



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 project 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 tackle 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

\*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 success.

## 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 vast problem context provides different intervention possibilities 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 categorizes 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 visualization, communication and participation was laid out. The four key terms motivation, awareness, empowerment/ knowledge transfer and organisational structures emerged as key points for the design intervention.

1 Visualization of the design research of the project Model Farm in Donomadé in the Four Orders of Design (Buchanan, 2001)

2 Methodology and Process of the project

## 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.

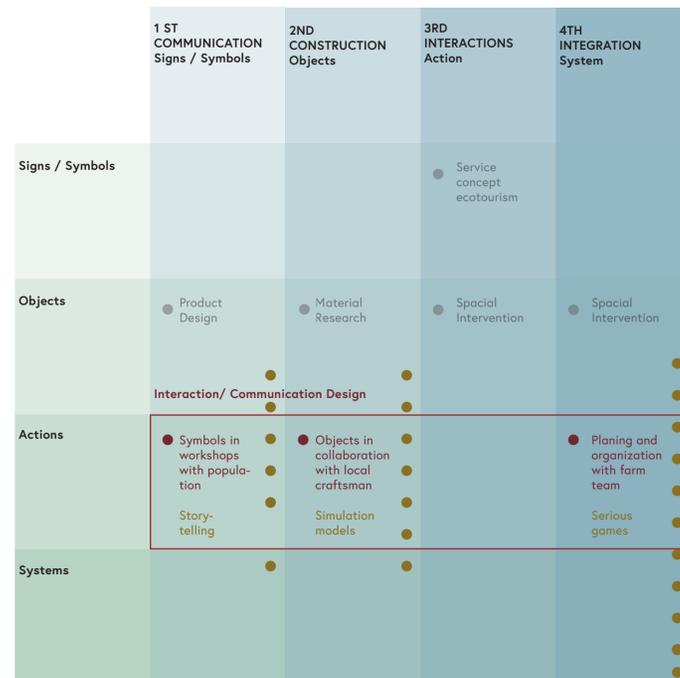
**Farm Team:** Observation and exchange with the farm team forms the basis for the understanding of the farms ecosystem. The challenge was how access to organization and planning processes on the farm can strengthen the feeling of responsibility, that they as a team create the image of the farm.

**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.



- Possible links to the design
- Investigated strategies for the method development
- Focus of the design intervention

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# 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 planning 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.

## Outlook

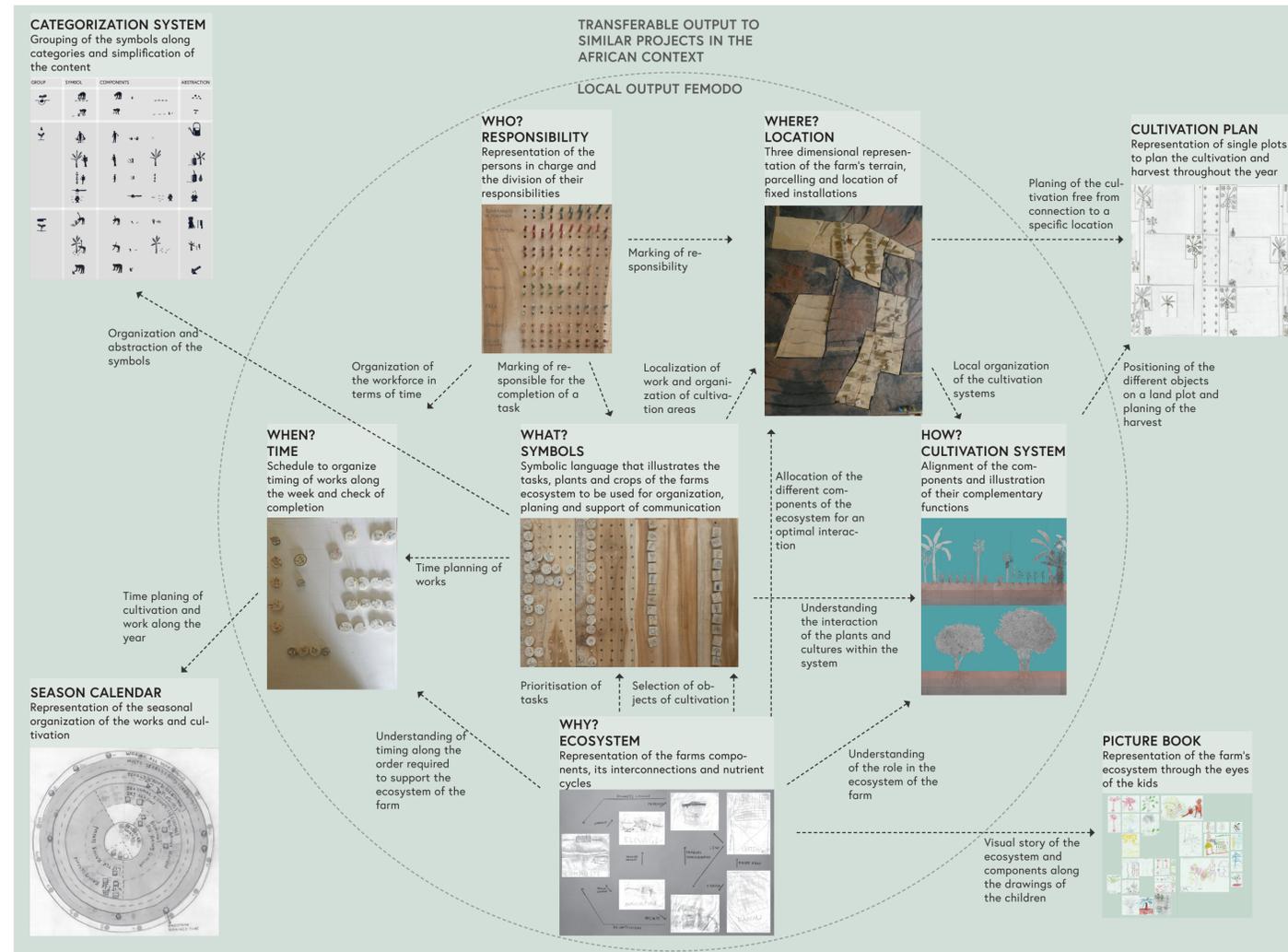
Through my experience in the context of development cooperation I saw that design with its visual, haptic, and participatory levels has a role to play among other disciplines and has opened up an interesting field of activity for designers. In order to complete and test further concepts on the Model 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 table game.

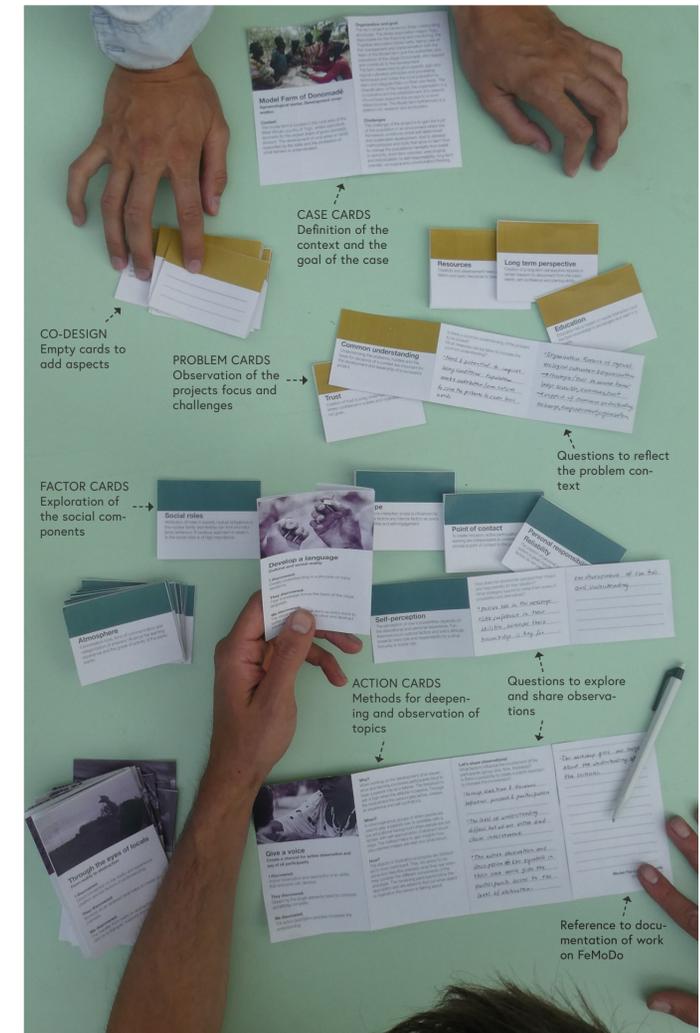
- 3 Diagramm of the iterative working process of symbol development
- 4 Developed tools in the context of the ecosystem of the Model Farm of Donomadé and concepts of transferable tools for a similar context.
- 5 The transferable card set and description of its components.



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