



ISOE Policy Brief 09

How to reach people through knowledge transfer

Sustainability and conservation research: addressing Namibian land users

Summary Climate change, land management, and demographic and economic developments are increasing the pressure on natural resources worldwide. This often results in conflicts of use. Integrated management strategies are essential to render the relationship between nature and society more sustainable. This is also (especially) true for the semi-arid regions in southern Africa. Here, the challenges of securing a livelihood are increasing for different reasons such as overexploitation of soils and climate change.

Yet there is still a lack of knowledge on how land use in semi-arid regions can be adapted to the changing conditions. Ideally, research to improve this knowledge is transdisciplinary in nature and incorporates the practical knowledge of stakeholders in the development of applicable solutions. But it is more than that: The knowledge of the stakeholders is also necessary to apply these solutions in practice. Only through appropriate and targeted knowledge transfer and capacity building among all stakeholders involved will this new knowledge be able to reach those areas where it will be effective to achieve change towards sustainability and for the implementation of possible strategies.

By our definition, knowledge transfer in transdisciplinary processes should be guided by premises of mutual learning and be conceived and implemented in multidirectional processes among all stakeholders. It is the task of science to shape the transfer of new knowledge accordingly. For knowledge transfer, six successive process steps are important: 1) clarification of the transfer goals, 2) identification and description of the target group(s), 3) identification of the knowledge needs, 4) target group-specific translation of the knowledge, 5) dissemination of knowledge via appropriate formats and channels, and 6) evaluation of the process and potential impact.

This policy brief arises from an advanced stage in a transdisciplinary research process. It is intended as a scientific basis, especially for projects and organisations in the field of sustainability. It also addresses policy makers and staff in administrations involved in transfer processes. We present a process model and illustrate the individual steps using examples from our research in cooperation with Namibian land users.



Key findings and recommendations

- 1 Knowledge transfer is key to successful transformation processes. Such a transfer should be based on mutual learning between all the stakeholders and should integrate different kinds of knowledge (system/target/transformation knowledge).
- 2 Successful knowledge transfer depends on a precise understanding of the target group and its knowledge needs, motives for action and everyday practices, and on appropriate formats for the reception of knowledge. This is ideally something that should be aspired in a transdisciplinary research process. Hence, it is important to give thought to transfer processes at an early stage of (transdisciplinary) research projects.
- 3 Building networks and collaborating with knowledge brokers is essential to successful knowledge transfer. They form a bridge between science and practice, facilitate access to different socio-cultural and institutional settings of target groups, increase the extent of transfer, and support organisational requirements.
- 4 Knowledge is not everything. It is equally important to promptly identify other barriers to action apart from lack of knowledge.

Background – general challenges for an effective knowledge transfer

For a long time, knowledge transfer in academia was understood as a unidirectional flow of knowledge from academia to practice – regardless of the context of reception. This understanding of transfer was based on the assumption of a ‘knowledge gap’ on the part of the target group, a view that is becoming increasingly outdated, as it tends to be fraught with challenges: a unidirectional transfer from science to stakeholders is less effective, because it fails to incorporate the perspective, knowledge and viewpoints of all those involved.

Transdisciplinary research addresses real-world problems and attempts to integrate all kinds of knowledge and perspectives (Jahn et al. 2012). For this reason it is considered a genuine approach to sustainability research: In joint learning processes between science and society, it links the search for social solutions to problems with scientific knowledge. The prerequisite for sustainable solutions is that social stakeholders are involved in the research process. Their views on problems and their everyday and practical knowledge are then pooled with scientific questions and findings. This knowledge integration ensures that the results of research can be linked to science **and** society.

The integration of local and/or practice knowledge is an integral part of all phases in the transdisciplinary research processes. Therefore, knowledge transfer should generally be understood as a two-way exchange: from research to practice but equally from practice to research. We will show how knowledge transfer can be thought of and implemented as a mutual learning process between science and practice. In this context, the research results are shared and reflected upon together with target groups in a process based on a common understanding of appropriate content and form, taking into account stakeholders’ respective needs, requirements and abilities.

In order to tap long-term transfer potential, researchers should approach both knowledge transfer and the transferability of their research results into other contexts and questions of reciprocity with great sensitivity (cf. Nagy et al. 2020; Roux et al. 2006). We will take up this premise and formulate recommendations to provide concrete, application-oriented support for the knowledge transfer.

As just one result of a transdisciplinary research project on rangeland management in Namibia lasting several years, this policy brief also stands for a deliberately selected

knowledge transfer format. It was preceded by interactive dialogue formats to tease out the local knowledge, motives for action and ways for knowledge formation of land users. In other words, **the researchers learned from them and became aware of their needs**. Knowledge was thus created in exchange. The findings underpin the present text with a specific example from the Namibian project context.

The aim of this policy brief

This policy brief aims to assist researchers and organisations who wish to accomplish an effective knowledge transfer from science into practice and seek an integrating exchange process with the target groups to increase impact.

It is important for us to convey that the scientific findings must be carefully selected, reviewed in terms of language and content, and presented in a form adapted to the initial conditions and (knowledge) needs of the target group. Here, we aim to offer guidelines and recommendations to projects and organisations that are designing a process to disseminate research results, irrespective of whether this is done within a transdisciplinary setting or not. We offer specific examples in addition to the general recommendations that address knowledge transfer activities towards and together with Namibian rural land users.

Rangeland management in Namibia and the challenges for knowledge transfer

Given the increasing number of studies and projects related to climate change, sustainable practices and conservation, it is vital that the important information and insights generated actually reach the people affected: their future way of life depends to a considerable extent on how well they understand their own actions against the background of changing climatic conditions.

However, **sustainable transformation** and change can only be achieved if all stakeholders within a problem context are taken into account and if knowledge from science and practice come into an exchange. This policy brief presents both **general recommendations** on how to approach the implementation of a knowledge transfer format (see table below, left-hand column) and **precise recommendations**

with regard to the present Namibian context (right-hand column). To illustrate the recommendations, we use examples from our research project 'ORYCS – Options for sustainable land use adaptations in savanna systems' (see page 7) that specifically apply to rural land users in Namibia.

Namibia is one of the least populated countries in the world, but one has to note that in 2020 over half of the population was living in the larger towns and cities. The rest of the land is split into private farms, communal land and conservation areas. The majority of these rural areas are savannas and mainly utilised for wildlife and livestock grazing. Despite such a relatively low rural human population, livestock production is undertaken on approximately 70% of Namibia's total land area, and with much of it being highly vulnerable to land degradation. Direct management and use of the savanna is therefore closely tied to this rural population. As land users interact directly with the ecosystem, they are of great importance for knowledge transfer within conservation and sustainability. Bottom-up transformations towards sustainable practices and knowledge transfer strategies therefore need to specifically target these rural land users.

These rural land users form a highly heterogeneous group, making knowledge transfer tasks even more challenging. Every influencing factor such as education and language, socio-economic conditions, lifestyle and access to media must be considered with great sensitivity. The formats of transfer, the language and the means of dissemination need to be adapted to the needs of the specific target groups.

Towards an effective knowledge transfer

Ideally, knowledge transfer activities are already embedded in a transdisciplinary research objective with implemented stakeholder involvement. Generally speaking, the earlier that stakeholders are involved in a particular project, or the sooner an exchange is realised, and the more local and/or practice knowledge has been integrated into the (transdisciplinary) research process, the more successful knowledge transfer activities can be. But what does it look like in practice? We will present a process model to highlight the iterative character of knowledge transfer during or after a research phase and discuss the different elements using examples that relate specifically to rural land users in Namibia. The great heterogeneity and various differences within this group means that this is a very sensitive example of knowledge transfer. As far as possible, we will consider these differences.

Knowledge transfer does not equal science communication

There is often some confusion regarding science communication and knowledge transfer, and whether they mean the same thing (cf., Lux/Schuldt-Baumgart 2022). Although both are about communicating knowledge or research results, the objectives of communication and transfer are different:

Science communication aims to inform about research results on a more general basis via press and public relations work. It often addresses broader target groups. **Knowledge transfer**, on the other hand, aims to increase the potential impact of research results by

using concrete and more targeted methods and formats. It typically addresses very specific target groups. Ultimately, the goal of knowledge transfer is to initiate and facilitate joint learning processes between science and society. The core task is to translate the knowledge generated in science and adapt it for application in different contexts.

It is important to clearly separate these objectives from each other, even though the methods and formats used often overlap in practice.

Process model and recommendations for action

The following recommendations are based on many years of expertise in transdisciplinary research and knowledge transfer. They are intended to contribute to a better understanding of knowledge transfer, to facilitate the design of transfer processes, and to provide suggestions and support for the concrete design of transfer processes.

For a successful transfer process, certain steps should always be implemented. These are described in the Table and the following process model (Fig. 1). Once the first two steps ('determining the intended impact' and 'identifying and understanding the target group') have been completed, the process can also be iterative.

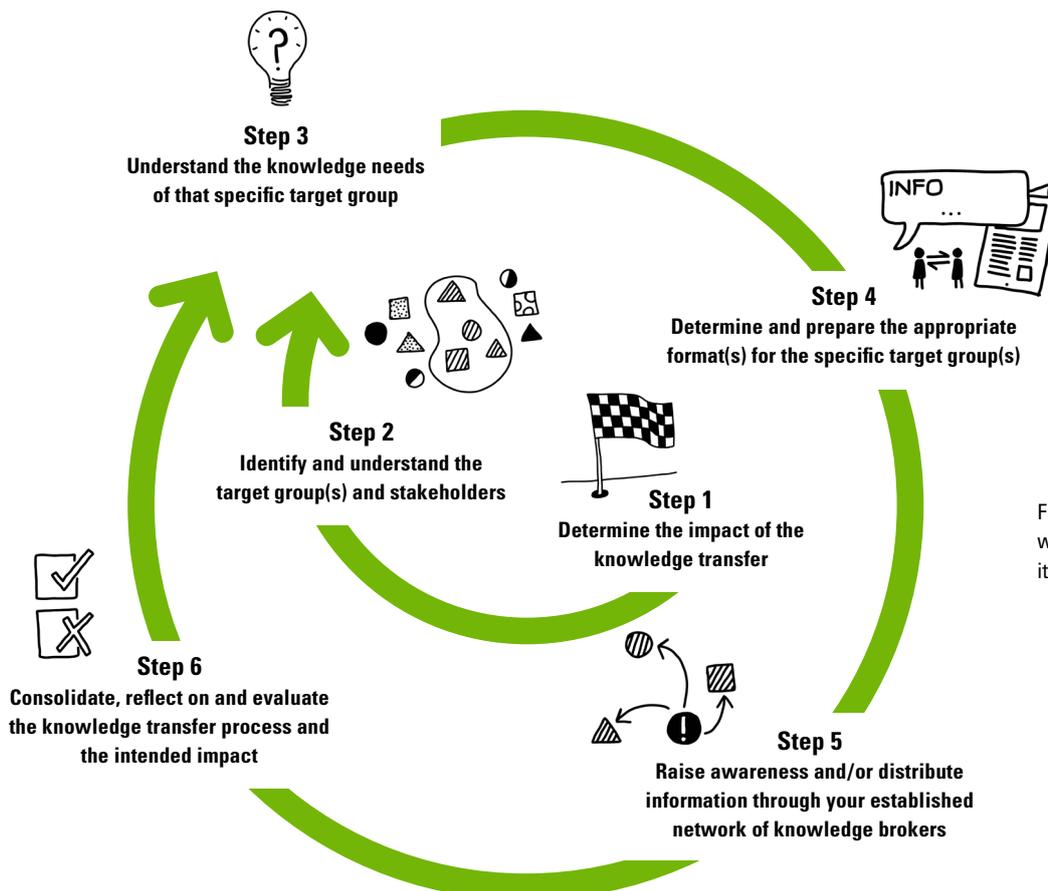


Figure 1: Process model with its individual steps and its iterative character.

General recommendation	Specific example
<p>Step 1: Determine the impact of the knowledge transfer</p>	
<p>The first step is to decide on the purpose and the overall goal of the transfer. All subsequent steps have to be based on that decision.</p>	
<ul style="list-style-type: none"> • What impact do you want to achieve with knowledge transfer? It's important to formulate this impact as precisely and specifically as possible. It also serves as a reality check.* • What kind of knowledge should be transferred? <ul style="list-style-type: none"> – System knowledge (state-of-the-art of scientific results) → media-based formats are particularly useful. – Target knowledge (the ideal conditions for a different, more sustainable future) → both media- and dialogue-based formats are feasible. – Transformation knowledge (the knowledge needed to take action and reach this future) → dialogue-based formats are most suited. • There can also be overlaps in the choice of formats and channels and the transfer of the kind of knowledge in question. 	<ul style="list-style-type: none"> • Here, the goal is to bring the scientific findings of the ORYCS project to people who may have a direct influence on the ecosystem through behavioural change and adaptation.
<p>Step 2: Identify and understand the target group(s) and stakeholders</p>	
<p>Without a precise idea and definition of the target group(s), even the most exciting transfer format, no matter how well it is realised, might not work well because it does not reach the specific target group.</p>	
<ul style="list-style-type: none"> • Who do you want to reach? • Decide on target groups that are specific and not too broad. <ul style="list-style-type: none"> – Have a precise idea of the target groups: definition and requirements. – Check the group's ability to access different formats (i.e., internet, radio, TV, social media, etc.). – Keep in mind language requirements. – Check for possible barriers to reaching the target group, such as a lack of access to media. Do you know their educational backgrounds and literacy? – Which channels of communication are used? – Are there particular windows of opportunity to reach them (e.g. annual meetings, trade fairs)? – What is the best way to address them properly (be aware of cultural customs)? • Establish a wide distribution network (see Step 5). 	<ul style="list-style-type: none"> • Target group: Namibian rural land users • The target group is heterogeneous and consists of two sub-groups: freehold farmers and communal farmers, with different prerequisites in each case. • Freehold farmers: <ul style="list-style-type: none"> – Most have regular access to the internet. – Most speak English, Afrikaans or German. – Most have completed at least secondary school, but many have also undergone higher education. – Many are part of WhatsApp groups, visit regular meetings, read mail newsletters. – Agricultural conventions or fairs are held regularly (e.g. Namibian Rangeland Forum, trade shows). • Communal farmers: <ul style="list-style-type: none"> – Access to the internet may be limited. – Speak a variety of languages (Oshiwambo, Nama/Damara, Otjiherero and several others), may also understand/speak English. – Varying educational level: from no school to higher education – Community meetings are held regularly.
<p>Step 3: Understand the knowledge needs of that specific target group</p>	
<p>Identifying interests and knowledge gaps ensures that the transfer will appeal and be embraced by the targeted audience.</p>	
<ul style="list-style-type: none"> • Ascertain the target groups' knowledge demands and topics of interest regarding the project focus or findings. • If necessary, use interviews or surveys with members of the target groups or other experts familiar with the target group. 	<ul style="list-style-type: none"> • Ask the Namibian Association of Community Based Natural Resource Management (CBNRM) Support Organization (NACSO) and the different farmers unions. • Ask farmers and land users directly through distribution and communication networks, interviews or surveys.

* c.f. <https://www.fasttrackimpact.com/i-want-to-plan-my-impact>

General recommendation	Specific example
<p>Step 4: Determine and prepare the appropriate format(s) for the specific target group(s)</p>	
<p>Successful knowledge transfer is characterised by a target-group-specific ‘translation’ of information. This may have to be specifically adapted for each target group but may also include multiple formats.</p>	
<ul style="list-style-type: none"> • Information should always be ‘tailored’ specifically to the goal (Step 1) and the group’s needs (compare with Steps 2–3). • Keep in mind that different formats are suitable for different goals (Step 1) and different stakeholders (Step 2). • Examples for media-based formats: <ul style="list-style-type: none"> – Readable documents and printouts such as brochures, fact sheets, policy briefs, poster, and info graphics – Social media – Explanatory films, videos, and broadcasts – Board games • Examples for dialogue-based formats: <ul style="list-style-type: none"> – Presentations and talks – Involvement events like trainings and workshops – Collaborative processes such as participation at research and demonstration sites • Note that the formats can also complement each other and used simultaneously or in combination. • Make sure information and scientific findings are easy to understand for the target groups. <ul style="list-style-type: none"> – For recipients with scientific background: scientific expressions might work well. – For recipients with non-scientific background: information needs to be presented in an easy-to-understand language. And the knowledge should tie in with everyday life. • Be aware that the choice of one specific format might not be accessible for everyone. 	<ul style="list-style-type: none"> • It should enable land users to understand and use research-based knowledge. • Use everyday applied language. • Disseminate through farmers unions. • For readable documents:** <ul style="list-style-type: none"> – Brochures or flyers work well. – Fact sheets should include visuals/graphics. – Use easy-to-understand visualisations, infographics and graphics (as not everyone can read). – Make it short and provide only key information (many do not like reading a lot). – NACSO can assist with translations into local languages. • For presentations and talks:** <ul style="list-style-type: none"> – Provide only key points with pointers on where to find more information. – If possible, present in personal contact as this builds a relationship with the knowledge content. – Leave enough scope for questions and discussions. – In the case of online formats, these should not last more than one hour. – In the case of online formats, be aware that they exclude people without a stable internet connection. • For trainings and workshops:** <ul style="list-style-type: none"> – Provide a gathering location. – Keep the groups small. – When using tools, make sure they are easily accessible and manageable for everyone. • When approaching freehold farmers: <ul style="list-style-type: none"> – Send newsletters via email because of the broad reach. – Provide downloads via email. • ... or communal farmers: <ul style="list-style-type: none"> – Printouts are better than downloads. • Note that some groups are deprived of information when online formats are chosen, or their respective language is not provided.
<p>Step 5: Raise awareness and/or distribute information through your established network of knowledge brokers</p>	
<p>Another important factor that should not be neglected is the role of knowledge brokers, i.e. important people or organisations that have a wide outreach and are well connected within a certain community. This means they can provide a good network for distributing information or raising awareness.</p>	
<ul style="list-style-type: none"> • Make sure to have a good overview of the target group’s network (e.g. mailing lists, newsletter, social media groups). • Get in contact with knowledge brokers. • When distributing the information: <ul style="list-style-type: none"> – Printouts: provide knowledge broker with enough copies. – Presentations and involvement events: distribute information and advertise the event/format. – Films and broadcasts: get in touch with the distribution network and provide where to find additional information if possible. • Parallel to the knowledge transfer, plan to approach media outlets such as newspapers, radio and TV stations to inform about your offerings through media coverage. This refers to a broader science communication. 	<ul style="list-style-type: none"> • Central knowledge brokers: Namibian farmers unions (i.e. Namibian Agricultural Union (NAU), Namibian National Farmers Union (NNFU)), NACSO • Additional knowledge brokers: headmen, traditional representatives, other people with a far-reaching (private) network • Raise awareness via radio (as the most used communication tool) and provide a mail-/website address or local phone number for more information. <ul style="list-style-type: none"> – Namibian Broadcasting Corporation (NBC) provides different stations in different languages. • Post announcements on notice boards i.e. conservancy offices and key meeting locations. • Use messenger groups to advertise (i.e. WhatsApp).

** These are examples that were particularly highlighted by representatives of the target group.

General recommendation	Specific example
<p>Step 6: Consolidate, reflect on and evaluate the knowledge transfer process and the intended impact</p>	
<p>The last step is meant to serve as constructive quality assurance for the whole process. At this point, the process needs to be reviewed and if necessary adapted.</p>	
<ul style="list-style-type: none"> • Define criteria by which you can determine whether the intended goals of the knowledge transfer have been achieved. • Provide availability beyond the project period (e.g. web pages, institutionalisation via curricula). • Create download links, reprints, etc. • Provide information on where to learn more. • Monitor the retrieval of documents, participation and requests for contacts. 	<ul style="list-style-type: none"> • Provide an internet address. • Provide downloads on the website. • Provide additional printouts for meeting locations and knowledge brokers. • Maintain an up-to-date contact list and keep in contact if desired. • Monitor the retrieval of documents, participation, and requests for contacts.

The ORYCS Project

The research project “ORYCS – Options for sustainable land use adaptations in savanna systems” aims to assess the suitability of wildlife management strategies in Namibia as options for adapting land use to climate change in savanna ecosystems.

As a Namibian-German collaborative project, ORYCS explicitly pursues an inter- and transdisciplinary research approach: scientists from the fields of wildlife ecology, vegetation dynamics, hydrogeology and social-ecological research cooperate with actors at local, regional and national levels, in particular private farmers, communities, NGOs, and public authorities. The project is coordinated by the University of Potsdam in collaboration with the Namibia University of Science and Technology (NUST). Further project partners besides the ISOE are the Freie Universität Berlin, the University of Namibia (UNAM), and the Ministry of Environment, Forestry and Tourism (MEFT).

In the light of local knowledge, ORYCS uses a broad set of research techniques including field observations and interviews, experimental manipulations, GPS telemetry, remote sensing, modelling and simulation, and social-ecological assessments to analyse interactions and feedbacks between climate, water, vegetation and wildlife for different types of wildlife-based land-use options.

Here, knowledge transfer plays a crucial role to connect researchers with practitioners and to bridge the gap between research findings and application in practice.

www.orycs.org



References

Jahn, Thomas/Matthias Bergmann/Florian Keil (2012): **Transdisciplinarity: Between mainstreaming and marginalization**. Ecological Economics 79, 1–10

Lux, Alexandra/Nicola Schuldt-Baumgart (2022): **Wissenstransfer – Wissenschaftskommunikation – transdisziplinäre Forschung: der Versuch einer Orientierung**. ISOE-Blog „Soziale Ökologie. Krise – Kritik – Gestaltung“ [online]

Nagy, Emilia/Anna Ransiek/Martina Schäfer/Alexandra Lux/Matthias Bergmann/Thomas Jahn/Oskar Marg/Lena Theiler (2020): **Transfer as a reciprocal process: How to foster receptivity to results of transdisciplinary research**. Environmental Science and Policy 104, 148–160

Roux, Dirk J./Kevin H. Rogers/Harry C. Biggs/Peter J. Ashton/Anne Sergeant (2006): **Bridging the science–management divide: Moving from unidirectional knowledge transfer to knowledge interfacing and sharing**. Ecology and Society 11 (1), 4 [online]

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