Vol. 16, No. 7, 2021

scnat
swiss academy of sciences

swiss academies communications

swiss-academies.ch

Transdisciplinary research partnerships with business and civil society in the North-South context

Opportunities and risks for researchers and funding institutions in Switzerland

IMPRESSUM

PUBLISHER AND CONTACT
Swiss Academy of Sciences (SCNAT)
Commission for Research Partnerships with Developing Countries (KFPE)
House of Academies • Laupenstrasse 7 • P.O. Box • 3001 Bern • Switzerland
+41 31 306 39 49 • kfpe@scnat.ch • kfpe.scnat.ch @scnatCH

RECOMMENDED FORM OF CITATION
Alex Gertschen (2021) Transdisciplinary research partnerships with business and civil society in the North-South context. Opportunities and risks for researchers and funding institutions in Switzerland. Swiss Academies Communications 16 (7)

AUTHOR
Alex Gertschen, Center for Global Studies, University of Bern

PROJECT MANAGEMENT
Alex Gertschen, University of Bern • Fabian Käser, SCNAT

LAYOUT
Olivia Zwygart, SCNAT

COVER PHOTO
Rawpixel.com/adobe.stock.com

This publication analyses risks and opportunities of transdisciplinary research partnerships in the North-South context. It is the result of a comprehensive literature review and a stakeholder dialogue and provides practical information and orientation for researchers and funding institutions in Switzerland.

The report is available in electronic form on kfpe.scnat.ch.

ISSN (print) 2297–8275
ISSN (online) 2297–184X

DOI: doi.org/10.5281/zenodo.5761532

With this publication, the Swiss Academy of Sciences contributes to SDG 17.

Transdisciplinary research partnerships with business and civil society in the North-South context

Opportunities and risks for researchers and funding institutions in Switzerland

Alex Gertschen

Content

Executive Summary

This paper analyses opportunities and risks of transdisciplinary research partnerships (TRP) with business and civil society in the North-South context. It addresses two target groups in Switzerland:

– Researchers shall be enabled to identify the key opportunities and risks in their own North-South TRP.

– Funding institutions shall better understand the complexity of North-South TRP so that they can set the right incentives and provide the necessary support to the partners.

– Both researchers and funding institutions shall be enabled to take a well-sustained stance on North-South TRP in public discourse on research and funding policies.

The paper was elaborated on behalf of the Commission for Research Partnerships with Developing Countries (KFPE) of the Swiss Academy of Sciences. It is based on a literature review and a stakeholder dialogue and takes on the shape of a practice-oriented SWOT analysis. Therefore, it pinpoints and connects the strengths and weaknesses of researchers and funding institutions regarding TRP in the North-South context, as well as the opportunities and threats (risks) which emerge for these actors. The four SWOT categories were analysed regarding the three typical goals of TRP – knowledge gains, impact, and capacity building –, and from a procedural perspective considering the different phases of a TRP.

Key conclusions are:

1. **Impactful research.** Researchers can benefit from opportunities regarding all three goals of TRP, but probably the most in terms of impact. It is likely that the practical relevance of research topics is enhanced, and that research results are used more effectively, efficiently, and in the long run.

2. **Knowledge gains.** Researchers face risks particularly regarding the goal of knowledge gains. The research focus may be diluted, and scientific rigour undermined. The complexity of North-South TRP can lead to excessive transaction costs, and the dominance of Swiss actors can hinder the contribution of partners from the South.

3. **Contradictory incentives.** Funding institutions run the risk that researchers do not work towards their goals. Most funding schemes for North-South TRP aim for transformative research. However, many researchers belong to a system that rewards primarily scientific publications. Therefore, they may only pretend to work in a transdisciplinary and transformative manner.

4. **Crucial initial stage.** For researchers and funding institutions alike, most opportunities and risks emerge at the initial stage of a TRP. Specifically, there is the risk that the sustainable use of research results is addressed too late in the process.

Key recommendations are:

1. **Strategic decision.** Researchers should make it a strategic decision if they are determined and able to establish usually highly complex and demanding North-South TRP.

2. **Systematic partner selection.** Researchers should establish clear criteria and a due-diligence process for the partner selection.

3. **Counter complexity with flexibility.** Funding institutions should be sufficiently involved throughout the TRP to create the knowledge and trust which allow for flexibly adjusting logical frameworks, working, and payment plans.

4. **Selection of and incentives for researchers.** Funding institutions should consider researchers' transdisciplinary track record in their selection and incentivise truly transdisciplinary proposals and working modes in order to ensure that researchers do not "fall back" into mono- or interdisciplinary research.

5. **Sustainability.** From the beginning, researchers should develop/co-create strategies of communication, capacity building and institutionalisation to provide stakeholders and potential beneficiaries with the necessary information, skills, and incentives (social, regulatory, economic) for the sustainable application of research results. Funding institutions should make such strategies and their timely implementation mandatory.

1 Introduction

Context

Modern society, with all its achievements and shortcomings, is inextricably linked to science.[1] Consequently, political authorities at both the international and national level put great hope in scientific knowledge for the sustainable transformation of human life on Earth. Countries and areas of the Global South, structurally disadvantaged in the context of globalisation in economic, political, and socio-cultural terms,* are a focus of corresponding initiatives. Examples are the **United Nations 2030 Agenda** and the research programme **Transform** of the Swiss Agency for Development and Cooperation.

The scientific community in Switzerland has responded to this call,[2] but cannot assume the responsibility for 'science for sustainable development'[3] on its own. When it comes to impact- or transformation-oriented research, academic scholars need to cooperate with colleagues from other disciplines (interdisciplinary research) and – beyond that – with actors from other realms of society (transdisciplinary research).[4] Literature on transdisciplinary research partnerships (TRP) highlights that the differences in mindsets, interests, and competences vis-à-vis non-academic actors are a source of both opportunities and risks for academic researchers.[5] Another strand of literature tackles the specific challenges of North-South research partnerships, linked to intercultural communication, manifold asymmetries, mutual trust, and fragile research systems in the South.[6] Finally, there has been scarce research on the crucial role of funding institutions for successful TRP.[7] However, there is no synthesising contribution which provides

a. a systematic overview of risks and opportunities of TRP,
b. along the research process,
c. in the North-South context,
d. from the perspectives of researchers and funding institutions as key players of the scientific community in Switzerland.

Goals and target groups

Against this backdrop, the Commission for Research Partnerships with Developing Countries (KFPE) of the Swiss Academy of Sciences conducted a stakeholder dialogue in 2021. It was informed by the above-mentioned literature and aimed to provide a practice-oriented SWOT analysis of TRP in the North-South context, pinpointing and connecting strengths, weaknesses, opportunities, and threats (risks) from Swiss researchers' and funding institutions' perspectives. The stakeholders represented researchers and funding institutions on the one side, as well as business and civil society on the other. Indeed, the dialogue focused on TRP with companies and civil society organisations (CSOs). Other local actors in the South, such as farmer cooperatives, can also be highly relevant.[8] However, their inclusion in TRP is beyond the scope of this publication.

The SWOT analysis addresses two target groups in Switzerland researchers and funding institutions.

- Researchers shall be enabled to identify the key opportunities and risks in their own North-South TRP.
- Funding institutions shall better understand the complexity of TRP in the North-South context so that they can set the right incentives and provide the necessary support to the partners.
- Both researchers and funding institutions shall be enabled to take a well-sustained stance on the subject in public discourse on research and funding policies.

Conceived as a systematic and comprehensive overview for a broad audience, this analysis includes insights and recommendations that on an individual basis may apply to any TRP or to any partnership in the North-South context. It is the compilation and connection of all these factors that makes this analysis novel and hopefully useful. However, providing a detailed step-for-step guideline for researchers and funding institutions is beyond its scope.

* We are aware of the shortcomings of the term Global South, for instance its conceptual dichotomy, vagueness, and its tendency to overstate differences between North and South and marginalize differences within these areas. However, we still prefer it to other terms and categories such the World Bank's nomenclature of low-, middle- and high-income countries, as it allows to grasp structural disadvantages in manifold dimensions, not just the economic.

Concept and methodology

The structure of this analysis reflects the following considerations and suppositions:

1. Matrix A depicts strengths, weaknesses, opportunities, and risks (threats) at a strategic level. Matrix B focuses on opportunities and risks from a procedural perspective before, during and after the research process. Strengths and weaknesses are features of researchers and funding institutions in the context of North-South TRP. Opportunities and risks refer to aspects of this context.[9] For instance, strengths can be used to benefit from opportunities and minimise risks; or opportunities can be used to turn a weakness into a strength.
2. TRP rarely aim for knowledge gains only. In most cases, they implicitly acknowledge the need of or explicitly aim for a specific impact on society and the building of capacities and competences at the individual or institutional level.[10] In practice, these different categories of goals imply critical trade-offs, for which they are used in matrix A to structure the opportunities and risks.
3. TRP in the North-South context are highly complex, for which they depend on multiple factors.[11] They depend on personal attitudes, social and communication competences, and the institutional setting. This analysis focuses on the two latter aspects. Moreover, it takes into account differences between TRP with profit-oriented companies and not-for-profit CSOs. Further factors such as the academic discipline, the topic of research, the scope and length of collaboration – ranging from a project to a long-standing alliance –, or the local context were considered when defining the sample of stakeholders to include a big variety of partnerships (see appendix). However, for the sake of comprehension, they are not systematically reflected in this analysis.
4. Conceived as a working instrument for researchers and funding institutions, this paper is not free of repetitions. Several opportunities and risks were included in both matrices. Moreover, some opportunities and risks are valid for TRP in general (not specific to the North-South context), and some are valid for partnerships in the North-South context in general (not specific to TRP). These repetitions are provided for the reader to have all relevant aspects included in one matrix and paper, respectively.

The two matrices below were elaborated the following way:

1. The SWOT matrices were conceptualised on the basis of a literature research (April/May)
2. The stakeholders filled in the two SWOT matrices online or in an Excel file (June/July)
3. At a workshop at the University of Bern, the stakeholders discussed the results sampled by the organising team of the dialogue (August 31st)
4. Elaboration of a first synthesis of the matrices based on the research literature, the discussion and three specific collaborations presented at the workshop (September)
5. Feedback by the stakeholders and further development of the matrices (October)
6. Discussion of the matrices at an online meeting with the workshop participants and additional stakeholders (November)
7. Final version of matrices and publication (December)

The matrices, conclusions and recommendations do not represent a unanimous, but a broad consensus.

2 SWOT analysis

Strategic perspective (matrix A)

Opportunities and risks (threats) are written in the infinitive form, implying that they can materialise, but not necessarily. DIN A3 print is recommended.

Strengths regarding TRP in the North-South context	**Weaknesses** regarding TRP in the North-South context
Researchers	Researchers
S1 Academic expertise for and credibility in North-South research S2 Social and communication skills for North-South research S3 Networks for North-South research S4 Social and communication skills for transdisciplinary research S5 Networks for transdisciplinary research	W1 Funding: structural scarcity and need to access ever new sources W2 Competences and networks are often people-bound and precarious due to fluctuation of staff W3 Need for additional competences and incentives to act for impact (excessive focus on publishing) W4 Need for additional incentives to act for impact in the mid and long run (excessive focus on publishing) W5 Researchers follow tenders/calls for proposals instead of defining own long-term agenda.
Funding institutions	Funding institutions
Additional to the above-stated strengths, which also apply to funding institutions: S6 Agenda-setting power S7 Power to set incentives for TRP through money and rules (e.g., calls for proposals) S8 Legitimacy and networks to facilitate the dialogue among partners and/or with stakeholders (authorities and others)	W6 The effective use of the agenda-setting power requires comprehensive knowledge, which is either not available or costly to obtain. W7 The power to set the correct incentives for TRP is limited by the principal-agent problem: agents (TRP actors), who are supposed to act in the principal's (funding institution) interest, typically have – an agenda that does not perfectly align with that of the principal; – more relevant information (about the TRP) than the principal.
Opportunities regarding TRP in the North-South context	**Threats** regarding TRP in the North-South context
General	General
O1 CSOs and companies allow for complementary perspectives and competences because they – follow different logics: companies strive for efficiency and profit, CSOs are mission-driven; – are in touch with different realms of society and thus have different networks and informal or local knowledge; – engage themselves in research and/or employ highly qualified workforce. O2 Companies and CSOs link researchers with relevant local actors and networks. O3 CSOs provide access to social contexts in the South, which are otherwise not accessible or present high risks (e.g., areas of conflict). O4 At the national and international level, there is ample and urgent political interest in impact-oriented research and a concomitant willingness to promote transdisciplinary cooperation.	T1 The challenge of any partnership to establish mutual trust and a common understanding of the objectives and rules of collaboration is even bigger because of – sectorial differences (academia vs. business vs. civil society); – socio-economic and cultural differences. T2 Complexity and transaction costs (e.g., in project and risk management) are exacerbated by – the number of partners; – and/or cultural differences; – and/or geographical distance. T3 In practice, there is usually a trade-off between knowledge gains, impact, and capacity building: – research deals with the «unknown» at the forefront of knowledge and methodologies; – societal impact requires concrete and contextualised knowledge and innovations; – capacity building requires consolidated knowledge and methodologies. T4 Because of the conducive political and funding context, researchers label their work as transdisciplinary, even though they are not willing or competent to live up to the challenges of TRP. T5 Non-academic partners lack incentives to truly engage in TRP because in Switzerland, in contrast to the European Union, research funds are usually exclusively destined to academic researchers.
Knowledge gains	Knowledge gains
O5 Companies and, to a lesser extent, also CSOs provide access to relevant data. In a digitalised society, many data are generated or controlled by companies and therefore – confidential/legally inaccessible; – unaffordable/financially inaccessible. O6 Companies and CSOs foster innovation-driven research through their capacity to transform knowledge into commercial or non-commercial solutions for clients.	T6 Diverging interests dilute the research focus or even undermine scientific rigour, because – companies aim for efficiency and profit; – CSOs have hidden agendas (e.g., serve as vehicles for local power struggles). T7 Diverging interests and the uncertain outcomes of TRP call for logical frameworks, working, and payment plans, which do not allow for the necessary flexibility and time. For instance, they can – overrule the research dynamic, if they cannot be adapted even if new insights suggest otherwise; – set wrong incentives, if the allocation of funds is strictly bound to calendar years or other agendas; – set wrong incentives, if they call for short-term results; – cause high transaction costs due to excessive reporting requirements. T8 The commitment and engagement of Southern partners is undermined because of – the financial dominance of Swiss partners; – the Swiss agenda-setting power. T9 There is resentment with partners of the South because partners in Switzerland – receive higher salaries/greater share of the funding; – do not treat them as equals (e.g., due to lower qualification). T10 If Swiss partners do not take the lead, the TRP is not implemented effectively and efficiently. T11 Enhanced competition in the North for scarce valuable partners in the South makes it hard to find adequate partners or triggers the so-called Matthew effect (i.e., few actors in the South accumulate advantages and position themselves as gatekeepers for/to the North).
Impact	Impact
O7 The practical relevance of research topics is enhanced because companies and CSOs – are familiar with commercial and non-commercial demand (needs) in societies of the South; – have as a mission to be in touch with and serve this demand (needs). O8 Research results are applied more effectively and efficiently, e.g., resulting in local job creation or poverty alleviation, because – companies know how to transform research results into marketable products; – CSOs are in touch with the targeted beneficiaries of research. O9 Because of their need and capacity to serve or even establish markets, companies can enhance the long-term impact of research. O10 As practical and successful examples of rule-based collaboration, TRP are a means to strengthen institutions in the South.	T12 The practical relevance of research is not necessarily enhanced. Companies and CSOs too have bounded perspectives, that is a cognitive, normative, or social bias. E.g., they – have a particular knowledge of, focus on their market (segment) or mission topic; – operate in specific geographical or social contexts; – perceive and approach challenges in a specific way. T13 TRP do not meet the challenge of transformative research if – they are dominated by the Swiss partners and thus ignore the real and often heterogeneous needs in the South; – they tend to take place in safe contexts that promise quick wins and thus avoid the contexts most in need; – they ignore the institutional conditions for a broad and long-term application of research results; – academic researchers are more interested in publications than impact. T14 Funding institutions measure scientific performance by the number of publications, not impact, which plays against applied scientists and undermines impact-oriented research.
Capacity building	Capacity building
O11 By establishing partnerships and generating knowledge, TRP provide the framework and content for comprehensive capacity building. Most impactful solutions require capacities in the academic, public, and private sector. O12 Through mutual learning, TRP generate manifold informal spill-overs among the partners in both Switzerland and the South.	T15 If capacities are shaped/controlled by companies or CSOs, they are predominantly directed by commercial or political interests. T16 Personal knowledge is not translated into institutional capacities, which leads to untapped or lost human resources (brain drain).

Procedural perspective (matrix B)

Opportunities and risks (threats) are written in the infinitive form, implying that they can materialise, but not necessarily. DIN A3 print is recommended.

	Opportunities regarding TRP in the North-South context	**Threats** regarding TRP in the North-South context
Definition of research interest, partner and design	013 CSOs and companies allow for complementary perspectives and competences (see 01 for details). 014 If involved already in the development of the project, companies, CSOs, and their local stakeholders/clients enhance the practical relevance of research topics and the probability of impactful application of research results (see 07 and 08 for details). 015 CSOs and companies foster innovation-driven research through their capacity to transform knowledge into commercial or non-commercial solutions for clients. 016 If the knowledge and selection is available, academic researchers choose the most adequate partners. 017 At the national and international level, there is ample and urgent political interest in impact-oriented research and a concomitant willingness to promote transdisciplinary cooperation.	T17 Diverging interests dilute the research focus or even undermine scientific rigour (see T6 for details). T18 Diverging interests and the uncertain outcomes of TRP call for logical frameworks, working, and payment plans, which do not allow for the necessary flexibility and time (see T7 for details). T19 The practical relevance of research is not necessarily enhanced, as companies and CSOs have bounded perspectives, too (see T12 for details). T20 The practical relevance of research as well as the commitment and engagement of research partners is undermined if they are involved too late. T21 The most adequate partners are not found or not actively looked for (i.e., focus on existing partnerships) because of – a lack of time (e.g., due to submission deadlines for proposals); – competition among Northern partners for scarce partners in the South. T22 Researchers follow tenders/calls for proposals instead of defining own long-term agenda. T23 The challenge of any partnership to establish mutual trust and a common understanding of the objectives and rules of collaboration is even bigger (see T1 for details). T24 In practice, there is usually a trade-off between knowledge gains, impact, and capacity building (see T3 for details).
Implementation	018 CSOs provide access to social contexts in the South which are otherwise not accessible or present high risks (e.g., areas of conflict). 019 Companies and CSOs provide access to relevant data (see 05 for details).	T25 Complexity and transaction costs (e.g., in project and risk management) are exacerbated (see T2 for details). T26 Apart from diverging interests, tight schedules undermine scientific rigour, too. T27 With Southern partners, there is a lack of commitment and engagement as well as resentment (see T8 and T9 for details). T28 If Swiss partners do not take the lead, the TRP is not implemented effectively and efficiently. T29 Because they are accountable with the funding institutions and/or due to power imbalances, the Swiss partners engage in micromanagement, which undermines efficiency and mutual trust.
Publication of results	020 Research results are published in innovative ways because companies and CSOs have different needs of and competences in communication. 021 Results are more likely to reach the people who stand to benefit the most because – academic journals are typically not accessible or interesting for a wide audience; – companies and CSOs are often in touch with the targeted beneficiaries of research.	T30 Companies and CSO impede the publication of undesirable results. T31 Policy-oriented communication prevails over academic publications. T32 Academic partners from the South are excluded from or relegated in the publication process. T33 Complex co-authorships cause delays because of – an excessive number of authors; – lengthy review processes (e.g. if authors belong to organisations with restrictive internal approval processes). T34 Due to the incentives of the academic system, Swiss researchers are not willing to publish in open-access journals as a possible means for more inclusive science.
Application and evaluation of results	022 Research results are applied more effectively and efficiently (see 08 for details). 023 Because of their need and capacity to serve or even establish markets, companies enhance the long-term impact of research. 024 As practical and successful examples of rule-based collaboration, TRP are a means to strengthen institutions in the South.	T35 Research partners from the South are not sufficiently involved or even excluded. T36 The potential users do not understand and/or trust the services/products made available to them, if they are not – sufficiently involved in the development of the services/products – sufficiently trained. T37 If background intellectual property rights, joint intellectual property rights and the sharing of revenues are not agreed on from the beginning, the results are not fully used. T38 Impact and capacity building are not sufficiently evaluated because they become manifest only in the mid and long run.

3 Practical examples

These examples were provided by academic and non-academic research partners involved in the stakeholder dialogue.

Example 1: Facilitate the export of Colombian cocoa

Presenting partner
School of Agricultural, Forest and Food Sciences HAFL, Bern University of Applied Sciences

Topic
Enhancement of local capacities to improve Colombian export opportunities
→ see website

Partners
- Academia: Universidad de los Andes, Bogotá
- Business: chocolate company Casa Luker, Bogotá and Manizales
- CSO: Swisscontact, Bogotá/Zurich
- Funding institution: Trade Promotion, Swiss State Secretariat for Economic Affairs SECO

Duration
2 years (2020–2022)

Country of intervention
Colombia

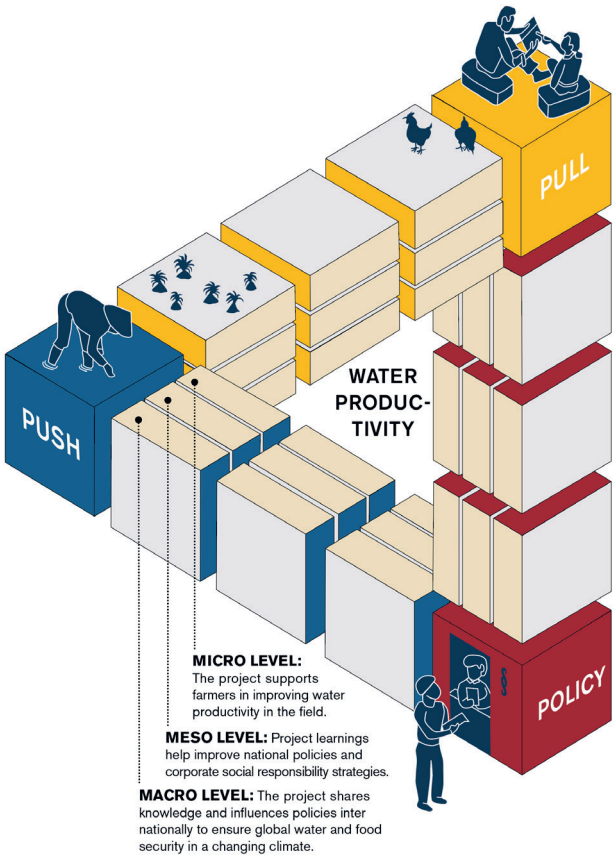
Examples of opportunities turned reality
Cadmium is a heavy metal found in cocoa. The cadmium content in Colombian cocoa is sometimes higher than the threshold accepted in Switzerland and other countries, thus limiting export possibilities. For some time, the Universidad de los Andes has conducted research to extract cadmium from the cocoa beans my means of nanotechnologies. The researchers involved are highly qualified. Consequently, in this TRP, all research and development activities are conducted in Colombia.
HAFL supports the Universidad de los Andes by conducting organoleptic analyses in Switzerland (S1-S2; S4). It helps the academic and commercial partner in Colombia have a better understanding of the Swiss market, e.g., if there are differences in the sensory qualities of cocoa (08-010).
The TRP has been a process of mutual learning among the research partners (012). One of the achievements of the project was identifying a specific nanotechnology which can be used for the extraction of cadmium in cocoa beans. Currently, this technology is being tested in field trials with local farmers (011).

Examples of risks turned reality
Funding for the project is time-bound. Due to the pandemic and social and political unrest, researchers were not able to go to the lab or the field. Therefore, results have not been available as planned and adjustments had to be made. This reflects the risk of not taking the context and the local needs into account when defining the logical framework, working, and payment plans for this type of partnership (T18, T26).

Example 2: Water productivity project WAPRO

Presenting partner
Helvetas Swiss Intercooperation

Topic
Push-pull policy for water saving and water stewardship in the cotton and rice sector. Push = technical assistance in the field; pull = market incentives; policy = facilitated stewardship at the levels of policies, cooperatives, villages
→ see website



© Helvetas

Partners
- International private sector: Mars, Coop, Chocolats Halba, BioRe
- Standards: AWS, BCI, SRP, organic
- Local private sector: Rice Partners Ltd, Galaxy, Prime Agri, Bionexx (and 8 others)
- Local implementers: SAROB, PnP (and 6 others)
- Research partners: Yezin Agricultural University (Myanamar); Albert-Ludwig University Freiburg (Germany) (and 4 others)

Duration
2015–2018 (Phase 1), 2019–2022 (Phase 2), total of 8 years

Countries
India, Kyrgyzstan, Madagascar, Myanmar, Pakistan, Tajikistan

Examples of opportunities turned reality
1. Crowding-in of new partners: in the light of evident benefits for farmers, new local companies opted to become partners in the second project phase (07–08; 014; 017; 022).
2. Creation of local SMEs: small and medium-sized enterprises were established because of identified opportunities for new service products in the field of mapping water resources and infrastructures (08; 023).
3. Change of national policies with regard to water stewardship (04; 010; 024).
4. Integration of lessons learnt into standards (R19).

Examples of risks turned reality
The political coup in Myanmar did neither allow to collaborate with the local irrigation authorities nor permit to engage in the capacity building of local governmental actors. The project thus focussed on the capacity building of farmer groups and service providers (T16; T34).

Example 3: Land Matrix Initiative (LMI)

Presenting partner
Centre for Development and Environment, University of Bern

Topic
Large-scale land acquisitions in the Global South. The aim was to increase transparency and accountability in decisions over land deals in low- and middle-income countries, and thus contribute to more inclusive and equitable governance of international large-scale land acquisitions. Information has been collected on land deals that are larger than 200h and limit or alter access to land for farmers, pastoralists and other marginalised land users.
→ see website

Partners
- German Institute for Global and Area Studies, GIGA (Germany). Independent research organisation.
- Centre de coopération internationale en recherche agronomique pour le développement, CIRAD (France). Governmental research organisation.
- International Land Coalition, ILC (Italy). Global alliance of civil society and intergovernmental organisations.
- University of Pretoria (South Africa). Academic partner (government funded).
- Asian Farmers' Association for Sustainable Rural Development, AFA (Philippines). NGO.
- Fundación para el Desarrollo en Justicia y Paz, Fundapaz (Argentina). NGO.
- Centre for Environmental Initiatives, Ecoaction (Ukraine). NGO.
- Additional partners in selected target countries

Duration
2009 to present

Countries
Global, with focus on Argentina, Senegal, Cameroon, Uganda, Philippines

Examples of opportunities turned reality
- Complementary perspectives (C1) of research and CSO partners provide many synergies and add context and insights (C2) from the field. For instance, our regional and national CSO partners know the particular realities of the field and political context in the countries they work.
- Provision of capacity building (training, PhD programme with 5 candidates from the South) (C10, C11). The LMI mobilized funds to support these PhDs and provides exchange and tuition regarding our topics.
- Engagement with policy level fora at different levels (C7). For instance, the LMI is engaged in exchanges with the Food and Agriculture Organization of the UN, the Association of Southeast Asian Nations ASEAN and the African Union on the monitoring of the Voluntary Guidelines on Responsible Governance of Land Tenure (VGGT).

Examples of risks turned reality
- Not all partners have equal capacities in research or in advocacy. This results in a trade-off regarding selection of partners and assessing performance (F19).
- Research partners have different objectives than development-oriented partners (D3, D6). The risk is managed through the composition of the Steering Committee, which allows to strike a balance between the different requirements for these objectives (F8).
- Southern partners sometimes are not able to participate effectively in research activities, because their best trained staff rotates more frequently. Therefore, they are not included in the final list of authors, which creates disappointment (D10, F16).
- Having an impact in terms of land governance is a long-term process and requires contextual knowledge and long-term engagement (D3), which is difficult to maintain in a global network with limited resources such as the LMI.

Example 4: Remote Sensing-Based Information and Insurance for Crops in Emerging Economies (RIICE)

Presenting partner
sarmap SA, Caslano/TI

Topic
RIICE is a customized service developed for governmental bodies (ministries of agriculture; food security, disaster, and risk management units) and insurance/re-insurance companies in South and South-East Asia. Indirect beneficiaries are rice small-scale farmers. Remote sensing and crop yield modelling are used to monitor and forecast rice production at country level and assess losses due to floods and droughts.
→ see website

Partners
- Funding institutions: Swiss Agency for Development and Cooperation (DEZA), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)
- Academic partner: International Rice Research Institute, IRRI (Philippines)
- Re-insurance partners: Swiss Re, SCOR, Allianz Re
- Implementation partners (operating the service): national ministries of agriculture

Duration
2011–2021; continued market penetration (without SDC funding)

Countries
- Original sample: Bangladesh (abandoned after 1 year), Cambodia, India (state of Tamil Nadu), Indonesia (abandoned after 3 years) Philippines, Thailand (abandoned after 6 years), Vietnam
- Newly included countries (as outcome of RIICE): India (states of Andhra Pradesh, Karnataka, Maharashtra, Odisha, Uttar Pradesh) and Mali (started in 2021); Ivory Coast and Sri Lanka (to be started in 2022)

Examples of opportunities turned reality
Transdisciplinary cooperation allowed to develop the world's arguably most advanced service to monitor and forecast rice production.
- sarmap SA provided technical expertise on remote sensing and service operationalisation, and it contributed to business expertise (business model, market introduction) (01; 05-09; 013-015; 019; 022).
- IRRI provided technical expertise on yield modelling (S1-S5)
- SDC provided part of the funding (e.g., the capacity building as a means of institutionalisation within the ministries), and facilitated the multistakeholder dialogue among the RIICE parties and with the national authorities (S8).
- Swiss Re, SCOR, Allianz Re developed a new crop insurance scheme and, with the support of GIZ, provided insurance literacy to prime insurances and CSOs, which in turn informed and educated smallholders (01; 05-09; 013-015; 019; 022).
- National authorities use rice area-yield information generated by RIICE (e.g., for national statistics, food security, and disaster management) and thus recognise and legitimise its technology (04; 010; 017; 024).
- Prime insurers, CSOs, and the national authorities ensured that smallholders understood and trusted RIICE and the new insurance scheme (04; 011; 017).

Benefits:
- National authorities operate a rice monitoring service to assess droughts and floods affecting cultivated areas.
- The technical and operational know-how is widely distributed within the countries (no dependency from big players).
- Re-insurance companies offer products because reliable data allow to better assess crop losses and lower basis risks.
- Smallholders are insured against economic losses.
- sarmap and IRRI have revenues from licences, which allow to continuously improve and extend the service.
- In newly included countries, collaboration is extended to new partners (e.g., ICRISAT, Syngenta Foundation).

Examples of risks turned reality
- In Bangladesh, Indonesia, and Thailand, the national authorities did not recognise/use the service and its data, for which the institutional requirements were not met (T10).
- The potential beneficiaries did not understand and/or trust the service (risk partly materialised) (T35).

4 Conclusions and recommendations

The overview of academic researchers' strengths and weaknesses demonstrates why they can play the double role of beneficiaries and contributors in TRP in the North-South context. Moreover, it highlights just what comprehensive competences and resources they need to have in order to be attractive for partners from business and civil society. Academic excellence is not enough. Therefore, for researchers and research institutions, TRP are a strategic option which calls for considerable investments.

From a different point of view, the same holds true for funding institutions. They too need comprehensive competences and resources to enable purposeful TRP in the North-South context. Indeed, if they meet these conditions, funding institutions can play a crucial role due to their agenda-setting, monetary and regulatory power, as well as their legitimacy and capacity to facilitate the dialogue among the partners and with stakeholders.

The overview of opportunities and risks leads, among other, to the following conclusions:

- **Researchers** can benefit from opportunities regarding all three goals of TRP, but probably the most in terms of impact. It is likely that the practical relevance of research topics is enhanced, and that research results are used more effectively, efficiently, and in the long run.
- **Researchers** face risks regarding all three goals of TRP, but particularly regarding knowledge gains. Diverging interests can dilute the research focus or even undermine scientific rigour. The complexity and lack of trust can lead to rigid logical frameworks, working, and payment plans that do not allow for the necessary flexibility and time. The dominance of actors from Switzerland can undermine the contribution of partners from the South.
- **Funding institutions** run the risk that researchers do not work towards their goals. Most funding schemes for North-South TRP aim for transformative research. However, many researchers belong to a system that rewards primarily scientific publications. Therefore, they may only pretend to work in a transdisciplinary and transformative manner.
- Like any principal (client), **funding institutions** face the trade-off between providing their agents (contractors, i.e., TRP actors) with the necessary resources and freedom to reach the defined goal and controlling them to ensure that the agents actually work towards the respective goal. The complexity of of TRP in the North-South context enhances this trade-off.
- For **researchers and funding institutions** alike, most opportunities and risks emerge at the initial stage of a TRP. The specific opportunity of such partnerships – transformative research – can only be seized if the partners work on the communication with stakeholders and potential beneficiaries, and on the creation of capacities and institutions for the application of the expected research results from the beginning. Otherwise, there is hardly enough time to implement potentially transformative activities in a sustainable way, i.e., beyond the end of the project/partnership.

Against this backdrop, the following recommendations can be formulated (DIN A3 print is recommended):

	For researchers	For funding institutions
Throughout the research process	R1 Apply best practices of project and intercultural management. R2 Make co-creation with TRP partners, stakeholders, and/or end-users a common approach to reach goals.	R3 Make use of your key role by closely accompanying the TRP throughout the process. – Continuously invest in a dialogue with all TRP actors. – If possible and jointly agreed on, support the TRP with resources other than money (e.g., knowledge, institutional support, networks). R4 Be sufficiently involved in the TRP to create the knowledge and trust which allow for flexibly adjusting logical frameworks, working, and payment plans (see R29).
Definition of research interest, partner and design	R5 Decide for yourself whether you are determined and able to establish a usually complex and demanding TRP in the North-South context. R6 Define the real needs you want to satisfy through transformative research in the South. R7 Define what competences and resources you need from a business or civil society partner, or from another local actor to reach your goal. Local actors are often not easily identified and/or contacted, but highly relevant for TRP in the South. R8 Establish clear criteria and a due-diligence process for the partner selection. E.g., – assess all partners' explicit and implicit accountability relations; – look out for the growing number of mission-driven companies. R9 Make the development of mutual trust and a common understanding of the collaboration the first and foremost task. The 'rules of the game' must not be imposed but agreed on. R10 Define goals, roles, responsibilities, and contributions jointly with your partners and include them in a written document. R11 Define the logical framework and research plan jointly with your partners. If possible, involve potential end-users of research in a transparent and inclusive way.	R12 Do not limit interaction with applicants to the clarification of formal requirements and information about decisions, if it is called for, feasible, and if legal provisions and the level playing field for all are respected. – Given the complexity of TRP in the North-South context, applicants often need additional information. – Interaction with applicants can allow the specification and ultimately improvement of a programme. R13 Incentivise truly transdisciplinary proposals and working modes in order to ensure that during the implementation, researchers do not 'fall back' into mono- or interdisciplinary research. R14 Consider in your selection researchers' track record in terms of impact, capacity building, and TRP experience, not only/primarily their scientific publications. R15 Include the option of extended funding, e.g., if the partners require more time to apply research results. R16 Consider whether non-academic research partners could/should receive funding, too (as it is common in the European Union).
	R17 Dedicate enough time and resources to the planning and initial phase of any TRP, as it is decisive for the overall success. R18 Define the research goals in all three realms – knowledge gain, impact, and capacity building –, name possible trade-offs, and prioritise the goals. R19 Find out what information, skills, and incentives (social, regulatory, economic) the relevant stakeholders and potential beneficiaries need for the long-term application of research results. R20 Develop/co-create/require strategies of communication, capacity building and institutionalisation to satisfy the needs identified according to R19. For instance, strategise that – beneficiaries know how to run a newly developed technology and understand its benefits (information and capacity building); – authorities or other standard setters/enforcers recognise the newly developed technology or service (institutionalisation); – education and training institutions develop the necessary competences for continued local capacity building; – possible commercial providers of the technology/service know how to develop and serve the market. R21 Ensure co-funding. All partners should contribute with money or in kind. R22 Ensure a transparent, relatively even and rule-based allocation of funds between Switzerland and the South. R23 Ensure that background and joint intellectual property rights as well as the sharing of future revenues, or – alternatively – the public character of research results (open access, open data) are agreed upon.	
Implementation	R24 Regularly revisit the logical framework and research plan in the light of new insights. R25 Implement a regular and transparent process of monitoring, mutual evaluation, and mutual learning. R26 Implement the strategy of communication, capacity building, and institutionalisation. R27 Insist on mutual capacity enhancement (including Swiss partners).	R28 Support researchers in developing and applying TRP-relevant knowledge and competences. R29 Promote the regular revision and, if called for, adaption of the logical framework and research plan – including deliverables and deadlines – in the light of new insights.
Publication, application, and evaluation of results		R30 Cover the fees that researchers may have to pay for publishing in open-access journals and that can be prohibitively high.
	R31 Promote different kinds of communication in order to ensure that research results reach an audience beyond academia and/or the North. I.e., results should be – translated into the language(s) of the potential beneficiaries in the South; – published in open-access journals. R32 Bestow a single or a consortium of local partners (from academia, civil society, the public and/or private sector) with the rights and responsibilities of applying research results beyond the TRP.	
Additional recommendations	R33 Diversify financing resources. R34 Plan a sequence of projects within a larger programme and build alliances.	R35 Promote long-term and institutional research partnerships in order to harvest accumulated social capital (trust, networks) and capacities. R36 When following R35, avoid that few actors in the South become exclusive gatekeepers for TRP with Swiss partners (see 'Matthew effect', T11).
	R37 Promote historical and ethnographic research of TRP in the North-South context because there is too little knowledge about their functioning and long-term impact, and thus about best practices and appropriate institutional settings.	

5 Appendix

Guidelines

Mundy J, Tennyson R (2019) **Brokering Better Partnerships Handbook**. London: Partnership Brokers Association (https://partnershipbrokers.org/w/wp-content/uploads/2021/02/Brokering-Better-Partnerships-Handbook.pdf, 8.11.2021).

Stöckli B, Wiesmann U, Lys J- (2018) **A Guide for Transboundary Research Partnerships: 11 Principles, 7 Questions, 3rd edition.** Bern: Swiss Commission for Research Partnerships with Developing Countries (https://kfpe.scnat.ch/en/11_principles_7_questions, 8.11.2021).

Several guidelines and tools for TRP have been elaborated by 'td-net. Network for Transdisciplinary Research' of the Swiss Academies of Arts and Sciences, see www.transdisciplinarity.ch (8.11.2021).

Literature

Breu T et al. (2017) **Switzerland and the Agenda 2030. Discussion paper on the implementation of the Sustainable Development Goals in and by Switzerland.** Zürich: Sustainable Development Solutions Network Switzerland (SDSN) (https://boris.unibe.ch/105781/2/SDSN_DiscussionPaper_Aug2017_EN.pdf, 8.11.2021).

Carbonnier G, Kontine T (2014) **North-South Research Partnerships. Academia Meets Development?** EADI Policy Paper Series, Bonn: European Association of Development Research and Training Institutes (https://repository.graduateinstitute.ch/record/294955, 8.11.2021).

Schweizerische Akademie der Geistes- und Sozialwissenschaften (2018) **Dossier Sustainable Development Goals.** Beitrag der Schweiz, Bulletin SAGW, 2018 (2). Bern: In (https://zenodo.org/record/1222084#.YYj7Jy1XZpQ, 8.11.2021).

Graf J (2019) **Bringing Concepts Together: Interdisciplinarity, Transdisciplinarity and SSH Integration.** In: fteval Journal for Research and Technology Policy Evaluation, July 2019 (48), pp. 33-36 (https://repository.fteval.at/433/1/Journal48_10.22163_fteval.2019.364.pd, 8.11.2021).

Haller T, Claudia Zingerli C (eds.) (2020) **Towards Shared Research: Participatory and Integrative Approaches to Researching African Environments.** Bielefeld: transcript Verlag. (https://www.transcript-verlag.de/978-3-8376-5150-8/towards-shared-research/?c=310000011).

Hirsch Hadorn G et al. (eds.) (2008) **Handbook of Transdisciplinary Research.** New York: Springer.

Li S, Gray E (2019) **What Makes a Partnership Transformational?** In: WRI Insights. New York: World Resources Institute (https://www.wri.org/insights/what-makes-partnership-transformational, 8.11.2021).

Lyall C et al. (2013) **The Role of Funding Agencies in Creating Interdisciplinary Knowledge.** In: Science and Public Policy, 40 (2013), 1, pp. 62-71.

Messerli P et al. (2019) **Global Sustainable Development Report 2019: The Future is Now – Science for Achieving Sustainable Development.** New York, USA: United Nations (https://sustainabledevelopment.un.org/content/documents/24797GSDR_report_2019.pdf, 8.11.2021).

Pohl C, Hirsch Hadorn G (2007) **Principles for Designing Transdisciplinary Research.** Proposed by the Swiss Academies of Arts and Sciences. München: oekom Verlag (https://www.oekom.de/buch/principles-for-designing-transdisciplinary-research-9783865810465, 8.11.2021).

Rausser G, Ameden H, Stevens R (2016) **Structuring Public-Private Research Partnerships for Success.** Empowering University Partners. Cheltenham: Edward Elgar.

Renn J (2020a) **Evolution of Knowledge. Rethinking Science for the Anthropocene.** Princeton: Princeton University Press.

Renn J (2020b) **Überleben im Anthropozän.** In: Max Planck Forschung, 2020 (2), S. 18-23 (https://www.mpg.de/15192732/W001_Zur-Sache_018-023.pdf, 8.11.2021).

Sammut-Bonnici T, Galea D (2014) **SWOT Analysis.** In: Wiley Encyclopedia of Management. Hoboken: John Wiley & Sons (https://www.researchgate.net/profile/Tanya-Sammut-Bonnici/publication/272353031_SWOT_Analysis/links/59f6fdaea-ca272607e2be376/SWOT-Analysis.pdf, 8.11.2021).

Schneider F et al. (2019) **Research funding programmes aiming for societal transformations: Ten key stages.** In: Science and Public Policy, 46 (2019), 3, pp. 463-478 (https://academic.oup.com/spp/article/46/3/463/5305067, 8.11.2021).

Schophaus M, Schön S, Dienel H-L (Hg.) (2004) **Transdisziplinäres Kooperationsmanagement. Neue Wege in der Zusammenarbeit zwischen Wissenschaft und Gesellschaft.** München: ökom Verlag, ch. 2

Wiesmann U et al. (2011) **Combining the concepts of transdisciplinarity and partnership in research for sustainable development.** In: Wiesmann/Hurni (2011), pp. 41-66.

Wiesmann U, Hurni H (eds.) (2011) **Research for Sustainable Development: Foundations, Experiences, and Perspectives.** In: North-South perspectives, Vol. 6. Bern: Swiss National Centre of Competence in Research (NCCR) North-South, University of Bern (https://boris.unibe.ch/6756/1/LOW_fullversion_Perspectives_Vol6_Research_Sustainable_Development%282%29.pdf, 8.11.2021)

References

1 Renn 2020a; Renn 2020b

2 Breu et al. 2017; Dossier Sustainable Development Goals 2018

3 Messerli et al. 2019, ch. III)

4 Graf 2019; Schophaus/Schön/Dienel 2004, ch. 2

5 Hirsch Hadorn et al. 2008; Gordon/Ameden/Stevens 2016; Schophaus/Schön/Dienel 2004; Wiesmann/Hurni 2011

6 helpful guidelines based on this literature are Stöckli/Wiesmann/Lys 2018, and Wiesmann/Stöckli/Lys 2018

7 Lyall et al. 2013; Schneider et al. 2019

8 Haller and Zingerli 2020

9 Sammut-Bonnici 2014

10 Li/Gray 2019; Wiesmann et al. 2011, 57-58

11 Mundy/Tennyson 2019; Schophaus/Schön/Dienel 2004, 25-29

Stakeholders

1. Brugger, Fritz: Executive Director, NADEL, Swiss Federal Institute of Technology ETH Zürich
2. Egler, Hans-Peter: Director of Public Affairs, South Pole AG
3. Fromm, Ingrid: Research Associate, School of Agricultural, Forest and Food Sciences HAFL, Bern University of Applied Sciences
4. Giger, Markus: Professor, Centre for Development and Environment, University of Bern
5. Haller, Tobias: Professor, Institute of Social Anthropology, University of Bern
6. Holecz, Francesco: CEO, sarmap SA
7. Jütersonke, Oliver: Head of Research, Centre on Conflict, Development, and Peacebuilding, Graduate Institute of International and Development
8. Keiser, Jennifer: Associate Professor, Swiss Tropical and Public Health Institute SwissTPH
9. Kraemer, Klaus: Managing Director, Sight and Life Foundation
10. Peretti-Willemetz, Marine: Programme Manager, Swiss State Secretariat for Economic Affairs SECO
11. Saric, Jasmina: Project Officer/Manager, Swiss Tropical and Public Health Institute SwissTPH
12. Schrader, Kai: Senior Advisor Evaluation & Learning, Helvetas Swiss Intercooperation
13. Spangenberg, Thomas: Head of Global Health Open Innovation & Drug Discovery, Merck Group
14. Wyser Vizcarra, Nathalie: Policy Advisor for Research, Swiss Agency for Development and Cooperation DEZA
15. Zaugg, Bernard: former Head of the food security programme of the Swiss Agency for Development and Cooperation DEZA

Additional stakeholders at the follow-up meeting

16. Graf, Joël: Associated Researcher, Institute of History, University of Bern; former National Contact Point for Science with and for Society, Euresearch Network
17. McClung, Jennifer: National Contact Point for European Research, Euresearch Network
18. Urwyler, Prabitha: Scientific Officer, Swiss Innovation Agency Innosuisse
19. Wilkinson, Zora Luna: Programme Manager, Swiss State Secretariat for Economic Affairs SECO
20. Zingerli, Claudia: Scientific Coordinator of r4d (Programme for Research on Global Issues for Development), Swiss National Science Foundation

Project management

21. Gertschen, Alex: Associate Researcher, Center for Global Studies, University of Bern
22. Käser, Fabian: Head of KFPE, Swiss Academy of Sciences

Dr Alex Gertschen is Associated Researcher at the Center for Global Studies of the University of Bern and lecturer at the University of St.Gallen. Moreover, he works as consultant for transdisciplinary cooperation in international contexts.

SCNAT – network of knowledge for the benefit of society

The **Swiss Academy of Sciences (SCNAT)** works at regional, national and international level for the future of science and society. It strengthens the awareness for the sciences as a central pillar of cultural and economic development. The breadth of its support makes it a representative partner for politics. The SCNAT links the sciences, provides expertise, promotes the dialogue between science and society, identifies and evaluates scientific developments and lays the foundation for the next generation of natural scientists. It is part of the association of the Swiss Academies of Arts and Sciences.

The **Swiss Commission for Research Partnerships with Developing Countries (KFPE)** promotes research partnerships with institutions in developing and transition countries. The KFPE is committed to ensuring that Swiss research makes a long-term and successful contribution to sustainable development and to solving global and local challenges through efficient, effective, and equitable partnerships with institutions in developing and transition countries.