

Abstract of Diploma-Thesis from cand. Landsch.-Ökol. Jenny Schmidt

As mankind is facing challenges of limiting factors in its natural surroundings, like the availability of arable land, knowledge about ecological processes and its interrelations which do determine the limitation and sustainable use of these resources, becomes more and more valuable. But knowledge itself is a resource which can be subject to a limited availability. Power structures as well as social and economic constraints and priorities sometimes hinder existing knowledge to be used sufficiently. To facilitate the use of knowledge about sustainable land-use by local stakeholders, knowledge transfer mechanisms can be utilized. To build a theoretical background, this thesis looks at definitions of knowledge and how scientific knowledge is created and exchanged between different professions. It then exemplifies preconditions and characteristics of successful knowledge transfer looking at small-scale rooibos farmers and scientific knowledge about rooibos pollination.

In this process, the following research questions are answered:

1. How is scientific knowledge about rooibos pollination published?
2. What kind of access do small-scale farmers have to scientific findings?
3. Which mechanisms of knowledge transfer exist?
4. Is there a possibility to advance the transfer of scientific knowledge about rooibos pollination to potential users?

This thesis consists of an introduction, two articles (chapter 2 and 3) and recapitulatory conclusions.

In chapter 2, a description of industrial rooibos tea production is given and the Heiveld Co-operative, a small-scale rooibos farmers' cooperative, is introduced. This is followed by an analysis of what scientific information does exist on the ecology of rooibos which shows that only two sources are easily accessible for small-scale farmers. This literature does only contain very little information on the pollination of rooibos. This is confirmed by the described experience during a workshop where farmers voiced their unawareness of the available findings on rooibos pollination. It is then explained how a brochure about rooibos pollination could facilitate the access of small-scale farmers to the scientific findings. The example shows how knowledge transfer can be incorporated into a small-scale research project so both researchers and local stakeholders can benefit from it.

Chapter 3 follows up on the theoretical background of communication and knowledge transfer. Cultural, social and educational differences need to be considered and trust needs to be established to ensure a successful sharing of knowledge. Efforts need to be taken to learn about the others' set of knowledge and fields of expertise. As scientific language differs from commonly spoken language, information needs to be translated into layperson's terms. Boundary organizations can mediate between scientists and local stakeholders.

The chapter also raises the general question of research purposes and scientific self-concept. Joining in on the discussion about an extension of the pattern-process paradigm within the discipline of landscape ecology, it explains why a pattern-process-people approach may be useful.

The concluding chapter summarizes the findings from chapter 2 and 3. Knowledge transfer needs time and planning but can be very fruitful for both researchers and local stakeholders. To be able to produce legitimate and applicable research findings, the engagement of the scientists with potential users of the scientific findings is inevitable. Knowledge transfer is best incorporated into the research setup from the beginning so needed resources can be easily assigned to it.

The scientific discipline of landscape ecology should extend its pattern-process approach to a pattern-process-people approach to account for a holistic perspective on linked socio-ecological systems. Young researchers need to be confronted with ethical considerations so they can assess their research based on theories developed from the philosophy of science.