

**Visual teaching material for illiterate farmers to deliver information
about sustainable agricultural practice in an intercultural context:
the case of Madagascar and Burkina Faso**

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1. Introduction

This MSc thesis is an interdisciplinary work between agricultural sciences, humanities and applied artwork. It aims to explain, how scientific research results can be transformed into an agricultural story to be told through a comic series that deliver knowledge about improved management practises to illiterate farmers with intercultural background.

The practical base of this work was a freelancer field work in Madagascar in 2015 that took place within the framework of the SuLaMa project (www.sulama.de). SuLaMa aimed to explore sustainable alternatives to common land-use techniques in the region of south-western Madagascar. The area is characterized by degradation and non-sustainable land use techniques that led to forest fragmentation, soil erosion and sedimentation in river valleys. This affects the livelihood of the local population in the long term and leads to the destruction of a unique ecosystem. Using data that were obtained by Madagascan and German scientists working in the fields of agronomy, animal husbandry, biology, anthropology and socio-economy, three agricultural comics were compiled. The topics of the comics were (1) sustainable harvesting practices of samata (*Euphorbia stenoclada*), (2) sustainable harvesting practice of wild yams (*Dioscorea* species), and (3) the production and proper usage of compost in crop production. After the distribution of the agricultural comics to local farmers, an evaluation was conducted to assess to which degree these comics affected local farmers understanding about yield constraints and their causes as well as to which degree these comics led to changes in farmers management practises. The outcome of this study is summarized in the result and discussion section of this thesis.

The present study also includes some preliminary work that was carried out within the African-German research project UrbanFood^{Plus} (www.urbanfoodplus.org) in March 2017. The goal of this interdisciplinary project is the establishment of a structured research-partnership to increase resource use efficiency in urban and peri-urban agricultural systems with the aim to improve local farmers' income and food security in West African countries. Ouagadougou, the capital of Burkina Faso, is one city in which the UrbanFood^{Plus} is currently working on the implementation of biochar as soil amendment that increases soil fertility of urban agricultural production systems. The project further aims to reduce the risk of biological and chemical contamination of agricultural products caused by the usage of urban water sources for irrigation such as open channels. Hence, my contribution constituted the development of agricultural stories that should help to transfer the knowledge of, firstly, biochar production and proper implementation into the fields by local farmers and, secondly, the reduction of vegetable contamination due to adequate post-harvest handling by local market women. For this, a picture based story similar to a comic had to be developed that

ensures full knowledge transfer to farmers and market women but without using written words or school symbols. The guiding question and with-it the major challenge of my thesis was: "How can we enhance cross-cultural communication to effectively deliver information to illiterate farmers and market women to improve their livelihood?"

1.1 Intention

When I talked about the idea to create an agricultural comic for African farmers to communicate sustainable agricultural practises, a common feedback from colleagues was: "Why we do not just ask local scientists and artists to draw graphics and comics?"

From my experience, a successful communication between scientists and farmers cannot be solely achieved through a joint home country or the same mother tongue. Studies could show that attempts by agencies, NGOs or projects to use visual teaching material for illiterate farmers often failed as the production of this material often seemed to be based on the assumption that non-verbal visual images are an universal language that every sighted person can interpret (Arbuckle, 2004). Surveys about perception of symbols are not new (Payer et al., 1981; Morris and Stilwell, 2003) and Weiss (2013) showed examples for "misunderstandings" through visual communication in a case study in Mongolia, where, for instance, only farmer who visited school recognized a green check as a sign for "correct" and a red cross as a sign for "wrong". Visual communication can be a helpful tool in agricultural consulting, but only under consideration of target audience's information need and a readability assessment by evaluating the local understanding of elements, symbols, shapes and colours (Morris and Stilwell, 2003). The context of postcolonial perspectives and controversy about it, it is my intension to improve cross-cultural communication and to find a cultural sensitive way to communicate with illiterate farmers in the global south. To be part of the solution and not part of the problem is my personal motivation.

This thesis should help scientists to create visual teaching material together with local artists to deliver successfully information about sustainable agriculture to local farmers. This can even increase the impact and outreach of a study and scientific project bearing in mind that costs for such a study, including material creation and printing, are comparatively low.

5. Conclusions

The main goal of the present work was to analyse options for improving cross-cultural communication in the context of sustainable agriculture. I believe that sustainability is the only way for human beings to survive on the planet earth.

The theoretical base and empirical evaluation in this thesis can teach us that the media of an agricultural comic offers a chance to improve communication with poor and low educated farmers in the global south. This should encourage for more intense research efforts in the field of creating visual teaching materials. If a research project aims to communicate information to local farmers, adapted visual teaching material should be considered as a viable option. It is suggested to intensify research on understanding the perception of time periods and also to address issues of the panels' reading direction by means of intensive discussions with local farmers.

It was difficult but interesting to bring the different areas of natural sciences, humanities and functional art under one umbrella. The realization of this study that comprises a creating process of functional art from the perspective of an artist, with a humanistic topic and in relation to objective standards of agricultural sciences, was very challenging but brought me a huge step forward in my personal development.

To say it simply with the words of Ludwig Wittgenstein: **“Don't think - look!”**

6. Recommendations

I had often a personal confrontation with the conflict between “development” and “postcolonial perspectives” and felt always being between the “front lines”. Perhaps a little naive, I would carefully say that both perspectives are justified in themselves. A problem may be the perception of “mental perspectives”. When scientists of agronomy and anthropology are extremely focussed on their work area, it can be very difficult to understand each other.

We find the same situation within the communication between local scientists and illiterate farmers in Africa who are willing but sometimes not able to recognise and understand the issues that are communicated just as the working process in their mind is completely different.

My recommendation for scientists coming from agronomy and anthropology is a change of perspective, e.g. for an agricultural scientist it can be mind-expanding to read literature about postcolonial perspectives. Whereas for the humanities scholar, who cope with postcolonial perspectives, a field study in agricultural production in countries of the global south can be a valuable experience. When both sides start to work together and make an effort in communicating with each other and more importantly empathizing with farmers of the global south, then we will make a big step in the right direction.

For a successful agricultural consultancy, the target persons need to be felt understood, and when creating visual teaching material, it is clear that we have to invest much more than what is currently done to understand the visual habits of the consulted persons. We can conduct this in different ways: one way would be to understand their culture, especially the modern, traditional art, and to conduct surveys with picture-based interviews about perception of pictures and symbols. To avoid misunderstandings, an extensive survey of perceptions from local people is recommended beforehand.

Before field stay an intensive research into local cultures is necessary, in order to study local art, local history, ethnic groups, and even to learn basics of the local language(s). To speak some basics in a local language will help to understand the mind and culture of people, and also helps to find personal acceptance, which is a step forward in avoiding ethnocentrism. All this should be kept in mind when it comes to create visual teaching material, which finds acceptance by local people.