

DESIGNERS THROUGH BORDERS

Design of a collaborative
system innovation platform for the
sustainable development
of emerging and low-income contexts.



POLITECNICO DI MILANO
FACOLTÀ DEL DESIGN

Corso di Laurea Magistrale in Product Service System Design

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Abstract - ENG

In the last decades the research and application fields of the design profession have widen so much as the definition of design as a discipline that concern the conception of industrial artefact appears not sufficient to describe a comprehensive profession. One of the transversal and fundamental characteristic of this transformation has been the introduction of the concepts of sustainability and sustainable development into design project. The change has concerned also the design methodology: in the last years the attention has switched from the design of industrial products to the conception of articulated solution with the aim to fulfil the users' needs and desires through the elaboration of integrated system of products and services.

The join of a sustainable approach with a systemic methodology has led designers to focus on new sectors, among the others the social sector. In this new area the design profession is starting to experiment new directions, including the design of solutions for the improvement of living conditions of community who requires an external support to face the local problematic situation.

The thesis intends to work in this context proposing to structure a collaborative solution to enable designers and design students to act in the dimension of design for the development of emerging context. The preliminary research has led to the following consideration: on the first hand the design of fair and sustainable solution can provide a significant contribution to the improvement of social and environmental conditions in problematic situations; on the other hand the initiatives able to put into practice these assumptions are still rare in the design field, especially in the Italian context. The thesis project wants to meet this assumptions proposing the creation of a non-profit designers association based in Milan that intends to operate in the international cooperation field for the sustainable development of community in need in emerging and low-income context.

The association called Designers Through Borders wants to give an opportunity to designers to join their professional design skills with experiences in the field of cooperation for development. The projects proposed by the association aims to a systemic improvement through a participate design of new systems of products, services and relationships between the stakeholders of the local context. The association's objectives goes from the design of solutions for the economical, environmental and social development, to the education of future designers in the Milanese and the local context thanks to partnerships with universities and to the creation of a network among Milanese's association for the transfer of competencies and know-how.

The thesis work consists in the design of the association's structure, management and operative strategies with a special focus on the system of relationships among the stakeholders of the Milanese and the local contexts covered by projects. One of the main innovation elements of the thesis is the design of the association methodology, which associates the Method for System Design for Sustainability (MSDS) developed by the researcher of DIS - Politecnico di Milano (Design and Innovation for Sustainability) with the phases of a Cooperation Project Cycle (PCM) defined by the European Commission for Development.

Furthermore has been designed the evolutionary transition path which sets the steps for the implementation of the association.

The research, which has supported the entire project, has concerned three different fields.

The first concerns the transformation of the role of design profession in the mainstream of sustainability and of sustainable development. This research is based on literature review and aims to identify the approaches, processes, practices and directions of design for sustainability and their evolution in time.

The second part of the research is about the various design organizations linked to the sustainable development and sustainability. This part of the research regards initiatives in the field of information (blog, magazines, online communities), education (university courses, conferences and workshops), networking (international network) and operative design (associations and organizations which operatively work in the international cooperation). It aims to understand the best or the worst practices of real associations and communities composed by designers.

The third part regards the project cycle management practices and the participative methodologies for cooperation projects for development provided by the European Commission for Development. The aim of this part of the book is to outline the guidelines for the creation of the association that will operate in similar contexts.

The last part of the research concerns the approaches, methodology and tools to orient the design of system innovation in emerging and low-income context to environmental, economical and social sustainability.

Abstract - ITA

Nel corso degli ultimi decenni gli ambiti di ricerca e di applicazione del design si sono ampliati al punto che la definizione di design come disciplina che si occupa della sola progettazione industriale di beni e artefatti appare oggi insufficiente a descrivere una professione di ampio respiro. Caratteristica trasversale e fondamentale di questa trasformazione è stata l'introduzione dei concetti di sostenibilità e di sviluppo sostenibile, fattori che fino a pochi decenni fa erano considerati poco rilevanti nella definizione di un progetto di design. I mutamenti hanno interessato anche le metodologie progettuali: negli ultimi anni l'attenzione nelle fasi di progettazione si è spostata dal singolo prodotto industriale alla progettazione di soluzioni complesse in cui l'obiettivo è quello di soddisfare i bisogni dell'utente attraverso l'elaborazione di un sistema integrato di prodotti e servizi. L'unione di un approccio sostenibile ad una progettazione sistemica ha comportato un ampliamento dei settori di riferimento del design che negli ultimi anni si è estesa anche al campo del sociale.

In questo nuovo settore il design sta muovendo i primi passi in diverse direzioni tra cui quelle di una progettazione mirata al miglioramento delle condizioni di vita di comunità in contesti a basso reddito e che necessitano di un supporto che li aiuti ad uscire da una condizione problematica.

Il lavoro di tesi si inserisce in questo settore proponendosi di strutturare una soluzione collaborativa che consenta a designer e studenti di agire nella dimensione della progettazione per lo sviluppo di contesti emergenti. La ricerca preliminare alla tesi ha portato alla seguente considerazione: se da un lato la progettazione di soluzioni eque e sostenibili può dare un importante contributo al miglioramento delle condizioni sociali e ambientali in situazioni problematiche, dall'altro le iniziative che permettono di mettere in pratica queste premesse sono ancora troppo rare nel campo del design, soprattutto nel contesto italiano.

Il progetto di tesi vuole quindi rispondere a questi presupposti presentando la progettazione di un'associazione non-profit di designer con sede a Milano che si propone di operare nel campo della cooperazione internazionale per lo sviluppo sostenibile di comunità in contesti emergenti e a basso reddito. L'associazione, denominata Designers Through Borders, si propone di fornire un'opportunità ai progettisti che intendono unire le loro capacità professionali ad esperienze di progettazione nel campo della cooperazione allo sviluppo; i progetti proposti dall'associazione mirano ad un miglioramento sistemico che prevede la progettazione partecipata di nuovi sistemi di artefatti, servizi e relazioni tra gli attori del contesto locale. Gli obiettivi dell'associazione vanno dal proporre soluzioni che tendano ad uno sviluppo sostenibile nell'ambito ambientale, sociale ed economico, all'educazione di futuri designer nel

contesto milanese e nei contesti locali interessati dai progetti attraverso le partnership con le università, alla creazione di una rete tra associazioni milanesi in un ottica di condivisione di competenze.

Il lavoro di tesi consiste nella progettazione della struttura, dell'organizzazione e delle strategie operative dell'associazione con un'attenzione particolare per la costruzione della rete di rapporti con gli attori del contesto Milanese e dei contesti locali interessati dai progetti. Uno dei principali elementi di innovazione presentati dai lavori di tesi è la progettazione della metodologia dell'associazione, che associa il Metodo di Design di Sistema per la Sostenibilità, sviluppato nell'unità di ricerca DIS (Design and Innovation for Sustainability) del Politecnico di Milano, alle fasi del Ciclo di Progetto di Cooperazione Internazionale stabilite dalla Commissione Europea per lo Sviluppo.

Inoltre è stato progettato il percorso che stabilisce i passaggi utili alla creazione e alla successiva diffusione dell'associazione stessa.

La ricerca che ha portato alla definizione del progetto ha interessato quattro diversi ambiti. Il primo riguarda la trasformazione avvenuta negli ultimi quaranta anni del ruolo del designer in rapporto alla dimensione della sostenibilità e dello sviluppo sostenibile. Questa parte della ricerca ha avuto lo scopo di identificare gli approcci, i processi, le pratiche e le linee guida del design per la sostenibilità e le loro evoluzioni nel tempo.

Il secondo ambito di ricerca ha interessato l'associazionismo legato al mondo del design, della sostenibilità e dello sviluppo sostenibile. Questa parte della ricerca ha riguardato iniziative nei campi dell'informazione (blog, editoria, comunità online), dell'educazione (corsi universitari, conferenze e workshop), della creazione di reti (network internazionali) e della progettazione (associazioni e studi di design attivi nel campo della cooperazione internazionale). e ha fornito fondamentali indicazioni nella progettazione della struttura e del funzionamento dell'associazione.

La terza parte della ricerca concerne le buone pratiche per la gestione di progetti di cooperazione redatte dalla Commissione Europea per lo Sviluppo. L'obiettivo di questa parte è stato quello di tracciare le linee guida per la gestione dell'operato dell'associazione in contesti emergenti.

La quarta e ultima parte della ricerca interessa gli approcci, la metodologia (MSDS) e gli strumenti per orientare la progettazione di soluzioni sistemiche in contesti emergenti e a basso reddito verso la sostenibilità ambientale, sociale ed economica.

Thesis in Brief

GENERAL TOPIC

System design for sustainable development: professional attitudes and operative strategies for emerging and low-income contexts.

BACKGROUND

In the last years the join of a sustainable approach with a systemic methodology has led designers to focus on new sectors, among the others the social sector. In this new area the design profession is starting to experiment new directions, including the design of solutions for the improvement of living conditions of community who requires an external support to face the local problematic situation.

OBJECTIVE

Link the Milanese design community with the dimension of cooperation for development enabling designers to use their professional skills for the sustainable development of community in need.

PROJECT

The project is about the design of an association in charge to work for the social and environmental sustainable development of emerging contexts as well as the design of the transition path for its implementation.

The association (Designers Through Borders) is made by volunteer designers and design students who share common sensibilities, visions and goals about sustainable development and social justice.

The association is designed to operate following the system innovations approach developed by the Design for Sustainability research unit of Politecnico di Milano and the guidelines of European Commission for Development.

CONTENT

The thesis work consists in the design of the association's structure, methodology and operative strategies with a special focus on the system of interaction among the stakeholders of the Milanese and the local context covered by projects. Furthermore has been designed the evolutionary transition path which sets the steps for the implementation of the association.

RESEARCH METHODOLOGY

The research methodology which supports the project is based on literature reviews (papers, books, official documents, thesis) and internet investigation.

Thesis Structure

The structure of the thesis is split into following parts:

Part one: RESEARCH

The research has been conceptually divided itself in four part, these are:

1. Literature review the role of design profession in the mainstream of sustainability and the sustainable development. The transformation of the role of design profession in the mainstream of sustainability and of sustainable development. This research is based on literature review and aims to identify the approaches, processes, practices and directions of design for sustainability and their evolution in time. This part is divided in 3 periods of time characterized by particular practices, approaches, directions and processes.

2. Case studies: operative strategies of collaborative design initiatives. The second part of the research is about the various design organizations linked to the sustainable development and sustainability. This part of the research regards initiatives in the field of information (blog, magazines, online communities), education (university courses, conferences and workshops), networking (international network) and operative design (associations and organizations which operatively work in the international cooperation). It aims to understand the best or the worst practices of real associations and communities composed by designers.

3. Principles and guidelines for development projects by the European Commission for Development. The third part regards the project cycle management practices and the participative methodologies for cooperation projects for development provided by the European Commission for Development. The aim of this part of the book is to outline the guidelines for the creation of the association that will operate in similar contexts.

4. System Design for Sustainability in low-income and emerging contexts. The last part of the research focus on the new potential role of design in the sustainable development of emerging and low-income contexts. It focus on the approaches, methods and tools proposed by C.Vezzoli and by the research unit System Design and Innovation for Sustainability (DIS) in the INDACO department of the Politecnico di Milano. The research aims to describe a winning methodology to orientate the design of systemic project towards sustainable solutions.

Part two: PSS DEFINITION

The system explanation of the proposed association is divided as follows:

4. Synthesis. General considerations, insights, inspiring quotations, thoughts that have generated the design brief.

- 5. Design Brief.** Definition of a personal design brief which set the aims and assumptions of the systemic proposition.
- 6. Scenario Framework.** Design of a possible scenario framework in which implement the PSS.
- 7. PSS Concept.** Definition of the aim, mission, area of intervention, methodologies and approaches of the association (PSS).
- 8. Project Cycle Management for a Sustainable System Innovation.** This chapter concerns the description of the association's methodology for the management, design and implementation of system innovation in the framework of a cooperation project for development.
- 9. PSS Structure.** The purpose of this chapter is to outline the framework of the PSS delineating the main feature of the association: target and stakeholders (who are the actors involved and who is addressed), structure and management (what is the structure of DTB), operative strategy (how the system work).
- 10. Evolutionary transition path.** This part propose a step by step transition process to the establishment of a self-standing association. It is aimed at facilitating the designing, experimentation, introduction and branching of sustainable system innovations.
- 11. Communication Elements of the Association.** Present the communicative elements which create the brand image of the association.
- 12. System evaluation.** Swot, Stakeholder Matrix, Pros and Cons.

The big issue and the design potential

Although the subject matter of sustainability appears nowadays like a 50 years-old trend it seems that for the last 15 years it has been living a new youth. Hoping that this tendency is not just an ephemeral fashion, recently an increasing group of people in the world has become more aware about their responsibilities towards the environment they live in and the community they live with.

Nowadays we have to agree that the “need for sustainability” meets the most part of our consumption world: it concerns eating, wearing, moving, housing, travelling, communicating and a lot of other everyday actions, including jogging and even sleeping.

Unfortunately for the majority of people of the richest countries the birth of this new “need” is pushed more by a perception of fear given by a possible loss of social status than a real understanding of the global situation. This “panic” about the future conditions of the planet has been strongly encouraged in the last 10 years by media and ads that are nowadays still trying to convince people from all over the world that their way to live their life is wrong because

is not socially or environmentally sustainable.

On the first hand this action has created for the first time in history a shared-collective-global conscience. In fact the research for a sustainable way of living appears to be transversal: it affects the richest as well as the poorest societies, from teenagers to elders, from working class to politicians, event if it is clear that the responsibilities of the western and richest societies are more evident because of their power and global influence.

On the other hand the spreading of fears among communities and individuals about future tragic scenarios helps to create a sense of frustration given by the consciousness that nowadays societies are unable to find tools and methods to face such a big issue.

This concept open new chances for designers of every nation: given that design is one of the profession in charge to propose new ways to interact with everyday actions and artefacts it should takes the chance to propose itself like a “bridge profession” that give people the tools to face the big challenge of our era, the sustainable living. In other





Figure 1. Sheep farmer, Kenya 2005

words designers should in my opinion use their creative skills proposing innovations to help people in understanding the reality they live with the aim to create a critique attitude toward life for a responsible way of living.

I think that time has come for designers to come out from the problem-side and start to participate in the solution-side. Although this kind of shift already happened in the past for a limited number of enlighten designers I am firmly convinced that in the new global world there is the possibility to spread it out.

But what is this “sustainability” about?

In such a long time also definitions and ideas that has always been flying around this terms has suffered a change. Undoubtedly sustainability has always dealt with environment and the preservation of earth integrity; certainly it has concerned social themes. But in the last decades the definition has widen up again concerning concepts like human rights, digital divide, ethic, relations between western and southern countries, energy exploitation, cooperation strategies, energy production, social enterprises etc. It’s clear that the complexity of the matter is really high.

However the aim of this work is not to find a unique definition of sustainability in the design contexts or its implication on the sustainable development; starting from the analysis of ”design for sustainability” and ”design for social impact” this work focuses on the concept of sustainable development for community in need.

It is addressed to find a practical proposition to apply the concept of a sustainable development for the emerging and low-income contexts focusing on the opportunities given by the PSS approach following the principles of International Cooperation.

In the first part of this work I will explore the concept of sustainability and the sustainable development basing my research on A) literature review about the role of design profession in the mainstream of sustainability and the sustainable development, B) analysis of case studies and design initiatives about sustainability by design and C) an investigation of the cooperation best-practices for projects in emerging contexts.

In the second part of the book I will propose a practical way in which product service system approaches could be introduced as strategies for the sustainable development of communities in emerging context. The final project can be considered itself as a product service system: it is the creation of a collaborative PSS association called Designers Through Borders for the sustainable development of emerging and low-income contexts inspired by similar “without borders“ associations. (e.g. Engineers Without Borders).

Design and Social Equity: PSS as a link of the chain



In the last decades the design profession has changed a lot in the direction of sustainability and even if there are difficulties in the perception of this transformation the renovation is going on. In 40 years the discourse about design for sustainability become wider and even the idea of the profession has changed a lot in terms of processes, approaches and practices. Also the classical domains of design have changed: nowadays industrial design is not considered just the disciplines that create products and interiors. Most design universities and institutions in the world provide courses which include methodologies and tools to design services, strategic relationships, systemic solution, social innovation and the strategies to manage all these things together.

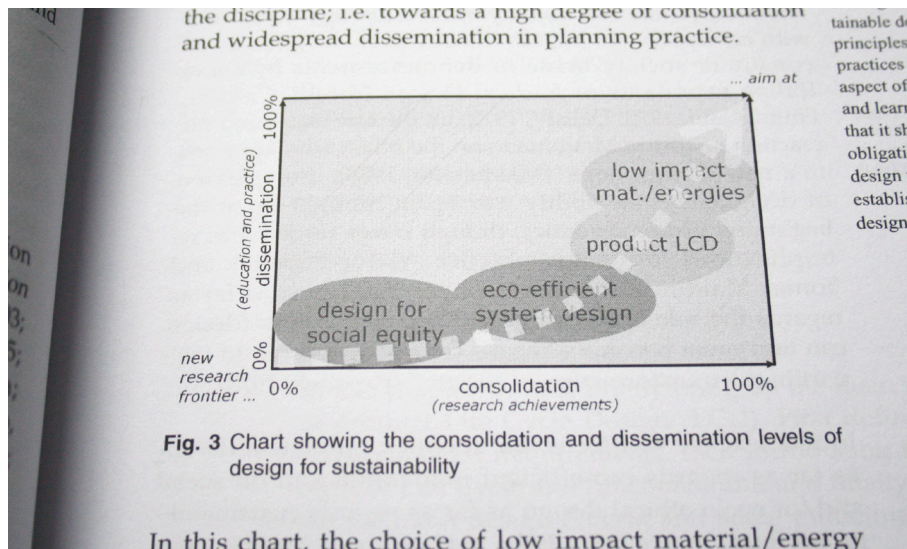
Even if design continues to be a problem-solving activity, it is becoming a discipline that is able to respond to problems in a wider way in terms of range of proposals and given solutions. Has been recognized by several design critics how in the last decades design has shifted from the concept of shaping a product for a user to the concept of shaping relationships and artefacts between users in a system.

This radical change affects the entire design profession and therefore also the relationships between design culture and the sustainable living. Which is the nowadays situation?

A state-of-the-art is given by Vezzoli (2007): he divides the design practice for sustainability in 4 dimensions relating them with dissemination (education and practice) and consolidation (research achievement). With reference with the following diagram we find the new research frontiers in the bottom left hand corner (0%

Figure 2. Back from work, Victoria Lake, Kenya 2005

Chart 1. Consolidation and dissemination levels of design for sustainability- Vezzoli, 2010



of consolidation and dissemination) and in the top right hand corner (100% consolidation and dissemination) the point towards which we should steer the various dimensions of the discipline.

It is visible how the new frontiers of the design profession towards sustainability are wider than just taking care of the production techniques and materials.

Design has to found new challenges in the social sphere working for social equity and cohesion of people and communities in the global and local society. In this vision Design has become a comprehensive profession able to respond to complex problems through systemic approaches and able to manage a high level of troubles transforming them into opportunities.

In other words the new challenge in the route for a better social impact of design is a profession based on systemic approach and addressed to achieve a social equity and cohesion.

This book would like to follow this concept proposing the Product Service System approach as a link of a chain between the design culture and the research for social justice.

“Product Service System Design “(PSSD) is of the discipline able to put into practice this idea of systemic design. Here is a definition by UNEP (2002):

“A Product-Service System (PSS) can be defined as the result of an innovation strategy, shifting the business focus from designing

and selling physical products only, to selling a system of products and services which are jointly capable of fulfilling/satisfying specific client demands.”

Product Service System Design strategies have been firstly elaborated for the business improvement and profitability of companies but the opportunities given by a systemic approach has in the last years widen up the field of action. Among the others, Vezzoli and Manzini suggested an introduction of PSS for the project in developing countries:

“For developing countries, a business application of PSS may complement other political and economical interventions – and act as an opportunity to facilitate the process of industrialization, by jumping over or by-passing the stage characterized by individual consumption/ownership of mass produced goods – towards the more advanced service-economy. In this case, a PSS approach could reach and provide a widespread higher level of well being or utility at lower cost, because of the higher system efficiencies. In other words, it may represent a more promising and environmentally “lighter” path to contribute to industrial development”

Starting from this idea in the second part of the book I will suggest an collaborative proposal to operate in the dimension of a sustainable development of emerging context for the macro-purpose to collaborate in the design of more equitable society.

part one RESEARCH

1.
Evolution of
the design
discourse about
sustainability
and sustainable
development: the
three waves

2.
Case studies:
operative
strategies of
collaborative
design initiatives

3.
Principles and
guidelines for
development
projects by
the European
Commission for
Development

4.
System Design
for Sustainability
in low-income
and emerging
contexts

1. Evolution of the design discourse about sustainability and sustainable development: the three waves

Introduction

This first part of the research investigates the concept of sustainability and his relationships with the design culture and is based on literature reviews. The scope of this part of the work is to understand the evolution of the designer's role and attitude toward a responsible design profession; I firmly believe that the understanding of this development is essential for the specific purposes of the thesis: the proposition of a designers association in charge to design for the social and environmental sustainable development of emerging context.

The results of the research are organized chronologically and the way they are proposed takes inspiration from the model of the “three waves of sustainable design” proposed by SustainAbility and by Tracy Bhamra and Vichy Lofthouse (2007). This model proposes a history of design for sustainability as an alternation of 3 defined periods of time –the waves– that differentiate each other for peculiar characteristics. The literature that represents each period has been critically analyzed identifying 4 main aspects: practices, approaches & provided solution, directions and processes.

“*Design Practices*” (what) are about tendency and concepts to realize the principle of sustainability by design.

“*Design Approaches & provided solution* (how)” are about the methodologies to achieve the practices and about the methods in which designers interface with sustainability.

“*Directions*” (drives) are about guidelines and drives. Sometimes they comes from official documents written out in internationally recognized summits and with a global influence on a large variety of disciplines, among other is design.

“*Processes*” concern the various design procedures to manage a complex project.

The research has the aspiration to cover the evolution of the design discourse about sustainability for a period of time between the sixties and the first decade of the new century. Nevertheless it should be clear that this research has not the ambition to be totally comprehensive or a chronological succession of events or concepts. It has to be considered like a qualitative research with the aim to give an overview of the last 40 years of design for sustainability's tendencies.



1.1 FIRST WAVE. 1960'S-1970'S: A GREEN SOLUTION

The majority of thinkers and practitioners of sustainability in the world tend to date the first thinking about this matter between the 1960 and the 1970. In this decade books like *Silent Spring* by Rachel Carson or reports like *Limits to Growth* by Club of Rome and the birth of new associations like Greenpeace started to spread out the idea that the ongoing production and consumption system were not as perfect as it would have seemed. The new vision of the world arose in those years was a real revolution; the global scenario changed: for the first time world started to be considered as a finite system made by human and natural resources to preserve and not to consume.

Could the design profession stay away from of this revolution? It could, but fortunately didn't make it.

It was at this time that Victor Papanek and a small number of other pioneers in the design world pointed out the designers responsibilities with respect to major social and environmental needs. (Papanek, 1971). The history of design profession and its attitude towards sustainability started form these radical perception and has changed until the nowadays concepts; of course the evolution is still on the go.

Figure 3.
Desert flower,
Syria 2010

1.1.1 Design practice

Critical thinking for accurate products

Papanek is the main reference of the first wave of sustainability by Design. In the chapter 10 of “Design for the real world”, Papanek outlines the close relations between design and environment. It is one of the first significant critical analysis of the possible troubles occurs when people in charge to design something fails in terms of good solutions. He analyzed the environmental and social impact of design from a variety of point of view: air and water pollution, mobility, waste, climate change, housing, agricultural development. Every topic has been discussed from a technical approach with references to the production phase and the use phase (the range of artifacts considered by Papanek goes from private cars to the Egyptian dam). Papanek intentions were to make a critique of the everyday project made by his contemporary designers. Underlining the concepts of global responsibility related to local action years before the coinage of the term “glocal”, he promoted the idea that design has to include the understanding of historical, social and environmental perspectives. He advised the inclusion of sociology, anthropology, psychology, behavioral science within the design projects.

Green design: low environmental impact

In this phase product design practice for environmental sustainability is essentially based on the accurate choice of materials and processes with a low environmental impact. This attitude of focusing on single issues, for example the inclusion of recycled or recyclable plastic or the consideration of energy consumption is known like “green design”(Tracy Bahmra and Vicky, 2007). The purpose to take care about toxicity or biodegradability of materials from the first phases of the project strategically improves the impact on the environment more than palliative anti-pollution policies. As Vezzoli underlines in “Design for environmental sustainability” (Vezzoli, 2008) this is a small revolution if compared with previous years: this way to approach a design project shifts the matter of sustainability from end-of-the-pipe approaches to prevention strategies.

In emerging context: low tech to enlarge usability and accessibility

Given that the final goal of this work is the design an association that will mostly work in emerging contexts I would like to underline, when possible, the relations that design have with the development of emerging and low-income contexts.

Once again the most relevant designer in the '70 that exposes some

interesting concepts and practical drives is Papanek. As Margolin assumes in “Design for development, toward a history” (Margolin, 2006)

“Papanek had set up a binary opposition in Design for the real world (papanek 1971) between the irresponsible and wasteful products for which designers in the first world were responsible and the more meaningful products that he and his student designed for third world use”.

One of the product that Papanek sometimes cites in his book is a tin can radio powered by candle wax, designed for community in India and Indonesia. The radio is designed to be quickly and simply mounted by any user. The entire unit costs less than 9 cents (in 1966). This example is explanatory about the Papanek’s consideration of design projects for communities in emerging contexts: low technology products designed to address community survival needs.

The value proposition of the low tech-radio was not just about technical features; One of the main characteristic of the radio is the absence of aesthetic appeal and Papanek was proud to say “obviously the radio is not good to see”. The reason for that is related to the Papanek’s decision to let the final user to decide his own “radio style“ painting or decorating it. He was used to say ”I don’t want to take any stylistic decision for user with a totally different cultural background”. In other words users should decide the best way to finish or decorate their own radio. Thanks to this project he has been called the “Garbage Can Designer”, but I personally think this is one of the first example of co-produced product across cultures that gets the final user the feeling to be a co-creator of value.

1.1.2 Design approach and provided solution

Divergence of commercial and responsible design

In Design for the real world (Papanek 1971) all the references to market driven design seems to be negative. A market-driven design can be generally considered like a design project led by marketing business strategies and with the single purpose of profit creation. Papanek is convinced that economical profit can not meet social or environmental needs and is persuaded about the need of a clear separation between socially responsible designers and those working on commercial market-led design projects. He suggests that designers have to follow the principle of “designing for many instead of designing for money”. This call aims to underline the different competencies that a responsible

designer should have apart from technical knowledge and methodologies finalized to produce profit for companies operating in the market. These competencies include disciplines that seems to be distant to the design profession such as psychology and sociology and has to be driven by a professional ethic.

The strongly opposition in joining the market and social driven approaches came probably from the experience of the economical growth of those year and from the design projects related to it . I'm thinking for example about the disposable tendency that was arising in those years and the disastrous consequences on the increase of waste. This concept will be take up from Margolin and Margolin years later. (see 3rd wave)

In developing countries: papanek 4 propositions

Papanek in the edition of 1985 of "Design for a Real World" suggested also ways in which ways designers from "western" countries could be involved in design for developing countries. Here is a list of his proposition that goes from a "give-to" to a "build-together" approach:

1. The designer can sit in his office and design products using the materials and processes of the countries. The product has designed for the home country market.
2. The designer participates by spending time in the poor country and develops products to be made there. In this case Papanek was not convinced about the short term commitment and the consequently low quality of the proposition.
3. The designer lives in the developing country and trains local designers to be involved in problem solving directly
4. The designer moves to the country as a practical lecturer to train designers to become design educators in order to transfer their knowledge to local designers, forming a cycle that will continually supply problem solving and development needs.

1.1.3 **Design directions**

Papanek's 6 priorities

In his innovative book Papanek outlines and discusses some sectors where the design discipline is pretty much unknown (for his contemporaries) but in which he see opportunities for students and professionals to

propose something creative but conscientious. Four out of five sectors can be considered in the dimension of sustainability and each section is followed by examples and successful case studies:

1. Design for developing world (examples of vehicles and low tech energy providers)
2. Design of teaching and training devices for retarded, the handicapped and the disabled (examples of products for hydrotherapy or physical re-education)
3. Design for medicine, surgery, dentistry and hospital equipment in general (suggestion about the re-design of operating rooms furniture and tools)
4. Design for experimental research (suggestion about the re-design of workshop equipment)
5. System design for sustaining human life under marginal conditions (integrated system with the aim of empower the resistance of people in context of isolation)
6. Design for breakthrough concepts (a call for a new responsible creativity beyond the boundaries of the economical profit)

Even if the vision and the proposition of Papanek has a far-seeing attitude it is clear that even nowadays some of these remarkable sectors are difficult to link with the idea that the majority of people have about the design profession.

The Ahmenabad declaration

In the final part of the Seventies the discourse on design for sustainability starts to change in relation to the critiques made by Papanek and to a conference hosted by India's National Institute of Design. In 1979 a meeting between the United Nation Industrial Design Development Organization (UNIDO) and the International Council of Societies of Industrial Design (ICSID) to discuss the promotion of industrial design in developing countries brings to the "Ahmenabad Declaration on Industrial Design and Development".

The Ahmedabad declarations proposes a different view of design as a powerful force for the improvement of the standard of living in the developing world. It proposes a view in which local and traditional

cultures can be supported, without ignoring the power that science and technology can make available to them. It introduces the importance of understanding values and culture of a society in order to define the quality of a project within its parameters; it launches the idea that local needs are always seeking for local answers - supported if necessary by technology - and spreads out the concept of addressing priority needs while preserving plural identities.

The declaration introduces a new approach that distances itself from Papanek's idea about design for development and his relation with the market: the declaration emphasizes the importance of design in the economic development of a nation, and proposes that developing countries should adapt similar industrialization strategies as 'developed' countries.

1.1.4 Design processes

Traditional

In the late 1960s and throughout the 1970s several conferences and publications appears globally in an attempt to try to get designers to move away from design for consumerism and begin to address real needs and real problems.

“By the last years of that decade consumer awareness had given rise to what became known as, variously, the “responsible” design movement or the “social useful product” debate”(Whiteley, 1993).

Even if the events of this decade can be traced as first evidences for the evolution of new design processes (user centred and community design approach) the traditional process was the most used methodology.

How to define a traditional design process? According with the research made by Chris Bradnum in “A study of domestic paraffin stove design factors in South Africa” I will try to define this process through user involvement, type of research, product solutions and results. For Zaccai (1995) traditional design can be defined as “the meeting point between engineering-led design and marketing-led design “. Is worth notice how in this definition there is no allusion to people: the involvement of users in the traditional design process is sporadically. Users are considered like final consumers and in this process a major role in the evolution of a project is played by technology and marketing strategies. The research of a traditional design process is mostly a market-driven investigation determined by qualitative and quantitative exploration of market segments. The final provided solution is a mediation between

the designer's creative effort the client intuition. The result of the process is often a single product or a collection of products that is offered to the final user. The design process ends with the product sale and the evaluation of the consumer responses are eventually considered for the following re-design intervention. The traditional process is linear and schematic but in my opinion does not give the right weight to the people for which the product is created. On the other hand it gives too much importance to the market related logics and the improvement of technology.



1.2 SECOND WAVE. 1980'S-1990'S: A SYSTEMIC SOLUTION

Figure 4.
Stools of Mar
Musa Mon-
astery, Syria
2010

The period between 1980 and 1990 is environmentally characterized by an increase of safety legislation introduced in response to serious environmental crisis given by technology inconveniences such as Bhopal and Chernobyl. Institutions set up new strategies to prevent or limit the increase of pollution especially in the production system, such as the introduction of the “Polluter Pays Principle”. Also the international debate on environmental matter becomes to spread out and the decade see the growth of public initiatives and environmental associations. The most important document of these year is the production of the Brutland Report by Onu Commission which set the guidelines of the further policies about sustainability and coins the concept of “sustainable development”.

The increased attention about the sustainability affects also the sensible part of the design movement and designers start to produce “environmentally friendly” green products also from the point of view of production processes. In this period, in fact, the design attention shifts from the design of green product to the design of sustainable product life cycles.

1.2.1 Design practice

Ecodesign

In this phase the design practice toward sustainability evolves from the concept of green design to ecodesign. There are several interpretations of the term ecodesign but I would try to define it taking up the description made by Vezzoli in “Lo sviluppo di Prodotti sostenibili (1998)”. Ecodesign could be considered generally like a design activity oriented by ecological criteria. Even the meaning comes from the words that compose it -ecology and design – is possible to intend it like a series of operative strategies that consider the environmental impact of each stage of the product’s life.

Ecodesign projects aims to join the particular design brief required by the client with an ecological design brief that follows each phase of product’s life from the conception, through the production and use to the end of the route.

Design practice of this wave takes in consideration notions like energy efficiency, minimization of resources, accurate choice of low impact resources, optimization of the life span of a product, disassembly facilities and recyclable materials.

1.2.2 Design approach and provided solution

Life Cycle Design

“Designers can make a significant difference to the effect of a product because they are responsible for influencing the key decisions. These determine the choice of materials; how long the product will last; how effectively it uses energy and how easily it may be reclaimed ad re-used”(Mackenzie,1991).

The natural approach that follows an ecodesign practice is a design attitude that takes care about all the stages of the process: the life cycle design. This approach aims to consider all the inherent processes in the life of a product, from initial development through the re-use or a definite disposal, from “cradle to grave”. The concept of cycle is related to the vicious – or better virtuous – sequence of phases that the product follows in his existence: concept, production, distribution, use; after the usage phase the product could be reintroduced in the cycle(re-use), disassembled and recycled/ or stored in landfill sites. Most of the times many life cycles interconnects each others : in each life cycle a product interfaces with other products like packages or transportation vehicles or production machines; this objects has to be considered like products

and each of them has a sub-cycle that should be designed.

A process that follows this strategic approach improves incrementally the impacts of the final product: attention for the environmental impact of each phase helps the designer to reduce problems and to focus on environmental details of each stage.

This approach is a relevant improvement if we consider that the previous approaches put a lot of efforts in reducing the impact of one single phase, normally the usage step.

This approach is also useful to undertake tactical decision since the first stages of the project diminishing the risk of further changes that usually include high waste of energies and materials; for this we can assume that the life cycle design approach can be considered like a tool for anticipation.

There is another tool used in this period which aims to help designers in their systemic project: the life cycle assessment(LCA). This can be considered as an evaluation tool that refers to the interactions between products and environment considering the life cycle phases (vezzoli 1998). The LCA considers environmental impacts in the area of ecological health, human health, and the resource exhaustion(vezzoli 2008).

Even if the purposes of LCA fit with the ones of LCD, a LCA is an evaluation of the design process and not a design approach : it depends on subsequent checks.

1.2.3 Design directions

Our common future: Brutland report 1987

In this wave the sustainability enter in the stage of maturity. The growing global awareness in the second half of the century about the enormous environmental problems facing the planet brings to one of the fundamental event of these times related to the environment: the report made by the World Commission on Environmental and Development. The report is one of the seminal environmental documents of the 20th century. As the report observes

“Humankind saw the earth from space for the first time only a few decades ago, and yet this has had a profound impact on the way in which we perceive the earth and our place on it”.

The report approaches the environmental and development issues which were (and still are) facing the world as one common challenge, to be solved by collective multilateral action rather than through the pursuit

of national self-interest. It examines population and human resources, food security, species and ecosystems, energy, industry, and ‘the urban challenge’ of humans in their environment. The most important concept introduced in this report is the “sustainable development”: the Commission says that the sustainable development is the process by which we move towards sustainability. It is highlighted by four main principle:

1. Equity
2. Environmental Justice
3. Intergenerational Justice
4. Stewardship

In other words it introduces an idea of development that should take place (vezzoli, 2007):

- within limits of environmental resilience; i.e. within its capacity to absorb the effects of human impact without causing any irreversible deterioration;
- without compromising the ability of future generation to meet their own needs; i.e. maintain the means or natural capital, which will be passed to future generations;
- on the ground of equal redistribution of the resources following the principle that everyone have the same rights of environmental space; i.e. the same access to global natural resources.

It is important to notice that the Brutland Report is not strictly addressed to the design profession but it is evident how the way to design for sustainability has changed in relation to the concept underlined by the World Commission. The importance of the report was mainly the creation of a standard concept of sustainable development that can be shared and globally understood.

Triple Bottom line

Many describe sustainable development as having three pillars: economic prosperity, environmental quality and social equity. These three pillars are the base of the so called triple bottom line - people, planet, profit – that arises in the mid 1990s after the spread of the Our Common Future Report. This way to understand the sustainable development is

mostly use by companies to assess their impact on society, but it is used also like a practical direction in design projects.

Following this direction in every stage of the project is simple to take in consideration the three notions that are important for a design project in terms of sustainability: user, market and environment. In any projects that follows the principle of the triple bottom line one of the goal is to find the equilibrium between the three aspects. According with the weight of each principle, the final solution can be balanced adjusting or re-orienting the importance of each one.

1.2.4 Design processes

User centred design

“The concept of user centred design has arguably given rise to one of the most fundamental changes in the field of design over the last decades. Design has since shifted focus from giving form to objects and information to enabling user experiences, and from physical and cognitive human factors to the emotional, social and cultural context in which products and communications take place (Boztepe, 2007).”

In a period which see the coinage of term “sustainable development”, the design process related to sustainability started to be associated more with human people besides natural environment. If the traditional design process focuses on market opportunities to set the characteristics of a new product, the user centred design process bases itself mainly on people needs. The attitude has changed from “design for the user” to “design with the user”. User centred design techniques aims to gain information directly from the final user about his/her practices, habits, behaviours. Their purpose is to involve the user in each stages of the design process. User involvement is vital since the research phase which is mostly qualitative rather than quantitative and is made in harness with people that are going to use the product. This kind of researches are called “participant observation” and enables designers to access consumers thoughts, beliefs and behaviors when using a product. Another technique used in this design process is the “user trial”, in which the final user is asked to fulfil specified tasks in an experimental settings using a product. Trials are ideally conducted in the user’s real context of use.

The solution provided by following this process comes form direct investigation and appears very close to user desires.

Given that a user centred design process can not be considered like a market driven process,

“there is no insurance that this kind of products will have success in the market, but there is a greater chance of success than if the product was design excluding the user”. (Bradnum,2003).



1.3 THIRD WAVE. 2000'S: SHIFTING FROM PRODUCTS TO SERVICES

Figure 5.
Bicycle Shop,
Kenya 2005

Since from the end of 1990s starts to growth the consideration that a sustainable society could be achieved only by a deep transformation of industrial economies' consumption system and by a reduction in the consumption of resources. The global events of these years and the related studies that led to this consideration brings into question the production systems and the consumption model open the perspective of a systemic innovations (vezzoli, 2007).

The clash of developed and developing worlds is enhanced by the 'Battle of Seattle' and the first World Social Forum (WSF), organised in opposition to the World Economic Forum (WEF) events in Davos. WSF brings together activists and NGOs from around the world, campaigning on issues such as trade justice and debt, and increasingly united on issues of water scarcity and exploitation.

The need of an active and conscious participation underlined also by these pacific bottom-up movements influences the international political sector which in these years starts to base the procedures towards

sustainable development on different professional competencies, even the one of designers.

In these years the design community starts to investigate deeply the relationships between design projects and the social aspect besides the environmental dimension. If the main design-focus of the previous waves was the environmental impact of products and their effects on living conditions, the new trend in design is to propose products and services that are able to stimulate people in caring for the environment around them. Moreover in the mid of 2000's a lot of new design associations, research centres and even design companies started to relate their profession with the so called BOP communities (Base of the Pyramid) and emerging context in general. New methodologies from social studies like anthropology and sociology begins to blend with design methods and words like cooperation, partnership and charity becomes sometimes part of the design vocabulary.

In the design field the life cycle attitude is becoming the mainstream in product design and enters in the most authoritative definition of design given by the International Council of Society in Industrial Design (ICSID) in 2005:

"Design is a creative activity whose aim is to establish the multi-faceted qualities of objects, processes, services and their systems in whole life cycles".

Moreover in this definition is possible to catch an increase on the importance of immaterial matters on material product (processes and services on objects). In fact a new tendency comes to life in this period: the shift from product-driven design solution to service-led design solutions.

1.3.1 Design practice

Design for sustainability

“Designers have the ability to envision and give form to material and immaterial products that can address human problems on a broad scale and contribute to social well-being. This goes far beyond green design or eco-design which until now have represented designers’ attempts to introduce ecological principle to the market economy”. Victor Margolin, Design for a sustainable world, 2002

Design for sustainability in its broadest meaning could be defined as:

“A design practice, education and research that, in one way or another, contributes to sustainable development” (Vezzoli, 2007).

The idea that design can work for the sustainable development is not new, but after the Brutland Report of 1987 each designer who wants to deal with this topic have a clear meaning and a shared direction to achieve. The difference between the practices of Eco-design and Green-design and the concept of Design for sustainability is in the scenario they work for. Eco-design and Green-design are pushed mainly by the need of “today”, rather than Design for Sustainability adds a new idea of giving the same importance to the future generation.

Three important aspects could be traced in design for sustainability practice: system innovation, social equity and cohesion (Vezzoli in “System Design for Sustainability”, 2007). System innovation underlines the need to shift from functional thinking to satisfactoral thinking in order to be coherent with the enlargement of design scope from a single product to a wider system fulfilling a demand of needs and desires. Design for social equity and cohesion aims at a “just society with respect for fundamental rights and cultural diversity that creates equal opportunities and combats discrimination in all its form.”(EU,2006).

Short term and long term policies of design practice

Sustainability implies a double challenge for designers: a short term technical challenge and a long term visionary challenge (Morelli, 2003). The technical challenge aims to reduce the environmental impact of modern society. It is related to technical and practical skills because looks at the existing production and consumption system focusing on the improvement of the environmental performances of existing products. It is not far from the Green-design or even the Ecodesign concept. The long term challenge is more imaginative because

“implies a thorough analysis of many possible future, in search

for sustainable and desirable direction to follow, starting from the present. It calls for a collective revision of future perspective paying major attention to solutions based on substantial changes in the consumption and production systems". (Morelli, 2003)

It implies a broad understanding of cultural, social aspects and trends of society because is addressed to future social solutions.

Designers today have to take in consideration both challenges and have to be ready to share participated visions if they want to come closer to social and environmental sustainability. In other words the designer skills nowadays have to include technical and creative thinking to provide either a short and long term proposals.

Designer: a social worker?

In such a framework a designer is not just a professional figure that is able to manage the technicality of the production system, but is getting closer to the role of a social worker. The new conditions require new methodological tools for designers' practice, especially when they has to deal with social projects. If we consider this role in the sustainable development it is worth notice the contribution of Margolin and Margolin (2002). They propose a six-steps model for a designer involved in a social design practice. The model takes inspiration from a general social worker's practice and relies on strong collaboration between designers (considered here like a social worker) and the client. The phases proposed by Margolin and Margolin are engagement, assessment, planning, implementation, evaluation and termination.

- Engagement: designer listens to the client system and gets a sense of the presenting problem
- Assessment: designer looks holistically at the client system interaction within the various environmental domains with the aim of deeply understand of the problem roots
- Planning: designer collaborate with the client to prioritize the needs, trying to determine what is most pressing
- Implementation: the intervention is guided by the goals and objectives that have already been agreed upon.
- Evaluation and termination: designers and client together verify the solution proposed in order to define best practices and new inputs for future project.

Margolin and Margolin define such a model as an operative paradigm, but Morelli (2007) argues that

"although the procedure they describe has a solid methodical

foundation in social work studies, when translated into the design discipline, it may prove too rigid. Design processes usually are less linear and have tended to alternate between phases of analysis and design from the very beginning of the process.”

Even I agree with the note of Morelli, I think that the model does not limit the creative thinking of a designer but just provide a sequence of guidelines that the designer can follow in relation with client. When a designer is called to collaborate with a client in a social project some guidelines are needed in order to provide a solution that include also the participation of the client in the creative process.

Interdisciplinary practice in social projects

Margolin and Margolin (2002) suggest that for a design-driven social project the only involvement of designer is not enough to provide a comprehensive, holistic, efficient and fair solution. These kind of projects need a multidisciplinary team made also by social workers such as psychologists, speech therapists, anthropologists that are able to understand and translate the desires and need of a community. Designer has the duty to convert the input given by the team in a creative brief. Margolin and Margolin (2002) underlines that the interdisciplinary practice is quite frequent in architectural project for public use (like hospitals or schools) but still new for designers. They examine for example a research project that seeks to learn about the deficiencies for the elderly people in the home environment and the way people cope with them. In this project an architect, a psychologist and an occupational therapist were included in the team . After the analysis of the relation between the humans and the space around them they provided a solution related to the space the elderly has been living everyday. No designer were involved in this project even if it include a study on ergonomics and interior.

The key differentiation between this way to look at social design practice and Papanek's (1970-1985) point of view is that he supported the clear separation between socially responsible designers and those working on commercial design projects. Margolin and Margolin (2002) argue this separation and promote the idea of including commercial aspects into social responsible design; thus allowing designers from all spheres of design practice to be involved, where possible, in design for social need:

“We believe that many professionals share the goals of designers who want to do socially responsible work and therefore we propose that both designers and helping professionals find ways to work together”.

Design for social innovation

In the second part of the 2000s a new vision of the designer's role has

been hypothesized mainly by a research group led by Manzini, Jegou and Meroni, working at the Design Faculty of the Politecnico di Milano. They focus on the so called “social innovation” and the relationships with the design professions. What is this “social innovation”? The term refers to changes in the way individuals or entire communities act to solve a problem or to generate new opportunities for better living. These innovations are driven by changes in behaviours and in technology or in the market and they typically emerge from bottom-up rather than top-down processes (Manzini, Jegou 2008). This kind of innovation has always been part of the human history, but with the spreading of new technologies and new forms of social exchange of the last years a lot of new interesting cases are coming to life. Social innovation inventiveness is totally disconnected with the market purposes and most of the initiatives are made by independent citizens that try to fulfil a specific shared need or desire by a creative system innovation. Usually these collaborative initiatives are related to a re-interpretation and re-proposition of traditional behaviours mixed with new technologies (computers networking, mobiles, new means of transportation etc etc). Even if it is true that not all the bottom-up creative social innovations are related to sustainability it is also true that all the social innovations aim to a human well being through collaborative-social actions.

How designers can deal with this increasing trend of “independent designers”? The critique of Manzini and Jegou is that designers have always aspired to a monopoly of the creative thinking. They propose a new role of designers like the one who have the capabilities to structure these independent initiatives making them strong enough to be real opportunities and to be replicable in other contexts. They propose two main modalities: designer that work in the creative communities and for the creative communities. The first role aims to facilitate the convergence of different partners towards shared ideas and potential solutions and combine existing products and services to support the creative community they are collaborating with. The second role aims to observe the strengths and weaknesses of each initiative and intervene on their context to make them more favourable and to develop solutions to increase their accessibility, their effectiveness and their replicability. (Manzini, Jegou 2008).

1.3.2 **Design approach and provided solution**

System innovation for a sustainable development

“We have to see transition toward sustainability as a wide-reaching social learning process in which a system discontinuity is needed” (Vezzoli 2007).

One of the three important aspects of Design for Sustainability is the system innovation (see the paragraph “Design for sustainability” above). The definitions of system innovation usually refer to “Product Service System” like the one given by UNEP (United Nation Environment Programme) that describes it like:

“the result of an innovative strategy that shifts the centre of business from the design and sale of physical product alone, to the offer of product and service systems that are together able to satisfy a particular demand”.

This particular demand can include the profit of a company or the sustainable development or even both, like Vezzoli (2007) suggests:

“design must learn to promote and facilitate new configurations between different stakeholders to find innovative solutions able to lead to a convergence of economic and environmental interests”.

Considering the system innovation for sustainability Vezzoli defines 3 interconnected elements : satisfaction, stakeholder interaction and sustainability. “Satisfaction” is considered as a reference: the system has to work for a solution able to fulfil needs and desires of a stakeholder community. “Stakeholder interaction” is seen as subject: the system should promote innovative type of stakeholder configuration/ partnerships while responding to a particular social demand for satisfaction. “Sustainability” is the objective of the system: the provided solution has to work in the perspective of sustainable development following environmental care (system eco efficiency) and social concern (social equity and cohesion) (Vezzoli,2007).

In emerging context: System innovation approach for emerging context

The original definition of Product Service Systems given by UNEP refers to a strategic proposition for “developed” economies, mainly because the PSS concept arose in the richest economies with the primary aim to enlarge profit increasing system efficiency. We have seen in the previous paragraph how the system innovation of a PSS can be addressed to general sustainable proposals. Moreover in these years UNEP proposes a new field of action for PSS in emerging context:

“PSS may act as business opportunities to facilitate the process of social-economical development of emerging context by jumping over or by-passing the stage characterized by individual consumption/ownership of mass produced goods—towards more advanced service –economy “satisfaction based” and low resources intensity advanced service economy, characterized by the development of local-based and network structured enterprises

and initiatives, for a sustainable re-globalisation process aiming at democratisation of access to resources, goods and services.”

Vezzoli (2007 “System Design for Sust., emerging hypotheses for a design field of action) underlines how some strategies and practices of a PSS innovation match with the idea of social equity, cohesion and the sustainable development. First of all for a context with fewer economic possibilities, the eco-efficiency of PSS represents the opportunity to respond more easily to unsatisfied social demands. Secondly PSS offers an intervention focused on the local context through the involvement of local stakeholders for two reasons: economic advantages (local stakeholder reduces cost, for example in transportation of goods) and social reasons: giving to the local communities and local enterprises the possibilities to be involved means an active and strong participation to gain the social well-being of the area (increase in local employment, dissemination of skills etc etc). In addition PSS are coherent with the development of network enterprises on a local base for a bottom-up re-globalisation.

Convergence of commercial and responsible design

A commercial market-driven design can be generally considered like a design project led by marketing business strategies and with the single purpose of profit creation. On the other hand a responsible design project is addressed to environmental and social well-being. It is clear why the relationships between market-driven and social-driven design projects have always been controversial in the design field. Papanek (1970) was convinced that a deep separation between these two approaches was fundamental because of their different purposes which cannot coincide. In the last years this attitude is changed inside and outside the design field, also with the growth of several associations/charities/companies that are working in the market context to achieve social purposes, among the others for example the fair trade organizations or the microcredit by Muhammad Yunus. In the design discourse the discussion is still opened and one of the most authoritative voices comes from Victor Margolin. In the series of essays “The politics of the artificial – 2002”, he investigates among other things the dichotomy of a design intervention in terms of sustainability or endless economic growth. He divides the professional practice of designers into two big categories: the ones working in the expansion model and the ones working in the sustainable model. According to the expansion model, the world consists of markets in which products function and foremost as tokens of economic exchange. In opposition to the expansion model there is the sustainable model of the world: the premise of this model is that the world is a system of ecological checks and balances that consist of finite resources. Although he moves a hard critic to the expansion model -

“expansion model is dominated by a belief in the power of technological innovation to enhance human experience, a relation predicated on the claim that the satisfaction material goods can provide is without limits” (Margolin 2002)

or

“another way the expansion model operates is through the creation of markets for new products where none had previously existed.[...]The development and widened use of all these new technological object is part of a process to stimulate user expectations in order to create new product demands, and there is no end in sight” (Margolin 2002)

he proposes a design brief to reconcile the two models rethinking about the design practice in a new dimension that join the best processes of both. He proposes a convergence of the two models to face the new challenges of design but unfortunately does not propose a way to interpret this brief practically, leaving it opened to future interpretations. Morelli gives his own interpretation in 2007 and proposes a new approach to join the two models reevaluating the importance of human relationships which the market-driven “relieving logic” has cancelled. Morelli notices that the main drive of the market driven approach is the proposition of products or services that replace human action:

“The relieving logic is leading to a progressive “passivization” of customers: given a problem, a solution is offered for a price, thus relieving the customers of any physical work or responsibility. This logic is very expensive because it compromises the customers’ future capability of finding their own solutions to everyday problems” (Morelli 2007).

His intention is to propose a social participation in the production of value of a general product or service in order to change the “relieving logic” into a participate logic in the value creation chain:

”Social quality increases when more citizens are able to participate and contribute to the development of their own” community”(Morelli 2007)

Convergence between socio-ethical and environmental strategies: local based and network-structured solutions

The relation between environmental and social concerns and the design profession has changed a lot in the last period. Apart from few initiatives, until the end of the second wave of sustainable design the most of designers do not consider socio-ethical purposes in their project. This condition starts to change with the growth of the so called

“alternative economy” that influences also the design action in his broader approach. Has been observed by Vezzoli (2007) that socio-ethical and environmental conditions are more than closely link: he brings the example of the environmental and social impact caused by the dependence from resources (oil, carbon) that brings all the world nation to depend on centralized multinational companies. He notices that without access to resources and to energy in particular, individuals have little control over their own destiny. The solution underlined also by Vezzoli (2007) is a new strategy that decentralise the access to energy, opening the route of renewable distributed resources. This new approach would reduce environmental impacts (natural benefits) and would facilitate a democratisation of resources and energy, enabling individuals, communities and nations to reclaim their interdependence while accepting the responsibility that derives from their reciprocal interdependence (social benefit). Generalizing the concept out of the consumption of resources Vezzoli observed that in industrialized, emerging or developing contexts will be essential to develop the capacity to gather the producers and the users into networks and associations with an adequate, decentralised, bottom up, institutional approach in order to guarantee more control to community members and power over their own destiny:

“there is a potential convergence between key environmental and socio-ethical strategies that is inherent in re-globalization models characterised by diffused participation, where locally based networked communities and “networked enterprises” (consisting non only of entrepreneurs, but also of users, NGOs, associations, institutions) assume particular value” (Vezzoli 2007).

Socially-responsible design in a self serving society

A new approach for designers in their everyday practice of a responsible profession comes from the observations made by Morelli (2003). The definition of the notion of social quality made by De Leonardis (1998) is quite important to clarify the characteristics of a socially-responsible design approach:

“Social quality is the measure of citizens’ capability to participate to the social and economic life of their community in conditions that improve both their individual wealth and the conditions of their community” (De Leonardis 1998).

As Morelli underlines, the two important aspects of this definition are A) the inclusion (the active and participative role that a citizen should

have in the community) and B) the convergence of individual and community's needs (fulfilment of both needs, often in conflict). Following the thought of Morelli coming from the De Leonardis' definition, from a design point of view a socially-responsible project should be addressed to individual as well as community's needs and desires and, most important, should include the community in the creation of the final proposal (or even enhance the collective capability to develop their solution). This means that a design project that want to increase the social quality of a community should be co-produced by customers and not proposed by the designer on its own. This simple concept reverse the paradigm of the market-driven approach:

“the result of a socially responsible design initiative is not satisfying customers but empowering people”. (Morelli 2007)

What should be the new designer approach? Morelli gives a personal answer in 2007 proposing a design profession that will no longer propose finite solution but scenarios, platforms and operative strategies to enable individuals and communities to co-produce their own solutions. This concept is really close to the one proposed by Manzini and Jegou in their study on collaborative initiatives (see “Design for social innovation” paragraph).

The importance of traditional knowledge in design “for the others”

A practical approach in a responsible design project in emerging context comes from Adhi Nugraha, researcher at the University of Art and Design Helsinki. Even if this model is quite simple I would like to propose it because of its pragmatism that has been useful for the design of the final project of this thesis.

Nugraha (2005) explores the possibility of introducing traditional knowledge of a community into a (product) design project. Traditional knowledge can be considered as the cultural knowledge that gives identity to the community.

The aim of his work is to provide an approach/practice that helps designers in facing project for foreigner communities. He proposes a model that specifies the components of tradition and its transformation processes into a new object or product. The model is based on five components that has to considered as references by a designer in charge to work for a community different from his own. This references should be able to represent the traditional knowledge of the indigenous community in order to give to designer some guidelines to propose a project that is not out of the local culture.

Nugraha divides the components into two main groups as physical category (materials, techniques, gestalt) and immaterial category (images and hidden factors):

Materials consist of all kind of raw materials that usually construct the traditional objects (wood, ceramic, bamboo, rattan etc etc).

Techniques are any kind of indigenous technical knowledge, such as production techniques, skills, tools, processes, and all kind of facilities.

Gestalt covers the object usability: form, size, shape or even idea and concept.

Images can be any form of local nature, shape, ornament, colour, myth, story, people or artefact.

Hidden factors deal mostly with things that can only be measured qualitatively, such as local custom, belief, characteristic, ideology and culture.

In practice Nugraha suggests that a new product can be designed following a single or a combination of components without considering imperatively every one together: some of design projects might be approached from revitalizing traditional techniques, and some others might prefer to improve the usage of local materials.

I personally think that is also a new way to approach sustainability: if a design solution is created with drives that come from traditional knowledge it is highly possible that the solution will be environmentally as well socially and culturally sustainable (material, processes, relationships are part of the traditional culture). Personally I think that this model proposes a good starting point in the approach for a ethical design proposal that respect the cultural context of a foreign community. The only pity is that it is addressed just to product design solution and not to a broader system view.

1.3.3 Design directions

Sustainable designer

In this last wave the knowledge about sustainability spreads out and a larger number of scholars, professionals and researchers gives their own contribution to the general discourse. The direction to follow for a sustainable design practice are for this reason increasing in numbers. Among the others I would like to underline the inspirations given by Birkeland (2002) because of his comprehensive vision of a design profession. Birkeland set out sharable directions for a conscientious action, offering a picture of “sustainable designer” which should be:

Responsible- able to redefines goals around needs, social/eco quality and justice

Synergistic – creates positive synergies involving different elements to create system change

Contextual – re-evaluates design conventions and concepts towards social transformations

Holistic – takes a life cycle view to ensure low impact, low cost, multifunctional outcomes

Empowering – foster human potential, self reliance and ecological understanding in appropriate ways

Restorative – integrates the social and natural world; recultivates a sense of wonder

Eco-efficient: proactively aims to increase the economy of energy, materials and cost

Creative: represents a new paradigm that transcends traditional boundaries of disciplines thinking;

Visionary: focuses on visions and outcomes and conceives of appropriate methods, tools and processes to deliver.

Besides this vision that describe the hope for a future rather than practical guidelines, in the last 10 years some international acknowledged summits about sustainable development have taken place, like the one held in 1987. The most important is The World Summit on Sustainable Development (WSSD) (Johannesburg, South Africa) : during the summit the involved nations have evaluated the obstacles to progress and results achieved since the 1992 Earth Summit. WSSD adopts the JPOI (Johannesburg Plan of Implementation), which provides for a more focused approach, with concrete steps and quantifiable and time-bound targets and goals.

Another example is the agreement called “Millennium Development Goals”, eight goals to be achieved by 2015 that respond to the world’s main development challenges. The MDGs are drawn from the actions and targets contained in the Millennium Declaration that was adopted by 189 nations-and signed by 147 heads of state and governments during the UN Millennium Summit in September 2000.

This kind of documents, like the Brutland Report of 1987 are not addressed particularly to designer but have to be considered like main direction to follow in order to join the efforts in the same direction of the other individuals working on the route of sustainable world.

1.3.4 **Design processes**

Community centred design

The differences between a community centred design and a user centred design seems at a first sight imperceptible. The main differentiation is in the general concept: a user centred design process considers the human being as a single entity rather than a community centred design process

consider the final user as a component of a community. The entire process in this case have to deal with a complex system of needs, desires and relationships shared by a community as well as the single needs of the components of the community. First of all is worth to notice that these kind of processes need to be focused on specific groups of people or entities identified by common backgrounds (culture, traditions) and common future visions. The main characteristic of this process is the participation of the community in each phase of the project-cycle in order to create a solution that strike a balance between all the components of the group addressed by the project.

The project research usually refers to ethnographic methodologies specific design tools (i.e. “group interviews”, “self documentation”, “in Context immersion” developed by IDEO) that aim to involve the components of the community to express themselves their point of view about the problem to face. The result of community centred design processes are complex systemic project with the aim to improve the living condition of the entire community . For this reason the community centred design process is usually used in projects addressed to villages and communities of emerging or low-income contexts.

A deep analysis of the participative process in co-operational project for emerging context can be find in chapter 3 of this book.

2. Case studies: operative strategies of collaborative design initiatives

Introduction

This second part of the research focus on the identification and analysis of real examples of communities of designers that work for sustainability and for sustainable development. The research aims to understand the best or the worst practices of real associations and communities that really work in the field. The case studies analyzed include different types of collaborative communities like associations, NGO, education groups, research units, international networks, foundations, magazines, blogs, contexts, educational workshops etc. Some of them are mainly focused on the environmental sustainability rather than others work for social aims or sustainable development. In any case the common feature of all the analyzed communities is the will to work for the spread of awareness about sustainability in relation to the design profession. The result of the research will be presented in the following pages: the communities have been conceptually divided not in relation to their main design domain (product, service, architecture, media) but in relation to their main mission :

1. Education
2. Information
3. Networking
4. Operative Design

The reasons that have brought to the analysis of winning case studies are strictly related to the final design of the association that will put into practice the concept of sustainable development by design.

This part of the research is based on internet investigation.

case studies: education

case studies: networking

case studies: operative design

case studies: information

Figure 6.
Project Meeting, Kenya







Creative for a Cause

Mission

The Creative For a Cause mission is to train those who will grow up to be the adults of tomorrow, those who will live in the world we will leave behind as a legacy, a world they will have to keep shaping and constructing on and on. Their success will also be ours. The web-site is a collaborative resource for educators of Visual Communications who wish to instruct their students on the importance of adopting a social and ethical approach to their work. If you know of additional resources that you feel would be of value, please contact us..



Domain

Communication

Drives

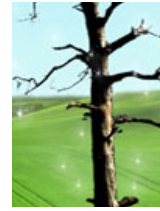
Social

What

Web-site

Claim

“A Resource for Visual Communications Educators”



Design for a Better Future

Mission

Design for a Better Future is dedicated to aiding and spreading awareness of architectural and innovative solutions for sustainability in developing countries . We achieve this goal by visiting different high school and college campuses, spreading awareness of global situations and motivating students that those locations to develop charter clubs/groups to continue to spread our message.



Claim

“Bridging students and solutions”

Domain

Product, space, communication

Drives

Social

What

Non Profit association

case studies: education



Design ignite change

Mission

Engages high school and college students in multidisciplinary design and architecture projects that address pressing social issues. Participants are encouraged to apply design thinking—the combination of unleashed creativity and executable actions—to problems that exist in their own communities.



Year

2007

Domain

Product, space, communication

Drives

Social

What

Association

case studies: education



Designmatters

Mission

The common goal of all Designmatters projects is simple: take art and design education as a catalyst and change agent. Designmatters is an educational department that partners with every discipline at Art Center to focus on art and design education with a social impact agenda and “real-world” outcomes that are implemented through a series of unique partnerships and alliances with global development agencies, government groups, academic institutions, local and national non-profits, and leading industry



Year

2001

Domain

Product, space, communication

Drives

Social, Environmental

What

Educational department of the Art Center College of Design Pasadena

Domain

Product, space, communication

Drives

Social

What

Network of accredited architecture schools

Emergency Design Group

Mission

The Emergency Design Group aims to create a network of design-affiliated schools in order to proactively encourage disaster preparedness and to serve as a clearinghouse through which members can organize themselves in response to emergency situations.



Interdesign workshops

Mission

Interdesign Workshops are forums in which designers from different countries and cultures work together with local experts for an intensive two-week period, exploring design issues of regional, national and global importance. These workshops seek to provide innovative and appropriate solutions intended for implementation

case studies: education

interdesign

Year

1971

Domain

Product, space, communication

Drives

Social, Environmental

What

Annual workshops



Institute without boundaries

Mission

The Institute without Boundaries at George Brown College is a centre of research and learning focused on design innovation and inter-professional collaboration. The School has pioneered an educational approach based on design thinking, practice and culture, and fulfills this vision by developing research publications, exhibitions and practice laboratories where students work on real projects for non-profit and community clients.

SCHOOL OF DESIGN
George Brown College Toronto

INSTITUTE WITHOUT
BOUNDARIES

Year

2003

Domain

Product,
space,
communication

Drives

Social

What

Research
Institute

case studies: education



Project M

Mission

An intensive immersion program meant to inspire designers, writers, filmmakers, and photographers to use their work for impacting communities. They call it the Mav Lab, and it brings together interdisciplinary teams of creative individuals who work to solve big design challenges.

Claim

“We just want to change the world”

“Project M: Thinking Wrong, Doing Right”

Year

2003

Domain

Product,
space,
communication

Drives

Social, Environmental

What

Dssign lab for
workshop-
summer
program



The centre for sustainable design

Mission

The Centre for Sustainable Design (CfSD) facilitates discussion and research on eco-design and environmental, economic, ethical and social (e3s) considerations in product and service development and design. This is achieved through training and education, research, seminars, workshops, conferences, consultancy, publications and Internet. The Centre also acts as an information clearing house and a focus for innovative thinking on sustainable products and services.

The Centre for Sustainable Design

Year

1995

Domain

Product, space, communication

Drives

Social, Environmental, Economical

What

Research centre in Surrey Institute of Art & Design, UK

Claim

“re-fine, re-design, re-pair, re-think”

case studies: education

Minor

2009/

TUDELFT_ Design for Sustainability

Mission

The minor Sustainable Design is a program for bachelor students. The minor is intended for engineering, design and architecture students from universities worldwide. The minor Sustainable Design is for optimists who believe that human ingenuity can solve most environmental problems.



Year

2008

Domain

Product, space, communication

Drives

Social, Environmental

What

University course



Adbusters

Adbusters

Mission

We are a global network of culture jammers and creatives working to change the way information flows, the way corporations wield power, and the way meaning is produced in our society.

Our aim is to topple existing power structures and forge a major shift in the way we will live in the 21st century.

Adbusters offers incisive philosophical articles as well as activist commentary from around the world addressing issues ranging from genetically modified foods to media concentration.

Domain

Communication

Drives

Social, Environmental

What

Magazine

Claim

“Journal of the mental environment”

case studies: information



AIGA - Center for sustainable Design

Mission

The AIGA Center for Sustainable Design is dedicated to providing designers with a wide range of information regarding sustainable business practice. Through case studies, interviews, resources and discourse, this site will encourage and support designers as they incorporate sustainable thinking into their professional lives.

CENTER OF SUSTAINABLE DESIGN

Year

2006

Domain

Product, space, communication

Drives

Social, Environmental

What

Website

JOHN THACKER

Revela



Change observer

Mission

Change Observer is a channel of Design Observer devoted to the many dimensions of design for social innovation, developed by Winterhouse Institute with support from Rockefeller Foundation. It provides timely information about design strategies aimed globally at improving health, education, housing, and the environment, and features reportage, interviews, opinion pieces, book and exhibition reviews, a photo gallery, and a resource center compiling information about key organizations and events. Change Observer not only identifies important people and projects related to design for social change; it also assesses their effectiveness through investigative reports by renowned journalists.

Year

2003

Domain

Product, space, communication

Drives

Social, Environmental, Economical

What

Website and blog

Claim

“News about Design and Social Innovation”

case studies: information



Design Altruism Project

Mission

The Design-Altruism-Project is a participant-based weblog dedicated to the notion that altruism can be applied as a new form of professional practice. The Design-Altruism-Project is an initiative of Designers Without Borders, the world's first non-profit expressly dedicated to helping organizations of the developing world through communication design.

Claim

“Vision, heart, economy”



Domain

Product, space, communication

Drives

Social, Environmental

What

Website



Design for social impact DfSI

Mission

Design for Social Impact is an expert at artistry and activism. We are a socially-responsible business that focuses on Design - using a broad definition that includes ideas, messages, organization and visual design. This professional and specialized level of work is available for members of the public interest community - including women/minority/local businesses - who are promoting a better world.

Claim

“Made with artistry & Activism”

Year

1998

Domain

Product, space, communication

Drives

Social, Environmental, Economical

What

Non profit association

SOCIAL IMPACT!

case studies: information



Doors of Perceptions

Mission

Doors of Perception (Doors) began life in 1993 as an international design conference, in Amsterdam. Since then, Doors has brought together grassroots innovators, entrepreneurs, educators, and designers to imagine alternative futures - sustainable ones - and take design steps to realize them. From 1993-2000, the conference was a project of the Netherlands Design Institute, a government-funded think tank. In 2000, Doors of Perception bv was founded - a small private company.



Year

1993

Domain

Product, space, communication

Drives

Social, Environmental

What

Website and blog

We conceive and organise projects around the world, at a city-region scale, in which communities imagine sustainable futures - and take practical steps to realize them.

Claim

“About design for resilience”

Browse eco materials.



Ecolect

Mission

Ecolect's mission has always been simple, yet ambitious: to help designers find sustainable materials, to provide makers of new materials a space to publicize their innovations and create a vibrant forum for designers committed to sustainability to share their inspiration, occasional frustration, new information and everything in between.

Claim

“Discover green materials”

Year

2005

Domain

Product

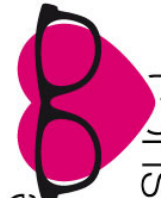
Drives

Environmental-

What

Website

case studies: information



Good50x70

Mission

The mission of the Good50x70 is to promote the value of social communication in the creative community, to provide charities with a (free) database of communication tools and to inspire the public via graphic design.

Our focus is an annual contest to design posters confronting seven of the critical issues affecting today's world.

Claim

“The project that help social communication”

Year

2007

Domain

Communication

Drives

Social, Environmental

What

International Competition supported by AGI, BEDA, ICO-GRADA, ADI, AIAP, Unesco, Amref, Greenpeace, Emergency, LILA, WWF, Amnesty international



Inhabitat

Mission

Inhabitat.com is a weblog devoted to the future of design, tracking the innovations in technology, practices and materials that are pushing architecture and home design towards a smarter and more sustainable future.



Claim

“Green design will save the world”

Year

2004

Domain

Product, space, communication

Drives

Social, Environmental,

What

Website

case studies: information



Massive change

Mission

MC Explores the legacy and potential, the promise and power of design in improving the welfare of humanity. a crossmedial reserach and exhibition about the future of global design.



Claim

“It’s not about the world of design. It’s about the design of the world.”

Year

2004

Domain

Product, space, communication

Drives

Social, Environmental

What

Traveling exhibition, book, public events, radio program, on-line forum, blog.



ONESMALLPROJECT
ONE PERSON. ONE ARCHITECT. ONESMALLPROJECT. REPEAT.

One small project

Mission

OneSmallProject is a call to action. To make a small difference in the life of one human being -- whether a squatter in an informal settlement or the architect or designer inside each of us -- is the basic responsibility this work accepts. OSM collect information about shelter in the leftover communities. It propose this content through weblog, show and a forthcoming book

Claim

“One person. one architect. one small project, repeat.”

Year

2001

Domain

Space- architecture

Drives

Social

What

Blog, book, events

case studies: information



putting people first

Putting people first

Mission

This non-commercial experience design gateway is developed as a public service to all those interested in the broader field of experience design and user-centred design. All posts have in common that they reveal some insight on how to create products and services that are driven by an understanding of people

Claim

“Daily insights on user experience, experience design and people-centred innovation”

Domain

Product, Space, Communication

Drives

Social, Environmental

What

Website and blog

Redesign design



Mission

[re]design holds innovative, engaging, accessible events for public, design trade and business audiences throughout the year. We are a non-profit-distributing social enterprise that propagates sustainable actions through design.

Our purpose is to support and promote design for sustainability through creative engagement with everyone who plays a part in the design industry, including designers, manufacturers, specifiers, retailers, and consumers. Inspire designers to make sustainability a core consideration, and an opportunity rather than a constraint, motivate consumers to make more sustainable choices, help manufacturers to discover new sustainable design and more sustainable materials, processes and systems.

Encourage government and the public sector to tap into the power of design to create positive environmental and social change.

Claim

“Design for who don’t want to make landfill.”

Year

2004

Domain

Product, space, communication

Drives

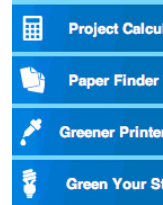
Social, Environmental,

What

Non-profit association



case studies: information



Renourish

Mission

Re-nourish.com is the industry’s first truly independent online toolkit for sustainable graphic design. By providing reliable, accessible sustainability tools untethered to commercial interests, we empower graphic designers to implement sustainable decision making in their day-to-day work. Their mission is nothing short of changing the industry, helping truly sustainable graphic design become what design is, not merely what it “could be.”

Claim

“Design sustainably.”

Year

2006

Domain

Communication

Drives

Environmental, economical

What

Website, online tools and resources.

activism (2) AdBusters (awareness (3) Banky (Fuller (1) Buy-Nothing (2) rights (1) collaboration competition (2) conceptu consumption (6) c definition (4) design-hi election (1) Ellen-Lupton (1) design (1) fair-trade (1) friez design (3) good-designr information (2) innovat love (3) manifestos (3

on Social Design.

Social Design blog

Mission

This blog shares with the SocialDesignSite the aim to create awareness and promote reflection towards how we could do things differently, how do we bring about positive change, and why we have chosen to organize ourselves the ways we have. We are part of a growing number of design professionals, design students, and design thinkers who are committed to promoting design as a tool for social change, and who see in the design discipline a far broader role to play than that of a silent accomplice to market strategies, brand enhancement, consumption and the normalization of social and cultural values.

Year
2008

Domain
Product, Space, Communication

Drives
Social, Environmental

What
Website and blog

case studies: information



SOCIALDESIGNSITE.COM

SocialDesign-Site

Mission

SocialDesignSite.com is a non-profit organisation that aims to foster a discourse on social design through our international online platform and the organization of and participation in projects, exhibitions, conferences, lectures, etc. The first purpose of SocialDesignSite is to create awareness on social design. SocialDesignSite is an exhibition for exemplary social design projects from a variety of fields. Our aim is also to interconnect the projects and their owners as well as general public.

Year
2007

Domain
Product, Space, Communication

Drives
Social, Environmental

What
Non-profit association

Claim
“We cannot not change the world.”

ssf*

sustainable style foundation*
look fabulous, live well, do good



Year
2003

Domain
Product

Drives
Social, Environmental, Economical

What
Non-profit association

Sustainable Style Foundation

Mission

The Sustainable Style Foundation (SSF) is an international, member-supported nonprofit organization created to provide information, resources, and innovative programs that promote sustainable living and sustainable design. SSF's mission is to educate, support and inspire people from all walks of life to make more sustainable personal lifestyle choices at work, at home, and at play.

Claim

“Look fabulous, live well, do good.”

case studies: information



Tuttobene

Mission

Tuttobene organises collaborative presentations for talented and innovative designers. Tuttobene is a dynamic platform for Design, working with and for a large network of creative professionals. Tuttobene selects design that radiates its ethical character; this can be a material, practical, conceptual or even metaphorical quality. We encourage designers to design with passion for the users, with respect for the environment, and empathy for their emotional and social qualities.

Claim

“Tuttobene presenta giovani designer.”

Year
2004

Domain
Product, Space, Communication

Drives
Social, Environmental, Economical

What
Collaborative Design Platform



COMMUNITY

WORLDCHANGING
CHANGE YOUR THINKING

Year
2005

Domain
Product,
Space, Com-
munication

Drives
Social,
Environ-
mental

What
Non profit
organiza-
tion

Worldchanging

Mission

Worldchanging is a non-profit media organization headquartered in Seattle, WA, that comprises a global network of independent journalists, designers and thinkers. They cover the world's most innovative solutions to the planet's problems, and inspire readers around the world with stories of new tools, models and ideas for building a bright green future.

Claim

“Change your thinking.”

case studies: information



a better world by design

Year
2007

Domain
Product,
space,
communi-
cation

Drives
Social

What
Series of
workshop
and confer-
ences

A Better World by Design

Mission

A Better World by Design brings a global community of innovators to Providence, Rhode Island, to reach across disciplines and unite under a common goal. Presenters share engaging stories, workshops teach creative skills, and discussions reframe perspectives. A Better World by Design is an immersive experience that deepens our understanding of the power of design, technology, and enterprise to reshape our communities and sustain our environment.

Claim

“Creates connections to make our world a better place.”

case studies: networking



DESIGN21 SOCIAL DESIGN NETWORK™

DESIGN 21: Social Design Network

Mission

Social Design Network’s mission is to inspire social consciousness through design. We connect people who want to explore ways that design can positively impact our communities – ways that are thoughtful, informed, creative and responsible.

Claim

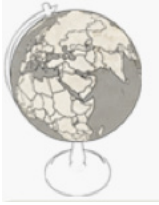
“Better design for the greater good.”

Year
1995

Domain
Product,
space,
communi-
cation

Drives
Social, En-
vironmen-
tal, eco-
nomical

What
Online
Communi-
ty



IDEO-Living Climate Change

Mission

Living Climate Change aims to support conversations beyond policy and national sacrifice in order to point toward new possibilities. We aspire to support the conversation by asking good questions and exploring creative solutions in an optimistic and real-world way. Living Climate Change invites you to imagine what life will be like in 20 or 30 years, as we move along a path toward reduced carbon emissions.



Claim

“Imagine life in 20 or 30 years...”

Year

2009

Domain

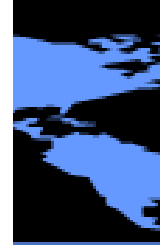
Product, space, communication

Drives

Social, Environmental, Economical

What

Website with sharable database



O2 Global network

Mission

The O2 Global Network is an international network established to inform, inspire and connect people interested in sustainable design.

Claim

“The international network on sustainable design.”



Year

1988

Domain

Product, space, communication

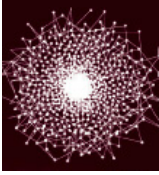
Drives

Social, Environmental

What

International Network

case studies: networking



System Reload

Mission

System Reload is an international events platform and a means of communication where eco-design ideas and experiences can be shared in an open-sourced manner.



Claim

“Retooling ourselves, collaborate design action.”

Domain

Product, space, communication

Drives

Social, Environmental

What

International events platform.

case studies: networking



The Designers Accord

Mission

The Designers Accord is a global coalition of designers, educators, and business leaders working together to create positive environmental and social impact. Adopters of the Designers Accord commit to five guidelines that provide collective and individual ways to integrate sustainability into design. The Designers Accord provides a participatory platform with online and offline manifestations so that members have access to a community of peers who share methodologies, resources, and experiences around environmental and social issues in design.

THE DESIGNERS ACCORD

Year

2007

Domain

Product, space, communication

Drives

Social, Environmental

What

Non profit association

Aguinaldo dos Santos
Amrit Srinivasan
Carlo Vezzoli
Carlo Vezzoli - Ravi Mohan
Punekar
Carlo Vezzoli, Sara Corti
Carlo Vezzoli, Somjit M
Cindy Kohtala, Deepta S
DFS Team TU Delft
Ezio Manzini

LeNS Network

Mission

The Learning Network on Sustainability is a project for curricula development and teaching diffusion on Design for Sustainability focused on product-service system innovation. LeNs is a 3 years project (2007-2010) funded by the Asia Link Programme, EuropAid, European Commission, involving 7 design schools in Europe and Asia.

LeNS ambitions to promote a new shared disciplinary ground on Design for Sustainability through a series of exchange activities among the partner institutions. LeNS consortium will jointly produce an open e-learning package (a modular and adaptable package for curriculum development with teaching materials and tools for design educators and guidelines for courses design and implementation in diverse contexts). It will also promote a series of diffusion activities targeting the design community worldwide.

Claim

“The learning network on sustainability.”

Year

2007-2010

Domain

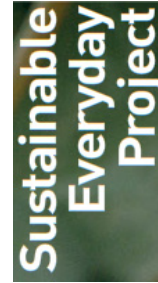
Product, space, communication, services

Drives

Social, Environmental,

What

Web platform with sharable resources



Sustainable Every Day

Mission

The Sustainable Everyday Project (SEP) proposes an open web platform to stimulate social conversation on possible sustainable futures. SEP is an independent network funded by public research projects and organization of events. Editorial activities are based on a voluntary participation.

Year

2003

Domain

Product, space, communication, services

Drives

Social, Environmental

What

Web platform with sharable resources

case studies: networking



DESIS NETWORK
Design for
Social Innovation
and Sustainability

DESIS Network

Mission

DESIS is a network of schools of design and other schools, institutions, companies and non-profit organizations interested in promoting and supporting design for social innovation and sustainability. It is a light, no-profit organization, conceived as a network of partners collaborating in a peer-to-peer spirit. It is articulated in several DESIS-Local (that are sub-networks within a specified local area). . DESIS-International is therefore the framework where the different DESIS-Local coordinate themselves and where some global initiatives are taken.

Domain

Services

Drives

Social, Environmental

What

Non profit organization

Claim

“Design for social innovation and sustainability.”

case studies: networking



Open Architecture network

Mission

The Open Architecture Network is an online, open source community dedicated to improving living conditions through innovative and sustainable design. The network has a simple mission: to generate not one idea but the hundreds of thousands of design ideas needed to improve living conditions for all.

Open Architecture
Network



Year

2006

Domain

Space-architecture

Drives

Social, Environmental

What

Web open-source database

Claim

“How do you improve the living standards of five billion people?”



Aid to Artisans

Aid to Artisans

Mission

Building profitable business inspired by handmade traditions. Aid to Artisans (ATA), an international nonprofit organization, is a recognized leader in economic development for the craft sector. By linking artisans to new markets and buyers to culturally meaningful and innovative products, ATA provides needed economic opportunities to artisans to build profitable craft businesses.

We create opportunities for low-income artisans around the world to build profitable businesses inspired by handmade traditions. We offer access to new markets, business training, eco-effective processes and design innovation through a network of partners to promote sustainable growth and community well-being.

Claim

“Change the world with the power of handmade”

Year
1976

Domain
Product

Drives
Social, Economical

What
Association

case studies: operative design



Architecture for humanity

Mission

Architecture for Humanity is a nonprofit design services firm founded in 1999. We are building a more sustainable future through the power of professional design. Architecture for Humanity brings people who care about sustainable development together. We provide a range of design and construction administration services to partners and clients through a global network of design, development and construction professionals with local expertise and knowledge

architecture for humanity

Year
1999

Domain
Space- architecture

Drives
Social, Environmental

What
Non-profit association

Claim

“Its time to do more.”



Design
for
Global
Change.

Design for Global Change

Mission

Design for Global Change is a creative think-tank, applying the power of design to develop projects that bring positive change to communities around the world.

Year

2008

Domain

Product

Drives

Social,
Economical

What

Association
University
of Hartford
spin-off.

case studies: operative design

Year
1998

Domain

Product,
Space, Com-
munication

Drives

Social

What

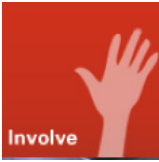
Non-profit
association

Design for the world

Mission

Design for the World is an international humanitarian organisation whose objective is to match the skills and commitment of volunteer designers with the needs expressed by disadvantaged populations and the organisations that serve them worldwide.

Design for the World is supported by ICOGRADA, ICSID, Barcelona Design Center, IFI(interior architets).



Design Impact

Mission

Design Impact is a non-profit organization whose mission is to empower communities affected by poverty to design and implement life-improving solutions. By working closely together, design and the social sector can incubate and implement new ideas to changes lives.

Our methodology: Work with a non-profit organization and the community they serve to design a solution that addresses an urgent need, such as better access to potable water, education, employment, or safe environments. Design is used as the major catalyst between the idea and its implementation.

Claim

“A conduit for social design.”

Year
2008

Domain
Product

Drives
Social

What
Non-profit association



case studies: operative design



Design For Development

Mission

The Design For Development Society (DFD) is a Vancouver-based, registered Canadian charity dedicated to using the design process as a problem-solving tool to address issues in poverty-stricken areas of the world. Design For Development links individuals, organization, communities, designers with time, energy and skills provided by an enthusiastic and dedicated group of volunteers, participants, directors and management.



Year
2006

Domain
Product,
Space

Drives
Social, Environmental

What
Non-profit association



DESIGN WITHOUT BORDERS
Design uten grenser

Design without borders

Mission

The program aims at utilizing the creative and analytic skills of industrial designers to develop solutions that promote development and increases quality of emergency aid. Design without Borders is also aiming to support local product development competency and raise awareness of design as a tool for development.

Year

2001

Domain

Product,
Space

Drives

Social

What

Non-profit
association

case studies: operative design



Designers without borders

Mission

Designers Without Borders is a consortium of designers and design educators working to assist institutions of the developing world with their communication needs. Our volunteers provide instruction, consultation, and varieties of development advice and assistance in both community and educational environments.

Year

2001

Domain

Product,
Communication, Space

Drives

Social

What

Non-profit
association



Design Share- Design 4 Development

Mission

Design Share uses design thinking, concepts, methods, processes, and products to engage its power and potential for the social good. In partnership with marginalized indigenous communities in Mexico, we focus on projects that have rich opportunities for innovation, development, empowerment and a positive community impact.

DESIGN 4 DEVELOPMENT

Domain

Product, Space, Communication

Drives

Social, Environmental

What

Non-profit association

case studies: operative design



Designers Senza Frontiere

Mission

Lo scopo di Designers Senza Frontiere è quello di avvicinare due “mondi” che generalmente hanno difficoltà ad entrare in contatto, che paiono distanti ma che hanno in realtà molteplici affinità.

È proprio con questo obiettivo che il Design ed il Designer acquisiscono un ruolo fondamentale, permettendo un progresso sostenibile e duraturo nello sviluppo delle comunità artigiane.

DSF mette la cultura del design al servizio dello sviluppo dell’artigianato e a supporto delle artigiane e degli artigiani del sud del mondo in modo organizzato, pratico ed efficace, attraverso iniziative di studio, progettazione e gestione del lavoro.



Year

2009

Domain

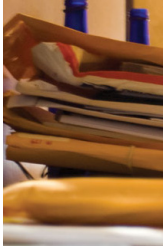
Product

Drives

Social, Economical

What

Non-profit association



sappi | ideas
that
matter

Ideas that matter

Mission

The industry's only grant program aimed at helping designers contribute their talents to the charitable activities that they care about most.

Year

2000

Domain

Product,
Space,
Communi-
cation

Drives

Social,
Environ-
mental

What

Grant
award pro-
gram

case studies: operative design



Project H Design

Mission

Project H supports, creates, delivers and scales life improving humanitarian product design solution. We are a team of designers, architects, and builders engaging locally through partnerships with social service organizations, communities, and schools to improve the quality of life for the socially overlooked.. Focus on Design for education.

PROJECT H DESIGN



Year

2008

Domain

Product,
Space,
Communi-
cation

Drives

Social,
Environ-
mental

What

Association

Claim

“Product design initiatives for humanity, habitat, health, happiness.”

“We design system, not stuff”



Architetti senza Frontiere International

Mission

The undersigned entities constitute an independent and non-hierarchical network of not-for-profit and participative organisations concerned with the equitable, social, cultural and environmental commitment of architecture, construction, urbanism and the conservation of historical heritages to 'human development'.

These organizations pledge to work together at an international level in order to achieve a greater impact of their collective efforts.

Year

2007

Domain

Product, spaces- architecture

Drives

Social, Eco- nomic, Environ- mental

What

Inter- national network of association

case studies: operative design

ISF-MI Ingegneria senza Frontiere - Milano

Engineering for development

Country

Italy

City

Milan

Year

2004

Drives

Social, Environmental

What

Non-profit association

Logo



Info and Mission

Ingegneria senza frontiere (ISF-MI) was founded in 2004 by a group of university students (from Politecnico di Milano, Università Bocconi e Università degli Studi di Milano) with experiences in cooperation project for development managed by Universities, ONG, Charities etc. etc.

Today ISF-MI is a non profit organization: the association is constituted by professionals and students who share a scientific cultural background and want to be engaged in the realization of a

sustainable development.

ISF-MI cares about globalization effects, international tensions, variation in the international co-operational policies and wants to confront with concepts like development and humanitarian assistance that the logics of economical, environmental and social interdependences try to impose to the modern society.

The sustainable development of society implies a vision of the world able to put side by side efficiency and reciprocity in order to provide a constructive but non-invasive interventions. The aim is to favour the development of communities' autonomy in the contexts of intervention.

The association believe in a concept of development related to a dynamic learning process and to cooperation practices in space (glocal) and time (intergenerational) which should involve multiple stakeholders on the institutional, political, economical and educational level.

ISF-MI refers to "*Carta dei principi di ingegneria senza frontiere*" and collaborates with multiple stakeholders in the field of cooperation for development to realize transversal and multidisciplinary partnerships. The association tries to involve the stakeholders in private and entrepreneurial sectors to operate in the support of the project giving them the opportunity to decline effectively the concept of social responsibility.

Structure

ISF_MI is a member of Ingegneria Senza Frontiere, a national association which coordinates smaller local organization. The national association provides generic guidelines on the work of each local association (which have a high

level of autonomy in projects and management). All the association in the network of Ingengeria Senza Frontiere have to agree with the manifesto (carta dei principi) and with the values, aims and assumption.

ISF_MI is structured in three different Departments that follow different strategies and objectives:

1. Management and Functioning: it takes care about the organization of the association (Human Resources, Education, Online Resources, Publications)
2. Strategy definition: it concern PR, communication strategies and marketing.
3. Operative Department: It is the area in charge to manage all the activities related to the planning of cooperation projects for development.

The activities of the association are divided in different thematic groups with the aim of develop specific competencies to fulfil the needs of knowledge in relation to the different project of the association. The groups coordinates themselves in the various cooperation project and elaborate ad-hoc technical solutions in relation to the case analyzed. In the same time the members of the groups participate in the awareness campaign and educational initiatives promoted by ISF-MI in collaboration with Politecnico di Milano (University).

Thematic groups:

1. Water. This group study the

problems related to the use and the access to water resources as well the technologies and materials able to fit the local contexts of the projects.

2. Energy: This group takes care about the energy supply and in particular about the decentralization of energy production and the related to renewable resources

3. Trashware: this group work on the regeneration of old or unused technologic devices (pc, notebook etc.) equipping them with free-softwares. It works especially in the Milanese contexts with institution and schools. Recently the group open a workshop "PCofficina" wich provides free-courses and seminars about the technological divides.

Cooperation projects

Although the association is formed mainly by people with a scientific education, the projects designed by ISF are not addressed just to solve technical or scientific problem. The area of intervention of the projects is wide and depends by the different requests made by individuals or other associations that work for the sustainable development of communities in need.

ISF-MI is actually working on two different Cooperation Projects for Development:

1. Mombasa – Democratic Republic of Congo

The project started with the request made by Padre Silvano Ruaro

(a religious missionary who has worked for 30 years in the north-east of Congo) to ISF-MI and Veterinari senza Frontiere (SIVtro-Italia). The “call for help” was related to the problematic living-conditions of the local population caused by scarcity of water resources and malnutrition. ISF-Mi helped in the realization of 2 water wells and in the evaluation of the entire water system. Besides the intervention of ISF-MI the project have seen the collaboration of SIVtro Italia for the development of local cooperative to breed animals (chicken and rabbits). The project started in 2005 and can be nowadays considered still in the implementation phase. initiatives.

2. Dakkar – Senegal

The project see the collaboration between ISF-MI and the Educational centre Médina. The educational centre was born in 2001 with the aim to provide professional training and qualified education for teenagers of Medina. The general aim of the project is to improve the health and economic condition of the young people who left the school offering a qualified education that can put them in relation with the local artisan enterprises. The specific role of ISF-MI is to the design a building for the activities of the Educational Institution. It will host a taylor’s school which will cooperate in the network of International Trade Fair and a bed&breakfast dedicated to responsible tourism

2.1 RESEARCH OUTCOME: SOME CONSIDERATIONS

2.1.1 Attention increase to design for sustainability

In regards of the research about the initiatives with the aim to create awareness in the worldwide design community it is worth notice how the majority of them have started their work in the last decade (2000-2010). Certainly this new trend is related to the spread of a new way to consider the information flows related to internet possibilities, but this fact has helped a lot in refreshing the design discourse on sustainability. Before this new era the sharing of thoughts about the matter of a social impact through design was relegated to specialized magazines like Design Issues or small groups of enlighten designers. Once again the opportunities given by new media have helped to improve the spread of consciousness, method, tools and strategies.

Anyway not all that glitters is gold. With the spread of social design initiatives on social networking platforms (DESIGN21 or even Facebook) a new critical trend has arose: the so called “slacktivism”. Slacktivism is a neologism formed out of the words slacker and activism.” It is referred to people who use their interest in design/politics to justify joining online groups and building websites for remote non-profits, fails to address the world’s problems with feet-on-the-ground solutions. “ (David Stairs).

This new trend is actually increasing in the design community with a lot of “design users “ who feels themselves “social designers” just because they join competition or filling petition online. The risk related to this tendency is a progressive lost of consciousness of the real potentialities that a design project can have on social and environmental matters.

One of the possible solutions to control the spread of this trend is an accurate education of new designers. In regard to this concept it is important to underline the increase of Design Institutions and Design Faculties that start to provide an education about a responsible design actions (i.e. Institute without boundaries, TUDELFT_ Design for Sustainability Course, Designmatters etc.). Anyway the lack of a shared definition of values and assumption of design for sustainability open the way to different interpretation of a “good education of the responsible designer”. On the first side the diversification of educational pathways is a precious contribution for the design discourse on sustainability but on the other side the training of professionals with different backgrounds can create a fragmentation in the worldwide design community favoring the delay in the change of the status quo.

Once again a shared vision is needed in the design community to foster the change for a better world.

2.1.2 **Non-profit approach**

The research about operative design initiatives that work for the sustainable development of community in need has revealed a framework of association with similar structures and approaches. The majority of them are non-profit association that tend to work in partnership with local stakeholders (association or public institution). Although most of them are young associations founded in the last 10-5 years they has already put into practice relevant and winning projects. They are living examples of the opportunities that design can offer in the field of the sustainable development of community in need.

There are some shared values between the majority of them that can be useful for the design of the final PSS such as the relevance of local partnerships and the fundamental involvement of the local community in the design process.

Nevertheless it is important to underline how a design association that intend to work for the sustainable development should have a solid background of values and capabilities in order to avoid risks of “harmful” proposition. I think that is important to report the voice of some design critics like David Stairs (founders of Designers Trough Borders) or Krista Donaldson (Lecturer and Researcher at Hasso Plattner Institute of Design- Stanford University) that have raised some doubts about some of the analyzed case studies: they notice in some cases a lack of the useful experience, capital, and political support needed to tackle pressing social and humanitarian problems: “Much design for development work tends to be short-term ventures dependent on Western designers’ free time and/or the fiscal schedules of donor agencies. Understandably, the goal in these situations is a product. It makes sense; the design of an artifact seems like a manageable scope. But this short- termedness is all too well-known in most less industrialized economies. Remote design (design from afar) and parachute design (design from afar with visits) do not lend well to capacity building, let alone product sustainability.” (Donaldson) “Without immersion with users, without being in-situ, without a sense of culture, language, norms, and deep understanding of the problems faced—an iterative product development process slips from market-pull to technology- push”. (Donaldson)

These critiques together with the winning case study analyzed have been fundamental for the definition of the PSS which this work intend to propose.

3. Principles and guidelines for development projects by the European Commission for Development

Introduction

This part of the research aims to examine briefly the project cycle management practices and the participative methodologies for project aimed to the sustainable development of emerging and low-income contexts provided by the European Commission for Development.

The aim of this part of the book is to outline the guidelines for the creation of the association that will operate in similar contexts with effective but fair strategies. This guidelines will further be put side by side with PSS methodologies to create the strategy of the new association.

The bibliography of this part of the research mainly refers to the Project Cycle Management guidelines by the European Commission for Development (2004) and to experiences and documents by Ingegneria Senza Frontiere-Milano.



3.1 EUROPEAN COMMISSION DEVELOPMENT COOPERATION POLICY

Figure 7.
Cover of
"AID Delivery
Methods" by
the European
Commission
for Develop-
ment

In order to define a unique and recognizable approach the European Commission has identified three board areas that describes a general policy for development projects:

- The fostering of sustainable economic and social development;
- The smooth and gradual integration of the developing countries into the world economy;
- The campaign against poverty;

Furthermore the EC has determined some cross-cutting issues which must be appropriately addressed throughout the management of any project: good governance and human rights, gender equality and environmental sustainability.

3.1.1 **Good governance and human rights**

‘The transparent and accountable management of human, natural economic and financial resources for the purposes of equitable and sustainable development, in the context of a political and institutional environment that upholds human rights, democratic principles and the rule of law.’

In order to give further focus to this broad definition, the EC has established six essential elements of good governance, which should be applied to the design and implementation of EC-funded programmes and projects in third countries. These are:

1. Support to democratization including support to electoral processes and electoral observation (with an emphasis on participation and accountability)
2. Promotion and protection of Human Rights (as defined in the international covenants and conventions, respects of norms and non-discrimination)
3. Reinforcement of the rule of law and the administration of justice (as to the legal framework, legal dispute mechanisms, access to justice, etc)
4. Enhancement of the role of non-state actors and their capacity building (as a partner in public policy making and implementation)
5. Public administration reform, management of public finances and civil service reform;
6. Decentralisation and local government;

3.1.2 **Gender equality**

The United Nations Fourth World Conference on Women held in Beijing in 1995 established gender equality as a basic principle in development cooperation. Gender equality refers to equality of opportunity, rights, distribution of resources and benefits, responsibilities for women and men in private and public life and in the value accorded to male and female characteristics. Promotion of gender equality is not only concerned

with women's issues, but also covers broader actions to be taken by both women and men. An essential requirement for gender equality is that women should participate in decision-making and political processes on an equal footing with men. Gender disparities are deeply entrenched in policies, institutional and legal practices, households and social relations. Gender is therefore a cross-cutting issue that needs to be built into all aspects of policy formulation, programme and project planning, institutional structures and decision making procedures. The process of integrating gender equality concerns across all these areas is known as gender mainstreaming.

3.1.3 **Environmental Sustainability**

Sustainable development is development that meets the needs of current generations without

compromising the ability of future generations to meet their needs. In this context, environment and natural resources are capital that must be maintained in order to support sustained economic activity.

Protecting the environment thus preserves the very basis for development.

Environmental sustainability refers to the need to protect biological and physical systems that support life (e.g. ecosystems, the hydrological cycle and climatic systems). Environmental sustainability is a cross-cutting principle which needs to be integrated across all areas of decision making.

This requires development planners to assess the environmental impact of all proposed policies,

programmes and projects, and to take action to minimize the adverse environmental impacts and to take advantage of opportunities for environmental improvement.



3.2 PROJECT CYCLE MANAGEMENT- PCM

Figure 8.
Agreement
on project
develop-
ments, Kenya

“A project is a series of activities aimed at bringing about clearly specified objectives within a defined time-period and with a defined budget.”

Any co-operational project that aims to provide real and long lasting effects can be carefully detailed following the guidelines of the Project Cycle Management by the European Commission. Project cycle management is a complex and creative process involving the negotiation of decisions acceptable to key stakeholder groups.

The general policy of PCM is the inclusion of the final user’s need since the first stages of the projects. In order to achieve this goal the PCM guidelines propose a project strategy based on verifiable objectives through a broaden analysis of potentials, timing and opportunities.

Guidelines and key elements of the PCM:

Five step project cycle: the decision procedure is structured on a rational evaluation of the information

User-oriented: In the Key phases of the cycle all the stakeholder are involved through participative methodologies.

Future-oriented: at the end of the project cycle the aim is the replication and maintenance of the positive aspects by the beneficiary community itself.

Rational approach: analytical tools like the Logical Framework Matrix are used to program and manage the project according with the premises.

The guidelines outlined by the European Commission propose a five-step project cycle: programming, identification, formulation, implementation, evaluation/audit.

It is possible that the guidelines of the EC could be interpreted according to the project nature and the experience of the promoter, even if each phase can be identified by accurate strategies that should be maintained apart from the project scale and typology. In fact the EC itself underline that “PCM provides an overall analytical and decision making framework, which must nevertheless be complemented by the application of other specific ‘technical’ and ‘process’ tools.”

The following brief description of each phase is taken from the experience and analysis of ISF-Milano.

3.2.1 **Programming**

Definition of the general aim in the sector focus and the related delivery modality. In this phase is possible an individuation of eventual local partners like ONG or associations who can collaborate in the project. The particular project can be part of an ongoing bigger project of the UN or an NGO.

3.2.2 **Identification**

It is a learning phase both for the manager the project and for the community: the manager should go deep in the knowledge of the context through direct and indirect research with the aim to identify

the real need and desires of the beneficiary and to get informed about the general condition of the local context (natural, social, health). The community should get acquainted with the promoters, informed about the project and involved in the collection of information. In this phase tools like stakeholder analysis, swot analysis, problem – aims-strategy analysis are used to achieve the goals. In the end the a list of priorities, aims and the strategy should be identified to define the route.

3.2.3 **Formulation**

Definition of the operative activities, timing and the division of responsibilities to achieve the strategy. It concludes with a feasibility study and an economic resources analysis for the implementation. It can be considered the real “design” phase.

3.2.4 **Implementation**

The designed project become a real intervention and all the previous decisions are put into practice by the manager of the project and by the stakeholders.

3.2.5 **Evaluation/audit**

The project is evaluated through a check of the achieved results. In this phase is possible to understand if the project is growing positively or if a new set is required (in this case the project cycle should start again with the identification phase).



3.3 OWNERSHIP AND PARTICIPATION

Figure 9. Back from work (detail), Victoria Lake, Kenya 2005

Participation consist in the involvement of the community in all the phases a project cycle, from the concept to the final implementation. The participation of a Community in the decision-making procedure is vital for projects to provide shared, effective and socially and environmentally sustainable solutions. The dialogue with the community of the context where the project takes place is crucial to create a solution that is not imposed by external factors but is created with the support of the real beneficiary - the local community. The aims of this involvement is to get the community the sense of ownership of the project to help them in the transition for the change that will affect their life after the implementation of the project. This sense of ownership should grow with the progress of the project phases also in order to foster the community in learning how to manage the new situation that will exist after end of the project.

The sense of ownership and participation are crucial for every kind of projects regardless of the sector focus, delivery modality or geographic

location.

Nevertheless different degrees of participation can be implemented. The involvement degree depends on the project typology and on the urgency of the intervention (a project to limit the spread of a sore disease needs immediacy rather than a project for a new system of public transportation should advantage the participation on instantaneousness).

According to this, the stakeholders and the beneficiaries can be involved in few stages or in the totality of them. Naturally the management complexity increase with the increase of the degree of participation: the more stakeholders are involved in the decision procedure, the more the difficulty to converge the interests of everyone bump up. On the other hand a high degree of participation especially in the first stages certify a shared and effective proposition.

Some guidelines for a participation process in a project can be found in the following table: it relate a participative involvement of the beneficiary (a community) with the project cycle phases. (ri-elaboration from “Analisi delle metodologie partecipative in progetti di cooperazione allo sviluppo, Butera Tagliabue 2008- ISF Milano).

PROJECT PHASE	PARTICIPATION
<p>PROGRAMMING</p>	<p>This phase imply an involvement of the local population that usually are the first to express the problem to face.</p> <p>In this phase is possible an individuation of eventual local partners like ong or associations that can collaborate in the project.</p>

PROJECT PHASE	PARTICIPATION
<p>IDENTIFICATION</p>	<p>Management of the participative process</p> <p>In this phase a first meeting with the local community is fundamental to inform the community about the possibility to participate actively to the design of the project. The meeting is useful not to speak about the problem to solve but to set the rule for the participation. This meeting should clarify A) the specific problem that request the participation B) the expected result of the participative relations and C) how the result of the participative meetings(feedback, proposition) will affect the project.</p> <p>A good solution for further meetings is the creation of a group of representative made by people from all the group involved: local community, association/NGO, local institution companies etc.</p> <p>It is important to identify a Facilitator that will mediate the relationships (usually the Facilitator is one the responsible for the association/NGO that manages the project cycle) .</p> <p>Stakeholder analysis</p> <p>The involvement of all the possible groups, community, company etc. that can be influenced positively or negatively by the project is fundamental for a real participation. Stakeholders can be detected among the direct or indirect beneficiary as well as among all the subject that revolves around the project: companies, ngo, association, groups, local or global institution etc. All the stakeholders detected should be involved in the further step of the project.</p>

PROJECT PHASE	PARTICIPATION
	<p>Information report The principle aim of the identification phase is to collect the information able to provide a broad understanding of the context. The different methods to bring together the information always deal with an active role of the local population (interviews, meetings, qualitative and quantitative research). The role of the local population here is fundamental.</p> <p>Shared SWOT All the information should be summarized in order to evaluate the strengths, weaknesses, opportunities and treat with all the stakeholders involved.</p> <p>Shared Strategy The strategy for the further formulation and implementation of the project should be presented and discussed together with the beneficiaries and the stakeholders.</p>
FORMULATION	<p>The project should be formulated by a group in which there are representatives of all the stakeholders in order to find a shared and valuable (the group created in the second phase of the project cycle)</p>
IMPLEMENTATION	<p>A part or the entire implementation should be conducted by the local stakeholders to consolidate the “sense of ownership”. Technical training of local population/stakeholders mainly takes place in this phase.</p>

PROJECT PHASE	PARTICIPATION
EVALUATION AND AUDIT	Final evaluation should take in consideration feedbacks from the final users besides technical elements. A participative process can be considered as a success when the community itself feel to own the project and express the desire to keep on working on the maintenance of the conditions achieved evaluating the results.

4. System Design for Sustainability in low-income and emerging contexts

Introduction

This final part of the research focus on the new potential role of design in the sustainable development of emerging and low-income contexts. It focus on the approaches, methods and tools proposed by C.Vezzoli and by the research unit System Design and Innovation for Sustainability (DIS) in the INDACO department of the Politecnico di Milano.

The research aims to describe a winning methodology to orientate the design of systemic project towards sustainable solutions.



4.1 APPROACHES FOR SYSTEM INNOVATIONS IN LOW INCOME AND EMERGING CONTEXTS

Figure 10.
Project discussion
(whitafrican.com ©)

System design for sustainability in emerging and low-income contexts could be defined as:

The design for the eco-efficiency and the social equity and cohesion of the system of products and services that are together able to fulfil a particular demand of “satisfaction”, as well as the design of locally-based and network-structured interactions of the stakeholders directly and indirectly linked to that “satisfaction” system. (Vezzoli,2010)

The approaches that facilitate a sustainable system innovations are:

1. *“Satisfaction-system” approach*: design the satisfaction of a particular demand (satisfaction unit). To design the satisfaction of a particular demand (satisfaction unit), means to shift the focus on from the design of single products or services to the design of the whole process of

every product and services associated with certain needs and desires. The term satisfaction is proposed to emphasize the enlargement of the design scope from a single product to the system of products and services (and related stakeholders) that together fulfill a given demand of needs and desires.

2. “*Stakeholder configuration*” approach: design the interactions of the stakeholder of a particular satisfaction-system. Having a stakeholder configuration approach means to focus the attention on the promotion of innovative types of interactions/partnerships between appropriate socio-economic stakeholders, while responding to a particular social demand for satisfaction.

3. “*System sustainability*” approach: design the interactions of the stakeholders (offer model) leading them for economic-competitive reasons towards such innovations that improve social equity and cohesion as well as reduce the environmental impact. In order to orient any system innovation towards sustainability designers should follow some criteria and guidelines as well as be equipped with enough sensitivity, conceptual vocabulary and operational tools. The criteria suggested by the research unit of Politecnico di Milano (DIS) concerns the social equity and cohesion and the eco-efficiency of the project.

Social equity and cohesion:

- improve employment/working conditions
- increase equity and justice in relation to stakeholders
- enable a responsible/sustainable consumption
- favor/integrate the weak and marginalized
- improve social cohesion
- empower/enhance local resources

Eco Efficiency:

- system life optimization
- transportation/distribution reduction
- resources reduction
- waste minimisation/valorization
- conservation/bio-compatibility
- toxicity reduction.



4.2 METHOD FOR SYSTEM DESIGN FOR SUSTAINABILITY - MSDS

Figure 11.
Project discussion (Nuru International ©)

The Method for System Design for Sustainability aims to support and orient the entire process of system innovation development towards sustainability.

It was conceived for designers and companies (but also for public institutions and NGOs). It can be used by an individual designer or by a wider design team. In all cases special attention has been paid to facilitating co-designing procedures both within the company itself (between people from different disciplinary backgrounds) and outside, bringing different socioeconomic actors and end users into play.

The method is organized in stages, processes and sub-processes. It is characterized by a flexible, modular structure so that it can easily be adapted to the specific needs of designers/companies and to diverse design contexts and conditions.

Although it is modular, as the basic structure of MSDS consists of 4 main stages:

1. **Strategic analysis:** collection and analysis of the necessary information to facilitate the generation of sustainable ideas
2. **Exploring opportunities:** identification of promising strategic sustainable design-orienting scenarios.
3. **Designing system concepts:** determination of one or more system concepts oriented towards sustainability
4. **Designing (and engineering) a system:** development of the most promising system concept(s) into the detailed version necessary for its/their implementation
5. **Communication** of the general, and above all sustainable characteristics of the system designed

The following tables describe the processes, sub-processes, results and tools for each phases and are taken from “System Design for Sustainability, Vezzoli, 2010”

1. STRATEGIC ANALYSIS	Process	Sub-process	Results	Tools
	Project promoter analysis and definition of intervention context	Defining ambit of design intervention	Document specifying ambit of intervention and design brief	
		Project promoter analysis	Summary of project promoter analysis: <ul style="list-style-type: none"> • mission • main expertise • SWOT • value chain (actors, structure, any problems) 	<ul style="list-style-type: none"> • Preparatory company questionnaire • SWOT analysis • System Map
	Reference context analysis	Production and consumption system analysis for the ambit of design intervention	Summary of production and consumption system analysis for the ambit of intervention: <ul style="list-style-type: none"> • identification of actors and their interactions • identification of technological, cultural and regulatory dynamics 	<ul style="list-style-type: none"> • System Map
		Competitor analysis	Summary of competitor analysis: who are the competitors and <ul style="list-style-type: none"> • what are the most innovative offers • how is the market segmented • competitive position analysis 	<ul style="list-style-type: none"> • Model 5 Porter forces
		Client and/or end user analysis	Summary of client/end user needs: <ul style="list-style-type: none"> • analysis of expressed and latent needs 	<ul style="list-style-type: none"> • Exploring Customer Need
	System carrying structure analysis	General macrotrend analysis	Report on (social, economic and technological) macro-trends and their influence on the reference context	
	Analysis of cases of excellence for sustainability	Identification and analysis of cases of excellence	Summary of cases of excellence analysis, describing: <ul style="list-style-type: none"> • offer composition and interaction with the user • actors who produce and deliver the offer • sustainability characteristics 	<ul style="list-style-type: none"> • Interaction table • System Map • SDO toolkit
	Defining the design priorities	Existing context analysis from an environmental, socio-ethical and economic point of view	Summary of the existing system analysis	<ul style="list-style-type: none"> • SDO toolkit
		Defining the design priorities	Definition of the design priorities for each sustainability dimension	<ul style="list-style-type: none"> • SDO toolkit

Table 1. Strategic analysis: processes, sub-processes, results and tools.

Table 2. Exploring opportunities: processes, sub-processes, results and tools.

2. EXPLORING OPPORTUNITIES	Process	Sub-process	Results	Tools
	Generating sustainability oriented ideas	Defining satisfaction unit	Document specifying satisfaction unit and sub-satisfactions	
		Workshop for generating sustainable system ideas	Sets of system ideas with environmental, socio-ethical and economic sustainability characteristics	Stimulus tools for generating ideas: <ul style="list-style-type: none"> • SDO toolkit –Sustainability idea tables • Satisfaction system map • PSS innovation matrix
		Identifying promising polarity diagrams	Polarities diagram	<ul style="list-style-type: none"> • Polarities diagram
		Polarising ideas	Polarities diagram with polarised ideas	<ul style="list-style-type: none"> • Polarities diagram
		Defining visions	Polarities diagram with visions	<ul style="list-style-type: none"> • Polarities diagram
		Defining clusters and single ideas	Polarities diagram with clusters of ideas Description of single clusters and single ideas	<ul style="list-style-type: none"> • Polarities diagram • Offering diagram

Table 3. Designing system Concepts: processes, sub-processes, results and tools.

3. DESIGNING SYSTEM CONCEPTS	Process	Sub-process	Results	Tools
	Selecting clusters and single ideast	Selecting the most promising ideas and/or clusters(from the point of view of economics, technological feasibility and user-acceptability)	Polarity diagram with the ideas and clusters of ideas selected Document explaining the selection	<ul style="list-style-type: none"> • Polarities diagram
	Developing system concepts	Defining the interactions between actors and the new system	Map of actors in the new system and their interactions (material, information and money flows)	<ul style="list-style-type: none"> • System Map
		Defining the product and service concepts ²⁰ that make up the offer	Images + texts summarising the main functions delivered to the user	<ul style="list-style-type: none"> • Offering diagram,
		Narration of user interactions with the system and the interactions of the other actors in delivering the offer	Sequence (images + texts) of the interactions that occur during the production and delivery of the offer	<ul style="list-style-type: none"> • Interaction storyboard
		Narration focusing on interactions with sustainability characteristics	Images + texts of the key interaction sequence occurring during production and delivery of the offer	<ul style="list-style-type: none"> • Sustainability interaction story-spot
	Environmental, socio-ethical and economic appraisal	Environmental, socio-ethical and economic improvement potential assessment for the system concept	Description of the improvement potential for every criterion of each dimension	<ul style="list-style-type: none"> • SDO toolkit – check list concept
		Visualising the environmental, socio-ethical and economic improvements	Radar diagram showing improvements Visualisation of the improvement bringing interactions	<ul style="list-style-type: none"> • SDO toolkit – radar • Sustainability interaction story-spot

4. DESIGNING (AND ENGINEERING) A SYSTEM	Process	Sub-process	Results	Tools
	Detailed system design	Defining the specifics of interactions between (primary and secondary) actors in the new system	Detailed map of the principal and secondary actors and their relationships (material, information and money flows)	<ul style="list-style-type: none"> System Map
		Defining the specifics of the set of products and services that make up the offer (primary and secondary functions)	Images and texts of the principal and secondary functions delivered to the user	<ul style="list-style-type: none"> Offering diagram
		Defining the specifics of services to the user and the interactions of the other actors during delivery of the offer	Narration (images and texts) of the sequence of all the interactions occurring in the production and delivery of the offer	<ul style="list-style-type: none"> Interaction storyboard
		Specifying the role, contribution and motivations of each actor	Matrix indicating the contribution made by each actor to the partnership, the expected benefits and potential conflicts	<ul style="list-style-type: none"> Motivation matrix
		Defining material and non material elements required for delivery of the offer (and defining who will design/ produce/ deliver it)	Map indicating the elements required by the system and the role of the actors in designing, producing, delivering it	<ul style="list-style-type: none"> Solution element brief
	Environmental, socio-ethical and economic assessment	Defining environmental, socio-ethical and economic improvements to be expected from implementation of the system	Definition of improvement potentials for every criterion of each dimension of sustainability	<ul style="list-style-type: none"> SDO toolkit – check list concept
		Visualisation of results	Radar diagram indicating improvements Visualisations of improvement bringing interactions	<ul style="list-style-type: none"> SDO toolkit – radar Sustainability interaction story-spot

Table 4. Designing a system: processes, sub-processes, results and tools.

Table 5. Communication: processes, sub-processes, results and tools.

5. COMMUNICATION	Process	Sub-process	Results	Tools
	Drawing up documentation	Communicate design priorities for sustainable solutions	A document indicating design priorities for each dimension of sustainability	<ul style="list-style-type: none"> • SDO toolkit – radar
		Communicate the general characteristics of the product-service	Document with the general characteristics of the innovation: <ul style="list-style-type: none"> • actors making up the system and their interactions • set of products and service making up the system • interactions between user and offer 	<ul style="list-style-type: none"> • System Map • Offering diagram • Interaction table
		Communicate sustainability characteristics of the product-service	Document with the sustainability characteristics of the solution: <ul style="list-style-type: none"> • environmental, socio-ethical and economic improvements • elements of the system bringing improvements 	<ul style="list-style-type: none"> • SDO toolkit – radar • Sustainability interaction story-spot



4.3 SYSTEM DESIGN TOOLS

Figure 12.
Project development (Nuru International ©)

A deep explanation of the tools for system design process could be found in “System Design for Sustainability, Vezzoli, 2010”. Nevertheless in this chapter I would like to give a brief introduction about all of them.

These tools have multiple scope:

1. Communicate: help in visualizing the systems simplifying the understanding of complex systems.
2. Design: help in the designer to orientate the process towards critical factors and opportunities.
3. Co-design: thanks to their visual immediacy they are powerful media to involve the stakeholders (usually people with different disciplinary backgrounds) in the design process.

The main tools are the following (the first two being sustainability-focused system design tools):

1. Sustainability Design - Orienting toolkit (SDO)

The scope of the SDO is to orientate system design process towards sustainable solutions (environmental, socio-ethical, economic). It is a modular software toolkit supporting the following processes:

- A: priorities sustainability criteria/guidelines (through the qualitative analysis of the existing system)
- B: identify sustainable existing options (best practices analysis)
- C: generate sustainability-focused idea
- D: check/visualise sustainability improvement/worsening of developed concept/s

2. System map

The scope is to visualize (to design and co-design) the structure of the system, describing the potential stakeholders and their interactions; it is a graphical representation containing stakeholders involved and the flows/interactions: physical, informational, financial and labor performance.

3. Interaction table (storyboard)

The scope is to visualise and describe (to design and co-design) the narrative (story) of the front-desk (with the clients) and back-stage interactions (between other stakeholders): it is a mediating design tool that should support a collaborative and progressive design process of the user interaction with the System and of the related organization.

4. Sustainability interaction story - spot

This tool have the scope to visualize the key-point of the Interaction storyboard, in order to communicate the system chronologically by its main steps.

5. Satisfaction offering diagram

The scope is to focus and describe the system basic offers and suboffers. The Offering diagram tool is a way of representing all the functionalities of a System, around the core function: core function, added value function and sub-functionalities.

6. Stakeholder motivation matrix

The aim is the understanding of the connections between the different actors of the system. This is possible thanks to the elicitation of the motivation that each one of them has while participating in the system:

each actor expresses what he needs or expects from the service.

The motivation matrix is an interesting means of investigation of the solution assuming the point of view of each stakeholder with his own interests.

7. Solution element brief

Its purpose is to describe the elements (material and non material) required by the system, and which of the system actors must design/produce/deliver these elements.

The tool basically helps to define the roles of the individual actors in developing and delivering the solution.

8. Polarities diagram

It is a tool thought up to support the generation of ideas and facilitating their organization and presentation. It is used, in particular, at the start of the designing

process to define and visualize what we call a sustainability design-orienting scenario, i.e. the set of possible and promising reconfigurations that a system may take.

4.4 PROMISING INNOVATION MODEL

The approaches, methodologies and tool in the last chapters aim to orient and design a sustainable system innovation, but the analysis of some winning projects has lead the researcher of Politecnico di Milano to define a promising model for system innovation projects aimed to the improvement of economic, environmental and social living conditions of communities in emerging contexts.

This model has two characteristics:

1. Locally based: starts from sustainable local resources and needs, but could become open non-local or global systems
2. Network-structured: gain critical mass and potential by their connections in network

1. Locally based

The aim of a sustainable system innovation is the development of the local contexts. It is therefore important that the project is based on local conservative and regenerative resources (material and cultural) in order to facilitate the improvement of local context (economically, environmentally, socially). Nevertheless it is worth notice that the system should be opened to external factors (such as global stakeholders) in case of valuable opportunities.

2. Network structured

The logic and the spread of distributed economies has been important for the definition of network-structure solution as a promising model for system innovation project for sustainability. A well-known institution on economics and sustainability, the IIIIEE in Lund defines distributed economies as a

“selective share of production distributed to regions where activities are organized in the form of small scale, flexible units that are synergically connected with each other”.

The idea of a decentralized system that empowers the interdependency and the mutual fulfilment of needs and desires between the actors of

the network is a good starting point for the development of democratic bottom up initiatives. Has been observed that whether in industrialized, emerging or developing contexts the gathering of large masses of producers-users into networks and associations with an adequate, decentralized, bottom-up, institutional approach guarantee more control to community members and power over their own destiny.

The network-structured systems become even more effective in relation to the production of energy from regenerative resources: decentralised infrastructure supplied by renewable sources, on the one hand would reduce environmental impact, and on the other could facilitate a democratisation of resources and energy, enabling individuals, communities and nations to reclaim their independence while accepting the responsibility that derives from their reciprocal interdependence (self-sufficiency and interdependence).

4. Syntesis

4.1 GENERAL CONSIDERATIONS

Evolution of the design discourse about sustainability and sustainable development: the three waves



In the last 40 years the design community has become conscientious about its potentialities in the social sphere. Designer of this era can count on a good background and literature to base their project as well as tools, methodologies and powerful communication media to improve their impact on the sustainable “revolution”.

Case studies: operative strategies of collaborative design initiatives



Winning examples of collaborative initiatives of designer open the way to new type of partnerships and teamwork to create sustainable solutions for development.

Principles and guidelines for development projects by the European Commission for Development



The approach of a design project for the sustainable development of community in need should follow some winning guidelines already used by associations and charities in project for developing countries. Starting from these guidelines and the principle of Cooperation designers should develop their own methodology in project for emerging context.

4.2 INSIGHT, INSPIRING QUOTATIONS, THOUGHTS

Some general considerations together with personal thoughts, quotations, concepts, ideas coming from interviews, books, papers, web-sites, dossier etc. have been crucial for the design process that has brought to the definition of the design brief.

#Design will change as its practitioners develop a new consciousness. (V. Margolin)

#Design must disengage itself from consumer culture as the primary shaper of its identity and find a terrain where it can begin to rethink its role in the world. (V. Margolin)

The design need of the world are evident, but the plan for reinventing the design profession is not. (V. Margolin)

#Designers need a shared design agenda about sustainability.

Design problems will only be solved in the local context, not by outsider coming in for a stop over visit. (G. Bontsiepe)

#Design in the developing world should use indigenous skills, materials and traditions while absorbing the extraordinary power that science and technology can make available to it. (Ahmenabad Declaration)

Design should empower the traditional knowledge of each community without impose a new one.

#Participation and collaboration with local community is vital for efficiency.

#Designers should work on the customers capabilities rather than their gap or deficiencies.

#Design should ask for help when wants to face social problems.

#Design is insufficiently understood among the myriad organizations involved in the development process, particularly in its less advanced stages. (V. Margolin)

#Local problems meet local solutions.

#For a product to be successful in a less industrialized economy, it must, at the very least, meet the same basic requirements for a any product in any economy: the design must be of the highest quality and the design process must be driven by consumer needs. (K. Donaldson)

#Design teams should be multidisciplinary to be more effective and have a broad understanding of the situation.

#Design for many instead of design for money. (V. Papanek)

#Designers have to be "educated" about sustainable actions.

#This impasse has left many designers frustrated, particularly in light of the growing pressures for sustainable development. (V. Margolin)

#Design methodology is inadequately known and insufficiently used as an economic resource. (Ahmenabad Declaration)

#We have to persuade people, who hold much power than designers, that they should alter the way they use design" (V. Margolin)

#A socially-responsible design solution is a solution that not only fulfils a special individual need but also enhances social and collective capability of a community to develop its own solution. (N. Morelli)

#“Working with” rather than “working for”.

#Few countries have the organizational financial and personnel resources which can enable industrial design to assume its proper role. (Ahmenabad Declaration)

#When Design is not limited to material products, designers can intervene within organizations and situations in a greater number of ways (V. Margolin)

#Social quality is the measures of citizen capability of participating to the social and economic life of their community in conditions that improve both their individual wealth and the conditions of their community. (De Leonardis)

#Design is a problem solving activity: “help”≠ “construct”.

5. Design Brief

The general aim for which the research has been conducted is the design of a Product Service System platform for an association made by volunteers who want to put into practice the vision of a collaborative association that work for the sustainable development and for social justice.

Starting from this general brief given by prof. Vezzoli (tutor of the thesis) the first step of the design process has been the definition of a personal design brief which helped in focusing on aims and assumptions and which gave the inspirational values and principle of the entire project.

A design brief is the description of a set of product-service-system requirements and expected performances that provides an orientation for the project: it opens the way to some opportunities and closes to some others. (A. Meroni, 2007)

The Design Brief for the final project is the following:

What.

A collective of designers that work for the sustainable development of community in need and for the education of current and future designers on the matter of social justice by creative design thinking and accurate methodologies.

How.

Through a systemic approach of PSS following the guidelines of cooperation strategies for development. It should provide multidisciplinary projects and be open to partnership with associations and public institutions.

Who.

It should involve designers from every domain of classical design profession: product, space and media. Made by voluntary professionals and supported by design students.

Where.

Local based but global aimed. North as well as south involvement.

A designers' collective that despite the globalization of the world supports the cultural diversity.

A designers' collective made by designers from every domain of design profession (media, product, space).

A designers' collective that adopts the systemic approach of PSS to propose comprehensive and effective design projects.

A designers' collective with an active role in the sustainable development by design.

6. Scenario Framework

6.1 SCENARIO BUILDING

Before proceeding with the definition of the project I would like to underline the path that bring me to the final PSS proposition. I am going to explain the design process related to the building of the scenario framework that has defined the definitive project.

One of the powerful tools to empower the design process of a product service system is the scenario building.

The aim of Scenario Building can be generally described as the generation of POSSIBLE VISIONS for product service systems and social, technological, entrepreneurial strategies for decision making. Scenario Building intervenes in the development of socio-technical platforms able to push a system of actors. (V. Auricchio, 2007).

A scenario could be structured thanks to the generation of scenario matrix. A scenario matrix is a two by two diagram that helps to set visions starting from general concepts. It is obtained deducing key-concepts and critical possibilities from the design brief (in this case). In the following scenario matrix the topics are related to the area of intervention and the financial strategy of the collective initiative. This will create four different visions of the project.

Polarities for the scenario matrix:

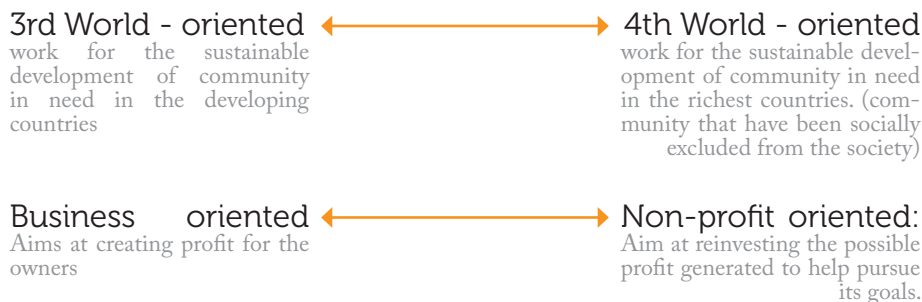
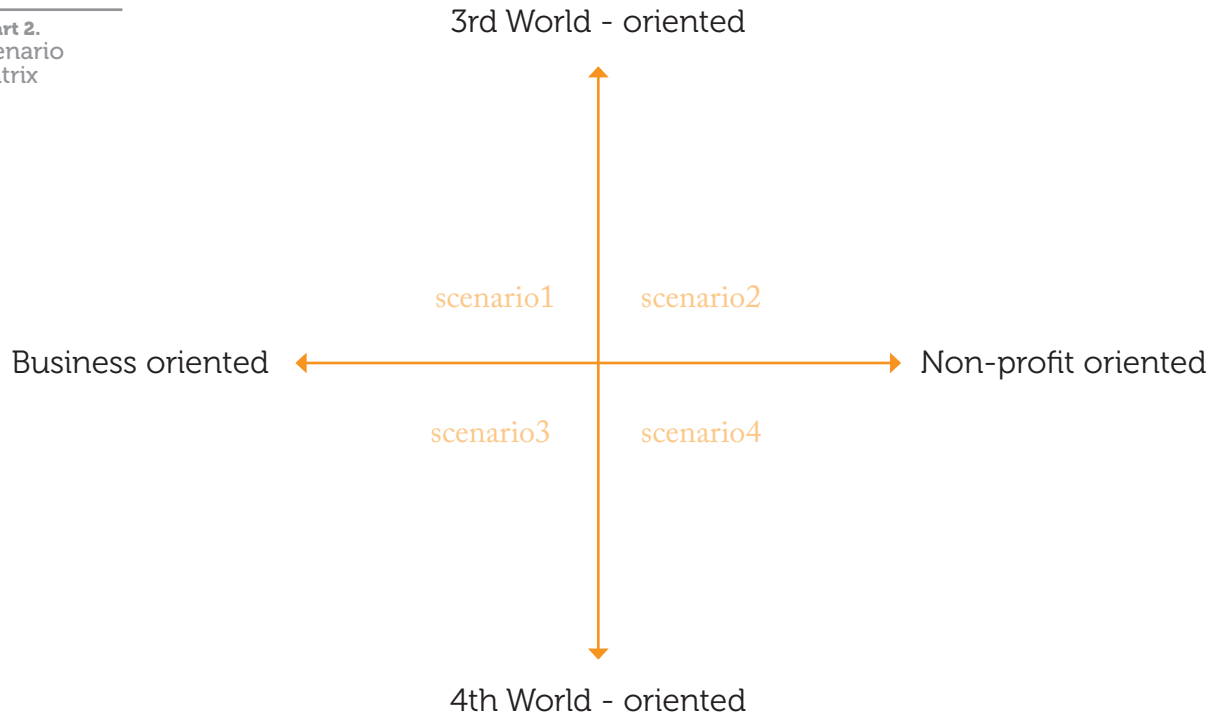


Chart 2.
Scenario
matrix



6.2 SCENARIO DESCRIPTION

Each quadrant of the diagram can be defined as a scenario of the same design brief. Each scenario has different characteristic and can generate different PSS projects. These are possible description of each scenario that interprets the brief according to the crossing of polarities.

Here is a brief description of the 4 possible scenarios:

Scenario1 third world- business oriented

North to South design studio: Design consultancy that work with clients and companies based in emerging countries and in the south of the world.

keywords: full time involvement, ethical job, profit driven, global concern

Scenario 2 third world- non profit oriented

North to South association: Voluntary based design association that work in partnership with others non-profit associations or ONG and public institutions.

keywords: volunteers based, global concern, part time involvement of designers, high level of personal motivations

Scenario 3 fourth world- non profit oriented

North to North association: design association of volunteers that work for communities in need of the richest city in the north of the world.

keywords: volunteers based, part time involvement of designers, local concern, high level of personal motivations

Scenario 4 fourth world- profit oriented

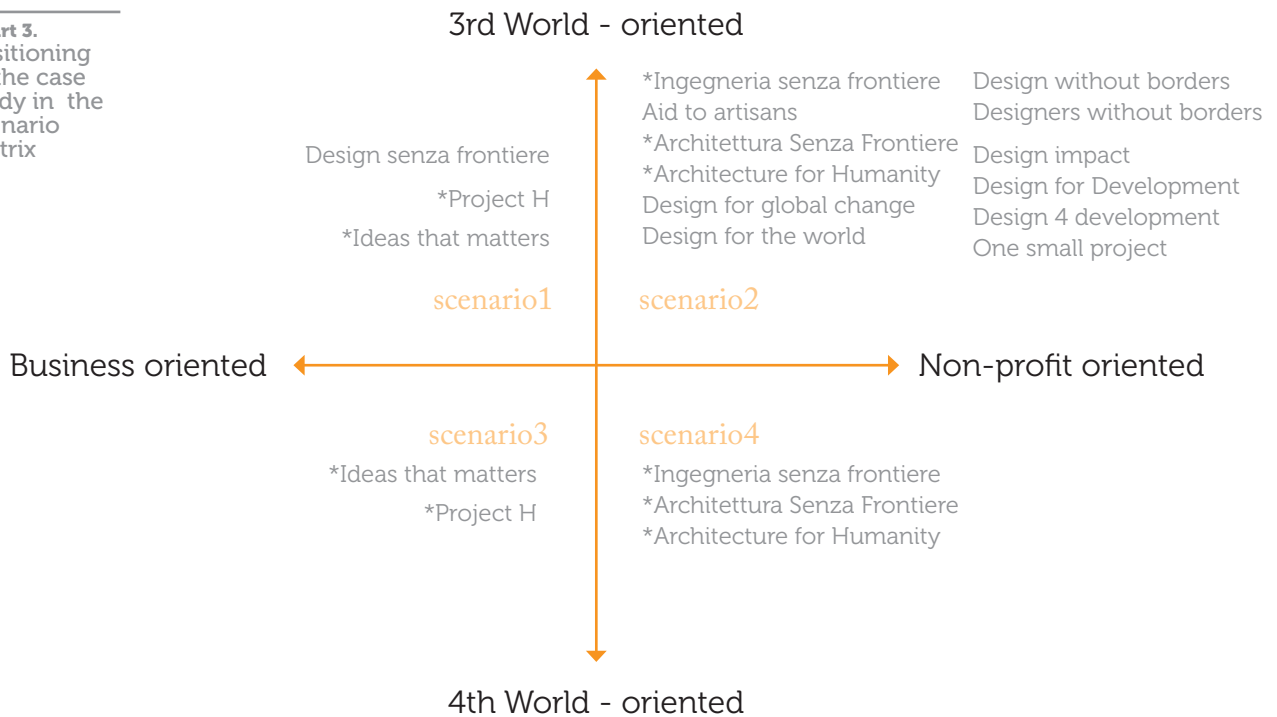
North to north design studio: design consultancy that takes care most of the living condition of the communities in the suburbs of the city and the social and environmental issues of the local context.

keywords: full time involvement, ethical job, local concern, profit driven

6.3 POSITIONING OF THE CASE STUDIES

In order to better understanding the characteristics of each scenario and better evaluating the strategy of the PSS proposal I would like to relate the case studies previous analyzed with the scenario matrix proposed. In the following matrix have been positioned the case study grouped in “Operative Design”.

Chart 3.
Positioning
of the case
study in the
scenario
matrix



The most of the case studies analyzed are non-profit organizations that work mainly for the sustainable development of communities in emerging contexts (scenario 2). Some of them can't be positioned univocally in a unique scenario because of different approaches related to specific projects (i.e. Ingegneria Senza Frontiere, Architecture for Humanity, Architettura Senza frontiere work either in the 3rd as well in the 4th world).

6.4 SCENARIO DEFINITION FOR THE FINAL PSS PROPOSAL

The scenario in which I have developed the PSS is the scenario 2. The strategic reasons for this choice can be summarized as follows.

A PSS developed in this scenario...

1. ...gives the chance to designers that has a full-time professional engage to be part of a real design movement that work for the sustainable development.
2. ...can involve a high number of different professionals with a high number of different skills to share instead of a small team of full-time engaged designers.
3. ...gives a real possibility to professional designers to be involved in ethical and cultural experiences that can be useful and educational for their everyday work.
4. ...provides better chances to partner with educational institutions and design university thanks to the non-profit approach.
5. ...can be considered an innovation in the Italian design context: there are no association of designers in Italy with the aim of working for the sustainable development of communities in emerging contexts, but there are winning examples of similar Architecture and Engineers associations.

7. PSS Concept

7.1 PSS CONCEPT

The concept of the PSS has been developed inside the scenario selected in the previous chapter following the specification of the design brief. Naturally it takes in consideration the objective research of the first part of the book and the subjective and personal considerations. The PSS have been developed inside the Milanese context.

The PSS design proposal consists in the creation of a :

Non-profit designers association which operates in emerging and low-income contexts to participate in the sustainable development of communities in need through the design of systemic projects. The association involves professional volunteers from the Milanese design community and design students.

Aim.

The aim of the association -called **DESIGNERS THROUGH BORDERS** - is to improve the living conditions of individuals and communities in problematic contexts. It aims at designing fairs and equal systems of product and services linking Milanese designers with associations, NGOs, companies, institution and communities in emerging contexts. Design universities and students (from Milan and from the contexts of each project) are involved to be part of the initiative. Each project can be considered as a cooperative project for development and for this reason the operative strategy of the association follows the guidelines of the European Commission for Development. Each project has the generic aim to enable community to self-manage the development process (self-development).

Mission.

The mission of the association:

1. Sustainable development

The projects designed by the association aim to propose systemic improvement for social and environmental living conditions of communities in need. The goal is the sustainable development of the contexts where the community live. The systemic improvement concerns the design of new services, artefacts and relationships between the stakeholders of each specific project.

2. Education

The association plays an educative role for actual and future designers (professionals and students) on the matter of sustainable development. Apart from the practical projects the association proposes itself as a place to experience and share ideas about sustainable development contributing to the growth of the “design for sustainability” discourse. Thanks to partnerships with Universities based or in the emerging contexts the association promotes the education of local designers to encourage and reinforce the local design community

3. Transfer of know-how

In order to be most effective and to share best practices for interventions, the association promotes the transfer of know-how between the similar associations in the Milanese contexts (i.e. Ingegneria Senza Frontiere).

7.2 AREA OF INTERVENTION

The range of intervention of Designers Through Borders (DTB) is widespread and has no particular restriction apart from technical limitation. Usually social or environmental issues of communities are related to four or five topics and mainly refers to the area of Housing, Communication, Mobility, Eating, Working and Health.

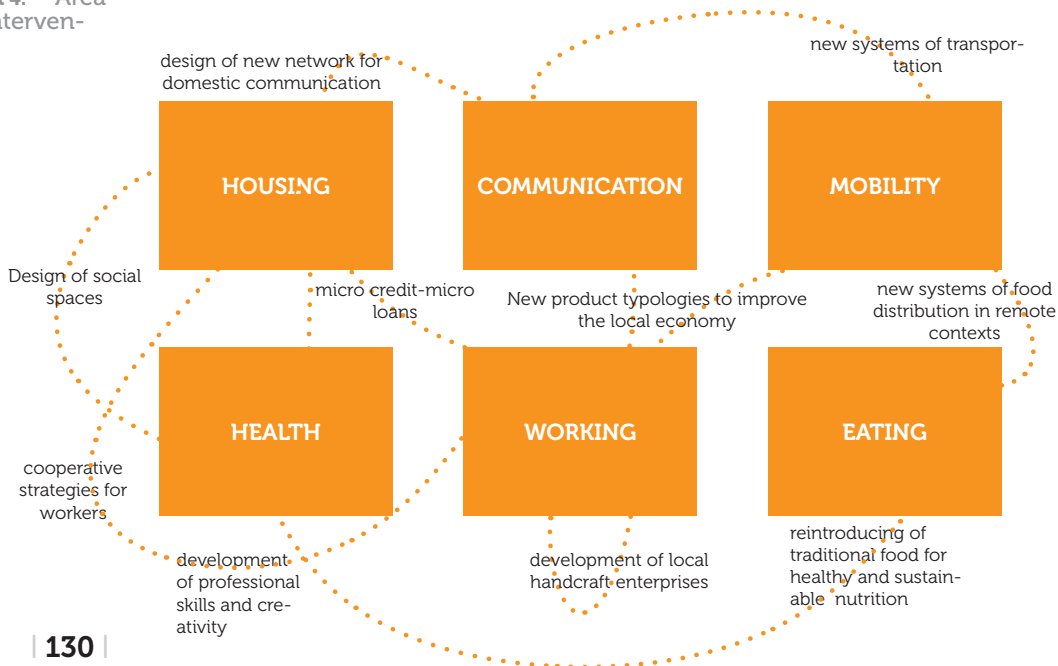
Since a community is a group of multiple individuals most of the times a single issue can not be defined in a single area, but as a collection of sub-issues related to different fields. For example the sudden spread of a disease can be related to the unhealthy transportation of water (mobility) or to the wrong domestic conservation of food (living) or to the unhealthy waste management (health) or even all these things together.

The systemic approach of the association aims to face the possible framework of multiple problems without focusing on single elements in order to provide a comprehensive solution.

The following illustration gives an idea of field of intervention and the possible typology of projects:

Figure 13. Illustration of a possible intervention

Chart 4. Area of intervention





9.4 DTB PROJECTS FOR DEVELOPMENT : CHARACTERISTICS

Each project proposed by DTB have some specific characteristics: the association tends to develop local based product-service-system innovation following the model of distributed network.

PSS – Product Service Systems

DTB believes in the powerful opportunities given by a systemic approach in the creation of alternatives to the current situation in emerging contexts. Designing a Product Service Systems for sustainability means to elaborate systemic projects with the aim to develop innovative solution for the sustainability of relationships, services and trades in a network of stakeholder. The final goal is to fulfil needs and desires of the community.

For Designers Through Borders a Product Service System project implies the development of new relationships between people, products and services as well as the creation of new artefacts with the consequent design of new equal, fair and sustainable projects.

Every design-projects by DTB considers and the cultural, economical and environmental peculiarity of the local context as a starting point for the development of new solutions.

Locally-based distributed networks

The known model of distributed economies is introduced by DTB as a promising characteristic of system innovation aiming to meet both eco-efficiency and social equity and cohesion in emerging and low-income contexts. The development of decentralized, bottom-up, institutional networks empowers the interdependency and the mutual fulfilment of needs and desires between the actors of the network and foster the development of democratic bottom up initiatives. The network-structured systems become even more effective in relation to the production of energy from regenerative resources: decentralised infrastructure supplied by renewable sources, on the one hand would reduce environmental impact, and on the other could facilitate a democratisation of resources and energy, enabling individuals, communities and nations to reclaim their independence while accepting the responsibility that derives from their reciprocal interdependence (self-sufficiency and interdependence). (see chapter 4.4 in the “part one” of this book).

The following case studies should be taken as examples of possible project of Designers Through Borders. They are taken from a research by Andrea Biondi for his Master Degree Thesis “*Analisi critica degli approcci di design nei progetti di sviluppo e cooperazione per i contesti/ paesi a basso reddito*”.

1. Distributed Solar Energy and product package of electrical devices, Brazil

Through his work in low-income rural electrification solutions, Fabio Rosa founded both a for-profit corporation, Agroelectric System of Appropriate Technology (STA) and a not-for-profit organization, the Institute for Development of Natural Energy and Sustainability (IDEAAS). Rosa knew that he could lease his solar energy service for close to the same cost as people were spending on inferior, non-renewable energy sources. TSSFA developed a basic photovoltaic solar home system that could be rented for US\$ 10/month plus an initial installation fee, a little more than what people were already spending on non-renewable forms of energy. Fabio Rosa figured out early on that the rural poor are not interested in buying solar panels.

What they are interested in is having access to the conveniences that electricity provides, such as effective and safe lighting at night and the ability to listen to the radio or heat shower water. Based on this understanding, in 2001, Rosa began exploring a new business model to provide Brazils rural people with what they needed energy services, not just solar energy. To that end TSSFA developed a leasing structure whereby customers pay a monthly fee for the use of cost-effective solar energy packages. This not only fits with the

traditional way people pay for energy, it also saves its customers from paying the 50% sales tax that would be required if they were to purchase the systems instead of rent them. Through a rental system, TSSFA can reach more customers, more quickly. Solar home kits, as TSSFA calls them, include the hardware needed to generate energy, while also providing the installation service and products that use the electricity generated by the solar home system, such as lighting and electrical outlets.

All of the tangible inputs are owned by STA and only the service provided by these materials are leased to customers. Through an initial pre-launch pilot of three installations, the team learned the importance of keeping the battery in a sealed, tamper-evident container as STA remains the owners of the batteries and is responsible for their servicing.

As a result, STA now delivers the batteries in a clear plastic tamper-proof container. In addition, STA also delivers a small ceramic saint with each of its solar kits. In a predominately Catholic country, this serves as a personalized incentive for people to regard the battery with due respect. While these measures increase the cost of the unit slightly, they ensure lower maintenance and battery replacement in the medium and long term. TSSFA customers sign a three-year service contract but can end the contract at anytime by



Figure 14. Solar panel on family house (STA©)

paying the cost of un-installation.

Being able to get out of the contract at any time is especially important for customers that believe that the grid may eventually be extended to their neighbourhood. Changing the battery at the end of the first three years of service increases the likelihood that the customer will renew the service. TSSFA has reacted to this electric company strategy in two ways. First, TSSFA guarantees that if the electric grid is in fact extended to

cover a home that has installed its distributed solar energy service, the customer has the right to end its contract and will not be charged an un-installation fee (which is normally charged if the customer decides to uninstall its solar energy system otherwise.) Second, TSSFA has stopped using the town meeting approach to promote its services. Instead TSSFA relies more heavily on radio ads, local stores, local champions and the very important word-of-mouth.

2. TENESOL , Morocco

Through a unique program developed by Morocco's National Electricity Office (ONE), EDF, Total and Tenesol are helping remote Moroccan villages access electricity through solar power

installations. EDF's involvement in the Moroccan program stems from a unique joint-venture between EDF, Total and Tenesol, called Tamasol. In rural areas, the EDF's Access program involves the creation of small, locally run companies to provide rural services including electricity, water, gas and telephone services in order to stimulate local economic activity and contribute to wealth creation. In peri-urban areas, the program aims to increase access and reduce poverty through adapted solutions, including pre-payment systems and demand-side management pilot projects. In order to generate its own electricity, each house is fitted with a solar home system

(solar panel + battery + controller). The solar panel turns the sun's rays into electricity that is stored in a solar battery so that it is available night and day to run lamps, a television, etc. The electronic controller automatically manages the charging and discharging of the battery. The battery can store enough power to last up to five days, allowing the equipment to run year round, even when the weather is bad. The equipment offered satisfies the main requirements of rural households: lighting (4 to 8 lamps) and a socket for a television, a radio, a mobile phone charger.

From November 2004 to May 2005, EDF worked with an external consultant to run an impact assessment survey to determine what effects, if any, the Tamasol program was having on the rural areas where they are installing solar home systems. The findings of the assessment indicate that, as



with all solar electricity systems, the one proposed by Tamasol has improved living conditions for the families that have the installations. In the houses that are equipped, electric lighting has replaced gas lamps and candles, and, above all, has permitted the installation of an outside lamp that can be left on all night to keep thieves away and to better monitor herds at night.

Figure 15. Moroccan Solar panel (Tenesol©)

Figure 16. Di-sha Van



3. DISHA -Bringing healthcare services to rural communities, India

Royal Philips Electronics aims to provide quality health care at an affordable price to the people who need it. In order to reach this goal, the company has custom built a tele-clinical van complete with diagnostic equipment and dedicated doctors and para-medical staff. Initiated and run by Philips, with the support of various partners, the DISHA (Distance Healthcare Advancement). DISHA intends to enhance access to primary health care services to approximately 275 million people in India who live on around \$1,000 to \$2,000 a year. The initiative is not a philanthropic action, but rather a challenging business value creation process aiming to combine the best of Philips capabilities, technologies and expertise with knowledge and experience of various for-profit and non-profit. The aim is to meet the un-met needs of people around the world in the respect of the natural and socio-cultural environment, while contributing to the long-term company growth.

Philips India is using public-private partnerships to bring the DISHA vision to life, in its first pilot being undertaken in Theni district in Tamil Nadu:

- Apollo Hospitals provides doctors for the van and specialists for free consultations;
- The Indian Space Research Organization (ISRO) provides satellite connectivity from the tele-clinical van to the remote Apollo Hospital. ISRO provides the satellite dish antenna (manufactured by another government organization
- Electronics Corporation of India).
- Active in social mobilization, micro-finance and micro-insurance, the NGO Development of Humane Action (DHAN) brings its knowledge of the target local communities to the project (to estimate

demand of various diagnostic services) and plays a key role in building trust, credibility and community participation for the project;

- Philips provides the appropriate diagnostic equipment to customize the teleclinical van (x-rays, ultrasound, ECG devices, blood and urine analyzer, etc.).

A patient residing in a remote village can come to the tele-clinical van and consult the doctor. Diagnostic tests are conducted in the van itself and, if required, the specialist doctor at the referral hospital is consulted. All the necessary patient information is transmitted via satellite. Video-conferencing is also available for the specialist to interact with the patient and the onsite doctor. An NGO pre-screening team is visiting villages to assess those most in need.

The onsite medical consultation is presently free for users, who pay only for dressings, medicines and specialist diagnostic services. Targeted to be on the road 300 days a year, the DISHA project aims to reach 15,000 people a year. Current users pay only for diagnostic services (average of US \$ 1.80), and in addition pay for medicines bought in the van or bought from elsewhere. In the second phase of the project, total care (including diagnostic, medicines, tele-consultation, etc.) will cost an average of US\$ 6-7 per user, substantially lower than what is incurred by them in the current private health system.

From an organizational perspective, a shift from a product delivery system to a total solution delivery system had to be faced to overcome the lack of infrastructure.

8. Project Cycle Management for a Sustainable System Innovation

This chapter concerns the description of the association's methodology for the management, design and implementation of system innovation in the framework of a cooperation project for development.

The methodology covers the entire life cycle of a project and put in relation the Method for System Design for Sustainability (MSDS-see chapter 4.2 in the "part one" of this book) with the Project Cycle Management approach for cooperation project for development by the European Commission (PCM see chapter 3.2 in the "part one" of this book).

The field in which the association intend to work - the cooperation for sustainable development - is not familiar for designer and for the design community in general. For this reason DTB refers to guidelines and best practices developed by the European Commission for Development: these guidelines have been developed especially for NGO and association and give practical and theoretical indications about the management of the project cycle (PCM) and the role that any association should play in relation to the various stakeholders in projects for developing and emerging countries. For a better understanding of the Project Cycle Management see the chapter 3.2 in the "part one" of this book.

In a cooperation Project Cycle the central phases - identification and formulation- are committed to the design of the project itself. The guidelines of the EC provide tools and criteria to orient these phases toward an equal and participate design process, but do not provide an operative methodology.

Designers Through Borders introduces the Method for System Design for Sustainability (with its criteria, approaches and tools) in the phases of the Project Cycle Management in order to manage and facilitate the

part two | pss definition | PCM for a System Innovation

design of system innovation aimed to the sustainable development and oriented towards eco-efficiency, social equity and cohesion.

The Project Cycle of Designers Through Borders is visually represented by the following diagram

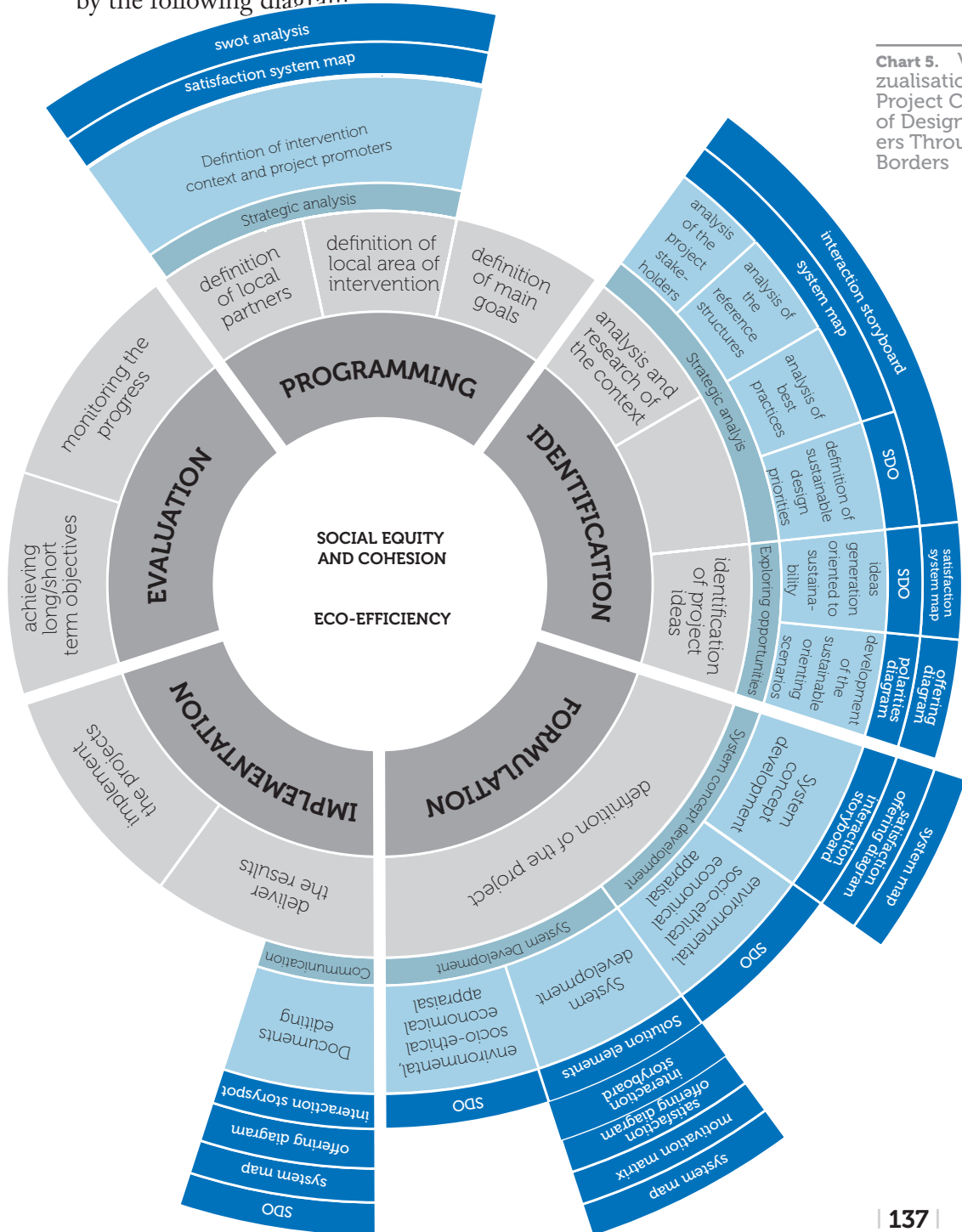


Chart 5. Visualisation of Project Cycle of Designers Through Borders

The visual tool orientate and guide the operator of the association (and generally the designers) in each phase of the project taking in consideration the phases and guidelines of PCM and the process and tools of MSDS.

Although they belong to two different field of action – “cooperation for development” and “design”, the project cycle guidelines and the system design methodology for sustainability present some similarities that have contributed to create a shared ground for the implementation of the new association methodology:

1. Development Aims

Both PCM and MSDS work for the improvement of living conditions of individuals or community in problematic contexts through the design of social, economical and environmentally sustainable projects.

2. Partnership approach

The involvement of local stakeholders since the first stages of the project is an effective way to improve the efficiency of the project and both the methodologies share this concept. The idea of partnership for the EC for DEVELOPMENT implies the creation of a political conversation between the actors of the north and the south as well the alliance with the civilian society, rather than in a system innovation for development the idea of partnership is basically referred to the creation of a new stakeholders' configurations, which can support and empower the efficiency of the system.

3. Cooperation/co-design

The participation of stakeholder is a key element also for the co-creation of shared solution during the design process. Participation is a crucial characteristic of both approaches.

The model that visualize the methodology has a wheel-structure and is composed by concentric circles:

1. Criteria/guidelines

The core of the wheel holds the criteria that must be considered in all the stages of the project cyle. The criteria that should orient the design process towards a sustainable system innovation and are based on the concept of Social equity/Cohesion and Eco-Efficiency. The criteria for the eco-efficiency are the following: (see chapter n.)

- system life optimization

- transportation/distribution reduction
- resources reduction
- waste minimisation/valorization
- conservation/bio-compatibility
- toxicity reduction.

The criteria to orientate the design process towards social equity and cohesion:

- improve employment and working conditions
- improve equity and justice in relation to stakeholders
- enable a responsible and sustainable consumption
- favour/integrate weaker and marginalized strata
- improve social cohesion
- empower/valorise local resources.

2. Project phases

The second circle holds the 5 project cycle phases for a cooperation project for development :

1. Programming
2. Identification
3. Formulation
4. Implementation
5. Evaluation/audit

This circle set conceptually the stages of the whole project.

3. Project cycle management

The third circle gives the guidelines provided by the EU for Development in relation to the project phases: in other words it explains what should be done in each stage.

4. Method for System Design for Sustainability

The fourth and fifth circle contains the methodology to design a sustainable system innovation:

1. strategic analysis
2. exploring opportunities
3. system concept design
4. system design
5. communication

MSDS addresses mainly the phases related to the real design and co-design process. It starts from the Programming phase and ends in the Implementation phase. The last two stages of the Project Cycle, Implementation and Evaluation, are not related to a design process and for this reason are not managed by a design methodology.

5. Tools for System Design for sustainability

The last circles is about the tools that enable designers and stakeholders

to design, co-design and visualize the sustainable systemic innovation.
The tools are (see chapter number 4.3 in the "part one" of this book):

- Sustainability Design-Orienting toolkit (SDO)
- Sustainability interaction story-spot
- system map
- interaction table (story-board)
- satisfaction offering diagram
- stakeholder motivation matrix
- solution element brief

Further development

The effectiveness of the methodology can be further improved integrating the first and the last two phases of the project cycle with new tools able to set main goals (programming) and guidelines for an efficient implementation and monitoring of the project (evaluation/audit).

9. PSS Structure

The purpose of this chapter is to outline the framework of the PSS delineating the main features of the association in terms of target and stakeholders (who are the actors involved and who is addressed), structure and management (what is the structure of DTB) and a operative strategies in the (how the system work).

9.1 TARGET AND STAKEHOLDERS

8.1.1 Target

Most of the voluntary associations which work in the social sphere follow different communication and management strategies in relation with the different typologies of targets they have to deal with. Since the association could be considered as a “non-profit design studio” is possible to enumerate two different kind of target:

A. target of the association: possible members and supporters of DTB.

B. target of the cooperation projects designed by the association: communities and stakeholders addressed by the projects.

It is worth notice how the two segments of the target are strictly linked even if they belong to different contexts. A good strategy for the involvement of the association’s members entails the engagement of high skilled and motivated designers that will design better solutions for the second half of the target, people of the community in need.

The strategy of the association has to consider the fulfilment of expectation, needs and desires of both category.

A. Target of the association: possible members and supporters of DTB

1. Designers

Professionals engaged in a full time-job with a personal ethical motivation to serve as volunteers. They can take the chance to work for an association that give them the opportunity to use their skills for a social purpose. They are concerned about the nowadays situation of the world and want to participate actively in the change of the status quo.

The projects in which they can be involved have a systemic output; for this purpose the association is open to designers of every disciplines: product design, media design (graphic designers, video editors, web designers etc.), space design (landscape designers, interior designers, urban planner etc etc). Designers should have good ability to work in team and the possibility to be engaged for a period of one-two weeks (the period of the design session).

2. Design Students

Design students with interest in learning and experience a design initiative disengaged from the consumer culture. They are interested in the social and environmental aspects of design. They come from the

Milanese universities and schools of design and have the impetus to practice their skills as trainee.

The association favours the creation groups of DTB student : an active participation in the support and promotion of the association gives to students the possibility to experience a period of charity work improving their technical design skills.

B. Target of the cooperation projects designed by the association: communities and stakeholder addressed by the projects

This segment of the target is hard to delineate because can be really wide. Generally can be described as a community of people that experiences a problematic situation related to the area of intervention of the association (field of Housing, Communication, Mobility, Eating, Working and Health- see the chapter “7.2 Area of intervention”). A community can be more complex than just a group of individuals: it can be composed by families, companies, institutions etc etc.. All the “entities” that constitute a community can vary depending on the contexts and the cultural and social framework.

8.1.2 **Stakeholders:**

A stakeholder can be described as a person, group or organization that can affect, or be affected by a project system.

Referring to discourse made for the segmentation of the target is evident the separation of stakeholders in two big categories:

A. Stakeholders for the management of the association in Milan.

B. Stakeholders in the local context of each cooperation project for development

A. Stakeholders for management of the association in Milan.

Like every non-profit association, Designers Through Borders needs to look for stakeholder that are interested in support and promote it in order to be efficient and able to achieve its mission.

Possible stakeholders to involve in the support and promotion are:

1. ASF- ISF association

The creation of a network for the transfer of know-how is one of the three main mission of DTB: Architetti senza Frontiere (ASF) e Ingegneria Sena Frontiere (ISF) can play an important role especially in the initial stages of the DTB constitution. Their experience in the field of the cooperation for development can be very important for the practical work of the association.

2. Professional Design Associations – ADI, Design for All, AIPI etc. Collaboration with the Italian Professional Design Association is a potential benefit for the promotion of the association in the Italian design movement.

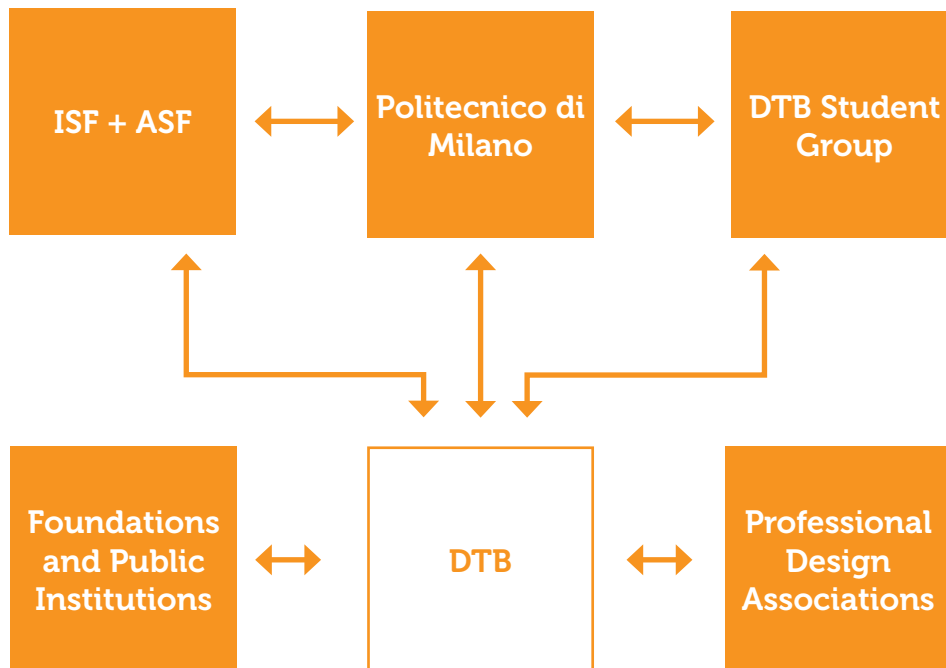
3. Foundations and Public Institutions
Given that DTB is a non-profit association fund raising is one of the crucial activities. Financial support come from donors and public funding of Foundations and Public Institutions.

4. Politecnico di Milano
The university is a key-stakeholder for the educational purposes of the association: it is the link of the chain between Designers Through Borders and the Milanese design students.

5. DTB Student Groups
Dtb students groups are valuable resources for the support and promotion of the association organizing for examples events or designing and maintaining the communicative media (websites, flyers, brochures etc).

The following diagram visualizes all the stakeholders for the Milanese area and their touchpoints.

Chart 6.
Stakeholders
for manage-
ment of the
association in
Milan.



B. Stakeholders in the local context of the project

The identification of the stakeholder for the project in the emerging contexts has presented a higher level of difficulties. In order identify all the stakeholders possibly involved in a generic project of the association I have considered all the essential competencies to develop an efficient design project. In a usual design project all the competencies come from the designer in charge to provide the solution (a product or an interior) but in this case the framework of the design project is unusual.

Supposing that DTB has the technical know-how to design a solution, who can hold the know-who, know-why, know-what, know-where about the problematic solution or the context in general?

The following diagram shows the different knowledge necessary to cope with a problematic situation linking every competencies with possible stakeholders.



Chart 7.
Diagram of competencies

In refers to the diagram in the previous page:

- *Know-who* is about the knowledge of the all the cultural and social aspect of the community as well its history and traditions_ This awareness is typical of the individuals who live in the context and constitute the local community and the public institutions. Given that the contexts where DTB intends to operate are problematic is possible to assume the existence of other association or NGO that already work in the field: these local associations certainly holds the awareness of the cultural aspects of the community and therefore can be include in the stakeholder group.

- *Know-why* is about the knowledge of the possible causes that generates the problem to face. This consciousness is typical of those people with a deep and broad understanding of the entire contexts that surround the community: local associations (or NGO), public institutions and high levels educational institutions (i.e.University)

- *Know-what* is about the knowledge of the generic problematic situation (from a internal and external point of view). Once again public institutions and local association have this kind of knowledge as well as the community members.

- *Know-where* is about the knowledge of the environmental contexts and the local resources. Either the people of the community, the local association, public institutions have knowledge of the surrounding context.

In order to summarize, the stakeholder that holds specific competencies and can influence and be influenced positively and actively in the projects managed by DTB are:

1. **Local community's members**
2. **Local public institutions**
3. **Local humanitarian association or NGO's**

Other stakeholders that can be involved in the design of the solution and holding competencies and positive influence are:

4. **Local University:** local design students and professors can be

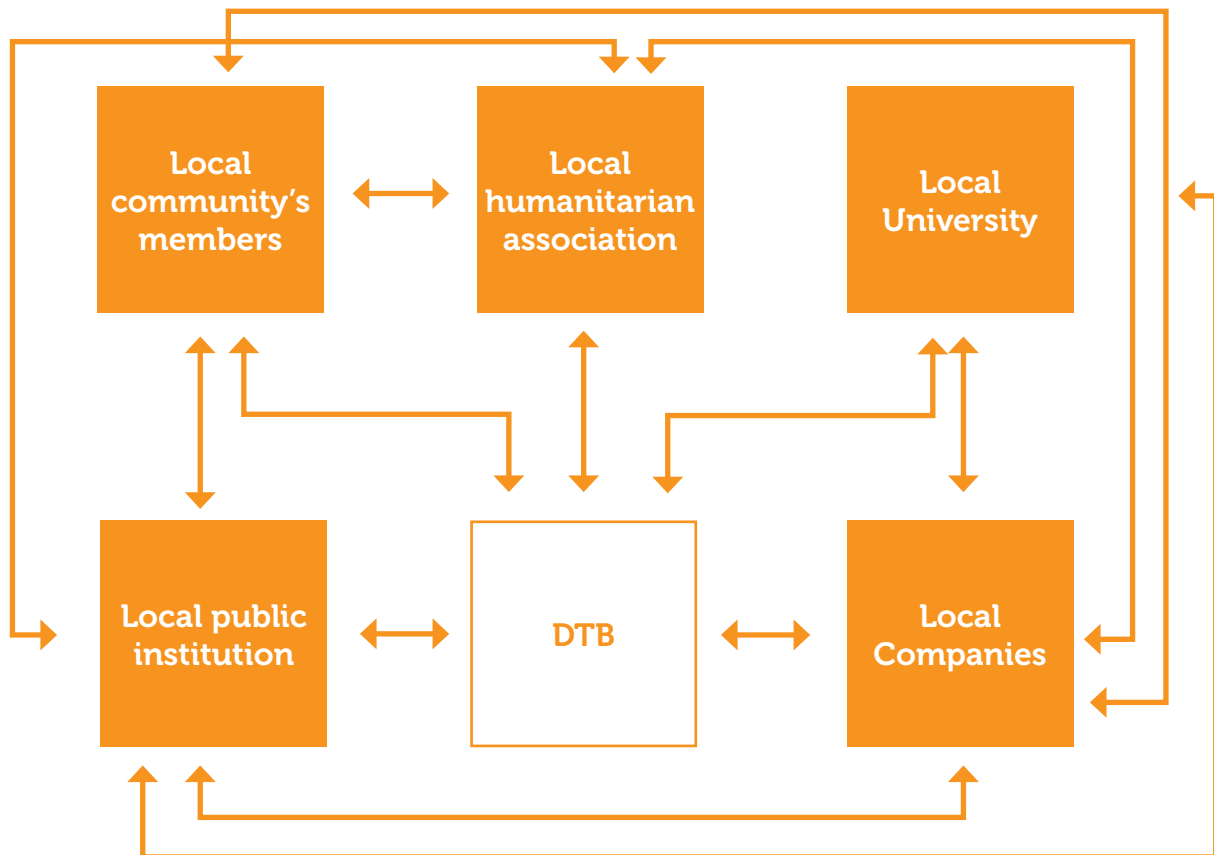
part two | pss definition | pss structure

precious resources as mediators between the design thinking and the local culture. A part from this, one of the main missions of DTB consist in “ promoting the education of local designers to encourage and reinforce the local design community”. Partnerships with local universities are crucial for the achievement of the educational purpose.

5. **Local companies:** local companies does not hold general competencies related to community problems, but play a strategic role for the economical and social development of the contexts. They have to be considered key-stakeholders in a systemic project that have the sustainable development as a main objective.

All the 5 categories of stakeholders should be always involved in the design process managed by the DTB association. Participation of each stakeholder in the development of each design project creates a sense of ownership of the entire community and is crucial for the creation of shared, effective and socially-sustainable solutions (for Participation and Ownership see chapter 3.3 in the “part one” of this book)

Chart 8. Stakeholders in the local context of the project



9.2 STRUCTURE AND MANAGEMENT

The association is structured in two units identifiable by specific goals and practices:

1. Management unit
2. Operative unit

Either the Management or the Operative unit get in touch with different stakeholders related to their area of intervention.

8.2.1 **Management unit**

This part of the association concerns all the activities related to the support, promotion and management of the association. The area of intervention of this units is the Milanese area, where the association is based with offices. The general duty of this unit is to coordinate the relationships with the Stakeholder of the Milanese areas, including the members of the association. In detail:

1. Management of DTB Students Group and the relationships with Politecnico di Milano
2. Management of the network between ASF and ISF
3. Financial management - fund-raising
4. Public relationship, Communication and Promotion (Advertisements etc)
5. Relationships with the association members (designers) and their recruitment
6. Management of the initial stages of each development projects: research, relationships with local associations and local institutions

8.2.2 **Operative Unit**

This unit manages the design process in the local contexts as well as the relationships between all the stakeholders involved. The area of intervention of this unit is the local context of each intervention. The final aim of the units is to coordinate all the stakeholders and the designers in order to define a PSS solution. In detail:

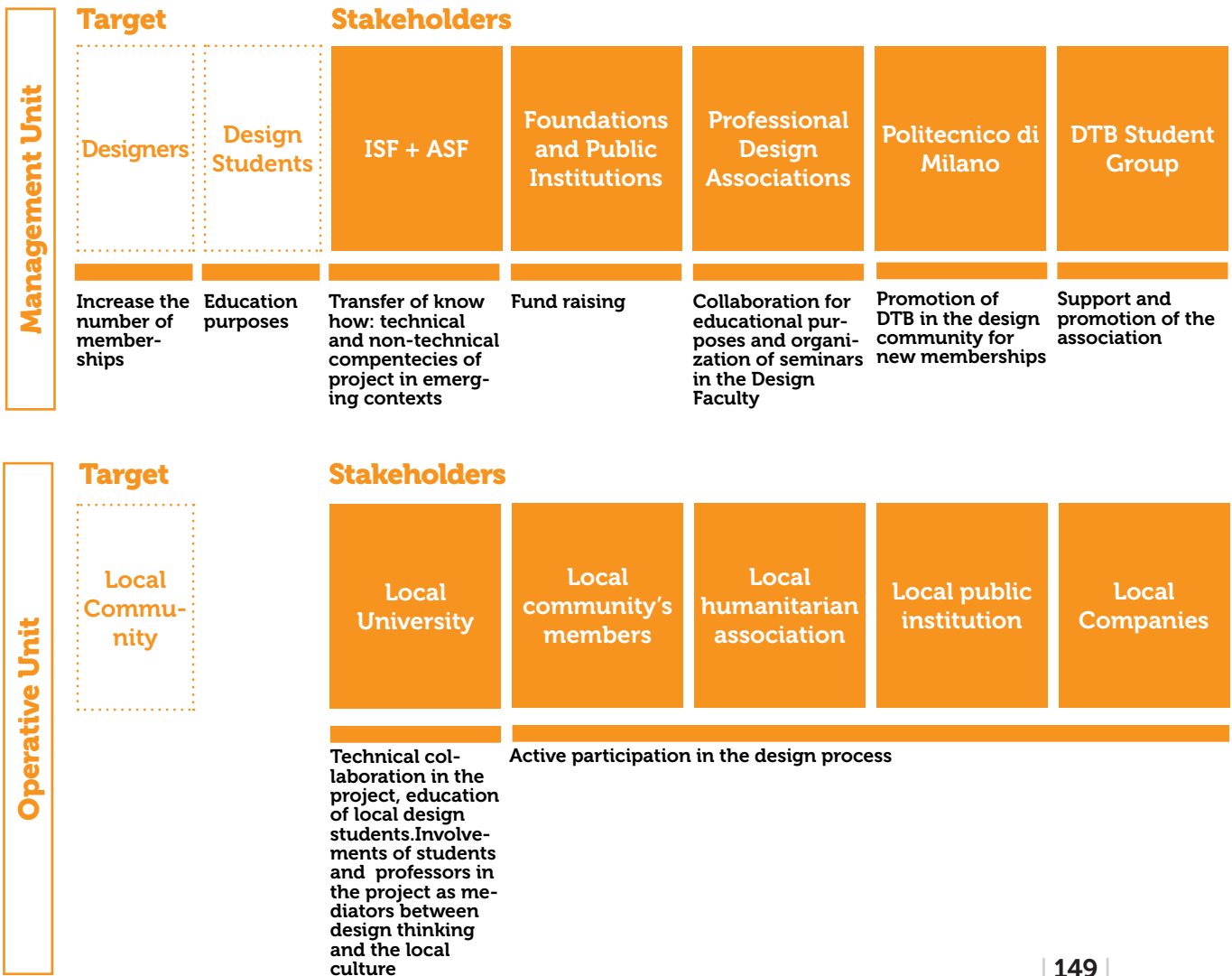
1. Research: collect information about the social, environmental and economical situation of the context and about the problem to face

part two | pss definition | pss structure

2. Training of the association members (designers) about their practices/duties/responsibilities in a project for cooperation for development and about the local context
3. Management of the design process and the design session (workshops)
4. Management of the relationships between all the stakeholder involved in the design process

The following diagram put in relations the two units with the stakeholders and target.

Chart 9.
Structure of the association and stakeholders

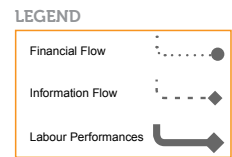
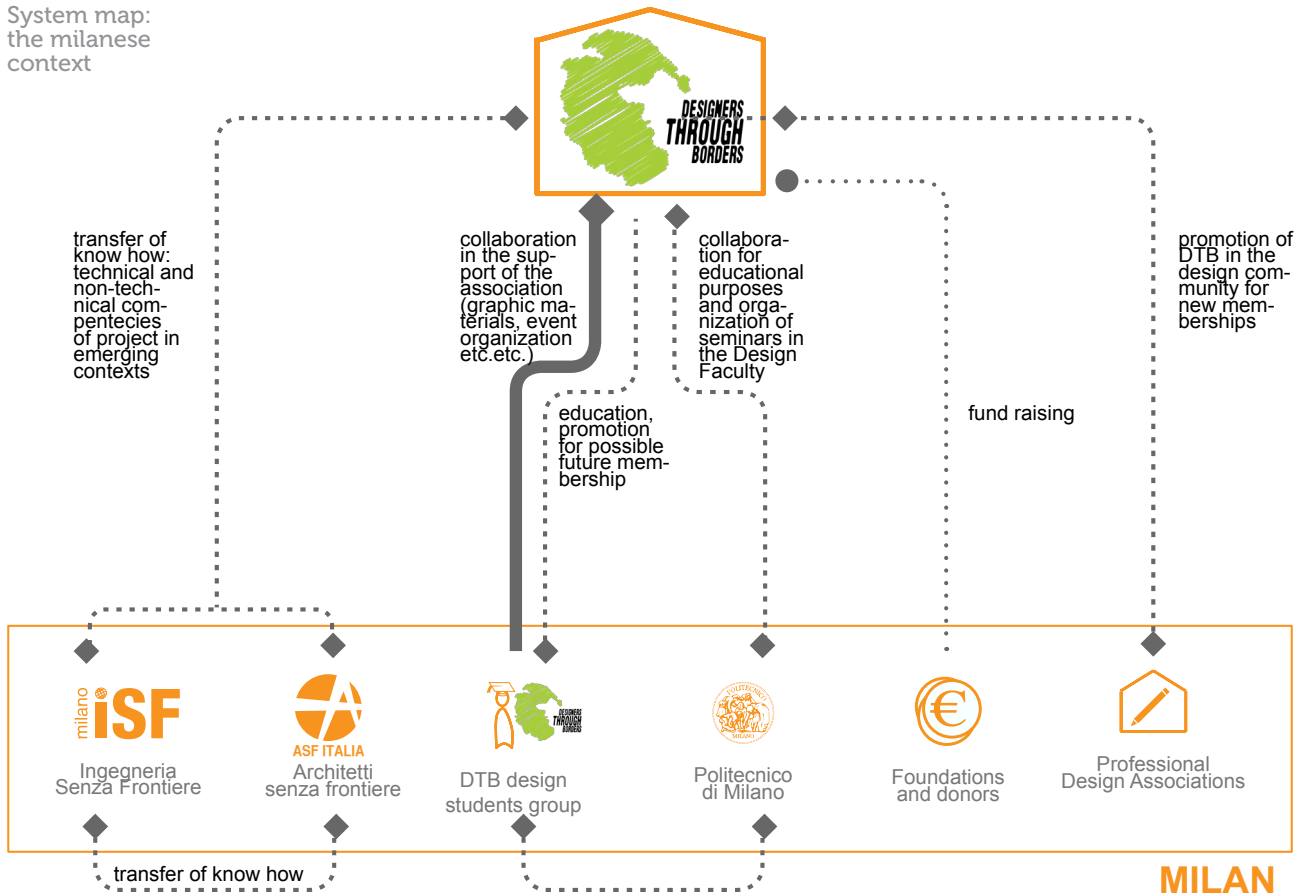


9.3 SYSTEM MAP

A powerful tool to visualize the relationships between the various stakeholder and their material, informational, financial and labour interactions is the system map.

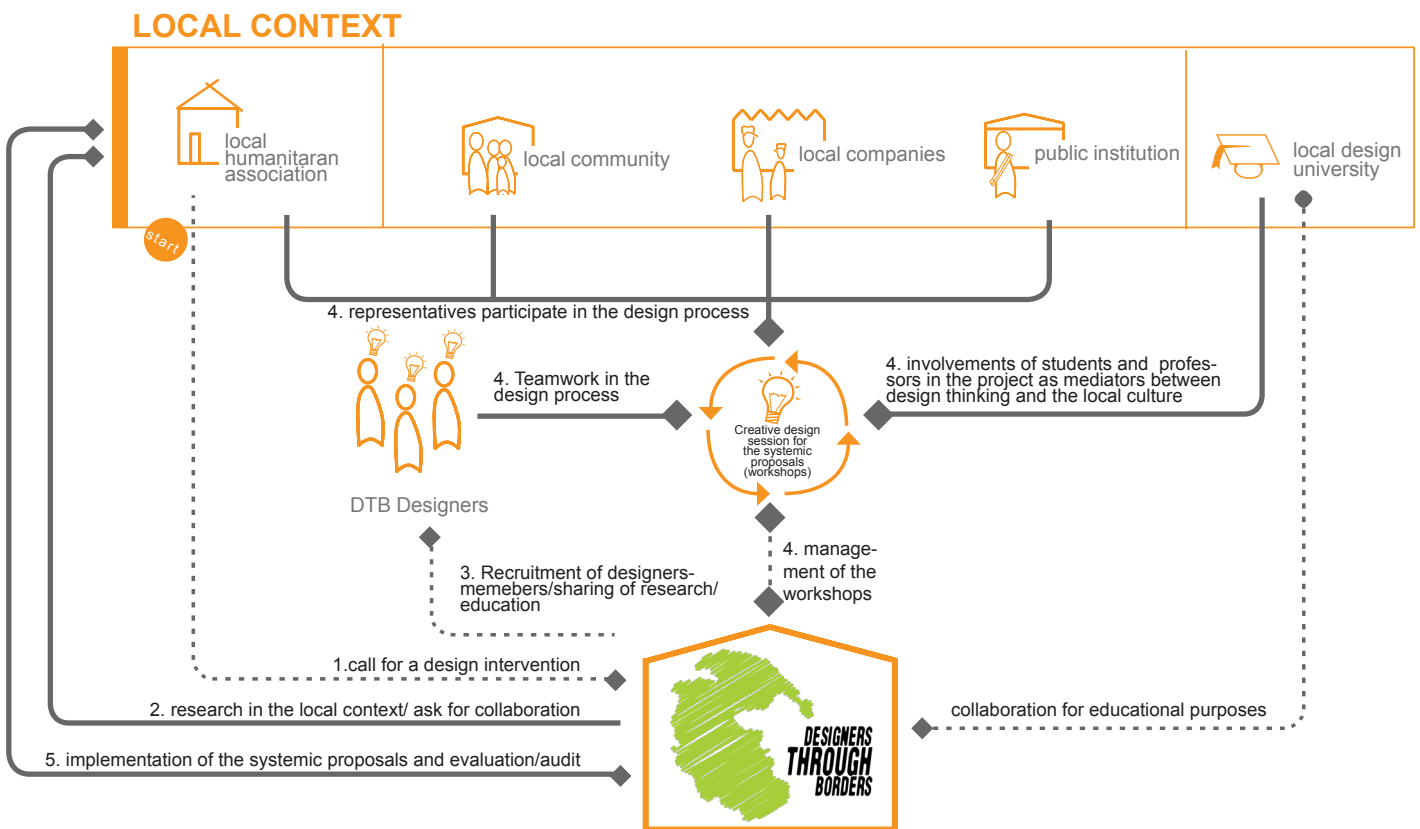
The first map show the relationships between Designers Through Borders and the Milanese system of Stakeholders.

Chart 10.
System map:
the milanese
context



The second map refers to the local context of each development project:

Chart 11.
System map:
the local
context



LEGEND

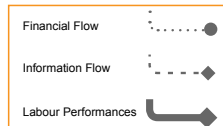
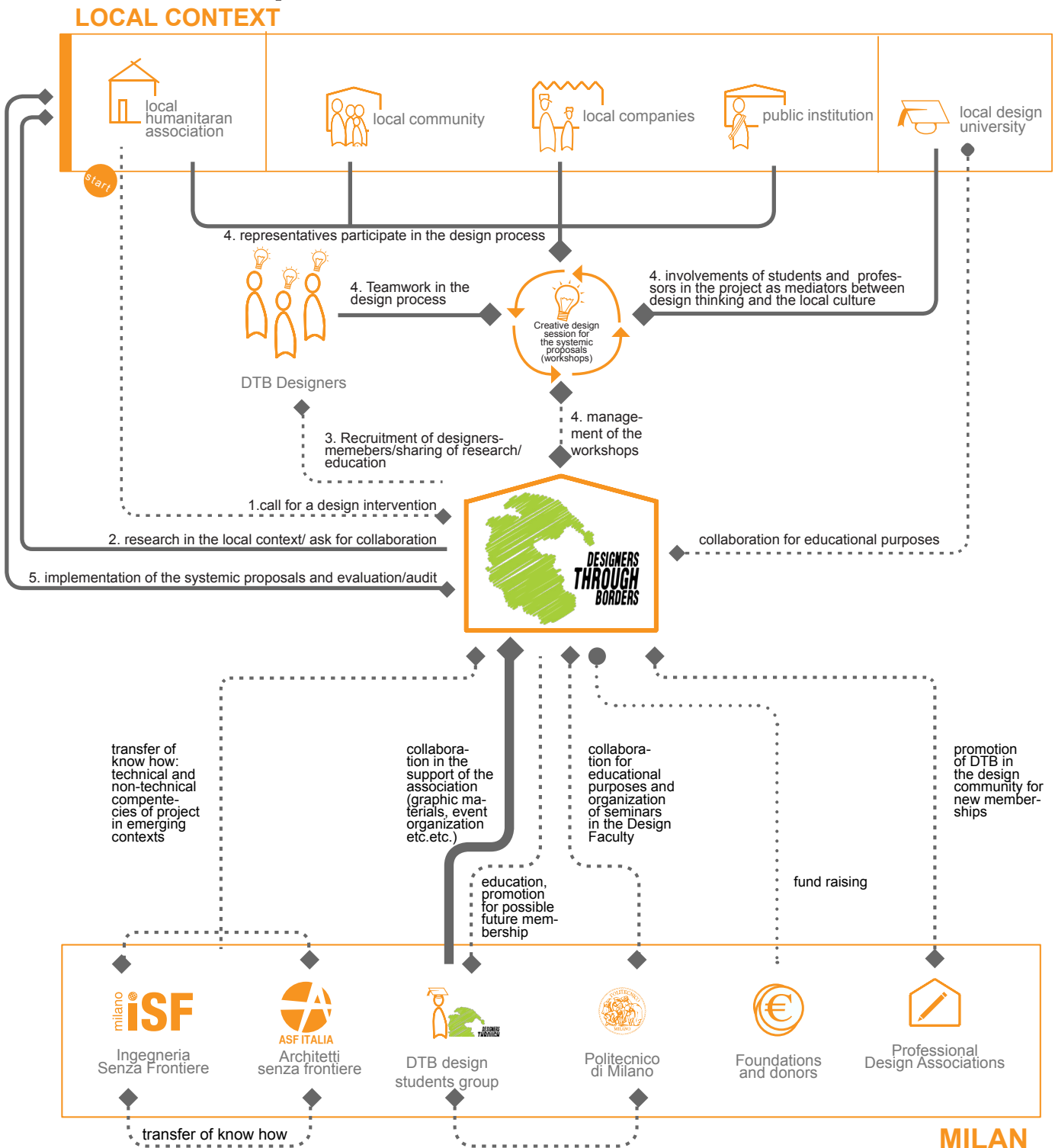


Chart 12.
The general system map

The following map gives an overview of the entire system managed by Designers Through Borders and concerns either the management unit or the operative unit of the association.



9.4 INTERACTION TABLE

A possible tool to describe a service visualizing the touch-points between the stakeholders in the system is the interaction table (storyboard). The purpose of the tool is to support the (co)designing and visualization of a sequence of interactions between user and the product-service system designed. The following interaction table describes and visualizes the sequence of stakeholders' interactions and their roles in an operative project of Designers Through Borders.

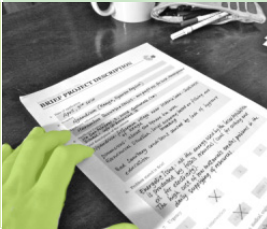

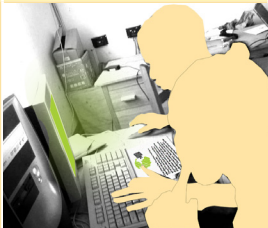

Each stakeholders is represented by a different color:



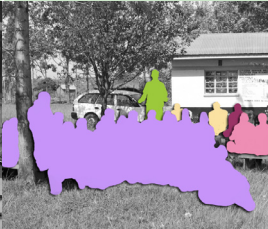



- red: Designers involved in the project
- green: Designers Through Borders
- blue: Local Design University
- yellow: Local Humanitarian Association (ONG)
- violet: Representatives of local stakeholders



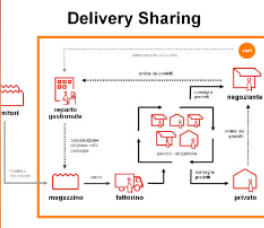


The interaction table relates the stakeholders' interaction with the phases of Project Cycle (see the first row of the table).




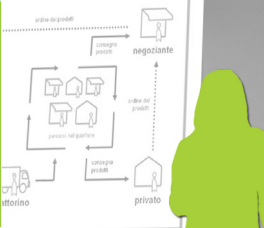





An operative project of DTB consist usually in 20 different steps. The most relevant interactions will be repropose and better explained in the next chapter (storyspot).

Table 6. Interaction table

SOLUTION ELEMENTS	PROGRAMMING			
	1	2	3	4
DTB Designers				
Designers Through Borders		<p>Feasibility check. Analysis of the report collected in terms of relevance of the issue (related to the area of intervention of the association), the scale (big/small), the urgency (urgent/not urgent).</p> 	<p>Ask for collaboration with local stakeholders. DTB contacts the possible local stakeholders to ask for agreement and collaboration in the development of the project.</p> 	
Local University				
Local humanitarian association	<p>The local association contacts DTB for support. The "call for help" is a request for a design intervention for a community in need in order to find a solution for a problematic situation.</p> 			
Representatives of local stakeholders (local community, local companies, local public institutions).				<p>Collaboration agreement. The local stakeholders reply to the request of DTB. This step defines the local stakeholders of the entire project.</p> 

	PROGRAMMING		IDENTIFICATION	
SOLUTION ELEMENTS			Online Blog	
	5	6	7	8
DTB Designers				
	First visit in the local context		Sharing of research. All the information collected during the first visit in are shared on DTB Blog.	Research: participative meetings. The problem is discussed with the local community.
Designers Through Borders				
		Meeting DTB - Local Design University. Sharing technical and cultural knowledge about the design project for the local issue and definition of the the collaboration.		
Local University				
Local humanitarian association				
Representatives of local stakeholders (local community, local companies, local public institutions).				

		IDENTIFICATION			
SOLUTION ELEMENTS	Methodology for the collection of information				
		9	10	11	12
DTB Designers					
	Research: collecting info in the field. DTB collects the technical specific information for the strategic analysis with the help of the local population	Flying back to Milan.	Strategic analysis. DTB analyses the information thanks to System Design tools.	Designers recruitments. After the Strategic Analysis DTB recruits the suitable designers for the specific project	
Designers Through Borders					
Local University					
Local humanitarian association					
Representatives of local stakeholders (local community, local companies, local public institutions).					

	IDENTIFICATION		FORMULATION	
SOLUTION ELEMENTS	Research booklet for designers			Toolkit/book to facilitate the workshop implementation (sdo, system map).
	13	14	15	16
		WORKSHOP: participation in the first workshop to generate scenarios for the system project.	Flying back to the local context of the project.	Local Workshop: design of the system
DTB Designers				
	WORKSHOP : sharing of the strategic analysis + exploring opportunities. Public presentation in Milan		Flying back to the local context of the project.	Local WORKSHOP: management of the design process. selection of visions, system concept development, environmental-economical-social check
Designers Through Borders				
				local WORKSHOP: participation in the design process
Local University				
				local WORKSHOP: participation in the design process
Local humanitarian association				
				local WORKSHOP: participation in the design process
Representatives of local stakeholders (local community, local companies, local public institutions).				




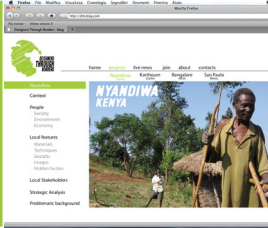






	FORMULATION	IMPLEMENTATION	EVALUATION/AUDIT	
SOLUTION ELEMENTS				

17

18

19

20

	Local WORKSHOP 2: DESIGN OF THE elements of the system.			
DTB Designers				
	Local WORKSHOP 2: management of the design process. Definition of the products, media and architectural elements.	Strategy 1: implementation of the project by DTB		Information about the project implementation for members and designers.
Designers Through Borders				
	Local WORKSHOP 2: collaboration in the DESIGN of the system elements.		Monitoring of the project progress	
Local University				
	local WORKSHOP 2: participation in the design process	Strategy 2: deliver of the project booklet and implementation of the project by local association	Monitoring of the project progress	
Local humanitarian association				
	local WORKSHOP 2: participation in the design process			
Representatives of local stakeholders (local community, local companies, local public institutions).				

9.5 INTERACTION STORY-SPOT

In order to better understand the key-interactions between the stakeholders of the system this chapter will propose the use of the interaction storyspot tool. This tool focuses on the most relevant touch-point of the Interaction table (see previous chapter). A service story-spot does not generally provide an overview of the service/system but tells chronologically how the system works and which are the interactions between the involved stakeholders.

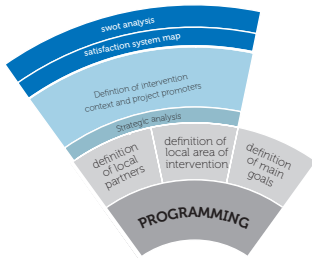
The following interaction story-spot simulate a possible project of DTB for the Community of Nyandiwa, Kenya. The project is about the design of a system of alternatives to the harmful and expensive use of carbon in domestic cooking. It concerns the touch-points between the stakeholders of the association's operative unit and describes the fundamental steps for the development of the project from the first contact between the association and the local context to the final delivery/evaluation of the systemic proposal.

The design process follows the Project Cycle Management cycle constituted by 5 different steps: programming, identification, formulation, implementation, evaluation/audit.

The whole Nyandiwa project consists in 11 key steps:

PCM phases	Storyboard steps
Programming	<ol style="list-style-type: none"> 1. Call for intervention 2. Identification of possible local stakeholders
Identification	<ol style="list-style-type: none"> 3. Definition of collaboration with local Design University 4. Research in the local context: participative meetings 5. Research in the local context: collection of specific/ technical information 6. Sharing of the strategic analysis: blog and Report Booklet 7. Sharing of the strategic analysis : workshop in Milan 8. Generation of possible scenarios : workshop in Milan
Formulation	<ol style="list-style-type: none"> 9. Design Session in the local context: workshops
Implementation	<ol style="list-style-type: none"> 10. Deliver of the project to a local Executor - Implement the project together with the local stakeholders
Evaluation/Audit	<ol style="list-style-type: none"> 11. Monitoring

Chart 13.
Relations between the PCM phases and the steps of a DTB project



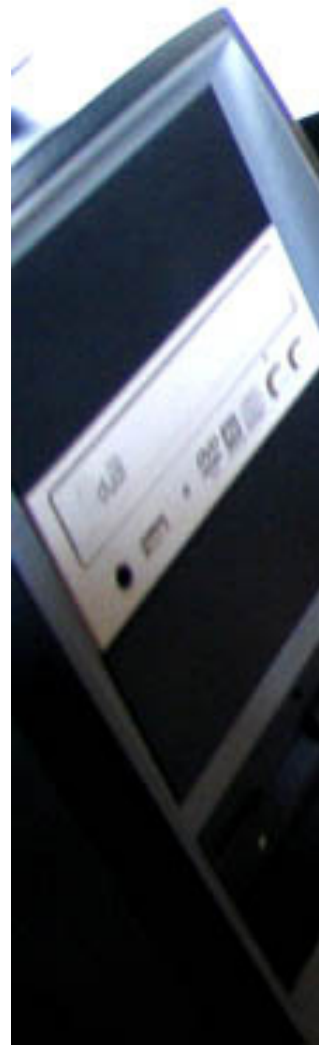
PCM PHASE: PROGRAMMING
MSDS PHASE: STRATEGIC ANALYSIS

1. Call for intervention

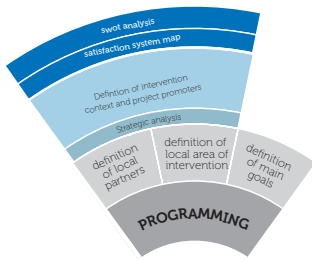
The first step of a DTB project is the “call for help” made by external entities or individuals. It is a request for a design intervention for a community in need in order to find a solution for a problematic situation. This call can be made by NGOs or associations (50% of probability), Universities of the network of DTB or Politecnico networks - i.e. from Lens Network (40% of probability), Students or individuals (10%).

Nyandiwa project

The local ONG is worried about the increasing in the use of carbon as the primary source for cooking . This situation is creating healthy and economic problem to the community.







PCM PHASE: PROGRAMMING
MSDS PHASE: STRATEGIC ANALYSIS

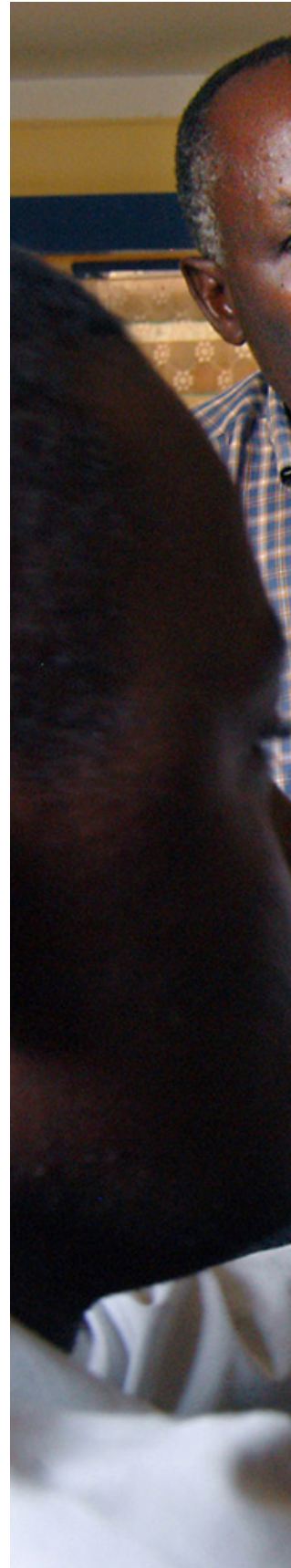
2. Identification of possible Local Stakeholders

Designers Through Borders analyze and verify the report collected in terms of relevance of the issue (related to the area of intervention of the association), the scale (big/small), the urgency (urgent/not urgent) and contacts the possible local stakeholders (public institution, community representatives, local companies/enterprises) to ask for agreement and collaboration in the development of the project.

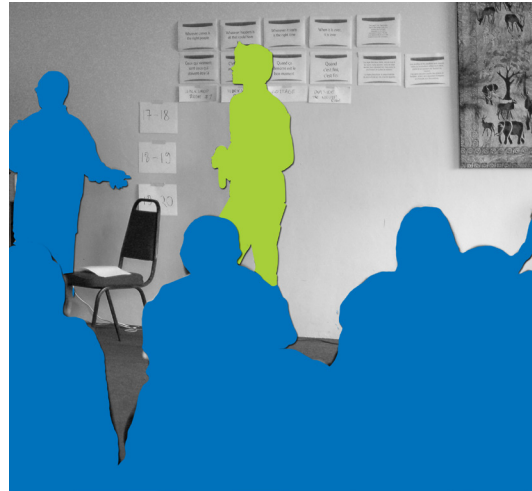
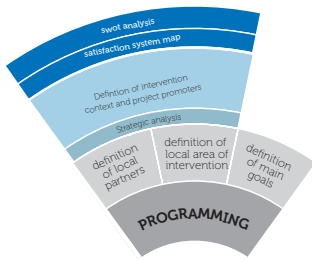
Nyandiwa project

Agreement for collaboration from:

- Companies: Carbon seller, Hardware shops, Craftmans.
- Public institutions: Office of the District Leader of the Nyandiwa area.
- Community: Head of the local community







PCM PHASE: PROGRAMMING
MSDS PHASE: STRATEGIC ANALYSIS

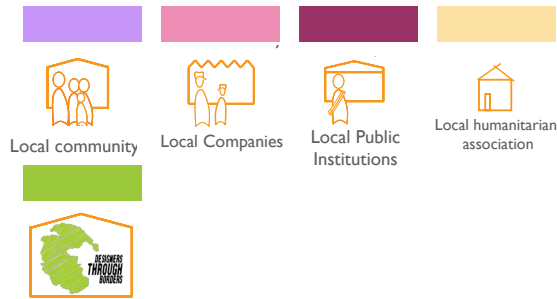
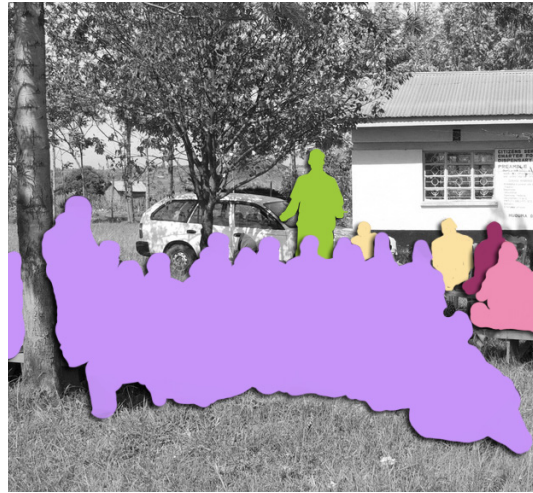
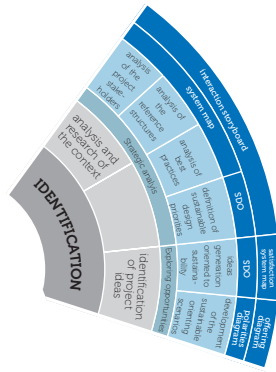
3. Definition of collaboration with local Design University

A key-stakeholders in the local context are local design students and professors that can be precious mediators between the design approach and the local culture. In this step DTB gets in contact with some representatives of the local University in order to start the collaboration sharing technical and cultural knowledge about the design project for the local issue.

Nyandiwa project

A group of graduating students of “School Of The Arts And Design” of the University of Nairobi decides to participate in the project development managed by DTB to develop their graduation thesis.





PCM PHASE: IDENTIFICATION

MSDS PHASE: STRATEGIC ANALYSIS

4. Research in the local context: participative meetings

In this step a subjective research is done through participative meetings between all the stakeholders involved. These meetings consist generally in structured sessions in which the community is asked to play an active role in the explanation of the problematic situation. The purpose of these meetings is to gather information about social, environmental and economical troubles directly from the point of view of the local population. Participative research sessions are fundamental in “Community Centred Design project”(see chapter 1.3.4 and chapter 3.3 in the “part one” of this book).

These meetings can be broad-casted live on the dedicated blog to involve the designers-member of the association.

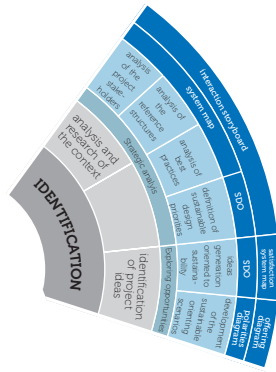
Nyandiwa project

During the meeting the local community expresses some insights about the use of carbon for everyday cooking, underlining critical factors and opportunities. At the end of the meeting for example comes out that:

- the half of the people of Nyandiwa have respiratory injuries due to toxic emission related to carbon
- the carbon is more expensive than the food that is possible to cook with it
- the price of the carbon is fixed by the only carbon seller, which is not so happy with the intervention of DTB because is afraid to lose his job.





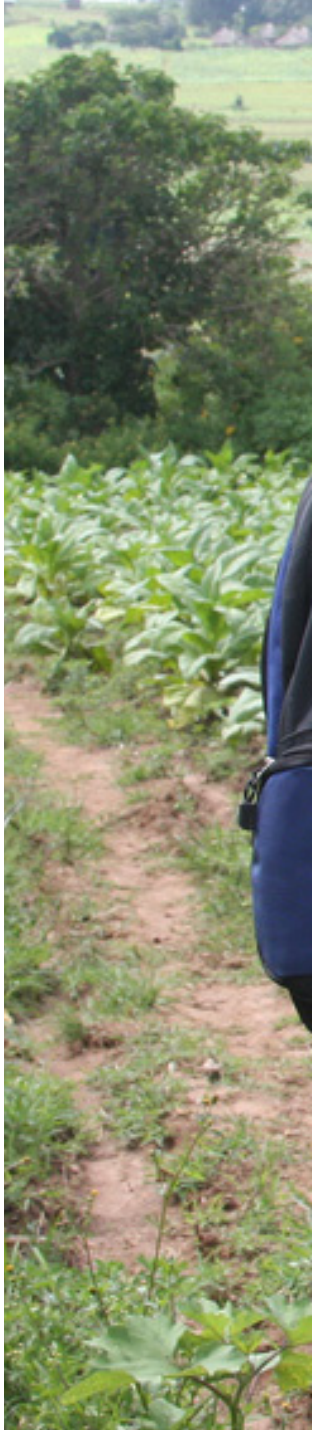


PCM PHASE: IDENTIFICATION
MSDS PHASE: STRATEGIC ANALYSIS

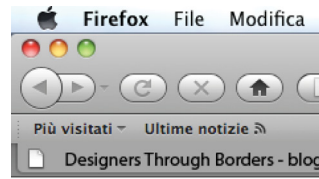
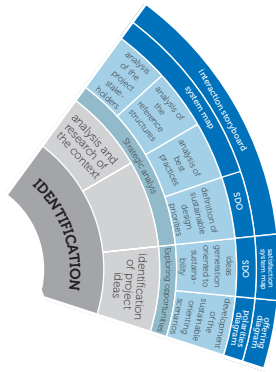
5. Research in the local context: collection of specific/ technical information

In this step DTB collects information using analytical tools for a qualitative and quantitative research: this last part of the research usually refers to ethnographic tools with the aim to involve the components of the community to express themselves their point of view about the problem to face. Examples of winning methodologies have been developed by IDEO, an international design consultant often committed in user centred and community centred design projects (i.e. “group interviews”, “self documentation”, ”in Context immersion” etc. etc.)

Nyandiwa project
Designers Through Borders makes a survey of alternative energetic sources (sun, wind, water of Victoria Lake) and about cooking materials/traditions.







Nyandiwa

Context

People

- Society
- Environment
- Economy

Local features

- Materials
- Techniques
- Gestalts

PCM PHASE: IDENTIFICATION

MSDS PHASE: STRATEGIC ANALYSIS

6. Sharing of the strategic analysis: blog and Report Booklet

The information collected are uploaded in the DTB blog to inform the milanese designers about the project and collected in a printable newsletter/pdf with all the information collected in the previous research phase. The Research Booklet is prepared by DTB and has the purpose to be a “guide” to understand the social, environmental, cultural and economical aspect of the local community. The document is a fundamental reference for Milanese designers who will participate in the design session

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http://dtb.blog.com design ignite change

home projects live news join about contacts

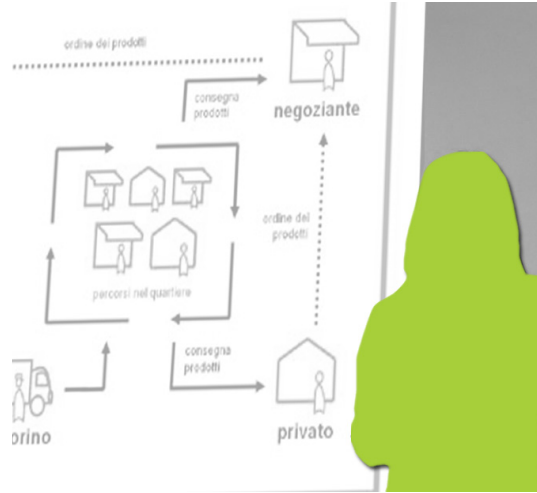
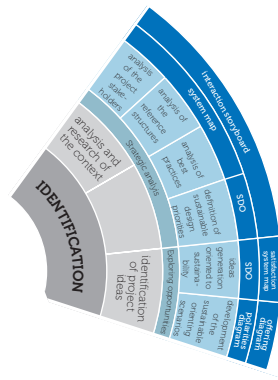
Nyandiwa
KENYA

Karthoum
SUDAN

Bangalore
INDIA

Sao Paulo
BRASIL





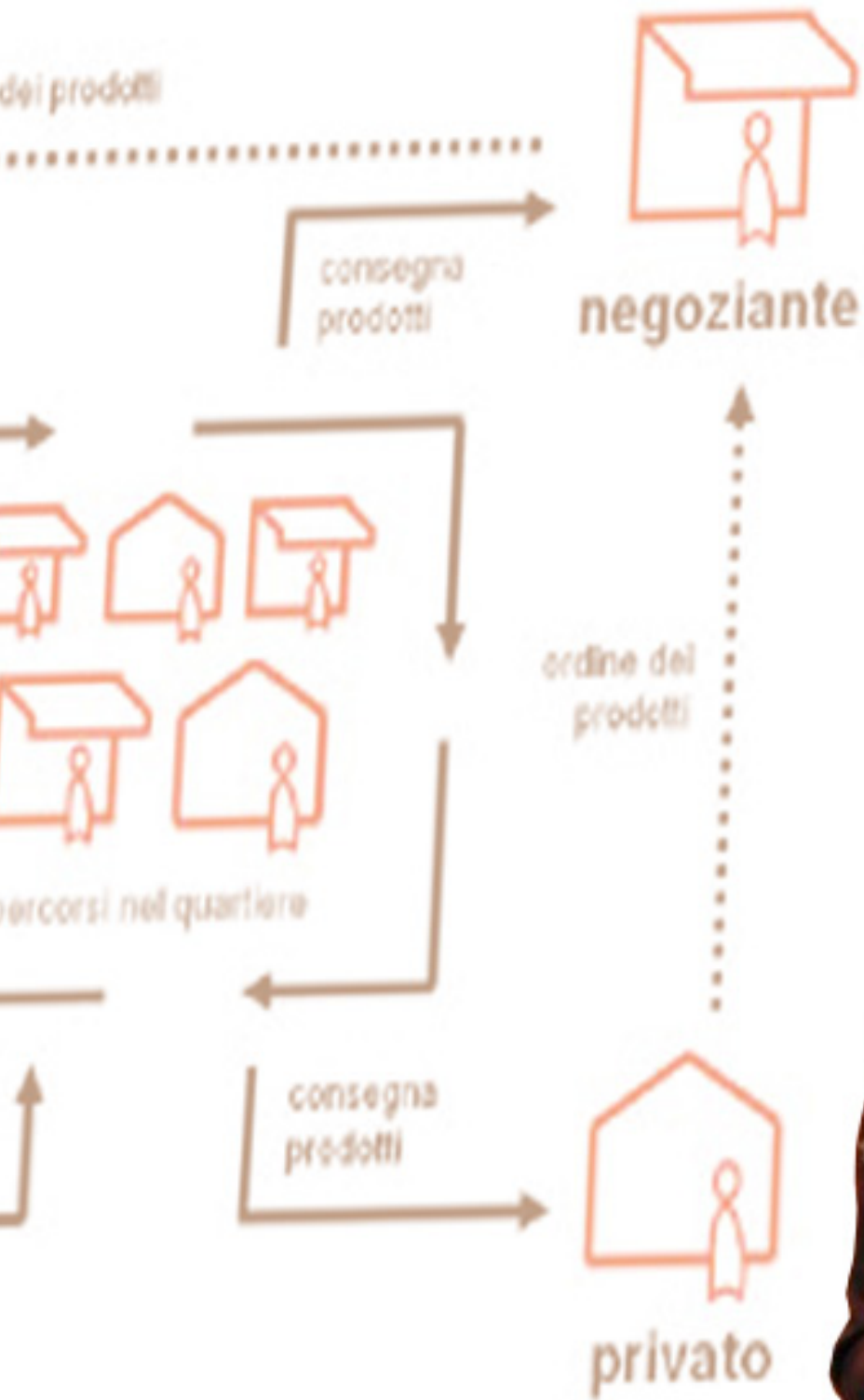
PCM PHASE: IDENTIFICATION
 MSDS PHASE: STRATEGIC ANALYSIS

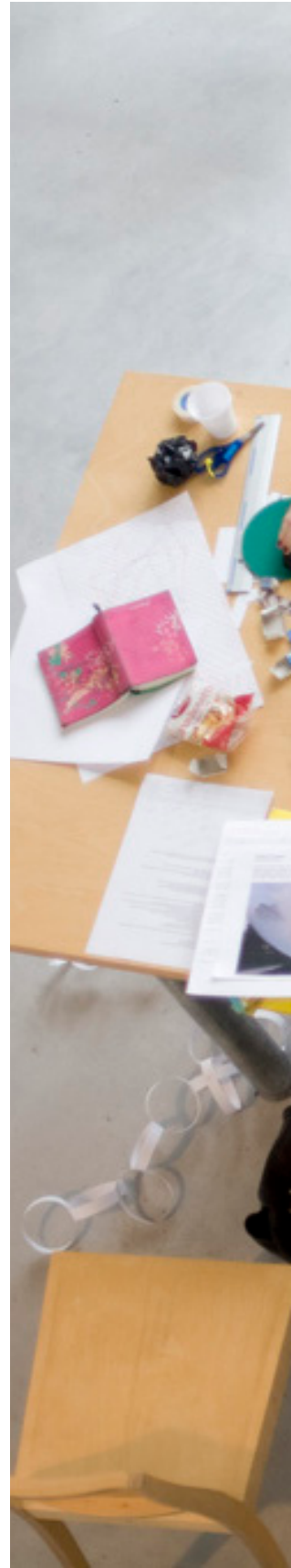
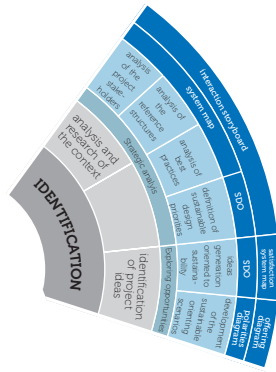
7. Workshop in Milan: sharing of the strategic analysis

The operator of DTB shares the information already presented on the blog in a meeting with designers in Milano.

Nyandiwa project

Public presentation for designers about the Nyandiwa context and the problem/opportunities related to the use of carbon in domestic cooking.





PCM PHASE: IDENTIFICATION
MSDS PHASE: EXPLORING OPPORTUNITIES

8. Workshop in Milan: Generation of possible scenarios

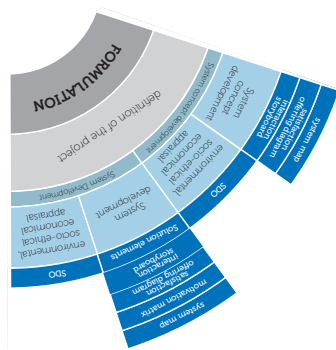
After the presentation of the strategic analysis about the local context the designers work in team in order to identifies scenarios in which implement a systemic innovation related to the issue to face.

Nyandiwa project

The Designers generate a system scenario in which the carbon is substituted by electricity produced by solar energy. The proposition is based on the spread of a system of rented “solar cooking kit”(solar panel + electric cooking devices) among the family houses of the community. The kits are owned by a local new energy provider that have the responsibility to install and maintain their efficiency and which receive a monthly income by the users of the service.

part two | pss definition | pss structure





PCM PHASE: FORMULATION
 MSDS PHASE: SYSTEM CONCEPT / SYSTEM DEVELOPMENT



9. Design session in the local context: workshops

This step is about the design of the systemic solution that will give an alternative to the problematic situation of the context: it is the core of the creative process. The Design Session is based on intense series of creative meetings in which designers (members) will work in team to deliver a design proposal supported by representatives of the local community. The creative session of each project is structured in 4 different typologies of workshops:

1. System Workshop
2. Branch workshop: Product
3. Branch workshop: Media
4. Branch workshop: space

In all the creative sessions are involved representatives of the local



community as well as the stakeholders' representatives in order to have a local point of view on the design decisions. Local design students and professors from the local University join the workshops participating in the creative process.

System Workshop

This kind of workshop provides a wide systemic solution to the issue in term of products, space, media and the relationships between these and the local context. It provides in other words a product service system solution. Here the Product Service System approach and methodology is used as a main reference. The output of a System Workshop is the executive summary that contains all the directions and drives for the following (in terms of time) workshops. Designers who participate are service designers or PSS designers.

Nyandiwa project

Starting from the ownerless-based/solar scenario the multidisciplinary team explores the real possibilities to develop the systemic innovation. The PSS take the shape of a distributed network of "solar cooking kit" able to produce the necessary amount of energy to cook. It also bring an improvement in the everyday life of the community bringing the electricity in the houses of the network. Each family-user pays a monthly fee for the service to the local provider which own the "solar cooking kits". Through the rental system, the service can reach more customers, more quickly. Solar home kits include the hardware needed to generate energy, while also providing the installation service and cooking devices that use the electricity generated by the solar home system. All of the tangible inputs are owned by the local energy provider and only the service provided by these materials are leased to customers.

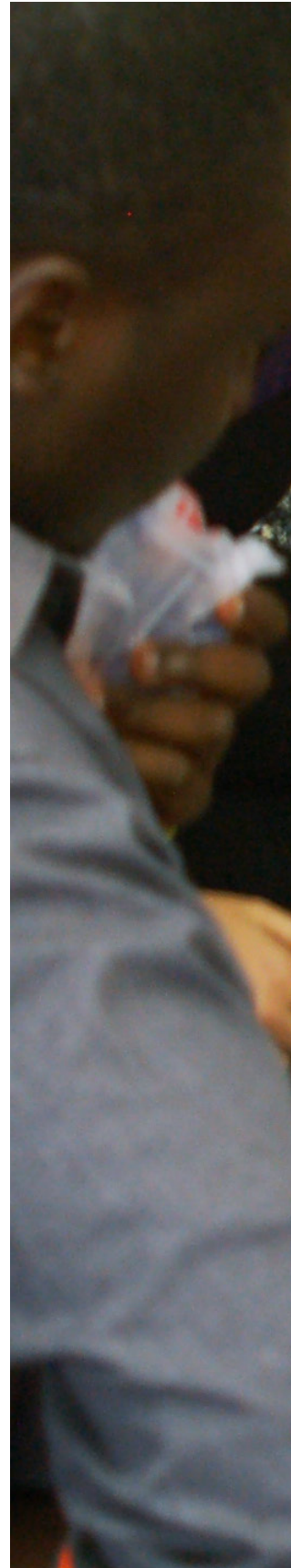
Branch workshops

Product, Media, Space. This three different workshop takes place in the same time and after the System Workshop. Each workshop starts from the direction of the Systemic Executive summary and provides detailed proposition according to product/space/media. In this workshop are involved designers skilled in product, space (landscape, interior, urban designers) and media (graphic, multimedia designers).

Nyandiwa project

The Product Workshop is about the design of the solar cooking kit and the devices starting from the local materials and traditions and from the skills of the local enterprises/artisans.

The Media Workshop is about the design of the communication materials and events to promote the information about the new services among the population.







PCM PHASE: FORMULATION
MSDS PHASE: COMMUNICATION

10 a. Deliver of the project to a local Executor

One of the two intervention policy of DTB is to work as a consultancy. In this case the project designed is delivered to one of the local stakeholders, typically the local charity association that already worked in that context, which will realize the project and will monitor it.

Nyandiwa project

The local ONG which asked for the intervention of DTB implement the project autonomously.





PCM PHASE: FORMULATION
MSDS PHASE: COMMUNICATION

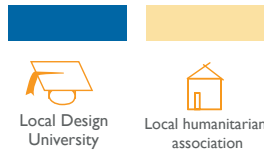
10 b. Implement the project together with the local stakeholders

The second intervention policy is more complex and involves DTB in the practical realization of the project together with the local stakeholders and the members of the local University. The choice of this strategy increases the control on the project results and assures a good implementation of the original project designed by the association. Nevertheless this strategy implies a long period of time in which the association is asked to operate in the local context.

The strategy has to be determined at the first stages of the project in order to organize the resources of the association (people and finance).







PCM PHASE: EVALUATION/AUDIT

11. Monitoring

After the implementation of the project the monitoring and evaluation of the system's efficiency is provided by DTB in collaboration with the local University and the local charity or public institution that has asked for an intervention in the first step of the process.

According with the consistency of the project and with the efficiency, independency and autonomy of the local community to manage the system this phase can vary considerably in terms of time.

Nyandiwa project

The local ONG and the univeristy students monitors the progress of the project and report to DTB.



10. Evolutionary Transition Path

Introduction

The nature and the dimension of innovation of an association like DTB requires a further effort from the design point of view. Actually in the design of a complex systemic innovation is fundamental not only to hypothesize and design the structures and the approaches, but also to identify in a strategic way a transition path to facilitate the birth, the experimentation, the introduction and the diffusion of the innovation. In the case of DTB the systemic innovation is identified by the association itself.

For this purpose this chapter will show the possible evolutionary transition path necessary for the creation of the association. It outlines the key steps of a possible model of transition, describing how to involve the appropriate stakeholders (universities, public institutions, companies, NGO, user, etc.), how to set the basis for the development of a pilot project (to test and learn), how to evolve this niche experiment in a self standing association and how to scaling and diffuse the association outside the Milanese context.

The transition process is based on the model proposed by the Research Unit “Design and system Innovation for Sustainability (DIS)” and in particular by Vezzoli, Ceschin and Kemp.

The main objective of the model proposed by the researcher of Politecnico di Milano is to support, orient and facilitate the development of the conditions for the experimentation, niche introduction and branching of sustainable system innovation concepts. In other words the model aims at fostering a transition process towards the adoption, dissemination and continuous development of the system.

10.1 KEY STAKEHOLDERS: POLITECNICO DI MILANO AND ISF

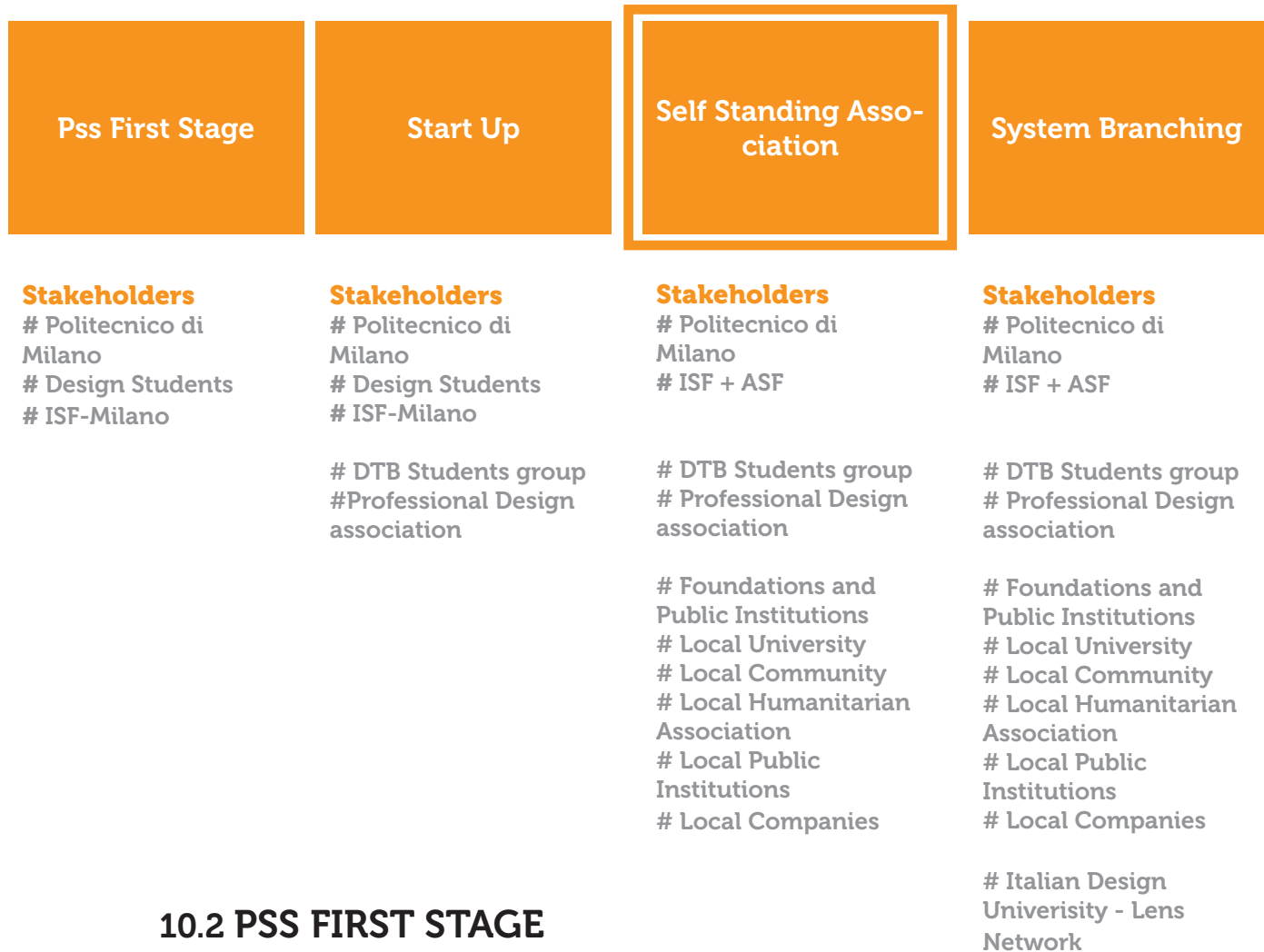
In order to give consistency and validity to the design proposal of the association I decided to link Designers Through Borders to a well defined context: the Milanese area. This decision helped me in the identification of two fundamental stakeholders in structuring the association: Politecnico di Milano and ISF- Ingegneria Senza Frontiere

A key-role in the transition path of Designers Through Borders is played by Politecnico di Milano that acts as a facilitator for the starting out of this process, orienting it towards sustainability, involving different socio-economical actors and favouring a continuous knowledge exchange. Politecnico di Milano plays the role of the promoter of this initiative helping to orient the first system of stakeholder.

Another key-role is played by ISF- Ingegneria Senza Frontiere Milano which is crucial especially in the first phases of the association life. ISF is a non-profit association that already works in emerging contexts and which is born from a group of Politecnico di Milano's students (see the ISF case study at page 81). The collaboration between ISF and DTB in the first phases is aimed to the transfer of knowledge in the management of development projects. The collaboration has also the purpose to establish a first contact between the associations that will strength the future network.

Chart 14.
Stakeholders in the evolutionary transition path

The evolutionary transition path consists in three different stages characterized by specific goals, strategies and stakeholder systems. Each stage is described by a system map.



10.2 PSS FIRST STAGE

The first stage can be considered as a training experience for the founders of the future association of designers. The training consists in the active participation of DTB's founders in a cooperation project for development managed by ISF. This stage is characterized by the major role played by Politecnico di Milano which provides physical space (offices), financial resources and equipments. The University supports also the promotion of the future association providing seminars and events for design students in the Design Faculty.

GOALS

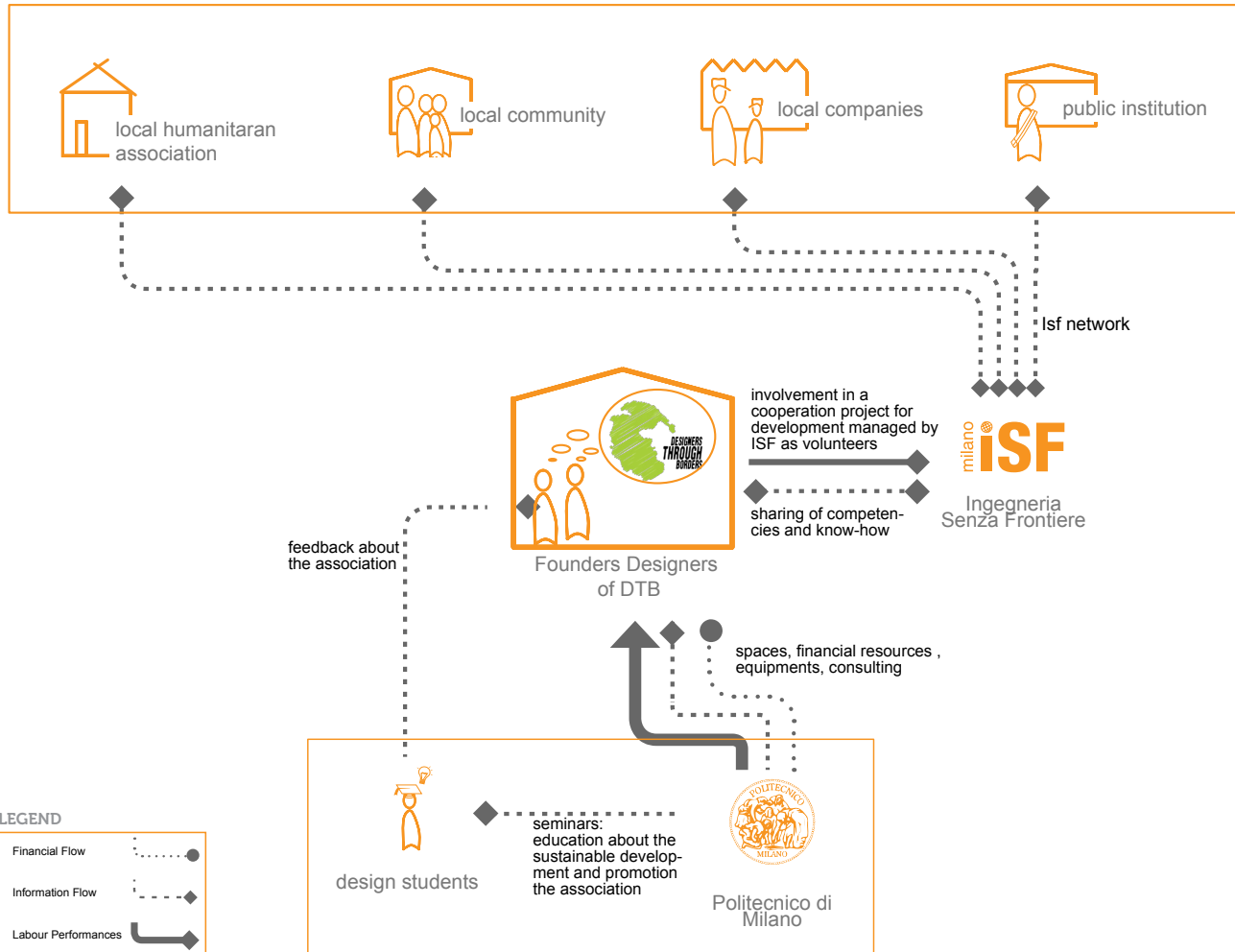
- Education and training about the management of project for emerging countries and in low-income contexts.
- Promotion of the association in the design community and between design students for possible future memberships
- Collaboration with similar well-structured association

STRATEGY

- Participation of the founders in a project managed by ISF as trainee.
- Creation of a series of seminars/events for the promotion of the future association and for the collection of feedback and proposals from students and designers

Chart 15.
System map
of the PSS
first stage

LOCAL CONTEXT *ISF development project's network*



10.3 PSS START UP – PILOT PROJECT

The second stage is characterized by a real design experience and can be considered as the first attempt to test the structure and the potentialities of Designers Through Borders. In this stage the founders and the first members of the association work as consultants in a cooperation project for development managed by ISF. The entire project and the network of stakeholder are managed by ISF that experience the collaboration with designers in the guidance of the project. DTB here is in charge to elaborate a systemic proposal that will be implemented by ISF in the local context.

In this stage the association is still strictly linked to ISF association and to Politecnico di Milano.

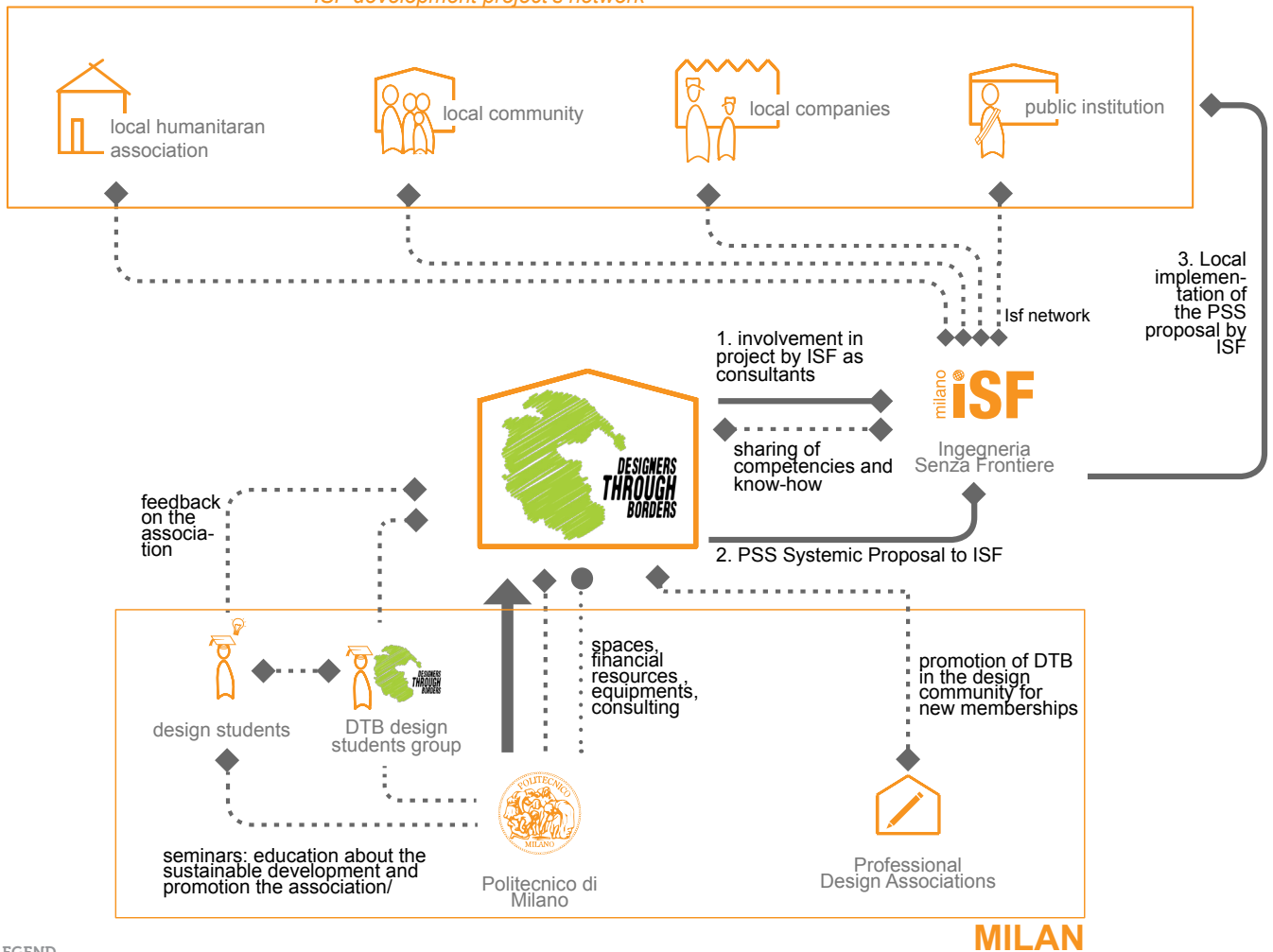
GOALS

- a. Test the structure and the potentialities of Designers Through Border in a cooperation project for the sustainable development of emerging contexts
- b. Support and promotion of the association in the design community and between design students for possible future memberships
- f. Collection of feedbacks for the structuring of the association between design students
- g. Transfer of Know-how and competencies with ISF

STRATEGY

- a. Participation of the founders and the first members in a project managed by ISF as design consultants.
- b. Creation of DTB students group for the support of the association
- c. Collaboration with Professional Design Association for the promotion of the association for and membership recruitment

LOCAL CONTEXT *ISF development project's network*



3. Local implementation of the PSS proposal by ISF

MILAN

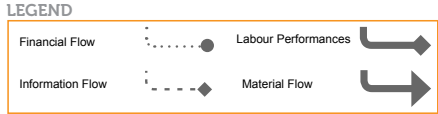


Chart 16. System map of the PSS Start Up

10.4 SELF STANDING ASSOCIATION

The third stage is the creation of an autonomous self-standing association. The steps to achieve this stage are characterized by the research of new stakeholders in the Milanese context which can assure the independence of the association in terms of resources (spaces, money) and competencies. The relationships with Politecnico di Milano and ISF are still crucial but the relevance of this stakeholder decrease as the association reinforce his autonomy.

The goals and the strategy coincide with the final goals and strategy of the association describe in the second part of this book.

10.5 SYSTEM BRANCHING

Assuming that the introduction of the association in the milanese design community has been positive, it could become a model that can be replicated, imitated, adapted, developed and integrated.

In other words Design Through Borders can be scaled-up on a national scale and potentially contribute in setting the basis for a new design approach towards the sustainable development.

The driving force of the association lies in the diversification of skills of designers and in the number of designers to involve in the projects. It therefore makes sense to branch the association in order to increase the number of memberships and to provide more efficient project.

The key factors that can facilitate the branching of the association is once again in the strong relationship with Politecnico di Milano. Through the network of Politecnico's design university (for example the Lens Italia network - Learning Network on Sustainability) the association can help other groups of students and professors in starting new "Designers Through Borders local offices" that can work together in educating current and future designers and working for the development of emerging contexts.

The key-node of the national network of DTB will be the head office of the association in Milan. For the first periods the operative projects will be managed by the Milanese section of the association, rather than the other groups will coordinate themselves for educational purposes(organization of seminars and events for students and designers). Every associated designer of every local offices in Italy can be involved in a cooperation project in relation to the special skills needed for the issue to face.

Either the Head Office and the Local Offices refers to the same objectives, methodologies, approaches and values. The autonomy of each local office grows with the consolidation of the local DTB group.

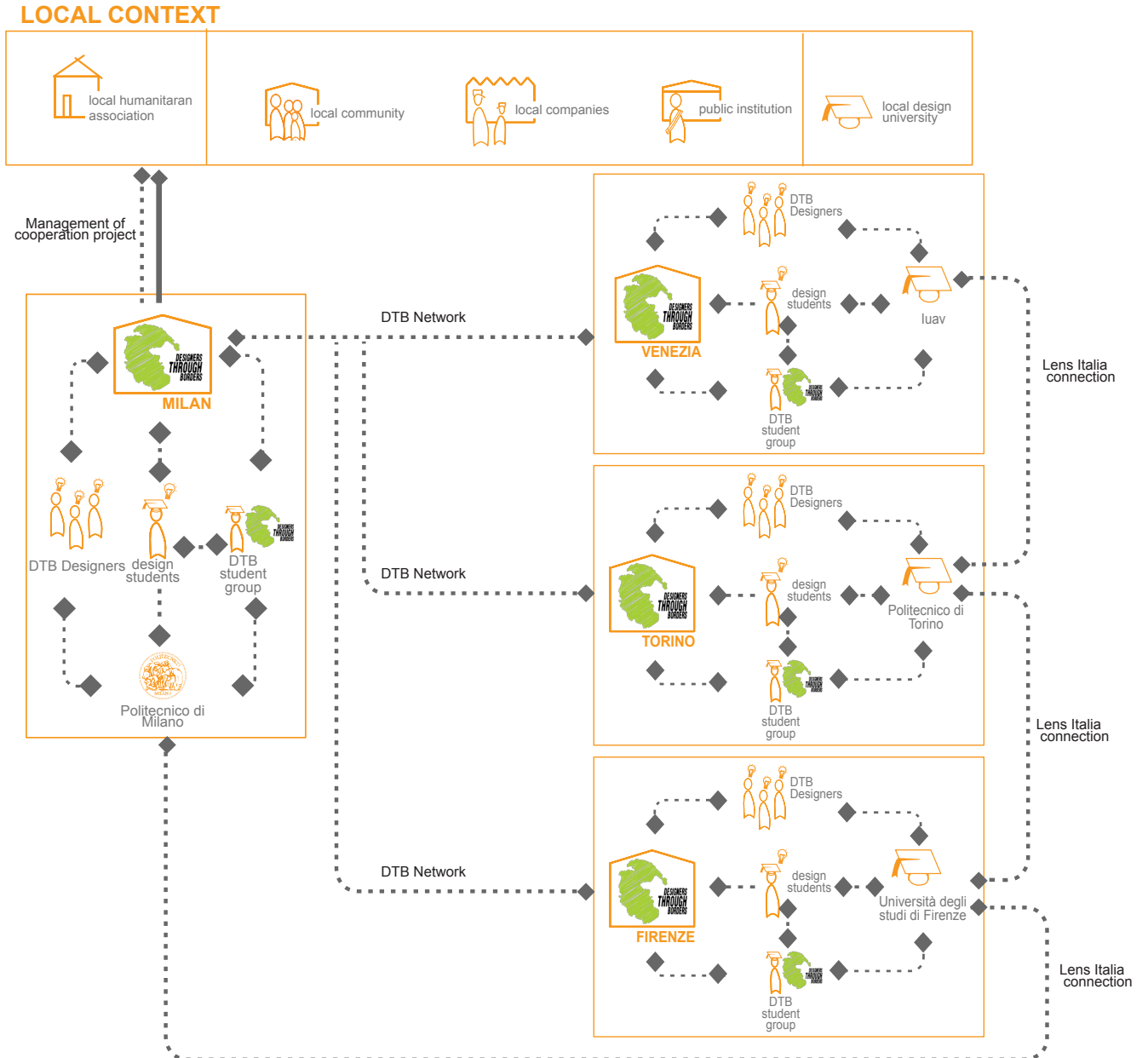
GOALS

- a. Replicate the experience of the milanese association in the creation of new Designers Through Borders groups
- b. Support and promotion of the association in the national design community and between design students for possible future memberships

STRATEGY

- a. Take advantages of the Politecnico Lens-Italia Network to arrange collaborations with Italian Design Universities (in order to create

Chart 17.
System
map of the
PSS: System
Branching



11. Communication elements of Designers Through Borders

This chapter presents the communicative elements which create the brand image of the association.

10.1 LOGO

The logo of the association takes inspiration from the meaning of “Designers Through Borders”. It wants to underline the idea of a united world not split by conceptual boundaries. The logo wants to express the will of the association in working for a more equitable world not divided by logic of richness and poverty, where every individual can have the same opportunity to live a deserving life.

To express this concept the graphic elements of the logo has been designed on the Pangea shape. Pangea was the super-continent that existed during the Paleozoic and Mesozoic eras (about 250 million years ago), before the component continents were separated into their current configuration.

In order to join the concept of Pangea to the Design Profession the shape has been finally turned into a visual that simulate a the filling done by a marker.

Figure 17.
Steps for the
design of the
logo





■ c 40% m 0% y 100% k 0%

■ c 0% m 0% y 0% k 100%

Font **HELVETICA CONDENSED DESTRESSED**

Figure 18.
DTB logo

10.2 ADVERTISING CAMPAIGN (EXAMPLES)

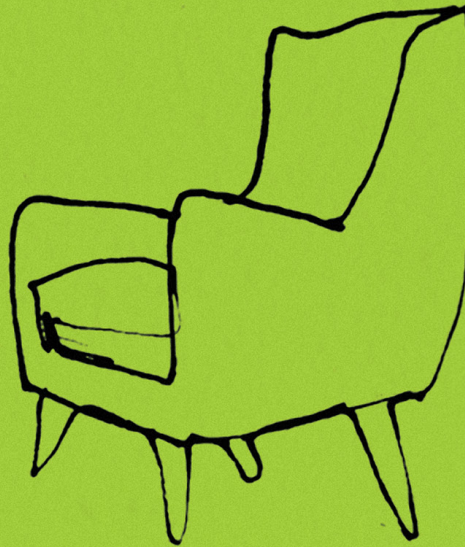
The advertising campaign is addressed to milanese designers and design students. The proposal presented in this two pages should be considered as examples of the visual language of the association.



Figure 19.
Flyer 14x14 cm

Figure 20.
Wall poster
50x70cm

Are you designing your eleventh concept of a chair?



There's something better to do. Join us.

Designers Through Borders is a non-profit design association based in Milan which operates in emerging and low-income contexts to participate in the sustainable development of communities in need.

The concept is simple: address the social, environmental and economical troubles of individuals through a design thinking generated by an accurate mix of creativity, methodology and humanity.

Designers Through Borders is composed by designers who take the chance to offers their ability for a social purpose and students with interest in learning and experience a design initiative disengaged from the consumer culture.

Our projects aim to propose shared systemic improvements thanks to the involvement of local associations, NGO, companies, public institutions and the community itself. The partnership with local design universities give us the opportunity to work with local design students and professors: the intercultural design sessions are priceless educational experiences.

We are recruiting, just think about that.
www.dtb.blog.com



10.3 COMMUNICATIVE MEDIA

Blog

The online blog of the association is the main information driver for members and interested visitors. The online information can be divided in two categories:

1. Static information:

the info about the association's mission and structure, members etc. This information does not change in time and are usually addresses to external visitors to give them an overview of the association.

2. Dynamic information:

the info about the ongoing projects managed by the association in emerging contexts.

These kind of information address mainly the Designers-members involved in the workshops for the definition of the project.

The blog is the main tool to link DTB's researcher in the local context with designers in Milan. It contains all the information collected in the surveys in form of texts, photographs, videos, interviews etc.

The blog is in other words the main source of information to be acquainted with the local environmental, social and economical situation.

The blog can be used also as a live-information media, broadcasting main events in the project cycle, like Participate Meetings or the meeting between DTB and the representatives of local University.

The "dynamic" section of the blog is structured taking inspiration on the model of Adi Nugraha: he proposes a model that helps designers in facing a design project for foreigner communities. Nugraha delineating a list of fundamental concepts able to describe a local community: he divides the components into two main groups as physical category (materials, techniques, gestalt) and immaterial category (images and hidden factors). (see chapter n.1.3.2 in the "part one" of this book).

These information are fundamental for members in order to be aware of the local context before moving there to start working in the design workshops.

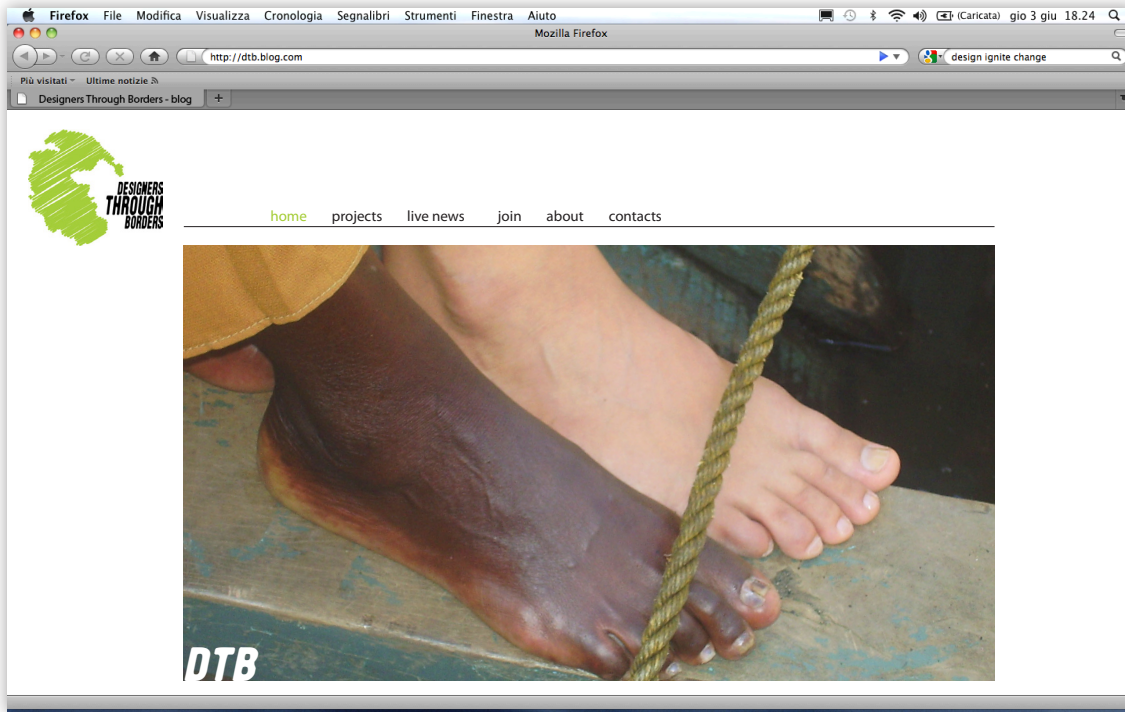


Figure 21.
Blog:
homepage

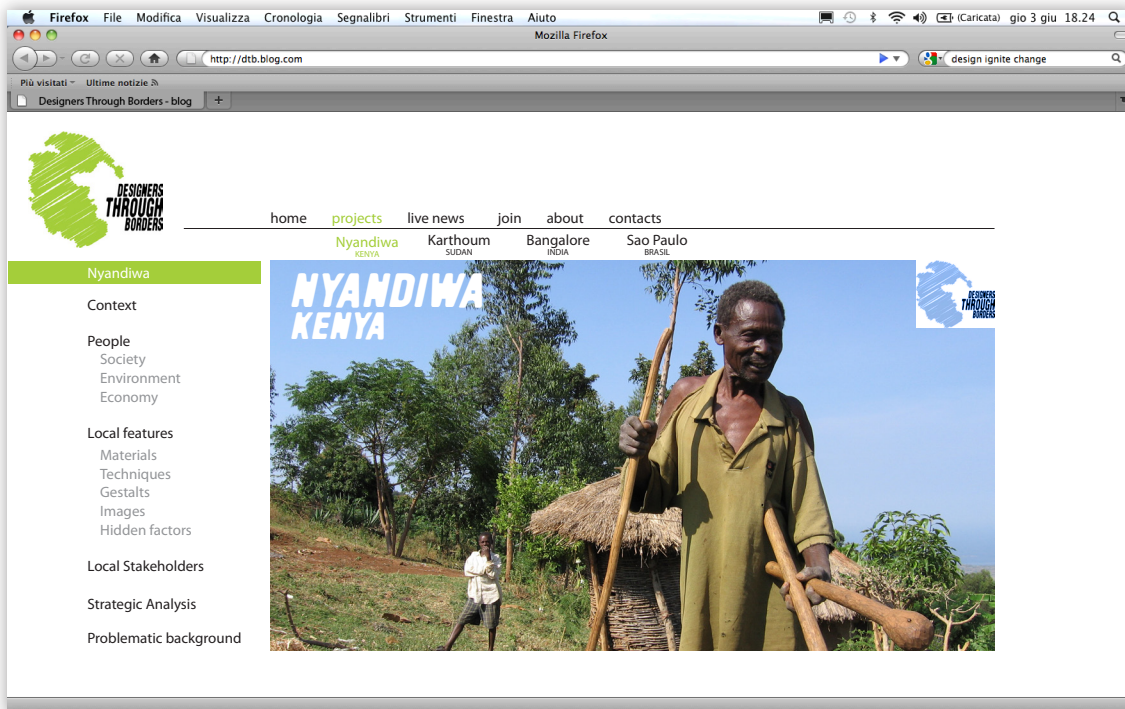


Figure 22.
Blog: page
of a specific
project

Figure 23. Blog: post about the context description

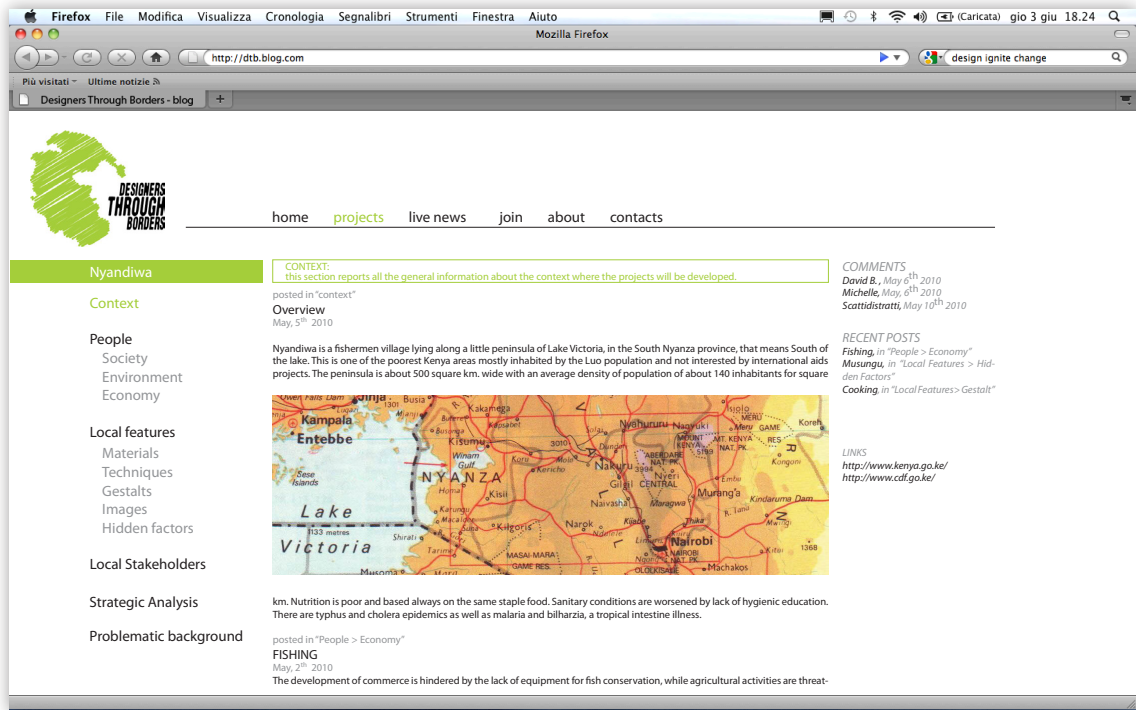
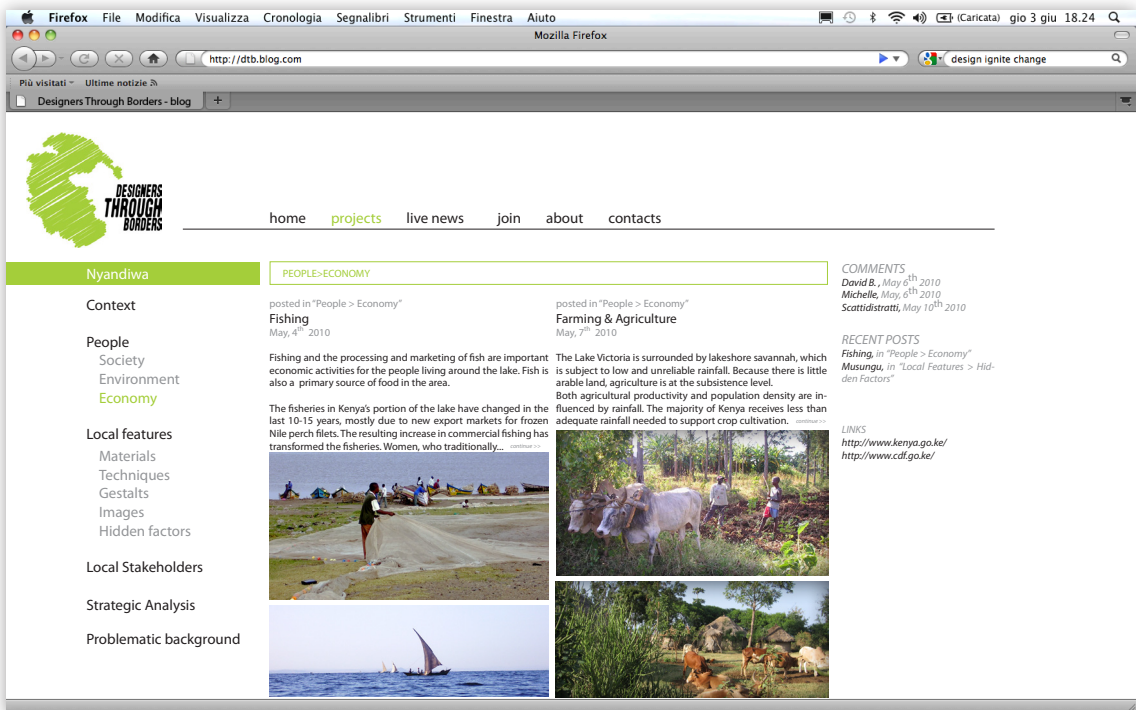


Figure 24. Blog: post about the economy description



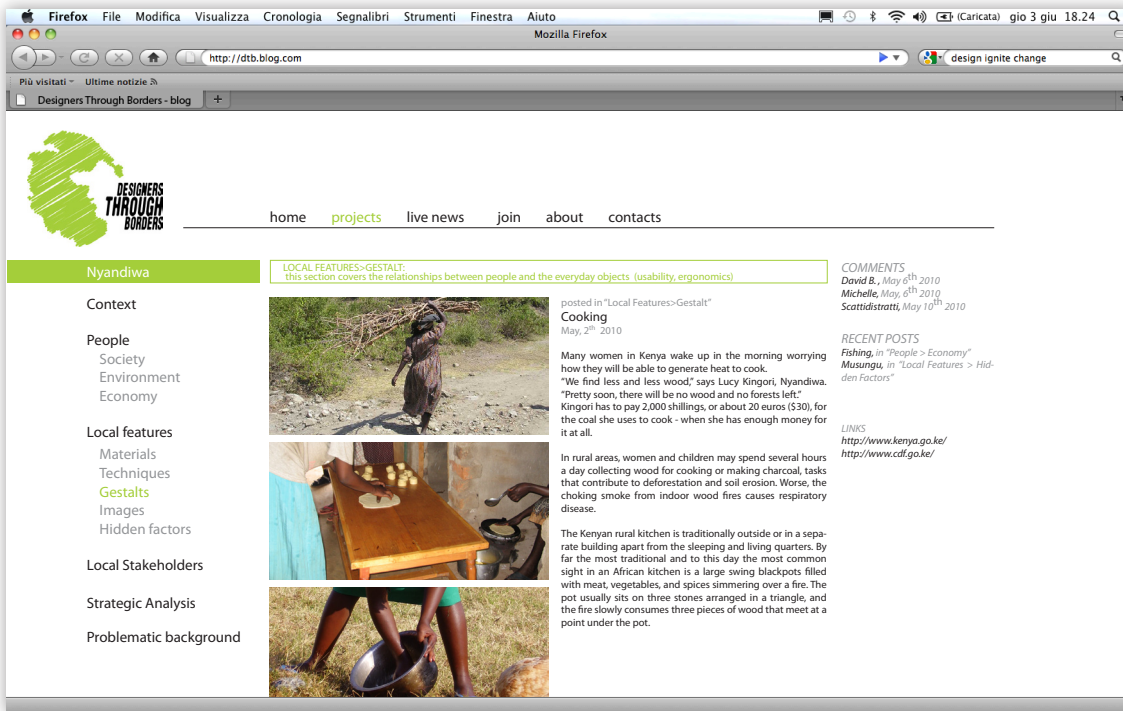


Figure 25. Blog: post about description of local features (cooking)

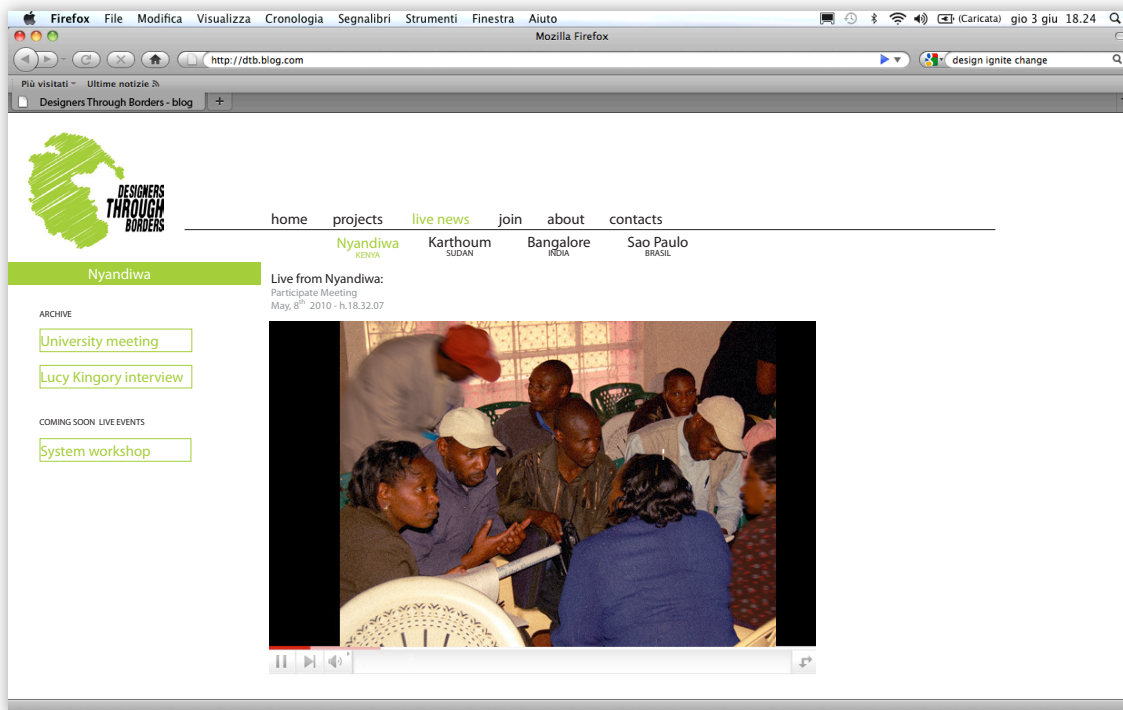


Figure 26. Blog: page with live video contents

Report

Another important drive for information is the Report Booklet. The Report contains all the information published on the blog, and present the same structure of the online version.

Physically the Report is a PDF-Book downloadable from the blog at the end of the IDENTIFICATION Phase of each Project. It is addressed to designers who will participate in the workshops.

It is a comprehensive source of information for the education of designers about the local context of the project.

Figure 27.
Report cover
and index



12. System Evaluation

11.1 SWOT ANALYSIS

Table 7.
SWOT

Strenght	Weakness
<p>Local partnerships and networking</p> <p>Shared goals between DTB and local stakeholders</p> <p>Participation of local representatives in the creative process (no risks of external imposition of ideas)</p> <p>No charge for interventions</p> <p>No wage: involvement of high motivated designers only</p> <hr/> <p>Absence of competitors in the Milanese area</p>	<p>Management of complex group of stakeholders</p> <p>Limited number of contemporary : each project needs a long time engagement</p> <p>Lack of experience in the management of cooperation projects for development: learning by doing</p> <hr/> <p>High-centralized association</p> <p>1.</p>
Opportunities	Threats
<p>Each projects open the networks of DTB for further projects</p> <p>Cultural and technical enrichment of all the involved actors through the process</p> <p>Cultural enrichments between different “design cultures” thanks to the contacts with local design students and professors</p>	<p>Possible project overlap with other solution provided by others (municipality, government...)</p> <hr/> <p>Recognition of the association in the Milanese community</p> <p>Visibility of the association for charities and non-profit associations</p> <p>Involvement of designer-members just in the design process (no active research and no monitoring)</p> <p>Fund raising</p> <p>Few memberships</p>

11.2 MOTIVATION MATRIX

The aim of the motivation matrix is the understanding of the connexions between the different stakeholders of the system.

This is possible thanks to the elicitation of the motivation that each one of them has while participating in the system: each actor expresses what he needs or expects from the service.

The motivation matrix is an interesting means of investigation of the solution assuming the point of view of each stakeholder with his own interests

References:
(2007) Nicola Morelli,(2005) François Jégou, Ezio Manzini, Anna Meroni,

Table 8.
Motivation Matrix

gives the opportunity to	DTB	Local humanitarian association	Local company	Local public institution	Local Design University	Designers (members)	Local Community
DTB	Sustainable development through design	Provide an efficient systemic solution for a problem that concerns the area of intervention	Enlarge or empower the market	Provide an external (free) help in managing a problematic situation	Technical and cultural enrichment	Be involved in a volunteer design action Foster the discourse and the confront about the matters of sustainability by design	An efficient interlocutor that solve social or environmental problem
local humanitarian association	Professional expertise about the local context Help in understanding the local culture	External help in solving efficiently a problem that concerns the area of intervention	Enlarge the local network of business relationships	Consolidate the relationships	Explore new relationships for further collaborations	Confront with professionals about social and environmental matters Help in understanding the local culture	Help in improving living conditions
local company	Business partner for the systemic proposal Help in understanding the local culture	Broader understanding of the local social network New partnership for future local projects	Discover new business opportunities in the local context	Consolidate the relationships	Explore new relationships for further collaborations	Enrichment of technological skill about local processes, materials, services.	Improvement of local economy (products and services produced in loco)
local public institution	Political approval	Consolidate the relationships	Consolidate the relationships	Improve the social and environmental situation	Explore new relationships for further collaborations	Confront with political figures Help in understanding the local culture	Consolidate the relationships.
local Design University	Mediator between the design thinking (international) and the local culture	Explore new relationships for further collaborations	New relationships for further collaboration with students(stages, job-placement)	Explore new relationships for further collaborations	Collaboration in the design of a system project for the local development Technical and culture enrichment Sharing of know-how	Collaboration with local professionals who work or study in the design field Mediator between the design thinking (international) and the local culture	Explore new relationships for further collaborations
designers-members	Multiple different design skills for the design of the system	New perspectives: an external point of view on the local problematic situation	New ideas/business models to enlarge or empower the market	Cultural enrichment	Educational collaboration with professional european designers	Contribute in design projects for sustainable development acting as a professional volunteer	Cultural enrichment
local Communities	Local point of view of the context	Consolidate the relationships	New typologies of customers to enlarge the market opportunities	Consolidate the relationships	Better understanding of a problematic local context.	Cultural enrichment	Improve the local living conditions

11.3 INVOLVEMENT'S PROS AND CONS

Table 9.
Table about
the pros
and cons of
stakeholder
involvement

STAKEHOLDERS	PROs	CONs
Local humanitarian association	External help in solving efficiently a problem that concerns the area of intervention	Increase in the complexity of network and relationships
Local company	Discover new business opportunities in the local context	Intrusiveness in market orientation
Local public institution	Improve the social and environmental situation	Risk of foreigner intrusiveness in the local policies and in the balance of powers.
Local University	Collaboration in the design of a system project for the local development Technical and culture enrichment Sharing of know-how	Expenditure of time for and engagement besides the normal design activities. Cost of the involvement.
Designers (members)	Involvement in a volunteer design action Contribute in design projects for sustainable development acting as a professional volunteer	No wage and travel expenses Expenditure of time
Local community	Improve the local living conditions	Risk of foreigner intrusiveness in the local policies and in the community life in general.
Politecnico di Milano	Collaboration in cooperation project for development. Education for students Research possibilities in the field of cooperation for development thourh design	Investments in money/spaces and equipment in the early phases of the association life
ISF + ASF	Transfer of know-how New partnerships	Enlargement of the network : increase in the complexity of relationships
Professional Design Associations	Collaboration in the creation of an innovative association in the design field.	-
Fondations and Public Institution	Support cooperation projects for development.	-
DTB Student Group	Involvement in an educational experience testing the design skills.	Investments of time

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