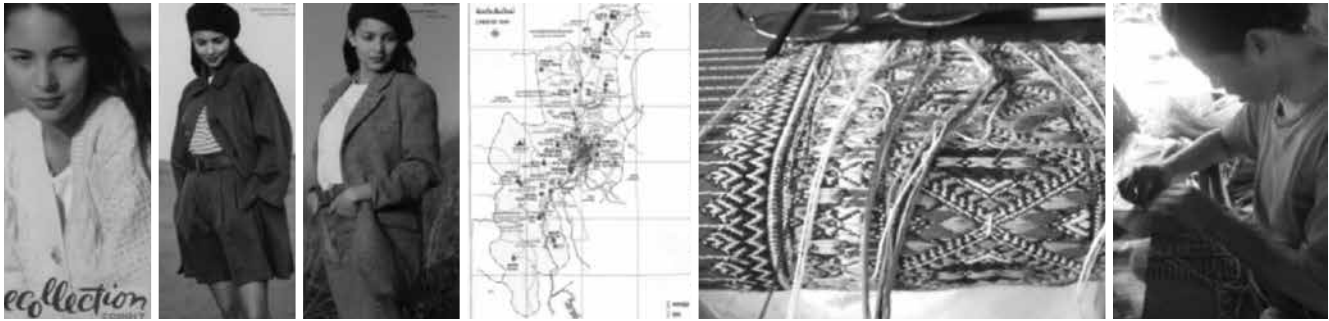


Fig. 4: Mae Chaem map. Fig. 5: Tin Chok Mae Chaem (Mae Chaem Weaving Product)

The E collection line of Esprit clothing and accessories, touted as both ecologically sound and fashionable, was introduced early in 1992. The line featured buttons made from reconstituted glass or carved from nuts, organically grown or vegetable dyed cloth, and purses hand-woven in a Mexican cooperative. Also that year Susie introduced the adult clothing line she had conceived years before. Tompkins referred to the designs as “creative career” wear for the Esprit customer who had matured. The tailored trousers, sophisticated, pleated skirts, jackets, and vests were manufactured in earth tones such as plum, green, brown, and burgundy. Tompkins maintained that these clothes were functional as well as fun and appropriate for the business world. The unconventional fashion show at which the Susie Tompkins collection debuted received mixed reviews. Rather than provide a runway and models, Susie commissioned Reverend Cecil Williams of San Francisco’s popular Glide Memorial Church to give a sermon on the troubled lives and deplorable living conditions of youth in America’s inner cities. The show, featuring videotape and choral accompaniment, cost more than \$5 million to create. While some reviewers were entertained, others reportedly were offended by Esprit’s tactics. Nevertheless, the company reported that the line had generated \$13 million in sales.

**Tin Chok Weaving: Model Two Green Textiles:** The connection between craft and sustainability in the economic context of any local craftspeople is rather complex. On the surface, as craft skills can be transferred easily from one to another, craft activities should be a way of easily generating productivity. The economic policy of each country drives the direction for its craft sector. Consequently craft in this context is not just about making things but also an economic activity which may encompass a variety of current sustainability issues, including cultural preservation, environmental conservation and so on. Mae Chaem, in Chiangmai province, may have changed less in the last 100 years than Bangkok, 500 miles to the south, but the global economic and cultural changes, such as industrialisation, the social liberation of women, increased social mobility and globalisation, have had an impact.

**Mae Chaem Shares Many Aspects with Rural Communities in West Africa, Turkey and the Middle East:** It has poor transport infrastructure and is geographically remote from major conurbations and seats of industrial and cultural innovation. 1. It has a strong cultural identity which is partly fostered by its geographical isolation. 2. It has undergone a great deal of outbound migration as residents’ aspirations are often unable to be Satisfied locally). 3. It has undergone social changes which, although slower to reach it than urban areas, have had a significant impact, eg the empowerment of women. Wilkinson (2006) argues: “The modern reality of village life has been altered by economic necessity, forcing young women to seek employment in the cities, often in roles that rob them of their pride and independence” (Wilkinson, 2006). Bosworth says: “The high employment rate in Thailand is largely due to the very high employment of women” (Bosworth, 2006). Mae Chaem’s distinct culture has come under pressure from a number of factors in the last 50 years and its remote geography has only partly insulated it from these influences.

**Mae Chaem: Location and Surroundings:** Mae Chaem is located in the west of Chiang Mai province and Mae Chaem River is an important tributary of the Ping River (The Ping river). Neighboring districts are (from the north, clockwise, see Fig1): Samoeng; Mae Wang; Chom Thong and Hot of Chiang Mai province; and Mae Sarian; Mae La Noi; Khun Yuam; Mueang Mae Hong Son and Pai of Mae Hong Son province.

**Mae Chaem Community:** Mae Chaem people appreciate and cherish their culture and their strong attachment to it has enabled them to maintain their way of life, traditions and ceremonies, not for the sake of others but for themselves. Examples of this culture include Lanna traditional performances; annual ceremonies; traditional occupations like rice farming; cultivation of red onions, garlic and soy bean; wearing “Tin Chok” sarongs.

**The Tin Chok Textile and Weaving of Mae Chaem, Thailand (Model Two Slow textiles):** Tin Chok is traditional Thailand textiles with artistic value and a rich and diverse history. Hand - weaving techniques have been used in Mae Chaem village for generations but little is documented about their significance and symbolic meaning. This Research is designed to evaluate and analyse the unique social function, history and tradition of Tin Chok textiles, which originate from the Mae Chaem area of Chiangmai province in northern Thailand. It will focus on how the motifs, colours and materials have changed as a result of cultural, economic and social developments between 1920 and the present day. In doing so it seeks to examine the critical and analytical context of the Tin Chok tradition, the economic and social influences which have affected it and its sustainability in the future.

The research includes digital records of motifs and patterns from 1860 right through until 2010. The purpose of this recording was not only analysis, but also digital preservation in the form of database devoted to this Tin Chok type of cultural heritage, which can be of use to designers and researchers. Observation of the weavers is necessary to study their methods, techniques

and processes and enable a better understanding relative to the analysis of the changes in the Tin Chok textile collections. The model of the research process is also the model for sustainability in as much as it follows the prescription of Action Research described in Model One Esprit Sustainable Fashion but differs in as much as the researcher becomes part of the activity and as Designer plays a long term roll along with the organisations listed below in supporting the perceptual and practical changes needed for sustainability.

1. The James H. W. Thompson Foundation <http://www.jimthompsonhouse.com/museum/index.asp>, 2. Mae Fah Luang Foundation under Royal Patronage <http://www.maefahluang.org/index.php>, 3. The support arts and crafts international centre of Thailand <http://www.sacict.net/en/sacictaboutus.asp?Lg=ENGLISH>, 4. MaeChaem Learning centre for more information on governmentsupportpolicyvisit <http://www.fao.org/docrep/004/ak216e/ak216e05.htm>.

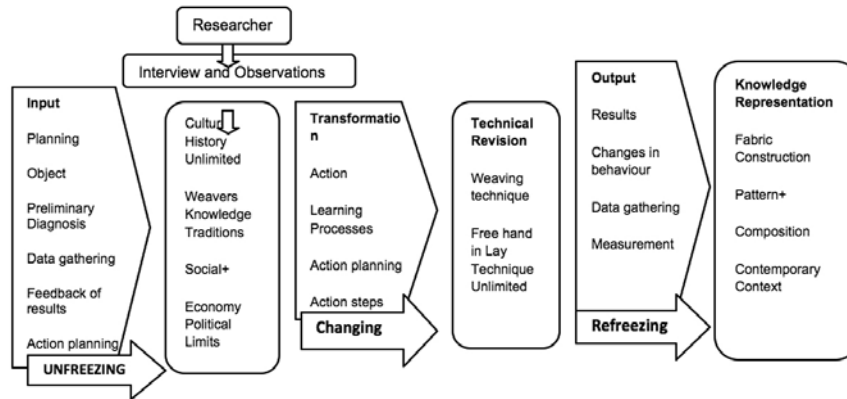


Fig. 6: The research interrelation/interactions and process model.

The methodological approaches employed in this research will necessarily be cross disciplinary to the extent to which different types of method from different disciplines will need to be applied to the collection and analysis of data. Action research methods can be learned and of important is the interactive circulation of research data within the model system.

**Anatolian Felt Making Model Three Slow Textiles:** This method and model of Action Research which also creates sustainability is taken from the doctoral thesis of Selcuk Gurisik (Gürışık, 2006). Who was concerned about the decline in the fortunes of the Anatolian Felt Makers who hand craft their product along traditional lines but lacked the engagement of the next generation and were unable to create products which had a relevance in the global market even though their products were ecologically friendly. In his thesis the Paradox and contradictions of cultural worth and Exchange values were his main theme and he talks about the hand crafted felt objects in terms of either a Focus object in the context of transformation or a culture object when discussing the embedded qualities that is the emotional and symbolic representation. As with the other two examples of Action Research Gurisik's model is interactive and participatory regarding the external mentor as a journeyman who comes and goes and on occasions works alongside the felt makers facilitating a Design Meme transfer (Langrish, 1999). His model integrates three distinct phases which are cyclical allowing for new input to be synthesised and absorbed into the transforming and/or evolving system. This model can therefore be understood as a positivist and progressive model for sustainability given that the perpetuation of the system recognises personnel changes and a degree of serendipity and opportunism in the mimetic transfer (Dawkin, 1998).

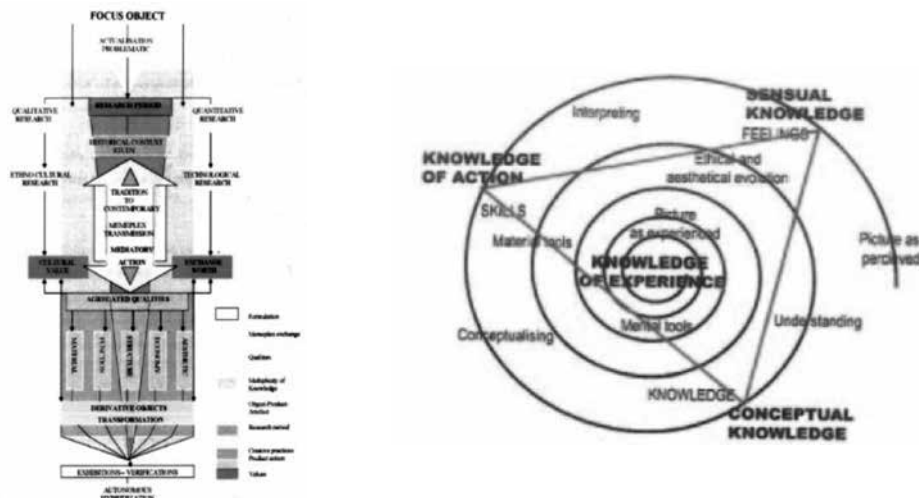


Fig. 7: Rejuvenation of the creative memeplex in multi functional craft activities. Fig. 8: Diagram of a study of an artistic image.

The interrelation and participatory process is predicated on the flow of knowledge's some fed by research some individually acquired and still other which was tacit each however given equal prominence and discursive application each feeding the system simultaneously and/or perhaps on a reoccurring basis.

The Transmission of Knowledge's from the system to the object is via the iconography of the repertoire of felt making traditions but also exemplified by mimetic actions in proximity by these means the two parts of the model thus far can be considered integrated and concerned with the tangible and intangible aspects of a product or object thereby denoting either culture or focus object status (Stanislaw, 1959). The third and final part of this integrated model is concerned with the circulatory aspects of the action research process. The implication here is that the unifying force is the repetitive engagement of not only the participants but all of their active and unconscious knowledge's skill abilities and new perspective both conceptually brought together in a new paradigm of physicality and emotional commitment dynamic. The virtue of this model is that it is evolutionary and therefore adaptable it requires interactivity which militates, against inertia and is therefore a dynamic model which relies of the forces of the individual (Benjamin, 2008).

**Conclusions:** There is no silver bullet, which will in a single shot put an end to a global ecological crisis or severe problematic with which we live. Neither the fashion or clothing and textiles industries alone can solve the problems of pollution, depleting resources; global warming however, it can address the issues of over production of value clothing it can address the issues of fashion quality and longevity returning to a situation where brand statement was real rather than illusory. Each link in the supply chain and supply and demand commodification process can have a collective impact of significance if they all get on message rather than taking opposing views or creating artificial zeitgeist or prioritising short termism. The big questions; are can carbon emissions be reduced and are there sufficient alternative energy resources to sustain present levels of production the answers? These issues are in the hands of world governance but also in the hands of the scientists in who we should not lose confidence. In offering this paper and the three models I hope to go some way towards presenting ways in which different groups of individuals and organisations are trying to make a difference and lessen the impact upon the environment of fashion and textiles.

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