

Dinkwanyane Water Smart Project (DWS)

Scored by name(s): Jacob Torfing, Roskilde University (itor@ruc.dk), Peter Kragelund, Danish Institute for International Studies (jpk@ruc.dk) and Eva Sørensen, Roskilde University (eva@ruc.dk)

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Is the project a case of...:

- State-initiated co-creation
- Entrepreneur-driven co-creation
- Grassroots-based co-creation (NGO)

**For an elaboration of the typology, please consult the GOGREEN theoretical framework p. 25.*

Integrated case analysis

Before proceeding to the scoring of the GFs, please provide a 3–5 page case analysis in which you describe the background, history, and national, regional, and local contexts of the case, the problems and goals addressed by the local collaboration, the participating actors and their relationships, the unfolding of the co-creation process, the most important governance factors (this may include factors other than those in focus in this project), and the generated outputs and outcomes. The conclusion may specify a few lessons learned from the case study.

1) Background, history, and national, regional, and local contexts of the case

The Dinkwanyane Water Smart project (DWS) is a sustainable farming and water protection project that was initiated in 2019 at the site of the village of Phiring in the Sekhukhune District Municipality, Limpopo, South Africa. Phiring village is situated in a valley in a mountainous area at an elevation of about 850 meters. The village is about four hours' drive north-east of Johannesburg and one hour drive from Hoedspruit. The village is rather small with only 1,550 inhabitants who are mostly subsistence farmers. The dominant ethnic group is Pedi people, but there are many intertribal links and languages. So, the context is very multicultural.

There is a legacy of sustainability governance. In 1990, the Central Lowveld Development Forum was formed at the regional level linking white and black communities. It got money from the World Bank for a facilitator that proved very important and wanted to develop a framework for conservation and sustainability and came up with the Biosphere concept where people and nature interact in a sustainable way. After a lengthy stakeholder consultation process, UNESCO developed the regional Kruger to Canyons Biosphere Region (K2C BR) as a part of the World Network of Biospheres in 2001. K2C BR has no formal mandate but provides a platform for managing ideas about a sustainable human-nature relationship through collaboration and partnerships. Its many activities are aligned with the Greater Kruger Sustainability Development Plan that has been facilitated by the K2C. Concrete projects are chosen based on assessment of vulnerability and what is available in terms of funding. There is limited basic government funding, but projects may earn this over time. Currently, there are eight projects including a corridor

project, a catchment project, a resilience project, a Human Wildlife project, a Cookstove Distribution and Dinkwanyane Water Smart project. All the projects relate explicitly to the green SDGs as well as to socioeconomic ones. The socioeconomic dimension is new, but crucial for making the green transition work. K2C sees itself as a backbone organization seeking collective impact at landscape level. It follows strict governance principles and has a clear organizational structure.

After publication of a vulnerability analysis, Limpopo Department of Economic Development, Environment and Tourism (LEDET) invited K2C to look at the Phiring as site for a water smart project. Phiring is the upstream water user and affects the water supply to downstream users and that makes it a strategic water catchment area. A visioning process that involved local actors in designing the project and identifying partners led to the formulation of the storyline driving DWS. Tourism was later added to the water conservation and sustainable agriculture project and led to the establishment of a tourist office and homestays for tourists. Sustainability is used to market the locality as a green destination.

2) The aims of the project and the sustainability problems that it seeks to address

Funded by the Government of Flanders, three local NGO partners (Hoedspruit Hub, Conservation South Africa and Kruger to Canyon) have launched a local co-creation project in Phiring aiming to achieve several of the green SDGs (6, 11, 13, 14 og 15) while also improving the social livelihood of the local population (SDG 1, 2, 3 4 and 5). The project consists of three interconnected parts: a) training of farmers in agro-ecology; b) transition to sustainable agriculture and tourism; and c) green microfinancing involving the creation of a new financial instrument:

- a) Local farmers can sign up for a four-weeks intensive **agro-ecology training course** that involves theory and practical demonstrations in local demonstration gardens where crops grow in soil enriched with compost and there is use drip irrigation, water trapping in the soil, and organic pest control. Successful training may help to qualify them for a Capital Expenditure (CAPEX) loan. The loan is provided by the DWS and it allows the loaner (typically a farmer or a group of farmers) to purchase seeds, cattle and equipment that enable them to transition to sustainable farming. CAPEX loans are important because access to bank loans is limited since farmers have no collateral as they do not own their land. It is collectively owned by the village and distributed by traditional authorities. There was originally 400,000 Rands in CAPEX loan. The loans must be paid back without interest.

- b) The **CAPEX loan** is paid out based on a written **Conservation Agreement** between the DWS and one or more farmers who may also get other benefits than the loan, such as enhanced market access, for example, through a mobile market initiated by K2C where buyers come to Phiring to buy cattle. In return for received the CAPEX loan, crop farmers must abstain from burning their fields, remove invasive plants, conserve water through drip irrigation, use organic fertilizer (compost), cut down on chemicals, use intercropping, etc. Cattle farmers must conserve water by preventing leaking pipes, use rotational grazing, apply intercropping, remove invasive plants, regularly dip their cattle in a plunge dipping facility, etc. If farmers stray from the rules, they are penalized. The Conservation Agreement specifies in-kind penalties to be paid in case of non-compliance with terms and non-negotiable rules.

- c) CAPEX loan recipients must be a part of a self-organized **Savings Group** where between 10 and 20 farmers get together and pay in money to a joint account that allows them to receive small loans for social or environmental purposes, which they must pay back with interest so that the total savings increase over time. The CAPEX recipient pays back their loan into a separate account owned by the Saving Group. When all the money are paid back, the Saving Group can sign a new Conservation Agreement with a new farmer from the Saving Group who can then transition to sustainable farming. CAPEX loans are typically given to farmers but may also be given to local people aiming to enhance ecotourism that will benefit the entire population.

Local anchorage of the DWS is secured by the hiring of **Ecosystem Custodians (ECs)** who are young people living locally in Phiring. They get a salary and the project advertise the positions. Applicants must have at least primary education and preferably some background in agriculture or tourism. They are trained to be young leaders of the green transition and they also train others, such as local youth groups. They play a key role in monitoring and assisting crop and cattle farmers and other project beneficiaries in transitioning to sustainable farming and protecting water resources. They report back to the DWS via WhatsApp that functions as a learning platform.

DWS is a climate adaptation **demonstration project** aiming to create a path for sustainability to be upscaled. Farmers are urged to use new sustainable farming practices, but they are not expected to abandon unsustainable farming methods completely but are encouraged to reduce their use of artificial fertilizers as much as possible, which is difficult because the Agricultural Ministry provides vouchers that allow farmers to get fertilizer almost for free. DWS seeks to convince farmers that costs will go down and sales go up if they adopt sustainable practices. This requires demonstrating how crop farmers and cattle farmers using agroecological methods are better off economically. Champion farmers provide a good example to be followed by others.

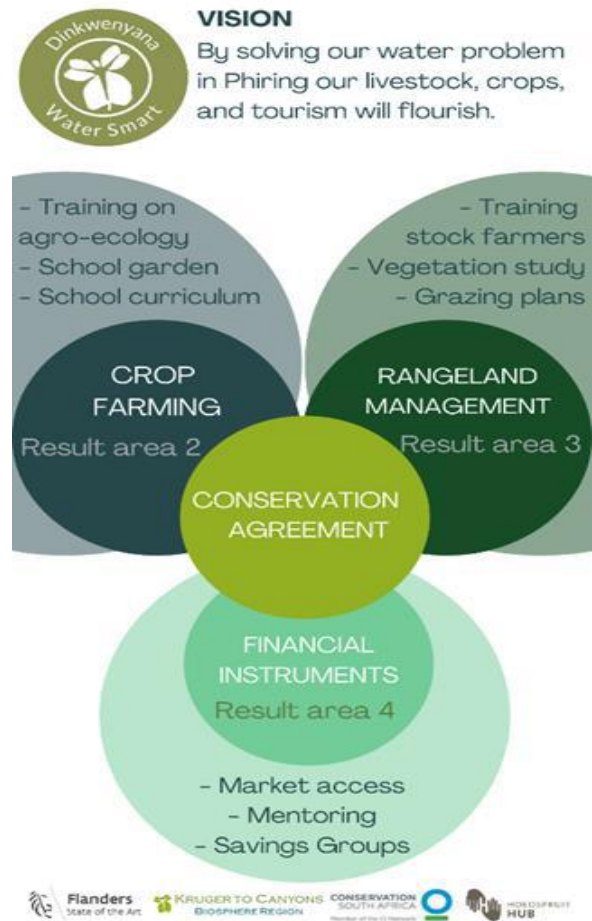
Innovative potential: While micro-financing and farm plans are both well-known instruments, their combination and connection to sustainability and tourism is innovative and holds promises for a green future.

Outputs aimed for by the DWS: education, creation of financial instruments, development of governance structures, flood regulation, reduced sedimentation, improved water quality, less use of chemicals, more use of organic fertilizer, and introduction of intercropping and cover crops.

Outcomes aimed for by the DWS: soil improvement, food security, biodiversity protection, carbon storage, improved economic opportunity and self-sustainability.

The **Second Periodic Review Report** for K2C talks about the DSW as a successful demonstration project that has enabled several learning exchanges.

The **Endline Report** concludes that: 'The funder and implementing partners agree that the project has achieved' its overall objective



3) The participants and their interaction and communication in and between meetings

The **core partners** are three NGOs: Kruger-to-Canyon (K2C), Hoedspruit Hub (HH) and Conservation South Africa (CSA). Both HH and CSA had worked with K2C before but not with each other.

a) **K2C** is a registered non-profit organization acting as lead partner

1. **Established in 2001 as a UNESCO Biosphere** (<https://en.unesco.org/biosphere>) to do work on nature conservation, develop sustainable communities, promote education and research, and create a mutually supporting relationship between people and nature.
2. **Main areas of activity** are protecting biospheres and ecosystems, developing local capacities and building local governance structure. Since 2013, K2C has implemented more than 20 projects.
3. **Funding** comes from numerous regional, national, and international organizations including UNDP, UNESCO, USAID, WWF, LEDET, SANBI.
4. There are **numerous partners** working with K2C staff as K2C is essentially a platform organization connecting partners around projects and tasks.
5. **Regarding its governance structure**, K2C has a Non-profit Company Board at the top. The Chief Operations Officer (Marie Tinka) is supported by a secretariat in Hoedspruit and supports project managers leading implementation projects.
6. **A periodic review** was conducted in 2013 and 2023 and involved numerous stakeholders, showing that the total geographical area covered by K2C has expanded.

b) **HH** is a social community enterprise funded by GIZ (the German developmental aid organization) and big commercial citrus farmers and is responsible for demonstration gardens and agroecological crop farming activities in the DWS.

c) **CSA** is an NGO and a part of Conservation International that is responsible for conservation agreements and rangeland management in the DWS. It runs several projects on its own: aquaponics, waste recycling, conservation, training, youth clubs, information technology centers, etc.

Other participants include:

a) **Government of Flanders:** This international donor organization is the principal project funder of the DWS, but will pull out of South Africa in 2024, thus endangering the longevity of the project. However, in the summer of 2024, the Canadian Government agreed to be the new sponsor.

b) **Limpopo Department of Economic Development, Environment and Tourism (LEDET):** This provincial government department played a role in the initiation of DWS, supports development of local tourism and has agricultural extension officers who provide knowledge and information but are favoring commercial aspects of agriculture over sustainable agriculture. The extension officers have been invited to training sessions to get them on board the project.

South Africa is a constitutional democracy. At the national level, there is a national parliament, a national government led by the ANC, and 54 departments; at the provincial level there is a provincial parliament, and an Executive Council leading nine departments meaning that not all national departments have equivalent provincial departments; at the local level there are district municipalities. The constitution divides environmental tasks between the different levels of government.

All taxes go to the national level that then allocates block grants to provincial and local governments. Since much of the land is communal and not taxable, the main sources of tax revenue are progressive income tax, corporate tax and VAT. In Limpopo the biggest budget shares are for health and education. Little is spent on environmental purposes such as issuing permits and managing nature reserves. The environmental budget has decreased after COVID and the province has cut down activities.

c) **Municipality of Sekhukhune:** There are discussions about letting municipal Public Work Program (PWP) people take over the responsibility for the demonstration gardens in the future. The PWP is a national program for boosting local employment. Municipalities get some extra funding to hire people to reduce unemployment and the idea is to let some of these people work in the demonstration garden.

d) **The traditional authority of Phiring:** Tribal authority with hereditary kings/queens that steward the communal land and take commission for land allocation, although they are not allowed to do so. People look up to the tribal authority that can encourage people to support the DWS and help to solve conflicts.

e) **The Phiring Irrigation Committee:** Cooperative farmers association that allocates water access and is important when contacting farmers about water conservation etc. There are presently two competing committees: an old one that refuses to dissolve itself and a newly elected one.

f) **The Crop Farmers' Association:** Organizes crop farmers and is important when contacting farmers about DWS matters.

g) **The Livestock farmers' association and the DIP Squad:** Organizes cattle farmers and is important when DWS approaches cattle farmers. The DIP Squad is instrumental to local cattle farmers as it organizes the dipping of cattle in a water tank to mitigate diseases.

h) **Saving Groups:** There are eight groups that are voluntarily formed, self-organized and select their own leaders (secretary, accountant and chair).

i) **Phiring Tourist Association:** Local association with voluntary membership and small contributions. Aims to develop ecotourism by branding sustainable agriculture, making trails in the mountain, maintaining the waterfall and river, cultivating the taro plant, and recruiting homestay mothers that provide bed and breakfast for tourists. Works better now after a turbulent time with many leadership shifts. Works with the provincial government LEDET on tourism development.

j) **Local Schools:** The DWS has together with HH developed a sustainability curriculum that is integrated in the CAPS curriculum (learning material for school kids), and the local schools hosts demonstration gardens on their premises.

k) **Local Health Clinic:** Also hosts a small demonstration garden and helps to spread information about the risk of cancer when using chemicals in agriculture.

l) **Environmental Clubs for Local Youth:** Raise environmental awareness amongst young people.

m) **Local Healers:** Important to negotiate the co-existence of ecotourism and sacred places.

4) How often do they meet, and do they communicate between meetings?

Partners meet monthly at **MANCO meetings** (managing committee). Formal and traditional authority and site managers are also invited to MANCO meetings. More recently, local stakeholders from Phiring are invited on a rotational basis. The purpose of the meetings is accountability and future planning. Partners also meet at seminars, workshops and in informal meetings to solve emerging problems.

There are also regular meetings for **Chairpersons of saving groups**. The saving groups select their own leaders who meet regularly to exchange experiences and learn from each other.

The **central staff** in DWS meets daily in the K2C building in Hoedspruit and the **Project Manager travels almost daily to Phiring to speak and coordinate with the Site Coordinator** who relays information to the Ecosystem Custodians (ECs) and coordinates with local committees and authorities.

So far, there have been **two general stakeholder meetings** for everybody: first as a part of the visioning process and then as a part of the mid-term evaluation.

5) The role and forms of knowledge sharing, coordination and joint problem-solving

The DWS project is formed with the ambition of coming together and **collaborate** to solve local problems and challenges with degradation of soil and dwindling water supply and water quality for downstream communities in the catchment area. To solve these pressing problems, a number of mutually connected activities, instruments and forums have been created. To ensure progress toward problem solving the DWS orchestrates **knowledge sharing** and **coordination** between the manifold actors.

6) The relation between consensus and conflict and the handling of the latter

In the beginning, MANCO meetings were a **warzone with a lot of conflicts** but now with enhanced maturity, there are fewer conflicts and more constructive ones. Today, there is **more trust and alignment than conflict**. Most often, decisions in meetings are made based on a rough consensus whereby the leader summarizes emerging decisions that are accepted if nobody explicitly objects.

The Mid-term Review from 2021 confirms that 'stakeholder conflict has been very limited with the majority finding ways to work collaboratively with the project'. At the same time, it is noted that there is a potential conflict with the Agricultural Ministry that does not seem to be aligned with the government's climate adaptation strategy and the project ambitions.

Conflicts may arise in relation to malfunctioning saving groups and the project manager must intervene to **mediate**. There are also conflicts between the project and outside people. For example, communal land ownership has created a conflict between a farmer who claims a large part of the land is his because he cultivated it when nobody else wanted. He does not want to work with the DWS.

7) The role and form of leadership: lead actor, steering group and/or collective leadership

Leadership is performed in and through the MANCO meetings that is the **central steering group** for the DWS project. The recent decision to invite stakeholders from Phiring to MANCO to foster broader ownership of decisions moves the exercise of leadership slightly in the direction of **collective leadership**. Amongst the partners, K2C is the most resourceful and capable actor with a large staff and a big project portfolio. Its Coordination of Operations Officer and Project Manager are in many respects the **lead actors**, in the sense that most communication passes through them, and they are driving the project forward. In summary, although leadership is performed by a steering group, there is a small element of collective leadership and a big element of leadership by a lead actor.

8) The temporal unfolding of the co-creation process: major shifts and ups and downs

The DWS started in 2019 and the first two years were spent setting up the project and creating new activities, practices and institutions. The last two years have been mature and stable operation years with things steadily growing, but the Government of Flanders pulling out in early 2024 makes the future uncertain.

9) The most important governance factors

The DWS has been quite good at setting a clear project agenda that refers to the severity of bio-sphere problems that are then translated into something that most project participants can understand and relate to. Other supplementary agendas refer to promoting social and economic sustainability.

There is also a strong relation-building capacity in the project. They use positive prior experiences with collaboration to motivate actors to join the project that is rather inclusive and seeks to empower its participants through training and procedures securing equal treatment. There are clear efforts to build trust and mediate conflicts and collaboration rests on a broad-based recognition of interdependency vis-à-vis common project ambitions.

Finally, outcomes and impacts are generated based on a clever use of digital platforms serving as a monitoring and learning tool, persistent efforts to hold people to account, and construction of spaces for critical self-reflection and mutual learning.

10) The generated outputs and outcomes

The level of water in the dam has been rising due to more careful use of water, and there are less problems with leaking water pipes.

11) Lessons learned about the conditions for co-creating green solutions

Where traditional power structures are strong and impactful, it seems to be a good idea to build on these and work with existing authorities, although in some respects it may also impose limits on green co-creation projects.

Empowerment of local youth, farmers and stakeholders and creation of viable governance structures at the local level are crucial for the long-term survival of the project.

External project funding by a big foreign donor poses a real dilemma: projects like this should be able to stand on their own feet after a while, but ending funding may jeopardize the project.

It is crucial to secure market access for sustainable products so that the transition to sustainable farming practices generates a great income and improves the livelihood of farmers. The problems with market access for DWS products means that some CAPEX recipients are struggling to pay back their loans.

There is no clear strategy for scaling the local demonstration project, although it is clearly an ambition.

Scoring and analysis of governance factors

1. Perceived importance of biosphere conditions

QCA score:

0

0.33

0.66

1

Scoring confidence:

Low confidence

Medium confidence

High confidence

Data sources:

Interviews

Documents

Observations

Please elaborate on the reasoning behind your scoring for this governance factor:

The evaluator carrying out the Mid-term Review in 2021 organized a discussion to better understand project assumptions. In the summary of this discussion, it comes out very clearly that the basic problem driving action is the **increased local vulnerability in the context of climate change** that leads to water shortage, degradation of land and ultimately threatens the social livelihood of farmers.

The focus group interview with local stakeholders points to a **mixed bag of biosphere-related reasons** for supporting the DWS project: water shortage caused by climate change, invasive species, silt in the dam and overuse of water by farmers may impede future agriculture, water pollution caused by litter and fertilizer harms tourism, livestock suffers from new diseases spurred by climate change and there is need to improve social livelihood and create more jobs.

The project manager explains that **severe biosphere problems** such as climate change was the central catch phrase in the initial project proposal. But as she says: 'Climate change was the main thing, but it is such a big, broad term, so we had to learn through our continuous community engagement to break it down to make it relevant to people on the ground.'

Several informants report that **the severity of biosphere problems** was the main concern for the project partners and the public authorities whereas concrete challenges and social livelihood was the primary concern for local farmers.

In continuation with this, a local Phiring informant explains that the farmers have seen bad changes with increasing frequency of draught, floodings, pests etc. and cried for someone to come and help them. However, they could not **connect local problems to global warming**. Only young people who had learned about it in school could do that and then the NGOs who came from the outside. 'When the local farmers were told that the reason for all the bad problems was global warming and there were ways to address it, they were very open and positive. So, yes, biosphere problems were what led to the project'.

He continues to explain that since the start of the DWS **70% of the local people have been aware of the negative effects of climate change**. Some religious people do not believe in the natural explanation of problems, but when waste was dumped in sacred places, they supported the effort to clean up and protect nature.

2. Legislation, programs, and formal goals

QCA score:

0

0.33

0.66

1

Scoring confidence:

Low confidence

Medium confidence

High confidence

Data sources:

Interviews

Documents

Observations

Please elaborate on the reasoning behind your scoring for this governance factor:

The DWS project itself refers to the **National Climate Change Adaptation Strategy** published by the South African Environmental Ministry in 2017. The problem definition in this report (steady degradation of the environment and its associated ecosystem resilience), goals (adaptation and recovery to a changing climate) and tools (resource mobilization) provides clear support for the DWS. However, there is no consequential regulations and special purpose funding attached to the strategy allowing provincial and local governments to follow up on the strategy. The plan is focused on the national level. Nevertheless, a key project informant says that both K2C and DWS from the beginning have been **aligned** with the National Climate Change Adaptation Strategy: 'If we weren't it would be counterproductive'. Although it might be unrelated, the K2C has received lots of money from the Environmental Monitoring program sponsored by the Environmental Ministry. So, alignment with its strategies may pay off.

The **Mid-term Review** from 2021 says that: 'There are a host of other national-level policies which speak to the importance of conserving biodiversity coupled with sustainable development reemphasizing the appropriate alignment of the project with both priorities of the South African government and the international community'.

The DWS is also anchored in the **National Development Plan** and the local **Integrated Development Plan**. As the project manager argues: Every project needs to be part of something bigger, since otherwise, why even do it?' She continues to explain that this anchorage in something bigger gives credibility.

The project is also supported by the **UNESCO Biosphere program** that contributes to funding K2C and provides a whole framework for conservation based on the SDGs that the project is a part of and contributes to developing.

3. Relative openness of public governance paradigms

QCA score:

0

0.33

0.66

1

Scoring confidence:

Low confidence

Medium confidence

High confidence

Data sources:

Interviews

Documents

Observations

Please elaborate on the reasoning behind your scoring for this governance factor:

According to a **provincial** informant from LEDET, South African public administration is very focused on rule compliance within a hierarchical and siloed organization (bureaucracy), but there is also a lot of focus on performance management based on contracts, KPIs and reviews and on outsourcing of public tasks to private contractors (New Public Management).

In Limpopo environmental services, they also have a **strategy for opening up public governance for stakeholders**. The Environmental Empowerment Service organizes an open stakeholder meeting every three months. There are also specific outreach programs. For example, there is a new community capacity

building initiative focusing on cleaning up the environment and planting trees. They go to certain villages such as Phiring and engage local citizens. There is also a program supporting small local projects such as community gardens or cleaning catchment areas involving local citizens. However, the success with local engagement varies from place to place and the actual attempts to open up the public sector are few and far between.

Until recently, there was much focus on climate change in Limpopo based on the Green Economic Plan, which aims to **mainstream climate policy through pluricentric coordination and involvement of stakeholders**, but a new minister for mining and environment has shifted the priorities away from climate change and moved the responsibility for that area to another departmental section, which is less focused on community involvement.

At the **municipal** level, there seems to be the same picture: a strong focus on bureaucratic administration and performance management, but also some limited involvement of private business actors and civil society. A key project informant tells us about the municipal London landfill site. The municipality soon realized that they could not manage the collection and treatment of waste themselves and therefore works with lots of private business and local community actors. A related example concerns environmental monitoring diaper waste, where K2C has helped to make a study with many data points and paved the way for distribution of skip bins. The involvement of private actors seems to be more focused on contracting than collaborative innovation.

4. Formalized institutional channels for citizen participation and community mobilization

QCA score:

0

0.33

0.66

1

Scoring confidence:

Low confidence

Medium confidence

High confidence

Data sources:

Interviews

Documents

Observations

Please elaborate on the reasoning behind your scoring for this governance factor:

A local informant says that the collaboration in and around the DWS did not come from scratch but complements and strengthens **previous efforts** to collaborate to solve common problems. The **tribal authority** has organized council meetings where problems with the land have been discussed and people have worked together to counter deforestation. Also, the **Irrigation Committee and the other cooperative farmers' associations** have used collaboration as a tool for solving problems. What is new is that the DWS is **formalizing the informal** collaboration. The project is doing governance training and makes written agreements and rules about how to collaborate.

Moving up to the **municipal level**, the **Integrated Development Plan (IDP)** from 2022 flags the mission statement of the Sekhukhune District Municipality that shows strong support for: 'promotion of a safe and healthy environment, fostering of community involvement and stakeholder engagement, and

strengthening institutional capacity'. The six mayoral priorities are: '1) Provision of water and sanitation services in a sustainable manner; 2) Local economic development, growth and job creation through agrarian reform, mining, tourism and repositioning of the Sekhukhune Development Agency; 3) Good governance and sound financial management; 4) Sustainable land use management and spatial transformation; 5) Community Development, social cohesion and nation building; and 6) Public participation, stakeholder engagement and partnership'. Moreover, 'municipalities are by law required to foster public participation and ensure that its citizenry is engaged in matters of governance. Sekhukhune District Municipality places public participation and accountability at the center of its work. The Municipality has adopted a Public Participation Programme'. The latter programme involves to: 'Build an open, transparent and accountable system of governance. Develop a culture of community participation through creating conditions for local communities to participate in the affairs of the municipality. Assist vulnerable groups to participate effectively in the system of local government'. This all shows that there is definitely **something to lean on in terms of focus on citizen participation**. However, at the same time, the IDP also report a general poor performance of municipal administration due to lack of funding, low skills, irregular appointments and lack of accountability. As for citizen participation, the IDP notes the lack of equipment to organize citizen meetings. Still, there are examples of citizens participation such as town hall meetings. Moreover, the development of the IDP builds on dialogue with a variety of stakeholders. For example, the K2C was invited to provide input for this IDP.

A key project informant confirms that **municipal procedures for participation** of citizens and civil society are already in place in several areas such as urban development, landfill and environmental monitoring: 'It's there, but it's flawed as government do a lot of ticking-boxes: done, done, done. It is a little tokenistic'. This view is seconded by another informant who says that the government sometimes initiates dialogue with people but mostly with the NGOs and not so much the individual farmers. There are consultations, but few efforts to involve local citizens. Also, many black people are reluctant to participate in consultations because they do not trust government.

Finally, at the **provincial level** there are mandatory citizen participation in the Environmental Impact Assessment of development projects larger than 10 hectares. If there is no proof of public participation, there will not be given any permission. However, some informants report that the consultation process is not always very thorough, and government is quick to give permission and sign contracts. When people do not feel listened to, it gives rise to conflicts and riots. We are told that 'there are even processes that are dropped or manipulated, and generally it is hard for people to find the face of government on the ground'. However, we are also told that the pattern is uneven. Sometimes the consultation and involvement of local communities works well and then the local communities embrace it and build on it.

5. Mechanism for ensuring top-down government and bottom-up social accountability

QCA score:

0

0.33

0.66

1

Scoring confidence:

Low confidence

Medium confidence

High confidence

Data sources:

Interviews

Documents

Observations

Please elaborate on the reasoning behind your scoring for this governance factor:

There seems to be a lot of focus on **internal horizontal accountability** between the participants in the DWS project. Both in MANCO (Management Committee) and Chairperson of saving groups meeting minutes are circulated to all members to create transparency. At the MANCO meeting, the MERL (Monitoring, Evaluation, Reporting and Learning) Report and the Financial Report is circulated in advance and referred to in discussions. At the meetings, they go round the table, and everybody explains how they have carried out their tasks and with what result. Small victories are celebrated with applause and problems are brought up and commented upon. For example, there was good progress with getting indigenous seeds, but rangeland team brought disappointing news about cattle sale. The roundtable discussions looked at different lessons and learnings that should be embraced by everyone. People who had not done what they had promised to do were asked to do some or come up with an explanation. At the Chairperson of saving groups meeting, there is a lot of focus on accountability in relation to paying back CAPEX loans. Recipients who are not paying back are facing formal penalties, but also social pressure as the local kinship discourse creates shame when you are not delivering for your social network.

There are also examples of **top-down accountability** where reports are sent upwards to government and funders. All the work done out in Phiring is reported and documented via WhatsApp (time, geographical coordinates, photo, work description, and eventual comments) that promotes peer-to-peer learning. Project leadership will applaud good performance but not tolerate poor performance, although people are given a chance to improve. There are also water and soil samples that are measured for water quality, water level in the dam, and carbon content by CSA. The locally gathered information provides input to reports sent upwards to the Government of Flanders that funds the lion's share of the project. They have sometimes come back with questions about numbers and missing information. In addition, there is external auditing of how money is spent in DWS. As a key project informant says, 'it adds credibility also in relation to the local community, because there is a lot of corruption in South Africa'. The latter is the reason why the Flanders Government is pulling out of South Africa.

In terms of **social accountability**, a local informant explains that after the initial visioning meeting, there have been project feedback meetings where everybody from the local community, all the stakeholders and people from all corners of the community, are invited and members of the project explain what has been done, what is being developed and how money is being spent. They also present and discuss future plans to create buy-in. At one meeting, the feedback to the account of project activities was that the number of ECs that was only six at the time was too low. In response, the number was doubled to twelve. Another feedback was that there could be no training on Fridays because that was when farmers went to their crop fields to work. In response, training was planned for Monday to Thursday only.

6. Strategic agenda-setting by means of translation

QCA score:

0

0.33

0.66

1

Scoring confidence:

Low confidence

Medium confidence

High confidence

Data sources:

Interviews

Documents

Observations

Please elaborate on the reasoning behind your scoring for this governance factor:

The DWS partners, the local Phiring staff, key policy documents from the DWS, the municipality and the provincial government **refer to the UN SDGs**. One of the Phiring EC informants says that the work with the farmers is framed by the 2030 SDG agenda, perhaps especially goal 1 about zero hunger and goal 13 about climate action. Another EC informant reports that she did a written assignment on the SDGs as part of her training. There is also information about the SDGs in the agro-ecology training and in the Environmental Youth Clubs, although not to the point where everybody knows the SDGs by heart.

The Site Coordinator talks about how **the project's commitment to the SDGs is translated to local people** to get them on board in the DWS. 'Climate change is a big and very broad name. If you go to a rural village like this one and say that climate change is about rising temperature resulting in melting icecaps and sea level, they will not be able to relate. They will not understand the concept. If instead, you say that rising temperature means that the crops that you are used to plant in winter will now not do well, because it's now warmer in winter than it used to be and that this will bring many pests and many diseases, which is going to affect your livelihoods. Then people will be able to relate because they actually have seen those changes, those patterns, then they will actually understand'.

He continues: 'Then you go to the livestock farmers who depend on their livestock for livelihoods. You **explain that climate change is the reason why there is a drought, because now the rainfall is more unpredictable and there is more evaporation**, and if there's drought, your livestock will not have enough feed. As such, they will be losing body weight and you will not be able to sell them to the market, you actually get less for them. Also, diseases come in and then they affect your livestock and then they die. And then you actually lose your income and so. Then they understand.' He concludes: 'Then you say that to mitigate that, or to be resilient, you have to move to a more adaptive and equal and sustainable agriculture. You must transition to agro-ecology that relies on organic farming principles and prevents excessive use of water, artificial fertilizers etc., because those are the contributing factors to climate change.' The account of the Site Manager is corroborated by a similar account of the Project Manager.

7. Construction of narratives about successful multi-actor collaboration

QCA score:

0

0.33

0.66

1

Scoring confidence:

Low confidence

Medium confidence

High confidence

Data sources:

Interviews

Documents

Observations

Please elaborate on the reasoning behind your scoring for this governance factor:

At the **provincial level**, there are good experiences with collaboration with some of the big mining companies that really take their corporate social responsibility seriously and work with the provincial government and LEDET to develop environmental awareness in schools, plant trees and develop recreational areas in nature. There are also good experiences with engaging with municipalities through

green competition initiatives and with local villages about cleaning up habitats. LEDET worked with a local village to build a digester to produce biogas, and everybody sees the value of that.

At the **local level**, an informant reports that there has **previously been good collaboration with LEDET** about the development of tourism that led to the construction of stairs to the waterfall and other tourist sites and also about stopping poaching in the mountains: 'Sometimes we talk about these things that we did in the past and that worked well, so let's do it again. Yes, so we have these kinds of positive experiences to build on.'

At **community level**, the discourse that 'it takes a village to raise a child', which is supported by many examples of people raising or co-parenting kids who are not exactly their own, tends to support the idea of collaboration. **Collaborative spirit** is supported by the fact that subsistence farmers do not compete as much as commercial farmers. However, one informant says that that there is a strong verbalization of collaboration but, in reality, the local actors do not always collaborate. Many are merely looking out for themselves and their family.

For the people in Phiring, **K2C is a guiding star** in terms of successful collaboration. The motto of K2C is 'partnership for a sustainable future' and in relation to its environmental program, it has had about 31 partnerships with other NGOs and local communities and many of these have been successful and has shown the way for the project in Phiring. Phiring has not previously had big projects such as DWS.

8. Building or harnessing institutional platforms and arenas

QCA score:

0

0.33

0.66

1

Scoring confidence:

Low confidence

Medium confidence

High confidence

Data sources:

Interviews

Documents

Observations

Please elaborate on the reasoning behind your scoring for this governance factor:

MANCO meetings are held at the K2C headquarters in Hoedspruit that also provides offices for the DWS staff of around 10 people. In that sense, the K2C headquarters provides a **physical platform** for the project. In Phiring a similar house provided by the traditional authority functions as DWS meeting facility. Also, the tourism office is used for meetings. The demonstration gardens and the adjacent schools are used as training platforms.

According to a key project informant, WhatsApp is used as a **digital platform** for monitoring, learning and management. Work and environment-related data is easily reported and then analyzed for the purpose of reflecting and learning. The norm is not to criticize reported activities, but to provide constructive feedback. The site Manager also uses WhatsApp to make and circulate a calendar for the coming week with tasks for each EC. The calendar monitors and generates activities. WhatsApp is used because it is cheap and something people are already familiar with. Also, it is easy to use, and pictures and a GPS pin

can be circulated to get feedback on pests, animal disease, or leaking pipes. WhatsApp was also used in the Environmental Monitoring program and the method used there was adopted and adapted to fit the Phiring project.

During COVID, project staff also started to have **online meetings** through different **digital platforms** such as Zoom and Teams and after COVID online meetings are still popular amongst the staff, but community participants prefer physical face-to-face meetings.

9. Provision of access to blended financing

QCA score:

0

0.33

0.66

1

Scoring confidence:

Low confidence

Medium confidence

High confidence

Data sources:

Interviews

Documents

Observations

Please elaborate on the reasoning behind your scoring for this governance factor:

The Government of Flanders **provided all the funding for the project** (5 million Rands for salaries (OPEX), loans (CAPEX) and operational costs). They are now pulling out of South Africa due to general reports about too much corruption. The DWS project is currently using unused funds from the Corona pandemic and will end on the 31st of March 2024 and three central staff members plus all the ECs will be laid off if not either K2C or an application to the Environmental Ministry will raise some money. This decision seriously threatens the continuity of the project as it is far from certain that the local people in Phiring are sufficiently trained and capable of continuing the problem on their own. Also, the value of CAPEX has declined since there has not been paid interest to compensate inflation. This all demonstrates the problem with having a single predominant donor.

Although the Government of Flanders pays for the lion's share of the DWS, there are also **other but smaller funding streams**. K2C, HH and CSA are all providing in-kind resources, and the local municipality provides free housing and upkeep for the K2C building in Hoedspruit where most meetings take place. LEDET pays money to K2C for its general operational costs and expect K2C to somehow support local projects such as the DWS.

The **farmers and other local people contribute valuable time and energy** to the DWS. Members of the saving groups are contributing money that may be lent out to finance new sustainable farming practices in line with the project objectives. Members of the tourist association pay a small membership fee. The local schools provide land for demonstration gardens for free.

At the MANCO meeting, it is suggested that perhaps **selling seedlings from indigenous seeds could be a possible future funding stream**. This indicates that the project participants are aware that it will be necessary to secure a variety of funding streams through the development of a business model.

A key project informant describes the financing of DWS in the following way: 'It is like throwing a party and telling everybody to contribute. I think it works, especially since in our participatory model we have always wanted all players to come to the table and contribute'. She continues to explain that **blended financing is good for collaboration** because it means that: 'Everybody has a skin in the game'.

10. The capacity to leverage support from authorities to enable local collaboration

QCA score:

0

0.33

0.66

1

Scoring confidence:

Low confidence

Medium confidence

High confidence

Data sources:

Interviews

Documents

Observations

Please elaborate on the reasoning behind your scoring for this governance factor:

The local Site Coordinator explains that he has **attended a number of district- and provincial-level meetings** where he makes a point of 'coming back with one or two new friends, because one day you are going to need them'. He says that he has made some friends at the municipal level and also with people from organizations connected to the biosphere. He also reports that other local ECs have made contact with government people in Johannesburg.

CSA reports that they **meet regularly with representatives from the Agricultural Ministry** to tell them about the challenges they encounter. The Ministry is learning from smart agriculture and they are eager to learn more. They are coming right. They see that sustainably produced food is delicious and healthy. You can farm without artificial fertilizers.

K2C reports that they **do a lot to ensure dialogue and information exchange** with higher level public authorities since the DWS project is a demonstration project and is meant to produce advice to government.

A key project informant claims that the DWS has **good upward relations to local, provincial and national governments** and would probably be ready to get help from them, if need be, although perhaps more in terms of political support than money. So far, however, there has not been a need for **national** government intervention, although there is now an application to fund some key project workers after the Government of Flanders pulls out in 2024. The **provincial** government LEDET has been asked for support for the local ecotourism and seems to be responsive, although so far, no actual support has been provided. On the other hand, LEDET just repaired the dip tanks for the DWS project. At the **local** level, the DWS has benefited from going to the local municipal authorities when a school principal was unwilling to cooperate and from going to the traditional authority to get them to talk to people who were hostile to the project.

11. Inclusion and empowerment of relevant and affected actors

QCA score:

- 0
 0.33
 0.66
 1

Scoring confidence:

- Low confidence
 Medium confidence
 High confidence

Data sources:

- Interviews
 Documents
 Observations

Please elaborate on the reasoning behind your scoring for this governance factor:

A key project partner says that: 'We want to involve everybody – youth, women, poor, religious minorities, traditional people – everybody. A key project informant thinks that the DWS project has **succeeded in including the most relevant and affected actors**. Inclusion has been based on stakeholder analysis and new actors have been recruited along the way.

There has been a general focus on **empowering the local participants** in Phiring. Besides the agro-ecology training course, the local stakeholders have received training in governance that they really enjoyed and want more of in the future. There have also been training sessions focusing on conflict management.

There is also a specific focus on empowerment of youth and women. As for the **empowerment of women**, it is brought to our attention that several saving groups have female empowerment names such as: "Women can do it" etc. Also, normally it is the men who go to work and bring home money and women who take care of the household, but with the saving groups, it was decided that they should be open for both women and men. That was a part of gender mainstreaming. As a result, the participation of women in the project has been high – generally surpassing the target of 50%.

As for the **empowerment of youth**, there has been lots of focus on training kids in schools and youth clubs: 'We want to empower the kids of cattle farmers so that they go home and empower their parents.' A key project informant says: 'Young people are being empowered, and it is a goal for the project.' The recruitment and training of young people as ECs has had considerable empowerment effect. The Site Manager tells us how he started as an EC and were doing well and then was promoted to Site Manager and scored high in the last Performance Review. Other EC's who are part of site coordination teams for Rangeland and Crop farming says that the DWS has given them a voice: 'before I was a shy young man, but now I can speak up'. The empowerment of the ECs is confirmed by the Endline Report that concludes 'The DWS Project has irrevocably changed the lives of the ECs'.

12. Clarification of interdependence vis-à-vis common problem and joint vision

QCA score:

- 0
 0.33
 0.66
 1

Scoring confidence:

- Low confidence
 Medium confidence
 High confidence

Data sources:

- Interviews
 Documents
 Observations

Please elaborate on the reasoning behind your scoring for this governance factor:

The **Mid-term Review** from 2021 concludes: 'Each partner is an expert in their field ensuring optimal quality and efficiency' because the partners find 'great benefit in working collaboratively with highly skilled partners'. In the Mid-term Review a partner is quoted saying: 'For me, one thing which has been very clear and very helpful is what our roles and responsibilities are within the DWS project'.

A key project informant says that the partners in DWS **knew from the beginning the different forms of expertise they were bringing to the project**. She continues to explain how people in the DWS: 'go to meetings knowing that even if they will themselves contribute a lot, others will also contribute and they will learn from that'.

A local Phiring informant gives an example of the **recognition of interdependence**: 'We have the Irrigation Committee that is responsible for allocating water from the dam to the lands and then we have the Dipping Squad that needs water to dip the cattle and there is also the Crop Farmers [...] They do need one another and then there is cooperation'. At a more general level, the river that runs through the villages creates lots of interdependence. Everybody is dependent on the water being clean and healthy and running freely.

A key project informant explains **the limits to interdependency**. It is difficult to get the large farmers to join the DWS. There is too weak interdependence as they do not need the CAPEX. Also, they do not have time to go to classes and do the training. But this means that the big livestock farmers are not invited into the mobile market and slaughterhouse. They have to travel a long way to sell their cattle because they do not have a conservation agreement. As result, some large farmers are beginning to enter the project as they see the advantages.

13. Trust-building and conflict mediation

QCA score:

0

0.33

0.66

1

Scoring confidence:

Low confidence

Medium confidence

High confidence

Data sources:

Interviews

Documents

Observations

Please elaborate on the reasoning behind your scoring for this governance factor:

Community trust has been built over time through the persistent presence of the DWS project on the ground in Phiring. According to project informants, the DWS has not been a project that made big promises and ran away but has been around with almost daily visits for almost five years and that has built credibility and trust. Physical meetings are important to build trust and it should not only be formal meetings. The Project Manager says that she often has plans for only one meeting in Phiring but ends up spending the whole day in Phiring to see the fields, build relationships and become embedded in the community. It is also mentioned as a trust-building device that the DWS staff has been willing to admit mistakes and even accept penalties, for example, if they were late delivering CAPEX input (CAPEX recipient do not get the money, but seeds, material etc. equivalent to a sum of money).

Our observation of the **Chairperson forum for saving groups meeting** revealed several efforts to **build trust** among participants by providing a good and welcoming atmosphere. People arrived in advance of the meeting and talked informally, and coffee, tea, fruits and biscuits were served. The meeting opened with a prayer and a hymn that created a warm communal feeling. Everybody was introduced and sat around the same table signifying equality. There were four times as many women as men at the meeting, thus further indicating that everybody is equal. The participants had golden name tags recognizing the status as chairpersons of saving groups of which 9 were present. There was an informal atmosphere and people were laughing and chatting at times. After the Project Manager's welcome, there was a round with reports from each saving group, again demonstrating equal worth and ensuring that everybody is heard. In the comment to and discussion of the reports, there was much focus on cross-group learning. As a matter of fact, the meeting concluded with teasing out common learning points such as the need for discipline to secure pay back. In an interview prior to the meeting, we were told that in a training session the participants had done a 'river of life' exercise where each of them talks about how their life had flowed with bad rocks and beautiful things happening to them for them to get to know each other and build interpersonal trust.

There was a similar effort to build trust at **MANCO meeting**, although the participants appeared very trustful already. Towards the end of the meeting, a forthcoming day of celebration was discussed, and it was suggested to invite all project participants and stakeholders for a joint celebration to **strengthen social bonds**. This is an example of proactive efforts to build trust through social interaction.

The **elaborate system for reporting activities, transparently displaying results, and holding each other to account** also helps to build trust between the project and its local environment. On the other hand, CAPEX recipients are strictly monitored and penalized if they violate the written agreement, thus indicating a lack of trust when it comes to spending money.

Although there is generally more consensus than conflict, conflicts do emerge. However, the DWS has trained all members in **conflict mediation** focusing on finding a common ground and accommodate the conflicting parties. Small conflicts at the local level are handled by the Project Manager and the Site Coordinator while bigger conflicts are handled by the traditional tribal authority. A farmer reports: 'When there is conflict, the traditional authority will try to get people to solve it by themselves'.

There was a **good example of conflict mediation** when the Project Manager reported that a saving group had been closed down by the Project Manager due to the persistent failure of members to pay back loans, and that a new group must be formed around the CAPEX loan recipient. There is a constructive discussion of solutions: could the remaining members of the failing group be merged with another group? No, because saving groups must be based on voluntary membership and self-organization. Better to form a new group from scratch. The Project Manager suggests that money is not shared out before loans are paid back. The group agreed that the whole problem was created because failure to pay back had not been addressed early on and disciplined with penalties. In sum, there was an emphasis on conflict solving within agreed upon rules.

Another example of conflict mediation involved the use of tractors donated to the village by the Agricultural Ministry. The traditional authorities decided to ground them until an agreement was reached between the conflicting parties i.e. a self-established irrigation committee of older and wealthy farmers and the formally elected irrigation committee of smallholders. Thus, the traditional authorities used the 'split a dollar game' to get people to solve the problem: the two conflicting parties will both win if they solve their dispute and collaborate with each other.

A **third conflict** between a former school principal and K2C arose concerning the demonstration garden. He did not think the school should be involved in the project, so for a period the project collaborated with the youth club instead. When the principal, who was constituted in a temporary position stepped down and a new one took over, things began to run smoothly.

A fourth conflict between a homestead mom running a bed and breakfast place and the DWS staff is reported at MANCO Meeting but claimed to be solved in a good way.

A central project informant observes that there **are more conflicts on the ground than at the project level**. Local people must make a living and there is a lot of envy and jealousy between rich and poor.

Finally, several informants report that there are also some **deep-seated conflicts** between families that go generations back that nobody can solve.

14. Use of experimental tools for innovation

QCA score:

0

0.33

0.66

1

Scoring confidence:

Low confidence

Medium confidence

High confidence

Data sources:

Interviews

Documents

Observations

Please elaborate on the reasoning behind your scoring for this governance factor:

One kind of experimental tool that is mentioned is the arrangement of **physical or online excursions** to other projects to learn from them. An example is the promotion of ecotourism that has found a lot of inspiration from other tourist sites. Online search for experiences from other projects led to the introduction of conservation agreements with CAPEX recipients. It is an innovative way of linking loans to sustainability. The idea came from a project in India, and it had never been tried before in a South African context.

Conservation agreements were **developed as a prototype and then tested on the ground**. They have been changed in several ways since their initial introduction. In the beginning, they were year-long, but now they are renegotiated every six months to create flexibility. They have also been shortened and penalties and benefits have been changed based on experience.

There were also some usages of **experimentation in the development of eco-tourism**: they knew that tourists needed a place to stay and nice food, but they saw that they also needed things to do. They thought that people could go hiking in the mountains, but there were few trails. Therefore, they decided to create more mountain trails and that gradually attracted more hikers and climbers. Some of the more difficult and tough trails required recruitment of guides to take the tourist through steep areas where there is no mobile connectivity. So, tourism was developed along the way based on trial and error. All in all, an experimental approach based on learning by doing.

An area with great need for innovation is **market access for sustainable products**. There is no market in the province for quality and sustainably farmed produce. Crop farmers sell to local village people or street vendors. It is a little better for the cattle farmers because cattle get higher prices when farmed sustainably and with emphasis on animal welfare. Also, there is a possibility for meat buyers to come to Phiring (mobile markets). To that end, the CSA brings its partner Meat Naturally who has invented a mobile slaughterhouse. For crop farmers there is a 'From the region, for the region' campaign and some farmers report that good quality vegetables get higher prices. One innovation has been to get crop farmers to plant vegetables at different times so the selling season lasts longer, and so that the farmers avoid competing with each other.

15. Ongoing critical self-reflection and learning (i.e., process and/or developmental evaluation):

QCA score:

- 0
- 0.33
- 0.66
- 1

Scoring confidence:

- Low confidence
- Medium confidence
- High confidence

Data sources:

- Interviews
- Documents
- Observations

Please elaborate on the reasoning behind your scoring for this governance factor:

The K2C data team **regularly prepare data reports** based on environmental and social data collected daily by the Ecosystem Custodians (ECs) and site coordinators (Dumisa, Lucius and Brown). Data is collected via WhatsApp group and recorded in a manner that is easily understandable and usable for discussion of environmental issues. The ECs make between 18-32 entries per month. The Project Manager provides encouraging feedback to ECs and ensures that data is available for analysis through spreadsheet. Issues reported typically relate to garden work, search for leaking pipes, water flow etc. The ECs also report observed animal and plant species through the iNat App. Team members (Rangeland and Crops Teams) report monthly through online Google Form and this data is also made available through spreadsheet. Finally, data from the saving groups is collected and turned into printed dashboard displays. The latter are discussed in Chairpersons forum for saving groups meetings.

All the activity-based data and financial data goes into a MERL and Financial report that is discussed in the monthly MANCO meeting. The report provides a **cumulative tracking of results** from the last running year with a focus on training, saving groups, demonstration garden, biodiversity etc. It also carries a list of **issues for discussion and creative problemsolving**. Finally, it reports on financing. In the MANCO meeting that

we observed, the discussions lead to **many small reflections and learnings** about how to improve practices based on the issues raised through the elaborate reporting.

Every 3 months, there is **performance reflection** at the local level in Phiring. Every EC sits down with the Project Manager to evaluate performance. They start with simple questions (how is work coming along?) and then move on to more difficult questions (are there problems and potential solutions). Introduction of team captains came out of these reflection exercises.

There have also been **workshops with all the local stakeholders** who were part of the initial visioning process where results and possible learnings are discussed. In addition, there is focus on learning from each other in savings groups and within the group of crops farmers and cattle farmers.

16. Exercise of facilitative leadership:

QCA score:

- 0
- 0.33
- 0.66
- 1

Scoring confidence:

- Low confidence
- Medium confidence
- High confidence

Data sources:

- Interviews
- Documents
- Observations

Please elaborate on the reasoning behind your scoring for this governance factor:

The Project Manager chairs the **MANCO meeting**, but the COO frequently adds comments and asks people to comment on each other or on the presented data. The two leaders of the meetings aim to **facilitate knowledge sharing and joint discussion**. One of the key DWS partners says that leadership is enabling in the sense of helping different actors to contribute to achieve the common goals. At the meeting we observe, there is first a presentation round. Then, they go through all the tasks that people have been responsible for to establish accountability by hearing whether things have been done and with what result. After that, they talk about the future plans and priorities for every participant. Some local Phiring people representing the tourist association do not say much, although somewhat more at the end of the meeting. However, it was their very first MANCO meeting since it had just been decided to have local groups to participate on a rotational basis.

In the **Chairpersons forum for saving groups meeting**, we learn that there are **external facilitators** from K2C participating in **the saving groups** meetings and these are positively evaluated for their **facilitative leadership**. They support interactions in the meetings but are not members of the saving groups. They also help to train members and facilitate knowledge exchange across saving groups. The Project Manager and the Site Coordinator also exercise facilitative leadership in regular Chairpersons saving group meetings where problems with non-repayment are discussed. Everybody gets to speak going round the table and can comment on each other. Leaders are merely concluding discussions. That said, they regularly perform health checks on savings groups where problems are brought out and here soft power is combined with hard power as the Chairpersons are clearly told what they can and cannot do.

At one of the meetings, the **project manager** presents herself as ‘the glue that holds together the project’ and says that her priority will be to support others’ efforts to achieve results. This quote well captures the **essence of facilitative leadership**. In the interview, the project manager tells us that she thinks of herself as facilitating and coordinating project implementation by bringing actors together internally and externally. She organizes formal MANCO meetings, meetings with the site coordinator who leads ECs, crop and cattle groups and leaders of saving groups and performs health checks of saving groups. Site visits are almost daily. Culturally, it is expected that people meet face to face rather than online. On top of all her meetings, the WhatsApp platform creates a lot of emerging issues to respond to through ad hoc meetings for the project manager. She enforces rules for saving groups to prevent them from misusing funds but only through advice and facilitation of self-governance. She has personal KPIs and is evaluated on her exercise of leadership. Her boss says she is a **master of combining hard- and soft-handed leadership**.

Lower down, the Site Coordinator says that he makes a point for **facilitating joint discussion** with the local team members about what they have learned and what they recommend looking forward. Every Friday, he involves the team members in writing a report to the project leadership. Facilitating joint discussion is good for morale and team spirit. He says he is focused on helping people to connect across silos.

Outcome variable: Successfully co-created green transitions

The outcome variable ‘co-created green transitions’ will be scored in two parts. First, ‘co-creation’ will be scored based on an assessment of whether the participants in the initiative, project or process engaged in collaborative problem-solving that fostered creative ideas and innovative solutions (data will consist of survey data combined with interviews and documents). Next, ‘green transitions’ will be scored based on an assessment of whether the initiative, project or process has fulfilled or is expected to fulfill its green goals, ambitions and aspirations (data will consist of survey data combined with interviews and internal and/or external evaluation reports, including scientific publications).

The scoring of this variable is done in two parts:

1. *Is the developed solution based on collaborative problem-solving spurring creativity and innovative solutions?*
2. *Does the developed solution engender a green transition?*

This scoring should be conducted based on both the survey and complementary green outcome evaluations. Please consult Sections 4.4 and 6.10 in the Research Protocol for more details.

1. Is the developed solution based on co-creation?

QCA score:

- 0
- 0.33
- 0.66
- 1

Scoring confidence:

- Low confidence
- Medium confidence
- High confidence

Data sources:

- Survey
- Interviews
- Documents
- Observations

Please elaborate on the reasoning behind your scoring for this part of the governance factor, including the data sources used for the scoring.

The consultancy firm Red Couch conducted a **mid-term review of the DWS project in 2021**. The review has the form of a formative evaluation and highlights room for improvement. At that time, there was still several activities that had not yet been fully implemented (conservation agreements, CAPEX loans etc.).

Positive aspects of DWS identified include: strong recognition of interdependency amongst partners; strong commitment to collaboration; good community buy-in through Ecosystem Custodian model; strong interest in agroecology; new plans to connect sustainable agriculture to ecotourism, and good opportunities for knowledge sharing among partners.

Problems detected include: there should be more time for constructive criticism and open dialogue; more project-wide data sharing; more focus on future resource mobilization; and conflict between the Environmental Ministry and the Agricultural Ministry.

Our **case study** has shown that the diversity of actors from within and outside Phiring have worked together at a continuous basis to develop and adapt relatively innovative solutions to clearly identified local problems. The founding NGOs partners play a crucial role in driving change based on deliberation and creative problemsolving, and there is a high degree of local involvement and a good connection between the funding NGOs and the local participants. The formal public authorities seem to be less actively involved than the founding partners, but the local traditional authorities play a key role.

The **Endline Report** concludes: ‘The nature of the DWS Project is at its very core, collaborative and community-led.’

Our positive assessment of the role of co-creation as a lever for change is confirmed by **the mini-survey**. Although there are very few respondents, the answers we got clear show that the participants believe that co-creation has foster innovative and durable transformations.

If possible, please insert your survey responses in the table below (in % for each response), including the mean/average % for each survey item.

	Strong. dis.	Dis.	Slight. dis.	Neither agr/dis	Slight. agree	Agree	Strong. agree	Mean
1. Problem-solving mobilized different experiences, and/or ideas and/or forms of knowledge to develop new perspectives					1		7	
2. Through the collaborative problem-solving process, different experiences and/or ideas and/or forms of knowledge have been mobilized to search for unconventional solutions						3	5	

3. The collaborative problem-solving process mobilized different experiences, and/or ideas and/or forms of knowledge to search for solutions that go beyond standard/text-book solutions						3	5	
4. The co-created solution breaks with established practices		1	1		1		5	
5. The co-created solution disrupts conventional wisdom			1			1	6	
6. The co-created solution offers new ideas to address the green transition problem						2	6	
7. I'm supportive of the co-created solution					2	1	5	
8. I'm content with the overall collaborative process of the project						2	6	
9. I feel the multi-actor collaboration process was a prerequisite for the success of the project					1	2	5	
10. I'm satisfied by the results of the co-creation effort in terms of expected impact on the welfare of the community					1		7	
11. The collaborative interaction in the project has led to an innovative solution							8	
12. The actors involved in the project are engaged in collaborative interaction that stimulated creative problem-solving							8	
13. The co-created solution meets the proposed goals of the project							8	
14. The co-created solution will be durable and robust in the long run							8	
15. The co-created solution is expected to significantly improve sustainability for the whole community							8	

2. Does the developed solution engender a green transition?

QCA score:

- 0
- 0.33
- 0.66
- 1

Scoring confidence:

- Low confidence
- Medium confidence
- High confidence

Data sources:

- Survey
- Interviews
- Documents
- Observations

Please elaborate on the reasoning behind your scoring for this part of the governance factor, including the data sources used for the scoring:

One of the key goals was to transition agriculture into sustainable farming through the use of training, CAPEX loans and conservation agreements. According to the **Endline Report**, this goal has been largely achieved. While the target for the proportion of local people who sign Conservation Agreements was not met, 86% of the land designated for rangelands or croplands is under a Conservation Agreement (exceeding the target of 70%). As such, the target of 200ha under improved rangeland management has been achieved.

The **Endline Report** (2024) concludes:

- a) The DWS Project has taught the community different approaches to waste management. Composting organic waste has reduced the amount of waste people burn, and given the prioritization of tourism for Phiring, efforts to reduce litter in and around the village have also been prioritized.
- b) There has been a shift at a community level both in understanding the need to conserve water, awareness of issues such as leaking pipes, and active citizenship to fix said pipes timeously. The project has been instrumental in entrenching water conservation principles into the broader community leading to higher level impacts.
- c) The DWS Project has established, or supported, the establishment of a number of community governance structures in Phiring centred around Conservation Agreements. Feedback from all stakeholders indicates that a version of the savings groups will continue beyond the funding cycle.

The **Endline Report** carries this table summarizing some key achievements:

Outcome	Outcome indicator	Target	Achievement to date
The project aims to support the Bapedi Ba- Dinkwanyane community to respond to the impacts of climate change by implementing climate smart agriculture (agroecology) and sustainable rangeland management practices while creating access to markets for their produce	1. Proportion of land designated for Rangelands and Croplands falling under the Conservation Agreement where climate change resilience is addressed	1. 70%	86%
	2. Proportion of people with access to knowledge of sustainable land use Practices and Climate Change adaptation	2. 90% (50% women)	90% (54% women)
	3. Proportion of people practicing sustainable land use	3. 70% (50% women)	64%
	4. Proportion of people with increased access to markets	4. 60% (50% women)	
	5. Proportion of Savings Groups use governance assessment tool (Health Checks)	5. 60% (50% women)	100%

Observation of Chairman of saving groups meeting revealed one important green outcome:

- d) Recipients of CAPEX loans seem to have spent money on fostering green transition to sustainable agriculture in accordance with their conservation agreements; this is evidenced by the fact that there were few reports about violations of the demands for green actions, although some violations occur of the obligation to pay back loans and come to meetings on time.

Observation of MANCO meeting revealed two important green outcomes:

- e) The size of the total savings in saving groups is going up from cycle 1 to 2 and 3 meaning that more and more money is made available for sustainable agriculture. This is an important output.
- f) Major increase in animal species reported as a results of new farming practices. This is an important outcome that testifies to the impact of sustainable agriculture.

Onsite observations reveals that there are now a rudimentary form of green ecotourism with homestead mothers, well-marked nature attractions and a network of mountain paths.

The **mini-survey** confirms that the co-creation in the DWS has resulted in green solutions that facilitate adaptation to climate change and perhaps even enhance the sustainability of local agricultural and habitats.

If possible, please insert your survey responses in the table below (in % for each response).

1. The project:	Yes	No	Don't know
...did not produce any green transition solution		5	3
...is expected to produce/has produced a green transition solution aiming to avoid a worsening in the status quo	5	1	2
...is expected to produce/has produced a green transition solution aiming to maintain the status quo	7		1
...is expected to produce/has produced a green transition solution aiming to improve the status quo	5		3

Please list all the informants you have interviewed for the case study (list project role + interview date):

<p>The following informants have been interviewed during our site visit to Hoedspruit and Phiring 12-24 August 2023:</p> <p>COO K2C</p> <p>Dinkwanyane Water smart project manager</p> <p>Site Manager</p> <p>Team leader agroecology and tourism (focus group 1)</p> <p>Team leader rangeland management (focus group 1)</p> <p>Ecosystem Custodian (focus group 1)</p> <p>Ecosystem Custodian (focus group 1)</p> <p>Dinkwanyane traditional Authority (hand of the chief) (focus group 2)</p> <p>Ba-Dinkwanyane Tourism Association Chairperson (focus group 2)</p> <p>Livestock farmer & Savings Group Chairperson (focus group 2)</p> <p>Ward Committee (focus group 2)</p> <p>Ba-Dinkwenyane Tourism Association Secretary (focus group 2)</p> <p>Irrigation Scheme Chairperson (focus group 2)</p> <p>Crop farmer & Savings Group chairperson (focus group 2)</p> <p>Savings Group committee member & Livestock committee (focus group 2)</p> <p>Dinkwanyane Water smart project site coordinator</p> <p>Financial Officer K2C</p> <p>Hoedspruit Hub</p> <p>Farmer and CAPEX receiver</p> <p>Farmer and CAPEX receiver</p> <p>Ba-Dinkwanyane Tourism Association Chairperson (single interview)</p> <p>Conservation South Africa (focus group 3)</p> <p>Conservation South Africa (focus group 3)</p>
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Conservation South Africa (focus group 3)
Conservation South Africa (focus group 3)
Limpopo Department of Economic Development, Environment and Tourism

Please list all the observations you have made (type of meeting/workshop/etc. + observation date):

We made two observations during our site visit:
MANCO meeting, 18th of August, 2023
Chairperson forum meeting for Saving Groups, 21st of August, 2023

Please list all the documents you have analyzed (document name + source + year):

Examples of Conservations Agreements

MERL and Financial Report Y5, June 2023

ADDENDUM A DWS MERL Data Capture, June 2023

ADDENDUM B DWS Data Report, June 2023

ADDENDUM C Combined DWS 2022-23 K2C, CSA and HH WP Tracking, June 2023

ADDENDUM D June chairpersons meeting minutes, June 2023

K2C Biosphere Region, South Africa, 2nd Periodic Review, 2023

Red Couch: Midterm Review: Dinkwayane water smart partnership project funded by the government of Flanders, 2021

BTA Trails Guide Rev 2

Final 2022-2023 IDP Review SC02-05-22 30, May 2022

National Climate Change Adaptation Strategy SA

Endline Evaluation: Dinkwayane Water Smart Partnership Project Funded by the Government of Flanders, Red Couch, February 2024.

Please note the response rate for the survey/measurement of outcome variable:

The response rate in the survey was 30%.