

One of the major challenges in development cooperation is the creation of mutual understanding as a basis for a common learning process and the sustainable development of the project. This thesis researches the potential of visualization tools and participatory approaches in the context of West African country Togo, on the model farm of Donomadé. The projoect was executed in two phases: The development of tools, and the testing and learning of their potential during the implementation process. In both phases the cooperation involved different groups of local stakeholders in participatory workshops. The developed tools and workshops are seen as tools that allow the designer to develop and test possible strategies and criteria that promote mutual understanding and exchange. The insights generated through this case study are reflected and summarized in a card set that covers the description of the case, the problems and the social factors, as well as methods to takle the situation. This toolset is seen as a starting point of an extendable instrument to share, collect, visualize and exchange experience and knowledge in the field of intercultural communication projects.

# Milédou\*

An investigation of the interplay of visualization and participatory design approaches for the creation of iterative mutual learning process and accessible places of exchange in the context of development cooperation

<sup>\*</sup>Expression in Ewe Language: We are together.

# Research & Analysis

#### The intention and the problem field

The field of development cooperation involves stakeholder with diverse backgrounds and interest, looking for a solution to a wicked problem, caused by numerous factors, some of which can't be addressed directly. From the history of development cooperation we learn that it is a challenge to document a sustainable solution. A deep understanding of the real problems, the mindset of the stakeholders and their decision criteria are all important factors for suc-

#### The case Model Farm in Donomadé (FeMoDo), Togo

The model farm is located in the rural area of the West African country Togo, where agriculture accounts for the largest share of gross domestic product. The development of rural areas is hardly supported by the state and the profession of small farmers is not appreciated.

The farm project is carried out by three collaborating structures: The Swiss association Happy Togo, which is responsible for the financing and monitoring, the Togolese association Etoile verte, which is taking care of the management and implementation with the team of the Model Farm and the authorities and population of the village Donomadé, who support and contribute to the development

The farm researches location specific agroecological cultivation principles and processing techniques and invites the local population to participate, learn on the farm and integrate the knowledge on their own fields. The diversification of the harvest, the organization of a cooperative, and the establishment of a network of purchaser are measures that are planned to guarantee a more stable income. The Model Farm also provides a platform for research and ecotourism. The challenge of the project is to gain the trust of the population and find strategies and tools to support a shift of populations mentality towards long term, self-responsible, community oriented and ecological thinking in a context where fulfillment of basic supplies is a problem and framework conditions inhibit self-determined, sustainable development.

#### Leverage point and role of Designer

The field of development cooperation with its vaste problem context provides different intervention possiblieties for Designers (Fig.1). The thesis focuses on knowledge transfer and communication, combining participation and visualization tools. The intervention pursues the goal of making complex information accessible for the population, gaining understanding of socially anchored patterns of behaviour, and supporting a sense of belonging and the identity creation through participation.

The research and interaction field of the project is visualized in the four orders of Design (Fig.1, Buchanan, 2001) that categorizates the design along the themes of communication, construction, interaction and integration. Throughout the theoretical research the potential of storytelling, simulation models, serious games and their inherent combination of vizualisation, communication and participaton was lied out. The four key terms motivation, awareness, empowerment/knowledge transfer and organisational structures emereged as key points for the design intervention.

- 1 Visulization of the design research of the project Model Farm in Donomadé in the Four Orders of Design (Buchanan, 2001)
- 2 Methology and Process of the project

### Master Carmen Blättler Design

#### Research process and analysis

The research process is organized along five phases. The immersion phase includes the analysis of the context, the problem field and proposes an approach that is tested on the case Model Farm of Donomadé during the stimulation and exploration phase. The stimulation and exploration phase take place in Togo at the Model Farm of Donomadé. In the evaluation phase insights of the application are analyzed as a basis for the creation of a transferable card set. The work on the case study in Donomadé is developed in collaboration with different stakeholder groups along five interaction areas. The case study provides insights from multiple perspectives that play different roles in the process of creating and testing visualizations and physical tools for knowledge organization and exchange (Fig.2). The interactions and observations are documented in detail within the process documentation booklet, and summarized below.

Farm Team: Observation and exchange with the farm team forms the basis for the understanding of the farms ecosystem. The challenge was how access to organization and planing processes on the farm can strengthen the feeling of responsibility, that they as a team create the image of the farm.

Village Kids: The weekly workshops with the village kids, addresses them as members of a future cooperative, focusing on the discovery and documentation of the farms ecosystem. Their drawings created in the workshops form part of the symbol development process. The challenge is to create a story from the different elements discovered on the farm from the perspective of the kids and make it accessible to the broader public.

Village Population: In the workshops with the village population their perception and knowledge of the environment is researched and integrated into the tools. The challenge lies in understanding how abstract information has to be designed to create an overview, make connections and long term processes accessible to strengthen them as partners of the farm.

Local Craftsman: The collaboration with the local craftsman allows the construction of the tools with local materials and techniques and which gives insight in the organization of working processes. The challenge lies in the creation of a reciprocal understanding of the process and results.

Cultural Context: The exposition to the very different life circumstances on the farm and in the village gives possibility to understand cultural patterns and decision criteria in a life that take place in the here and now.

	1 ST COMMUNICATION Signs / Symbols	2ND CONSTRUCTION Objects	3RD INTERACTIONS Action	4TH INTEGRATION System
Signs / Symbols			Service concept ecotourism	
Objects	Product Design  Interaction/ Commun	Material Research	Spacial Intervention	Spacial Intervention
Actions	Symbols in workshops with population  Story-telling	Objects in collaboration with local craftsman  Simulation models		Planing and organization with farm team  Serious games
Systems	•	•		





**IMMERSION** Context, problem analysis, exploration of strategies and development of a methodological approach



Creation of a common ground through participatory workshops with different stakeholder groups and creation of visualization instruments that explain the ecosystem and stimulate motivation and

Interaction → Tool

awareness

Visualize & test

Learn from locals

and experts

understanding



Identify

Exchange to understand the lack and challenge. Observation of the

life on the farm in order to collect the necessary knowledge about

the ecosystem of the farm to visualize and develop the tools.









**EXPLORATION AND TRANSFER** Reflection of the tool Exploration of the common grounds poapplication and focus tential in participatory workshop applying definition of the next and refining the visualization instruments in terms of knowledge transfer and orga-

Interaction ← Tool



Creation of

team spirit

ment for exchange



1794

Common

research



Fun and

playfulness





**TRANSFERABILITY** 

Transfer of the in-

sights into a expand

able card set as an

exchange instrument

for the intercultural

Interaction ← Too

Division of complex

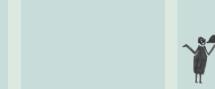
processes into single

steps and visualiza-

tion give access to

theoretical issues.

context



**EVALUATION** 

Reflection of the

learnings of the

application

exchange: The explo-

FARM TEAM

Observation and

VILLAGE KIDS

Addressing the cre-

ativity, observation

and documentation

VILLAGE

of the locals

**LOCAL** 

**CRAFTSMAN** 

Co-creating with local

naterials and tech-

**POPULATION** 

tion and involvement

Organization and access to theoretical information and foster the sense of respon-









of their own poten-

tial to access and

Local material and

craftsmanship inte-

proach of the project.

grates in the ap-

interconnect complex





accessible to a broader public.







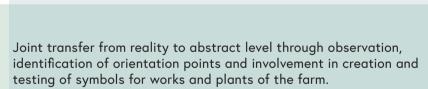


Generate knowledge about the ecosystem of the farm through ob-

servation, playing, drawing and singing and document it to make it



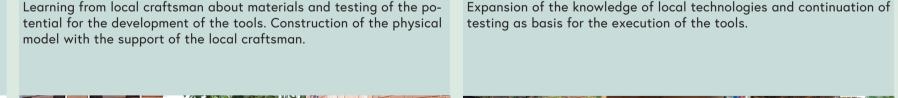












standing of the cultural potential and challenges.



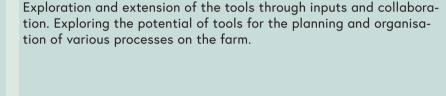






Learning about the system and living together in the village. Under-







Deepen the knowledge about the elements of the farms ecosystem

and generate understanding and stories of the interdependencies.

Learning about the everyday life and the challenges in the villages

and development of understanding how cultivation techniques from

the local farmer's distinguish from the one of the Model Farm. Ex-

change with the village authorities about the potential of the strate-

Creation of a picture book and song about the farm.



single elements and



vation.

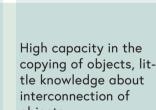


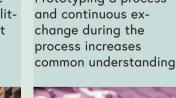








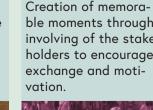














time and guidance.



# Relevance & Impact

#### Results and insights from the case Model Farm in Donomadé

In an iterative process of participatory workshops, the visualizing of their results created different physical tools that describe the components of the farms ecosystem (Fig. 4). The symbolic language developed serves to play the location, time and provides different stakeholders an entry point to abstract concepts.

In a context of low educational level and strong hierarchical orders, the focus of life lies in the here and now. People show very little self-initiative, the expression of one's opinion is not common. Participation requires different organization and criteria. To generate insights, a prototype that provides a basis for discussion is indispensable. For the stimulation of an idea, various options with connections to the real context have to be presented. Processes must be accessible to participants and have to be introduced step by step. Therefore, workshops and visualization tools are seen as instruments to promote a reciprocal learning process and deepening mutual understanding. The tools embed a long term oriented process of the Farm development as components that add the visual and haptic level of information exchange. The addressed topics are deeply rooted in society and the effects will be take time to evolve.

#### Transfer of insights and the expandable card set

The reflection of the insights of behind the work in Togo led to the development of a card set for the intercultural communication. It is seen as a starting point of an expandable catalogue of cards, that can be reviewed and further developed with time. The card set can also be used as an exchange instrument for people in a similar context or for joint exploration and discussion of a problem. The set consists of four categories of cards: The Case Cards, that describe the context, organization and the intention of the project; The Problem Cards, that serve to explore the problem context and set a focus; The Factor Cards, that support further exploration of the levels of impact of the problem; and the Action Cards that describe methodological approaches in the context of communication

Fictive testing with people from a related context show their potential for the exploration and planing of a project, as well as an exchange tool to visualize and discuss problems and strategies within a team. The cards also help check whether the methodological approach take into account the relevant key factors. I have consciously chosen a physical and haptic tool that, on the one hand, promotes interaction of different stakeholders, but on the hand is also easy to use in the explored context.

Through my experience in the context of development cooperation I saw that

#### Outlook

design with its visual, haptic, and participatory levels has a role to play among other disciplines and has opened up an interesting field of activity for designers. In order to complete and test further concepts on the Model Farm of Donomadé, search for financial support will be needed a topic. Therefore the projects stage will be presented at the Peak Foundation, who supported the thesis project, and showed interest in it's further development. Through the research of serious game in the development context, a contact with the Group of Forest Management and Development (ForDev) at ETH Zürich led to an application process for a research grant with the ETH Zürich, the University of Lomé, the team around the Model Farm of Donomadé, and me as a Designer. At a surcharge, this provides the possibility to deepen my experience in multidisciplinary collaboration and contribute to the development of a a table game.

- 3 Diagramm of the iterative working process of symbol development 4 Developed tools in the context of the ecosystem of the Model Farm
- of Donomadé and concepts of transferable tools for a similar context. **5** The transferable card set and description of its components.

## Master Carmen Blättler Design



KIDS ATELIER **ELABORATION ELABORATION** WORKING DAY ATELIER ELABORATION Graphic documentation of the Development of symbol pro-Development of a proposal In time visualization and direct Conversion of the feedback farmtour experience posals based on feedback and for the implementation of the feedback loop with the partici- and correction of the symbols observation general user feedback pants of the workshop

**OBSERVATION** 

with the farm team

**WORK DAY ATELIER** 

Comprehension test of the

children's documentation

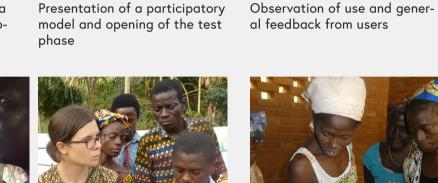
**FARMTOUR** 

farm manager

Inspiration and observation

of the farm together with the

WORK DAY ATELIER Deepening knowledge through Discussion and erosion of a Presentation of a participatory observation and exchange symbol based on the proto-

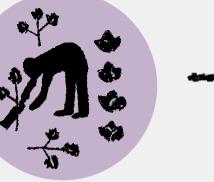




Active description and pantomime of the villagers for scription of the symbols prothe adaptation of the unclear vide insights into the under-



**ABSTRACTION** Categorization as a possibility With regard to transferability, to improve the accessability the examination of abstraction and organization of the symand basic design rules takes



CATEGORIZATION





