Evaluation of the Water4Virungas project

In DRC, Rwanda and Uganda (2017-2021)

aidenvironment

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Abbreviations

Acronym	Meaning
ASUREP	Association des Usagers d'Eau Potable (Association of Drinking Water Users)
CBO	Community Based Organisation
CCD	Conservation and Development Committee
CDF	Congolese Franc
CPD	Cellule de Paix et de Développement
CLPD	Comité Local de Paix et de Développement
D2B	Develop 2 Build
DRC	Democratic Republic of Congo
EKN	Embassy of the Kingdom of the Netherlands
FARM	Food security and inclusive Access to Resources for conflict-sensitive Market development
FGD	Focus Group Discussion
GALS	Gender Action Learning System
GLRP	Great Lakes Regional Programme
GVTC	Greater Virunga Transboundary Collaboration
Hinga Weze	Feed the Future Hinga Weze
HWC	Human Wildlife Conflict
ICCN	Institut Congolais pour la Conservation de la Nature
IGCP	International Gorilla Conservation Program
IWRM	Integrated Water Resource Management
KII	Key Informant Interview
KVWSE	Kisoro Virunga Water Supply Extension
LG	Local Government
MC	Mercy Corps
MCCDA	Mgahinga Community Conservation Development Association
MDF	Management for Development Foundation
MoU	Memorandum of Understanding
M&E	Monitoring and evaluation
NPD	Noyaux de Paix et de Développement
NWSC	National Water and Sewerage Corporation (Uganda)
OECD DAC	Organisation for Economic Co-operation and Development - Development Assistance Committee
O&M	Operation and Maintenance
PIP	Plan Intégré du Paysan (Integrated Farmer Plan)
PMP	Plateforme/Partenariat Multi Partites (MSP / Multi Stakeholder Platform)
PSP	Public Stand Point
PWCC	Parish Water and conservation Committee
PWMC	Parish Water Management Committee / Parish Water User Committee
RAB	Rwanda Agriculture Board

RDB	Rwanda Development Board
RDC	République Démocratique du Congo
RMPR	Rwanda Monthly Progress Report
RWF	Rwandan Franc
RWHT	Rainwater Harvesting Tank
ToC	Theory of Change
UGX	Ugandan Shilling
UMPR	Uganda Monthly Progress Report
UWA	Uganda Wildlife Authority
VSLA	Village Savings and Loans Association
W4V	Water4Virungas
WASAC	Water and Sanitation Corporation (Rwanda)
WASH	Water Sanitation Hygiene
WMC	Water Management Committee (in Uganda: a parish level committee of representatives of RWHT level WUCs)
WSP	Water Service Provider
WUC	Water User Committee
WUR	Wageningen University & Research

1. Executive summaries

1.1. English executive summary

1.1.1. Project development

Water4Virungas (W4V) was established as a project in December 2016, funded by the Embassy of the Kingdom of the Netherlands (EKN) in Kigali (Rwanda) and coordinated by MDF Global in collaboration with Stichting Wageningen University & Research (WUR, represented by Wageningen Environmental Research and Wageningen Centre for Development Innovation), Witteveen+Bos and the International Gorilla Conservation Program (IGCP). The goal of the project was to reduce conflicts through increased access to water and improved watershed management in the Virunga Area.

W4V saw several defining moments during which the approach, methods and M&E framework outcomes changed, caused by external and internal factors. The M&E framework of the project was adjusted based after a peer monitoring process between three projects on the water / food security interface (W4V, FARM and Mayi Ya Amani) in 2017 / 2018, facilitated by Transition International. Discussion and adaptation of the M&E framework / logframe took place and resulted in more focus on conflict in general, but also in some delay in implementation. Internal changes included the shift from the central organisation of the project to a national management led by project officers based in each of the three countries, the introduction of the PIP approach to cover the IWRM component of the project and the reduction of the involvement of Dutch experts.

An IWRM approach was planned to be integrated, and indeed elements of IWRM have been implemented as part of the PIP approach, but this was not based on IWRM plans considering the whole (sub-) catchments. IWRM plans were meant to be developed, but that has not been feasible within the project period. The PIP approach has brought many good things, but as it is focused on farmer level, it is not sufficient for an approach at catchment level, which needs the involvement of stakeholders at a larger scale (e.g., LG, landowners). However, many sessions were hold with local staff in all three countries to disseminate the principles and methodologies of IWRM.

The project was to be implemented with the role for GVTC to facilitate meetings on transboundary water issues between relevant stakeholders. When the funding for GVTC by EKN ended, the active role of GVTC was over. Moreover, the role of GVTC has not always been clear to the people involved in W4V.

1.1.2. Methodology

The evaluation followed four phases. An inception phase, a preparation and data collection phase, a data analysis phase and then a validation and reporting phase. The objective of the evaluation was to review the W4V project according to the OECD DAC criteria of relevance, coherence, effectiveness, efficiency, impact, and sustainability. To do so, the evaluators used a mixed-method approach with an emphasis on qualitative data analysis. As requested by the client, the evaluation sought to analyse detailed experiences of the project beneficiaries to understand the long-term impact and sustainability of the project. The qualitative methods applied were document reviews, focus group discussions (FGD), key informant interviews (KII) and infrastructure observations. The more quantitative methods applied entailed household questionnaires. The evaluation respects the anonymity of the respondents.

1.1.3. Achievements

General

Outcome 1: WASH and IWRM

Water supply has improved to a large extent, as well as the handover of water schemes. The PIP approach has produced good results (e.g., in measures against soil erosion), although not at the scale that was targeted. Regarding the measures to counter erosion, the reporting is somewhat spread out:

- In Résultats obtenus comparés aux prévisions V2.pdf, 624 ha in DRC + 7,1 ha in Uganda and 2 villages (under the indicator Landscape planning: Restoration of farming land) are mentioned, while
- In W4V ME Progress Report_V11 November 2021.xlsx, no results are mentioned at indicators 1 e (Number of hectares of agricultural of farmland converted to sustainable use) or 1.2b (Number of hectares rehabilitated by the community as a result of adoption of best practices demonstrated), and
- In W4V ME Progress Report_V11 November 2021.xlsx, a result of 11,4 ha in Rwanda (under the activity Farming land converted to sustainable use) is mentioned (under the indicator % change in average agricultural production at household level) and 2 villages.

Outcome 2: Water management and governance

Regarding water management, the results are more mixed: community members have more trust in LG and are satisfied with water provision. The indicators focusing more on the long-term results / sustainability, like the facilitation of stakeholders to legalize WUCs, and support LG in development of action, operational and financial plans, were not reached.

Outcome 3: Improved relations

Less attention has been paid to monitoring of outcome 3, as compared to outcomes 1 and 2. On output level, the PMP approach seems promising.

DRC

Outcome 1: WASH and IWRM

The water access has improved both for domestic and livestock purposes. 3565 households now have better access to water. The percentage of households that have at least 20 liters of safe water per day has grown from 43,3% (baseline) to 94,6% (internal evaluation). Community and household RWHTs were built for villages located on the hills and a 23 km long gravity flow connection between the uphill and downhill populations was created to improve the distribution of the water. The tanks are still in good state, and no repair cases were reported.

The distance and the time required to fetch water has therefore decreased. Still, during the dry season, RWHTs are empty in the villages on the hills (e.g., in Kisigari), and people need to walk towards the standpipes further away (but not anymore into the park, according to the park authorities).

W4V has also rehabilitated 53 rainwater harvesting systems, each with a 5m³ tank. Rainwater is used for domestic purposes, and some households also use it for drinking (after boiling).

Runoff control techniques introduced with the PIP approach have proven successful and the project beneficiaries report only a mild erosion on their farm. 17 villages and 624 ha (as mentioned in Résultats obtenus comparés aux prévisions V2.pdf) were covered. Crop production has increased.

Outcome 2: Water management and governance

One WMC was introduced per RWHTs or tap stand. Their responsibilities included, but were not limited to, operation and maintenance responsibilities and the collection of fees from the water infrastructure users. A significant increase in attendance to LG meetings by WMCs has been noted, and the other way around (LG attending WMC conflict mediation meetings). The indicators focusing more on the long term results / sustainability, like the facilitation of stakeholders to legalize WUCs and support LG in action, operational and financial plans, were not reached. The satisfaction of the communities regarding the water services provided by the LG remains low. First steps towards the development of IWRM plans have been set.

Outcome 3: Improved relations

W4V successfully implemented the PMP approach, primarily in Kibumba, Jomba and Kisigari groupements. Many conflicts (water related, crop related, and plot boundary related) were transformed. In addition, W4V fostered discussion between communities and the park authorities, leading to the implementation of the already existing agreement to let communities enter the park on a weekly basis, and a decrease in illegal park entrances was noted. Furthermore, the implementation of the electric fence also

reduced the human-wildlife conflicts. GVTC and its centre of excellence were involved at the start of W4V and seem to continue to operate their mediation work.

Rwanda

Outcome 1: WASH and IWRM

Water access has increased through the construction of 575 RWHTs in the four districts of interventions. 2800 households now have better access to water. The percentage of households that have at least 20 liters of safe water per day has grown from 63,3% (baseline) to 91,6% (internal evaluation). One of the results was the decrease of people entering the park for water. Currently almost all the beneficiaries walk less than 30 minutes to collect water for domestic and livestock purposes. During the rainy season, people prefer other water sources like the piped water from WASAC. RWHTs were primarily meant to reduce runoff; domestic use (washing clothes, cooking) was a secondary benefit, like drinking (in the dry season). The PIP approach has made people aware of measures against erosion. 11,4 ha of farming land have been converted to sustainable use; this represents 0,06% of surface of the total Rwandan intervention area. Many (440.831) trees and stabilizing grasses have been planted here, but as far as can be overseen, trees were majorly planted in already sustainably managed areas, i.e., in Cyanika sector, bamboos were planted along roadside culvert outlets. Fruit trees were planted on already well managed farmlands under agroforestry. In Nyabihu, some trees were planted to stabilise drainage channels that had been constructed. Other trees were planted in the buffer zone along the park (so, not a farmland area). So, tree planting seems to have reinforced already quite sustainable land management, and not so much changed unsustainably into sustainably managed lands.

Outcome 2: Water management and governance

Like in the DRC, the W4V team introduced WMCs with the implementation of RWHTs. In addition, a significant increase in LG meeting attendance has been noted: LG representatives and WMCs attend now more each other's meetings. Yet, the satisfaction of the communities regarding the water services provided by the LG remains low. Other indicators focusing more on the long term results / sustainability, like support of LG in action, operational and financial plans, were not reached. IWRM elements have been implemented, but no IWRM plans have been developed.

Outcome 3: Improved relations

Conflicts with the park authorities decreased because the number of illegal entrances in the park also decreased due to the availability of water resources. The maintenance of the stone wall and the trench (in which community cooperatives participated) has decreased the number of human-wildlife conflicts, but tensions still exist because crop raiding is still taking place, as about 1 km of the border is not fenced. Several MoUs were

signed between W4V and relevant stakeholders to create an enabling environment for the continuation of the project.

Uganda

Outcome 1: Wash and IWRM

Water access increased through the implementation of RWHTs, and the Kisoro Virunga Water Supply Extension (KVWSE) piped water (built with NWSC). W4V built new RWHTs and renovated old RWHTs. Moreover, there have been numerous repairs of leakages of pipes made to the NWSC water supply systems. 5200 households now have better access to water. The percentage of households that have at least 20 liters of safe water per day has grown from 65,8% (baseline) to 96,1% (internal evaluation). Thanks to this, the percentage of households that have at least access to water from a protected source within a walking distance of 30 minutes, has increased from 40,9% to 88,6% (internal evaluation). Moreover, much more people feel safer when accessing water. The PIP approach introduced several successful techniques that reduced flooding, soil erosion and gully formation. In Résultats obtenus comparés aux prévisions V2.pdf, 7,1 ha (under the indicator Landscape planning: Restoration of farming land) and 2 villages are mentioned.

Outcome 2: Water management and governance

W4V introduced one WMC per each RWHT and tap from the KVWSE pipeline. In addition, 7 members of the WMCs were elected to form a PWMC, which oversees and guides the activities of the WMCs. The percentage of households who consistently pay for the water supply services has grown significantly. By the end of the project, a significant increase in LG meeting attendance has been noted and 54% of the respondents were satisfied by the water services the LG provide. Other indicators focusing on the long-term results / sustainability, like the support of LG in action, operational and financial plans, were not reached. Instead of IWRM plans, plans to mitigate landslides have been developed.

Outcome 3: Improved relations

98% of the survey respondents indicated that the project had a positive impact on the reduction of conflicts in the area. In addition, 97% of the respondents believe that conflicts related to water and watershed management have reduced and 98% indicated an improved relationship with the park authorities since the past 2 years. The latter was improved (among others) by linking the communities to the UWA and by the reinforcement of the stone wall delimiting the park boundary.

1.1.4. Assessment of the project

Relevance

W4V was highly relevant to the region and its communities. The project's goal and objectives were in line with the needs and priorities of most stakeholders and the final beneficiaries of the project. Several activities were developed to provide both tangible (e.g., the construction of the electrical fence, the introduction of RWHTs, the reinforcement of the stonewall) and intangible (e.g., setting up PMPs, linking the communities with the governments and park authorities) outcomes that would solve the underlying issues in the region. The decisions on the siting of the RWHTs (and their soak away pits) were not everywhere the best to address the underlying issues. The PIP approach allowed to tackle several needs of the different target groups.

The goals of the embassy were not fulfilled completely but some of the stakeholders as well as the evaluating team found these too ambitious for both the time and the area of intervention.

Coherence

W4V sought coherence both with the GLRP (Great Lakes Regional Programme) and projects (e.g., FARM, Maji ya Amani, Hinga Weze) taking place in the area. The project was in line with the Maji ya Amani and FARM projects, both in their approach (linking governments and communities) and in their goals (regional stability and increased water access). This did not mean that these programs collaborated. Particularly collaboration with the FARM project did not materialize as planned. In addition, in all three countries, W4V strove to work hand in hand with the local and park authorities and to develop activities that fitted their policies and development plans targeting the project area. The evaluators found that within the project team there were different ideas on the use of fences and walls and the implementation of RWHT for floodwater reduction also showed incoherence in some cases. It would have been good if the project could have contributed to the full fencing / walling of the parks, in order not to displace problems.

Effectiveness

The project delivered the outcomes effectively and beyond what could have been expected under the conditions in the different countries. The changes in the approach reduced the effectiveness. The peer monitoring organized by the Dutch Embassy and facilitated by Transition International improved the project's logic and the link between the outcomes and outputs. This helped to reformulate the M&E framework so that W4V focussed on conflict but within the limits of water management and relations between the park and the people. In chapter 5 (section 5.3)we describe how the reformulation challenged the effectiveness, for time reasons but also for the team to internalize and achieve ownership over the new Theory of Change.

On a more practical level, the use of RWHTs as a runoff control measure can be disputed because of the relatively small amount of water that can be stored within the tanks compared to the average rainfall, and the siting of the soak pits not around the tanks. The quality of the infrastructures was generally good although some RWHTs in Bugeshi (Rwanda) were reported to be fragile (design adapted afterward), bursting of the KVWSE pipes (Uganda) has already been noted. One reason for breakdown and leakage of the KVWSE system was given (by the NWSC general manager) was vandalism by community members, as e.g., nuts and screws can be sold for some quick cash, or because of jealous neighbouring village members that did not benefit from the project. Another reason for the breakdown of the pipes may be found in e.g., Mwanjali village, where the tap stands had never been functional from the time they had been installed, so here, construction may not have been done properly.

The percentages of people that consistently pay for their water, in general has increased. The results of the PIP approach have convinced others to get trained, and the LGs to work with the PIs. PMPs have contributed significantly to conflict resolution (different types of conflicts).

Efficiency

In terms of budgeting the project provided value for money, particularly given the difficult context in which it operates and the over-achievement on the outputs (conflict, covid etc). Several complaints on the lack of communication and transparency regarding the budget have been noted. While W4V relied heavily on international expertise at the first years of the project, during later years there was a more efficient bottom-up approach through the PIP. Delays were caused by both internal and external factors. The availability (due to insecurity, Covid-19) and, partly linked to that, the added value of international expertise were judged differently in the three countries.

Impact

The significant impact of W4V can be largely attributed to its activities and to the fact that the project worked with the communities to support them in their ongoing efforts. Noteworthy is the target on communities accessing water, which has been reached for 95% (almost 6000 households, for the three countries together). Many (different type of) conflicts have been transformed. Moreover, some (anecdotal) positive unintended impacts were noticed by stakeholders, such as a reduction of water borne diseases, increase of social cohesion, and increased attendance to school.

Sustainability

The project clearly focussed on activities with long term sustainability. For instance, the PIs were instructed to teach other interested farmers to continue spreading the approach. The WMCs are an example of a means to increase maintenance efforts (and

therefore sustainability) of the implemented infrastructure. The payment for water should lead to long-term use etc. Yet, the stakeholders have voiced their concern regarding the end of the project and the impact it will have on the continuation of the activities. Payment for water has significantly increased, while the support to LG (e.g., in formulating action plans) has not reached its targets. The sustainability of the involvement of the WMCs remains to be seen, with a dwindling feeling of responsibility for maintenance of (water) infrastructure. Even though the transfer of knowledge is part of the PIP approach, a continuous transfer of knowledge beyond the project lifetime appears to be a challenge. The concept of IWRM has not really been transferred although elements have been implemented; no IWRM plans have been developed (yet). Some external key blockages can be foreseen to the sustainability of the effects of W4V e.g., civil unrests / insecurity, the lack of support from national authorities, the lack of funding, and natural hazards.

1.1.5. Conclusions

W4V was a very relevant project that aligned well with the ongoing activities in the area (other projects and local politics). The effective implementation of the ToC was delayed by changes in the approach, but these changes led to a more prominent role for conflict resolution. In the meantime, steady progress was made on implementation of infrastructures. The PIP approach was found a very useful alternative for the IWRM approach, but the evaluators conclude there could have been more efforts into the catchment approach of IWRM. The project efficiently achieved and over-achieved part of its outputs and consequently positively impacted the area. It is too early to conclude on the sustainability of W4V. We can only observe what measures have been taken within the project to make the chances on sustainable project results larger.

1.1.6. Recommendations / lessons learnt

For the consortium implementing the project

The evaluators acknowledge the fact that changing a ToC, approaches and partner organisation during a project can be relevant and necessary (and caused by a necessary reflection process). This however needs to be compensated with new timelines for the deliverables. In addition, allowing the implementation team to have more insight to the budget will increase the efficiency of the project.

For the GLRP

The GLRP needs to consider whether traditional 4-year implementation projects can be asked to address the underlying causes of conflict in a region like Virunga. We believe the conflict strategy report for W4V captured very well what the problem is and how it should be addressed ideally. Considerable input and involvement by a donor during the project can be beneficial, but it can frustrate the implementing organizations as well in

their efforts to implement a project and the need to adapt. 'Rewarding' the project with more time or more finances then becomes reasonable.

For park authorities, LGs

The extension of the stone wall and electrical fence along the park boundaries would have reinforced the impact of W4V. While keeping an eye on manageability of many stakeholders involved, involvement of a variety of relevant district departments and religious leaders can help to spread messages and mobilize communities.

1.2. Résumé français

1.2.1. Élaboration du projet

Water4Virungas (W4V) a été créé en tant que projet en décembre 2016, financé par l'ambassade du Royaume des Pays-Bas (EKN) et coordonné par MDF Global en collaboration avec Stichting Wageningen University & Research (WUR, représenté par Wageningen Environmental Research et Wageningen Centre for Development Innovation), Witteveen+Bos et le Programme International pour la Conservation des Gorilles (IGCP). L'objectif du projet était de réduire les conflits grâce à un meilleur accès à l'eau et à une meilleure gestion des bassins versants dans la région des Virunga.

En raison de facteurs externes et internes au projet, W4V a connu plusieurs moments déterminants au cours desquels l'approche, les méthodes et le cadre du suivi et de l'évaluation ont changé. Le cadre du suivi et de l'évaluation du projet a été ajustée en fonction des résultats du suivi par les pairs, réalisé par Transition International en 2017 / 2018 parmi les trois projets portants sur le nexus eau / sécurité alimentaire (W4V, FARM et Mayi Ya Amani). La discussion et l'adaptation des résultats (outcomes) ont abouti sur la décision de se focaliser plus sur le conflit en général, induisant en même temps un certain retard dans la mise en œuvre du projet. Les changements internes au projet comprennent le passage de l'organisation centrale du projet à une gestion nationale dirigée par des chargés de projet basés dans chacun des trois pays, l'introduction de l'approche PIP pour couvrir la composante GIRE du projet et la réduction de l'implication d'experts néerlandais.

Une approche GIRE devrait être intégrée, et en effet des éléments de GIRE ont été mis en œuvre dans le cadre de l'approche PIP, mais cela n'était pas basé sur des plans GIRE prenant en compte les bassins versants. Les plans GIRE devraient être élaborés, mais cela n'a pas été possible pendant la durée du projet. L'approche PIP a apporté beaucoup de bonnes choses, mais comme elle est centrée au niveau des agriculteurs, elle n'est pas suffisante pour une approche au niveau du bassin versant, qui nécessite l'implication des parties prenantes à une plus grande échelle (p.e. les autorités locales et les

propriétaires fonciers). Cependant, de nombreuses sessions ont été organisées avec le personnel local dans les 3 pays pour diffuser les principes et les méthodologies de la GIRE.

Le projet devrait être mis en œuvre avec le rôle du GVTC à faciliter des rencontres des acteurs pertinents sur des problèmes d'eau transfrontaliers. Du moment le financement de l'EKN pour GVTC a été terminé, le rôle active de GVTC a arrêté. En plus, le rôle de GVTC n'a pas toujours été claire pour les personnes impliquées dans W4V.

1.2.2. Méthodologie

L'évaluation a suivi quatre phases, soit une phase de mise en route, une phase de préparation et de collecte de données, une phase d'analyse des données, et enfin, une phase de validation et de rapport. L'objectif de l'évaluation était d'examiner les composantes de W4V en utilisant les critères actualisés du CAD de l'OCDE en matière de pertinence, de cohérence, d'efficacité, d'efficience, d'impact et de durabilité. Pour ce faire, une approche à méthodes mixtes a été utilisée en mettant l'accent sur l'analyse qualitative des données. Comme demandé par le client, l'évaluation visait à analyser les expériences détaillées des bénéficiaires du projet et à comprendre l'impact à long terme et la durabilité du projet. Les méthodes qualitatives utilisées sont les suivantes : revues de documents, discussions de groupe ciblées (FGD), des entretiens avec des informateurs clés (KII) et des observations des infrastructures. Les méthodes plutôt quantitatives utilisées comprennent des questionnaires destinés aux ménages. L'évaluation respecte l'anonymat des répondants.

1.2.3. Résultats

Général

Résultat 1 : WASH et GIRE

L'approvisionnement en eau s'est amélioré dans une large mesure, ainsi que le transfert des systèmes d'approvisionnement en eau. L'approche PIP a produit de bons résultats (par exemple dans les mesures contre l'érosion des sols), mais pas à l'échelle qui était visée. Concernant les mesures de lutte contre l'érosion, le rapportage est un peu éparpillé :

• Dans Résultats obtenus comparés aux espérés V2.pdf, 624 ha en RDC + 7,1 ha en Ouganda et 2 villages (sous l'indicateur Aménagement du paysage : Restauration des terres agricoles) sont mentionnés, tandis que

• Dans W4V ME Progress Report_V11 novembre 2021.xlsx, aucun résultat n'est mentionné au niveau des indicateurs 1e (Nombre d'hectares de terres agricoles converties en utilisation durable) ou 1.2b (Nombre d'hectares réhabilités par la communauté comme résultat de l'adoption des meilleures pratiques démontrées), et

• Dans W4V ME Progress Report_V11 novembre 2021.xlsx, un résultat de 11,4 ha au Rwanda (sous l'activité Terres agricoles converties à une utilisation durable) est

mentionné (sous l'indicateur % de changement de la production agricole moyenne au niveau des ménages) et 2 villages.

Résultat 2 : Gestion et gouvernance de l'eau

En ce qui concerne la gestion de l'eau, les résultats sont plus mélangés : les membres de la communauté ont plus confiance en les autorités locaux et sont satisfaits de l'approvisionnement en eau. Les indicateurs se concentrant davantage sur les résultats à long terme / la durabilité, comme la facilitation des parties prenantes pour légaliser les WUC et soutenir les LG dans le développement des plans l'action, des plans opérationnels et des plans financiers, n'ont pas été atteints.

Résultat 3 : Amélioration des relations

Moins d'attention a été accordée au suivi du résultat 3, par rapport aux résultats 1 et 2. Au niveau des extrants, l'approche PMP semble prometteuse.

RDC

Résultat 1 : WASH et GIRE

L'accès à l'eau est amélioré à la fois pour les besoins domestiques et pour l'élevage. 3565 ménages ont désormais un meilleur accès à l'eau. Le pourcentage de ménages disposant d'au moins 20 litres d'eau potable par jour est passé de 43,3 % (base de référence) à 94,6 % (évaluation interne). Des réservoirs pour l'eau de pluie communautaires et privés ont été construits pour les villages situés dans les collines et une liaison gravitaire de 23 km de long entre les populations en amont et en aval a été créée afin d'améliorer la distribution de l'eau. Les réservoirs sont en bon état et des cas de réparations n'ont pas été rapportés.

La distance et le temps nécessaires pour aller chercher de l'eau ont donc considérablement diminué. Quand-même, pendant la saison sèche, les réservoirs dans les villages en amont (p.e. à Kisigari) sont vides, et les gens doivent marcher vers les bornes-fontaines plus éloignées (mais plus dans le parc, selon les autorités du parc). W4V a également réhabilité 53 systèmes de récupération d'eau de pluie, chacun avec un réservoir de 5 m³, pour desservir 8 000 ménages (KII / réunion). L'eau de pluie est utilisée à des fins domestiques, et certains ménages l'utilisent également pour boire (après l'avoir fait bouillir).

De plus, les techniques de contrôle du ruissellement introduites avec l'approche PIP ont fait leurs preuves et les bénéficiaires du projet ne signalent qu'une légère érosion sur leurs champs. 17 villages et 624 ha (tels que mentionnés dans Résultats comparés aux espérés V2.pdf) ont été touchés. La production agricole a augmenté.

Résultat 2 : Gestion et gouvernance de l'eau

Un comité des usagers de l'eau (WMC) a été mis en place par réservoir ou borne fontaine. Leurs responsabilités comprennent, sans toutefois s'y limiter, l'opération et l'entretien l'infrastructure, la collecte des redevances auprès des utilisateurs des infrastructures d'eau. En outre, une augmentation significative de la participation des WMC aux réunions des gouvernements locaux a été notée, et dans l'autre sens aussi.
Les indicateurs se concentrant davantage sur les résultats à long terme / la durabilité, comme la facilitation des parties prenantes pour légaliser les WUC et soutenir les LG dans le développement des plans l'action, des plans opérationnels et des plans financiers, n'ont pas été atteints. La satisfaction des communautés vis-à-vis des services d'eau fournis par le gouvernement local reste faible. Les premières étapes vers l'élaboration de plans de GIRE ont été définies.

Résultat 3 : Amélioration des relations

L'approche PMP a été mise en œuvre avec succès en RDC et est principalement active dans les groupements de Kibumba, Jomba et Kisigari. De nombreux conflits (liés à l'eau, aux cultures et aux limites des parcelles) ont été transformés. De plus, W4V a encouragé la discussion entre les communautés et les autorités du parc, ce qui a conduit à la mise en œuvre des accords déjà existants pour permettre aux communautés d'entrer dans le parc sur une base hebdomadaire. Par conséquent, une diminution des entrées illégales dans le parc a été constatée. De plus, la mise en place de la clôture électrique a également réduit les conflits homme-animaux sauvages.

Rwanda

Résultat 1 : WASH et GIRE

L'accès à l'eau a augmenté grâce à la construction de 575 réservoirs dans les quatre districts d'intervention. 2800 ménages ont désormais un meilleur accès à l'eau. Le pourcentage de ménages disposant d'au moins 20 litres d'eau potable par jour est passé de 63,3 % (base de référence) à 91,6 % (évaluation interne). Ainsi l'entrée dans le parc pour la recherche d'eau a diminuée. La quasi-totalité des bénéficiaires doit marcher moins de 30 minutes pour aller chercher de l'eau à des fins domestiques et d'élevage. Pendant la saison des pluies, les gens préfèrent d'autres sources d'eau comme l'eau du NWSC. Les réservoirs visaient principalement à réduire le ruissellement, l'usage domestique (laver les vêtements, cuisiner) était un avantage secondaire, comme l'eau potable (en saison sèche). 11,4 hectares de terres agricoles ont été convertis à une utilisation durable ; cela représente 0,06% de la superficie de la zone totale d'intervention rwandaise. De nombreux (440.831) arbres et herbes stabilisatrices y ont été plantés mais pour autant que l'on puisse en juger, les arbres ont été principalement plantés dans des zones déjà gérées de manière durable, par ex. dans le secteur de Cyanika, des bambous avaient été plantés le long des sorties de ponceaux en bordure de route. Des arbres fruitiers ont été plantés sur des terres agricoles déjà bien gérées en

agroforesterie. À Nyabihu, des arbres ont été plantés pour stabiliser les canaux de drainage qui avaient été construits. D'autres arbres ont été plantés dans la zone tampon le long du parc (donc pas une zone agricole). Ainsi, la plantation d'arbres semble avoir renforcé une gestion des terres déjà assez durable, et pas tellement changé des terres gérées de manière non durable en terres gérées de manière durable.

Résultat 2 : Gestion et gouvernance de l'eau

Comme en RDC, des WMC fonctionnels ont été introduits par RWHT. En outre, une augmentation significative de la participation aux réunions du gouvernement local a été notée. Pourtant, la satisfaction des communautés vis-à-vis des services d'eau fournis par le gouvernement local reste faible. D'autres indicateurs axés davantage sur les résultats à long terme / la durabilité, comme le soutien du gouvernement local dans le développement des plans d'action, des plans opérationnels et des plans financiers, n'ont pas été atteints. Des éléments GIRE ont été mis en œuvre, mais aucun plan GIRE n'a été élaboré.

Résultat 3 : Amélioration des relations

À mesure que les entrées illégales dans le parc ont diminué, les conflits avec les autorités du parc suivit le même schéma. De plus, la réhabilitation du mur de pierre (auquel les coopératives communautaires ont participé) a diminué le nombre de conflits homme-animaux sauvages, mais des tensions existent toujours parce que le pillage des récoltes a toujours lieu, car environ 1 km de la frontière n'est pas clôturé. Plusieurs accords ont été signés entre W4V et les parties prenantes concernées afin de créer un environnement propice à la progression du projet.

Ouganda

Résultat 1 : WASH et GIRE

L'accès à l'eau a été fortement amélioré grâce à la mise en œuvre de réservoirs et de l'eau courante Kisoro Virunga Water Supply Extension (KVWSE) (construite avec NWSC). En effet, de nouveaux réservoirs ont été construits dans les trois paroisses. De plus, de nombreuses réparations de fuites de tuyaux ont été effectuées sur les systèmes d'approvisionnement en eau de la NWSC. 5200 ménages ont désormais un meilleur accès à l'eau. Le pourcentage de ménages disposant d'au moins 20 litres d'eau potable par jour est passé de 65,8 % (base de référence) à 96,1 % (évaluation interne). Grâce à ces infrastructures, le pourcentage de ménages qui ont au moins accès à l'eau d'une source protégée à une distance de marche de 30 minutes, est passé de 40,9% à 88,6%. De plus, beaucoup plus de gens se sentent plus en sécurité lorsqu'ils accèdent à l'eau. L'approche PIP a introduit plusieurs techniques efficaces afin de réduire les inondations, l'érosion des sols et la formation de ravins. Dans Résultats obtenus comparés aux usagés V2.pdf, 7,1 ha (sous l'indicateur Aménagement du paysage : Restauration des terres agricoles) et 2 villages sont mentionnés.

Résultat 2 : Gestion et gouvernance de l'eau

W4V a introduit un WMC pour chaque réservoir et borne fontaine du système KVWSE. En outre, 7 membres des WMC ont été élus pour former un comité paroissial des usagers de l'eau (PWMC), qui supervise et guide les activités des WMC. Le pourcentage de ménages qui paient régulièrement pour les services d'approvisionnement en eau a considérablement augmenté. À la fin du projet, une augmentation significative du nombre de participants aux réunions du LG a été notée et 54 % des répondants étaient satisfaits des services d'eau fournis par le LG. D'autres indicateurs axés sur les résultats à long terme / la durabilité, comme le soutien de LG dans le développement des plans d'action, des plans opérationnels et des plans financiers, n'ont pas été atteints. Au lieu de plans GIRE, des plans de réduction des glissements de terrain ont été élaborés.

Résultat 3 : Amélioration des relations

98% des répondants au sondage ont indiqué que le projet avait eu un impact positif sur la réduction des conflits dans la région. De plus, 97% des répondants estiment que les conflits liés à la gestion de l'eau et des bassins versants ont diminué et 98% ont indiqué une amélioration des relations avec les autorités du parc depuis les 2 dernières années. Ce dernier a été amélioré (notamment) par la mise en relation des communautés avec l'Ugandan Wildlife Authority et par le renforcement du mur de pierre délimitant le parc.

1.2.4. Évaluation du projet

Pertinence

W4V était très pertinent pour la région et ses communautés. En effet, le but et les objectifs du projet étaient conformes aux besoins et aux priorités de la plupart des parties prenantes et des bénéficiaires finaux du projet. Plusieurs activités ont été développées afin de fournir à la fois des résultats tangibles (par exemple, la construction de la clôture électrique, l'introduction de RWHTs, le renforcement du mur de pierre) et immatériels (par exemple, la mise en place de PMP, la mise en relation des communautés avec les gouvernements et les autorités du parc) qui peuvent résoudre partiellement les problèmes sous-jacents dans la région. Les décisions sur l'emplacement des réservoirs (et de leurs puisards) n'étaient pas partout les meilleures pour résoudre les problèmes sous-jacents. L'approche PIP a permis de répondre à plusieurs besoins des différents groupes cibles.

Les objectifs de l'ambassade n'ont pas été complètement atteints, mais certaines parties prenantes ainsi que l'équipe d'évaluation les ont trouvés trop ambitieux pour le moment et le domaine d'intervention.

Cohérence

W4V a recherché la cohérence à la fois avec GLRP et les projets (par exemple, FARM, Maji ya Amani, Hinga Weze) qui se déroulent dans la région. Le projet était conforme

aux projets Maji ya Amani et FARM, tant dans leur approche (lier les gouvernements et les communautés) que dans leurs objectifs (stabilité régionale et accès accru à l'eau). De plus, dans les trois pays, W4V s'est efforcé de travailler main dans la main avec les autorités locales et les autorités des parcs et de développer des activités qui correspondent à leurs politiques et plans de développement ciblant la zone du projet. Il aurait été bien que le projet ait pu contribuer à la clôture complète des parcs, afin de ne pas déplacer les problèmes.

Efficacité

Le projet a produit des résultats efficacement et au-delà de ce à quoi on aurait pu s'attendre, prenant en compte les conditions des différents pays. Les changements d'approche ont réduit l'efficacité. Le suivi par les pairs facilité par Transition International a amélioré la logique du projet. Cela a permis de reformuler la cadre du suivi et de l'évaluation afin que W4V se concentre sur les conflits mais dans les limites de la gestion de l'eau et des relations entre le parc et les habitants. Pourtant, plusieurs inadéquations entre les extrants et les résultats ont été identifiées. De plus, l'utilisation des réservoirs comme mesure de contrôle du ruissellement peut être contestée en raison de la quantité relativement faible d'eau qui peut être stockée dans les réservoirs par rapport à la pluviométrie moyenne, et l'emplacement des puisards non autour des réservoirs. De plus, lorsque les réservoirs seront remplis, ils deviendront eux-mêmes une source de ruissellement. La qualité des infrastructures était généralement bonne bien que certains réservoirs de Bugeshi (Rwanda) aient été signalées comme fragiles (conception adaptée par la suite), plusieurs éclatements des conduits du KVWSE (Ouganda) ont déjà été constatés. L'une des raisons de la panne et de la fuite du système KVWSE a été donnée (par le directeur général de la NWSC) était le vandalisme par les membres de la communauté, comme par ex. les écrous et les vis peuvent être vendus rapidement, ou à cause des membres jaloux des villageoises voisines qui n'avaient pas bénéficié du projet. Une autre raison de la panne des tuyaux peut être trouvée par ex. dans le village de Mwanjali, où les robinets n'avaient jamais été fonctionnels depuis leur installation, donc ici, la construction n'a peut-être pas été faite correctement.

Les pourcentages de personnes qui paient régulièrement leur eau ont en général augmenté. Les résultats de l'approche PIP ont convaincu d'autres personnes de se faire former et les gouvernements locaux de travailler avec les PI. Les PMP ont contribué de manière significative à la résolution des conflits (différents types de conflits).

Efficience

En termes de budget, le projet semble d'un prix raisonnable, en particulier compte tenu du contexte difficile dans lequel il opère et du dépassement des résultats (conflit, covid, etc.). Plusieurs se plaignent du manque de transparence en ce qui concerne la décision

et l'allocation du budget. Ce manque de transparence a eu un impact sur l'efficacité du projet. Alors que W4V s'est fortement appuyé sur l'expertise internationale dans les premières années du projet, ces experts se sont positionnés en utilisant soit une approche de conseil externe descendante, soit une approche PIP participative ascendante. Des retards ont été causés par des facteurs internes et externes. La disponibilité (due à l'insécurité, et à Covid-19) et, en partie liée à cela, la valeur ajoutée de l'expertise internationale a été jugées différemment dans les trois pays.

Impact

L'impact significatif de W4V peut être attribué à ses activités en grande partie, et au fait que le projet a travaillé avec les communautés pour les soutenir dans leurs efforts continus. Il convient de noter l'objectif d'accès des communautés à l'eau, qui a été atteint à 95% (près de 6 000 ménages, pour les trois pays ensemble). Un grand nombre de (différents types de) conflits ont été transformés. En outre, plusieurs impacts positifs non intentionnels ont été remarqués par les parties prenantes tels qu'une réduction des maladies d'origine hydrique, la cohésion sociale ou l'augmentation de la fréquentation scolaire.

Durabilité

Le projet cherchait à avoir des activités durables. Par exemple, les PI ont reçu pour instruction de former d'autres agriculteurs intéressés afin de continuer à diffuser l'approche. Les WMC sont un exemple de moyen d'assurer la maintenance (et donc la pérennité) des infrastructures mises en place. Pourtant, les parties prenantes ont exprimé leur inquiétude quant à la fin du projet et l'impact que cela aura sur la poursuite des activités. Le paiement de l'eau a considérablement augmenté, tandis que le soutien au gouvernement local (par exemple dans la formulation de plans d'action) n'a pas atteint ses objectifs. La pérennité de l'implication des WUC reste à voir, avec un sentiment de responsabilité décroissant pour l'entretien des infrastructures (de l'eau). Quoique le transfert de connaissances fait partie de l'approche PIP, un transfert continu de connaissances au-delà de la durée de vie du projet semble être un défi. Le concept de GIRE n'a pas vraiment été transféré même si des éléments ont été mis en œuvre ; aucun plan GIRE n'a été élaboré (encore). Certains blocages (externes) peuvent être prévus en ce qui concerne le maintien des effets de W4V, par exemple, les troubles civils, l'insécurité, le manque de soutien des autorités nationales, le manque de financement et les risques naturels.

1.2.5. Conclusions

W4V était un projet très pertinent qui correspondait bien aux activités en cours dans la région (autres projets et politique locale). La mise en œuvre effective de la théorie du changement a été retardée par des changements d'approche, mais ces changements ont conduit à un rôle plus important pour la résolution des conflits. Entre-temps, des

progrès constants ont été accomplis dans la mise en place des infrastructures. L'approche PIP s'est avérée une alternative très utile à l'approche GIRE, mais les évaluateurs concluent qu'il aurait pu y avoir plus d'efforts dans l'approche de bassin versant de la GIRE. Le projet a efficacement atteint et dépassé ses résultats et a par conséquent eu un impact positif sur la région. Il est trop tôt pour conclure sur la pérennité de W4V. Nous ne pouvons qu'observer que des mesures ont été prises au sein du projet pour augmenter les chances de résultats durables du projet.

1.2.6. Recommandations / leçons apprises

Pour le consortium mettant en œuvre le projet

Les évaluateurs reconnaissent le fait que changer une approche ToC et une organisation partenaire au cours d'un projet peut être pertinent et nécessaire (et provoqué par un processus de réflexion nécessaire). Cela doit cependant être compensé par de nouveaux délais pour les objectifs. De plus, permettre à l'équipe de mise en œuvre d'avoir accès au budget augmentera l'efficacité du projet.

Pour le GLRP

Le GLRP doit examiner si des programmes de mise en œuvre traditionnels de 4 ans peuvent être demandés pour s'attaquer aux causes sous-jacentes des conflits dans une région comme celle de Virunga. Nous pensons que le rapport sur la stratégie de conflit pour W4V a très bien défini le problème et la manière idéale de le résoudre. Une contribution et une implication considérables d'un bailleur au cours du projet peuvent être bénéfiques, mais elles peuvent également frustrer les organisations chargées de la mise en œuvre dans leurs efforts pour mettre en œuvre un projet et la nécessité de s'adapter. 'Récompenser' le projet avec plus de temps ou plus de finances devient alors raisonnable.

Pour les autorités locales et les autorités des parcs

L'extension du mur de pierre et de la clôture électrique le long des limites du parc aurait renforcé l'impact de W4V. Tout en gardant un œil sur la gérabilité des nombreuses parties prenantes impliquées, l'implication d'une variété de départements de district concernés et de chefs religieux peut aider à diffuser des messages et à mobiliser les communautés.

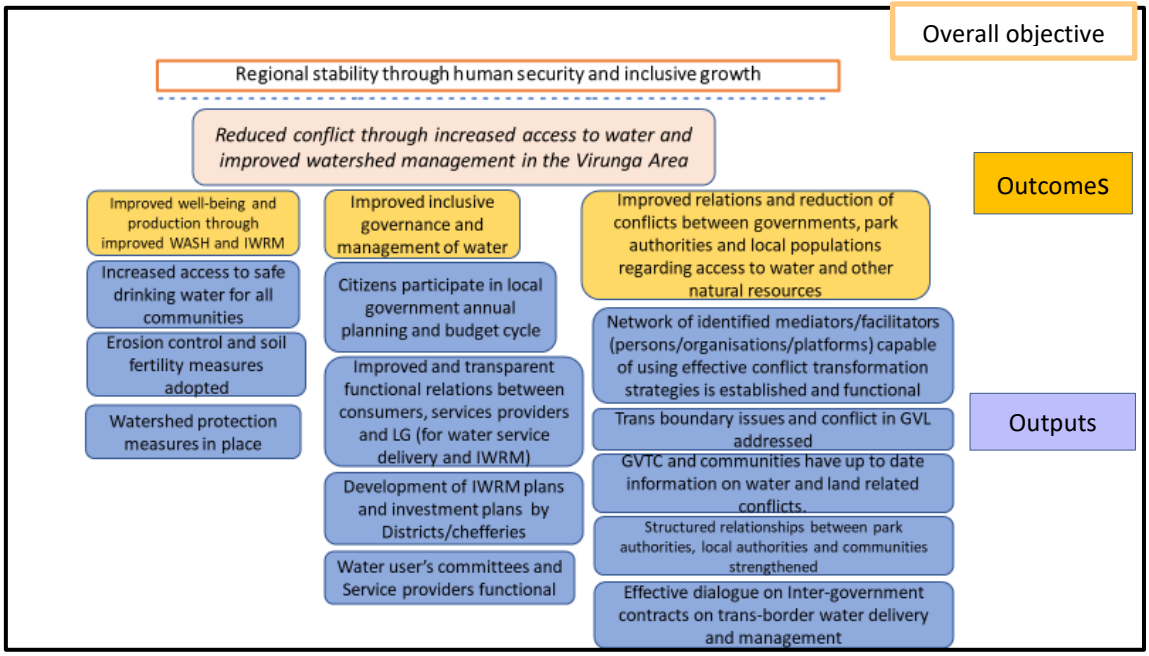
2. Introduction

Water4Virungas (W4V) was established as a project in December 2016, funded by the EKN in Kigali and coordinated by MDF Global in collaboration with Stichting WUR, Witteveen+Bos and IGCP. As part of the Great Lakes program of the Ministry of Foreign Affairs, the program was included in the ministry's goal to: "contribute to stability and mitigate the consequences of conflict through the improvement of human security, inclusive growth, and access to natural resources (such as land)."[1] In September 2021 the Ministry of Foreign Trade and Development Cooperation contracted Aidenvironment to perform an evaluation of the W4V project. The current document is the result of the evaluation. The evaluators are thankful to the (former) staff of the W4V consortium partners and all others involved in this evaluation, for being available and for providing documents and other information, whenever asked for by the evaluators.

In this introduction we describe the overall objectives and the way the project changed, so key moments in the project that need to be understood before the results can be valued and assessed.

2.1. Objective and intervention area

The program's overall objective was to reduce conflicts through increased access to water and improved watershed management in the Virunga area. Figure 1 below shows the logframe used in the project with the outcomes and outputs.



[1] https://www.dutchdevelopmentresults.nl/2019/countries/great_lakes_region

Figure 1. Final W4V log frame (source: Changes in the W4V project document)

The project was implemented in DRC, Rwanda, and Uganda, in a belt of 2 km width around the national parks that cover the volcanoes (see figure 2). In table 1, population and surface of intervention area are given (from W4V_Progress Report_2020 Final).

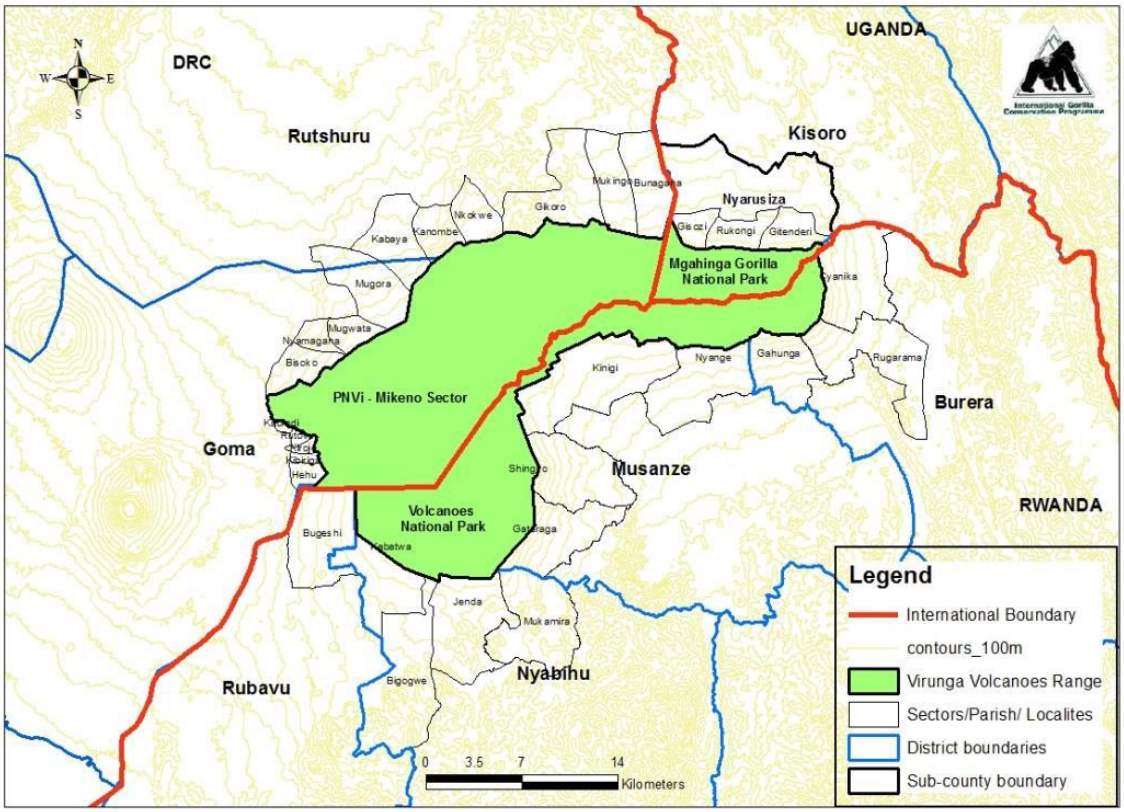


Figure 2. W4V intervention area and interventions

Country	Population	Surface (km²)
DRC	97.500	90,5
Rwanda	116.600	197,0
Uganda	18.300	27,0
Total	**232.400**	**314,5**

Table 1. Population and surface of intervention area

2.2. Changes in the project

During the project, several adaptations took place, sometimes induced by external factors, others based on changing conditions within the consortium. To understand the development of the project we present the key changes.

The project set out with the main objective to reduce conflict through increased access to water and improved watershed management in the Virunga area (W4V project proposal September 2016). This goal was formulated in view of the problems surrounding water at a watershed level at different levels (e.g., domestic, village, landscape, and international levels).

The project started with an assessment of water supply options in all three countries. Because the Rwandan authorities (WASAC, the utility) did not respond, no water supply component was developed for Rwanda. In DRC, the water supply for Kibumba was a priority from the start of the program. Initially, the idea was to do this via Rwanda (where an abandoned pipeline scheme to DRC could possibly be rehabilitated). However, this proved to be politically complex and expensive. Water supply within Rwanda also had to be included in the program and the total budget came to some five million Euros. It took about two years before the attempt to supply water from Rwanda to DRC was abandoned and alternatives were sought. Late 2020 an affordable solution in Congo (via Rugari) was explore and approved by the engineers and ICCN came on board.
In the meantime, the Netherlands Embassy was also involved with a Develop2Build (D2B) study on water supply in rural areas in Musanze, Nyabihu and Rubavu Districts in Rwanda. W4V would focus on the IWRM component while D2B would tackle water supply. However, delays with WASAC meant that the D2B study was delayed by about two years, and the complementarity with W4V was lost.

After the first year of the project (2017), Transition International facilitated a peer monitoring between three projects on the water/food security interface (W4V, FARM and Mayi Ya Amani), and changes to the outcomes and outputs were proposed. In table 2 below:

- In the left two columns the specific objectives and outputs from the original logical framework are presented;
- In the middle two columns, the most corresponding outputs from the final M&E framework are presented;
- In the right two columns, it is indicated whether indeed, and to what extent (%), the indicators underlying the goal, outcomes and outputs were evaluated / measured during the (draft) internal evaluation and in the (last) W4V ME Progress Report_V10. This percentage does not say anything about the achievement of the targets, which will be dealt with in the chapter on achievements. Obviously, most of the indicators underlying the goal, outcomes and outputs in the final M&E framework have been evaluated, either during the internal evaluation by W4V, or reported on in the W4V ME Progress Report_V11. Only output 1.3 (watershed protection measures) and most outputs under

outcome 3 (improved relations) have not been measured / reported on. This makes a balanced evaluation of the project more difficult.

Logical framework (original proposal, Sept. 2016)		Final M&E framework (Dec. 2018)		% of underlying indicators evaluated in draft internal evaluation	% of underlying indicators reported in W4V ME Progress Report_V10
Specific objective	**Output**	**Outcome**	**Output**		
Overall objectives: • Regional stability through improved security (and inclusive growth) • Reduced conflict through increased access to water and improved watershed management in the Virunga area		Overall objective: • Regional stability through human security and inclusive growth Goal: • Reduced conflict through increased access to water and improved watershed management in the Virunga Area		0%	100%
Specific objective 1: increased access to safe drinking water	Output 1.1: Situation analysis & options for sustainable water supply selected				
	Output 1.2: Quick win water supply / sanitation infra constructed and operational	Outcome 1: Improved well-being and production through improved WASH and IWRM		50%	100%
		Outcome 1: Improved well-being and production through improved WASH and IWRM	Output 1.1: Increased access to safe drinking water for all communities	60%	33%
	Output 1.3: Water systems designed & operational	Outcome 1: Improved well-being and production through improved WASH and IWRM	Output 1.1: Increased access to safe drinking water for all communities	60%	33%
Specific objective 2: Effective watershed management	Output 2.1: Risks and opportunities for improved watershed management mapped	Outcome 2. Improved inclusive governance and management of water		33%	100%
		Outcome 2. Improved inclusive governance and management of water	Output 2.3: Development of IWRM plans and investment plans by Districts/chefferies	0%	100%
	Output 2.2: Erosion control & soil fertility measures implemented at farm level	Outcome 1: Improved well-being and production through improved WASH and IWRM	Output 1.2: Erosion control and soil fertility measures adopted	0%	50%
	Output 2.3: Watershed protection measures taken	Outcome 1: Improved well-being and production through improved WASH and IWRM	Output 1.3: Watershed protection measures in place	0%	0%
		Outcome 2. Improved inclusive governance and management of water	Output 2.2: Improved and transparent functional relations between consumers, services providers, and LG (for water service delivery and IWRM)	67%	75%
Specific objective 3: Improved service delivery and water governance	Output 3.1: Water related and underlying conflicts addressed	Outcome 3. Improved relations and reduction of conflicts between governments, park authorities and local populations regarding access to water and other natural resources		85%	15%
		Outcome 3. Improved relations and reduction of conflicts between governments, park authorities and local populations regarding access to water and other natural resources	Output 3.2: Trans boundary issues and conflicts in GVL addressed	0%	0%

Logical framework (original proposal, Sept. 2016)		Final M&E framework (Dec. 2018)		% of underlying indicators evaluated in draft internal evaluation	% of underlying indicators reported in W4V ME Progress Report_V10
Specific objective	Output	Outcome	Output		
	Output 3.2: Citizens participate in local government annual planning and budget cycle	Outcome 2. Improved inclusive governance and management of water	Output 2.1: Citizens participate in local government annual planning and budget cycle	50%	100%
	Output 3.3: Water service providers strengthened	Outcome 2. Improved inclusive governance and management of water	Output 2.4: Water user's committees and Service providers functional	0%	100%
	Output 3.4: Provincial water supply & investment plan developed				
Specific objective 4: Transboundary water related issues and conflicts effectively addressed	Output 4.1: Strengthened communication with stakeholders	Outcome 3. Improved relations and reduction of conflicts between governments, park authorities and local populations regarding access to water and other natural resources	Output 3.5: Effective dialogue on Inter-government contracts on trans-border water delivery and management.	0%	0%
	Output 4.2: Brokering and mediation when development deflect from plan	Outcome 3. Improved relations and reduction of conflicts between governments, park authorities and local populations regarding access to water and other natural resources	Output 3.1: Network of identified mediators/facilitators (persons/organisations/platforms) capable of using effective conflict transformation strategies is established and functional	0%	33%
	Output 4.3: Progress and lessons learned from W4V available				
	Output 4.4: Information on water related issues Virunga available	Outcome 3. Improved relations and reduction of conflicts between governments, park authorities and local populations regarding access to water and other natural resources	Output 3.3: GVTC and communities have up to date information on water and land related conflicts.	0%	0%
		Outcome 3. Improved relations and reduction of conflicts between governments, park authorities and local populations regarding access to water and other natural resources	Output 3.4: Structured relationships between park authorities, local authorities and communities strengthened	0%	0%

Table 2. Comparison W4V original and final M&E framework

The most remarkable differences between the old and the new outputs are the following:

- The two comprehensive objectives have been reduced to one, more realistic, goal. The stability objective has been removed; conflict became part of the approach, not as a stand-alone anymore, and not being only transboundary anymore.
- Specific objective 1:
    - The situation analysis had already been done at the time of the review and could be left out;
    - The outputs that focused on water supply, were replaced by an output with a focus on the access to water:
    - A strong emphasis on the well-being, safety, and access to water rather than engineering and supply
- Specific objective 2:
    - The mapping of risks and opportunities had been already done by the time of the review and could be replaced by the development of IWRM plans and investment plans;
    - The new output Improved and transparent functional relations between consumers, services providers and LG was added, as that apparently had become clear as an issue;
- Specific objective 3:
    - Water users' committees have received more attention, next to service providers, and at the expense of provincial water supply;
- Specific objective 4:
    - The strengthened communication has been replaced by an effective dialogue on inter-government contracts on trans-border water delivery and management;
    - Brokering and mediation has been specified, influenced by the PMP approach;
    - Progress and lessons learned from W4V are available has disappeared, as it was said not to be measurable. After further consultations (also with EKN), it was decided that lessons learned be documented separately, e.g., the various documents that have been shared with the new (EKN funded) project (TRIDE);
    - An extra output (3.4) has been added: Structured relationships between park authorities, local authorities and communities strengthened, as that apparently was an issue, which has been dealt with indeed.

At the start of the project, *for indicators* (under all three outcomes), targets were set, but only some of these were measured during the endline survey / internal evaluation. Under outcomes 1 and (most of) outcome 2, concrete targets were set *for activities*, but not so for outcome 3 With the exception of the construction of the electrical fence. Some of these activities were rather formulated as output indicators, which hasn't made monitoring easier.

The coordination was done centrally from Musanze in Rwanda by MDF, but the logistics and workload called for a decentralization and the project recruited country officers to implement and monitor the project in the three countries. It was generally agreed by the interviewees that the country representatives facilitated the faster roll-out of the program. They also mentioned that such development transformed the project into three projects that operated independently. In hindsight, it improved the programs delivery to bring the project management closer to the three project areas / countries, even though that it meant that the three country projects from then on diverged more, as the project aimed to address problems, which were different in the three countries. Moreover, having three country projects made communication more challenging.

Regarding IWRM, an interviewee stated the following: In 2018, several conceptual notes were prepared by W4V to include IWRM in the project. Following the IWRM principle, the interventions should be based on a catchment approach. However, even though IWRM elements have been integrated in the project activities (through the PIP approach) a catchment-based approach has hardly been set up. For a catchment approach, catchment management organizations (if not yet present) need to be set up and be functional, with all resources and the mandate to enforce its rules. This takes more time than the period of this project.
The evaluators found that the conceptual notes did not include a strong understanding of IWRM or catchment management in a development context/. IWRM was filled in by isolated soil and water conservation elements implemented through the PIP approach. For instance, soil protection to counteract erosion and the construction of RWHTs to counteract runoff and flooding. Moreover, several sessions were held with the local staff in the three countries to disseminate the principles and methodologies of IWRM. The IWRM plans that became an output (after the Transition International peer monitoring in 2017) were a good idea, but this output was not achieved, which is not strange, as IWRM and especially its institutional aspects (set up catchment management) need more time than the duration of a project.

Another change over time was that the project had a 7 million euro investment budget that reduced sharply over time. The project was extended (in Rwanda and Uganda until March 2021, and in DRC until June 2022 – from an original end date of December 2020).

Finally, there were “normal” project delays, due to lack of information, non-uniform government views, lack of understanding of the project by involved stakeholders. And then there were delays related to Ebola (in DRC, five outbreaks since May 2018), insecurity and Covid-19.

2.3. Collaboration with GVTC

Another change in the project setup was the role of the Greater Virunga Transboundary Collaboration (GVTC). Several years before the project started, the embassy worked with IGCP, and from the work of the IGCP, a transboundary collaboration emerged. With support of the embassy, a tri-nation treaty (Uganda, Rwanda, DRC) was signed on this transboundary collaboration. The GVTC was the secretariat (with diplomatic status) that implemented this collaboration. GVTC is a collaboration of seven parks with biodiversity hotspots and three national park authorities.

Around 2013, the GVTC flagged the issues around water and the park to the embassy. Due to the geography of the area, the people who live around the park suffer from water shortages and flooding. The communities were going into the park to fetch water due to the lack of water sources around the park. In addition, high runoff was causing flooding and erosion outside the park. Supported by an international study on the hydrology of the area (Déogratias et al., n.d.), the EKN set up a call for proposals to reduce conflict through water development. The consortium of WUR, MDF, IGCP and Witteveen+Bos won the call. At first WUR was in the lead, but internally WUR decided against this role and withdrew. Moreover, MDF had a long-standing experience in DRC and was appointed as the lead organization of W4V. IGCP was already working with GVTC, and the program was to support GVTC in the support of their centre of excellence. In return, GVTC would facilitate meetings on transboundary water issues between relevant stakeholders. Therefor, GVTC entered into an MoU with W4V as an implementing partner. When the funding by EKN and the three countries ended in March 2019, the active role of GVTC within W4V was over. No need was felt to renew the MoU then as, according to GVTC, the MoU was only a tool to support implementation. GVTC and its centre of excellence (supported by Dutch funding) continue to support and facilitate continuous and effective dialogue, communication and information sharing among all GVTC stakeholders, as that is it mandate.

The centre of excellence shares data and information (physically and virtually). It mediated between the district, W4V and other parties and provided back up (organizing and inviting stakeholders) in negotiations.

- In March 2019, GVTC's last human-wildlife transboundary workshop was held;
- Recently, when a flood hit one of the water booster stations, the district immediately informed GVTC and it coordinated the search for solutions;
- In March 2022, GVTC managed a human – wildlife conflict, between the communities of Bugeshi (Rwanda) and the National Park. GVTC was informed and coordinated a meeting between the two parties. Discussions on insecurity

have started through the Regional Technical Committee (and resolutions should have been presented to the board on 5 April 2022).

Apparently, there are different perceptions / understanding of the mandate / role of GVTC (GVTC: “support and facilitate continuous and effective dialogue, communication and information sharing among all GVTC stakeholders,”, W4V: “facilitating transboundary policy aspects”) which leads to different perceptions of the results GVTC has booked.

3. Methodology

3.1. Phases

The evaluation followed 4 phases:

1. Inception phase: The main objective of this phase was to define the scope and focus of the evaluation and assess the existing information at the project and country specific level. An assessment of the existing information and a review of the project documents were performed;
2. Preparation and data collection: In this phase, the team prepared the sampling methodology, the data collection tools and the workplan. In addition, data was collected from the 3 project countries (Uganda, Rwanda, and DRC). The data collection plan was based on the evaluation matrix, the information gaps and the key issues identified from the literature review;
3. Data analysis: Qualitative data were reviewed to identify patterns and explore ideas to explain or interpret those patterns in line with the project objectives. Quantitative data were collected in the field with tablet or phone-based application (KOBO Collect);
4. Validation and reporting: Main findings were presented to W4V and EKN, after which a draft report was shared, to receive comments and to prepare the final report.

3.2. OECD DAC criteria

The objective of the evaluation is to review the W4V project and its separate components following the updated OECD DAC criteria of relevance, coherence, effectiveness, efficiency, impact, and sustainability. Particular attention was given to (1) the contribution of the project to the stability in the Great Lakes Region, (2) the conflict-sensitivity of the implementation of the project, (3) the quality of implementation (including ownership of planning and implementation by relevant stakeholders), and (4) the sustainability of interventions. While the evaluation is about assessing the project, learning lessons for future projects is at least as important.

The evaluators were asked to look at the project from a qualitative and processual angle. This means for instance that less attention was paid to outputs (and more to outcomes) reached by W4V and more interested in the way outcomes were instrumental in making impact / long-term change. The internal evaluation (Water4Virungas Project Internal Evaluation Report December 2021) by W4V paid more attention to outputs. The reason

for this is that the project combines water, development and conflict resolution and there is a lot to learn from this combination that can benefit new projects.

3.3. Mixed-method approach

The evaluators used a mixed-method approach primarily using qualitative analyses to understand detailed experiences of the project beneficiaries and understand the impact of the project on them and the project area. Quantitative data were collected to quantify the experiences and changes mentioned. The added value of a mixed-method approach can be found in its triangulation, complementarity, contextuality and illustration.

The qualitative methods applied were:

- Document review;
- Focus group discussions (FGD);
- Key informant interviews (KII) (both online and live);
- Infrastructure observations.

The quantitative methods applied were:

- Household questionnaires

3.3.1. Document review

This involved reviewing the relevant documents such as the project proposal, baseline study reports, progress reports, monitoring reports, field monitoring reports, policy documents, financial documents, and reports. This was heavily done at the start to prepare for primary data collection but also continued throughout the entire duration of the evaluation process. An overview (not exhaustive) of the documents received is shown in Annex 9.1.

3.3.2. Key informant interviews

With an input from the project implementation staff, key informants were selected, and interview schedules / guide developed to capture information from the key informants. These stakeholders varied per country. A summary of the participants is shown in Annex 9.2.

3.3.3. Focus group discussions

FGD were conducted with carefully selected groups targeting WMCs, Breeders' Committee, PIP participants, watershed management committees at village level and households that participated in the PMP (conflict management approach) including the cooperatives who maintained the buffalo wall. The groups were composed of both men and women of about 8 to 10 people. These were used to discuss the main results from the project and the community level changes which were cause by the project.

Participants shared their experiences which were later crosschecked with the KII. The data on the FGD can be found in Annex 9.3

3.3.4. Household questionnaires

Since the study was mainly qualitative, a small size of household survey was conducted only for the purpose of validating the qualitative responses. They were often conducted immediately after the FGD, in local language. Responses were put in a phone-based application (Kobo Collect). Information was collected on all major project indicators. An overview of the household questionnaires can be found in annex 9.4.

3.3.5. Infrastructure observations

Site visits to observe constructed infrastructure and collect data to assess metrics were done to selected water schemes, water tanks, corridors and troughs for livestock, buffalo walls/fences around the park and watershed management infrastructures and trees planted. The purposes of the visits were to verify the existence, use and functionality of the project infrastructures, and to verify what was told by W4V, beneficiaries and other stakeholders. In some cases, the evaluators wanted to verify the appropriateness of the intervention especially for watershed and landscape management interventions. An overview of the observed interventions can be found in Annex 9.5.

3.3.6. Sampling

Selection of sites to be visited were based on the following criteria;

- Types of intervention (balance between water, watershed, conflict transformation and PIP)
- Selection of the sites to visit were also based on location either upstream or downstream
- Infrastructures like tanks were selected based on functionality (that were doing well and those that were not doing well)
- Households within the selected sites were selected randomly

The details of the villages visited are shown in the table in Annex 9.6, and a map with the visited villages is shown on the next page.

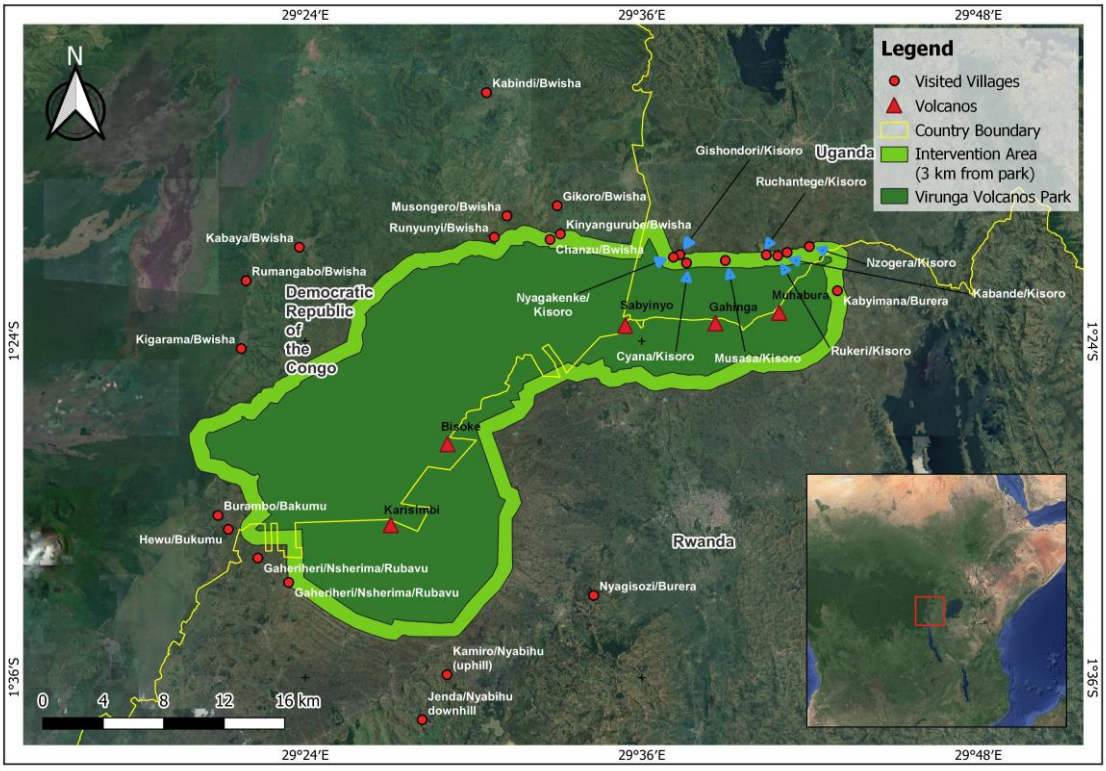


Figure 3. Intervention villages visited during the evaluation.

The red dots situated outside the intervention area, indicate a location within the relevant administrative area, as suggested by a Google Earth algorithm to be representative for that administrative area.

3.3.7. Data analysis and references

The interviews and KII were either conducted following the OECD DAC criteria questions (as prescribed by the ToR for this evaluation), or the information gathered during these interviews was retroactively attributed to the OECD DAC criteria questions.

In this report, reference to information from interviews, KII and FGD is done anonymously, to protect the anonymity of all interviewees and other informants. Reference to information from household interviews, infrastructure observations, e.g.

- “It is clear that water supply has improved.” (FGD)

3.3.8. Challenges of the fieldwork

- There was insecurity in the Virunga area at the DRC side. This affected data collection in the planned period in DRC since part of the project area was unreachable.
- The topography was difficult to manoeuvre especially in Rwanda and DRC. In Rwanda, the vehicle could not access certain project areas, and the evaluators had to walk up and down the hills. The evaluators had to walk long distances often on foot in hilly areas or on motorbikes in the case of DRC.

- Language problems were managed by hiring local enumerators / translators, which always leads to some loss of information.

3.4. Evaluation team

The consultants based in DRC (Vision Verte) and Uganda (Aidenvironment) worked on primary data collection, and participated in document review, tool development & primary data collection and reporting. They were assisted by guides, translators and enumerators based in the project. The translators and enumerators supported the consultants with translation and household questionnaires. The consultants were also assisted a lot by the project implementation team.

The consultants based in the Netherlands worked on the reporting, controlled the quality of the information, and oversaw the study. They participated in tool development, document reviews, online interviews (data collection) and reporting.

Details of the evaluation team are given in Annex 9.7.

4. Summary of project achievements

4.1. Introduction

In this chapter, the achievements on the level of outputs and outcomes will be presented. As far as the achievements at impact level are concerned, these can be found in section 6.2.5.

The project faced some issue as its objectives and targets had to adapt to the field reality and the adoptions of the measures was slower than initially anticipated (Internal evaluation presentation). Yet, despite these conditions, the project managed to implement most of its activities and reach quite some targets.

In the following sections, project achievements are summarized in two ways:

Every section starts with a *table,* in which quantitative data on results are presented, as measured and reported by *W4V*, in the following documents:

- Résultats obtenus comparés aux prévisions v2 (received 14/10/2021) ;
- W4V Internal evaluation report (received 8/3/2022);
- W4V ME Progress Report_V11 November 2021 (received 28/4/2022);

As most of these data were received at the end of this external evaluation, they have not been checked, but they have been converted in tables to give some quantitative data to complement this qualitative external evaluation.
Regarding the internal evaluation and the baseline (report from November 2018): measurements were done in a control group only during the baseline in DRC, not in Rwanda or Uganda, nor during the internal evaluation for the three countries.

W4V ME Progress Report V11 differed quite a lot from V10:

Country	W4V ME Progress Report_V10: % completed as compared to targets	W4V ME Progress Report_V11 November 2021: % completed as compared to targets
DRC	85%	97%
Rwanda	73%	57%
Uganda	83%	105%
Three countries	**76%**	**75%**

Table 3. Comparison of results between W4V Progress Reports V10 and V11

The evaluators noted significant changes reported in results between 11 March (V10) and 28 April (V11) 2022. In the case of e.g. the number of households benefiting from the RWHTs in Rwanda, the reported result in V11 seems rather to reflect the target.

After each quantitative table, the W4V achievements are summarized in *text*, based on this external qualitative evaluation by *Aidenvironment*. As the assignment of Aidenvironment was not to check the quantitative data by W4V (and as these data came in too late to be checked anyway), the quantitative tables (by W4V) and the qualitative texts (by Aidenvironment) sometimes contradict each other.

4.2. Three countries

In the following tables, the data (as received from W4V) are added for the three countries (by Aidenvironment).

Indicator	Description *(italic if not evaluated in draft internal evaluation)*	Target	Completed	Activity *(italic if not reported in W4V ME Progress Report_V10)*	Unit of measurement	Target_	Com-pleted#	Com-pleted %
Goal: Reduced conflict through increased access to water and improved watershed management in the Virunga Area								
Indicator 1	*% of people living in the project area (disaggregated by age, gender and community groups) who express that conflicts related to access to water and watershed management have reduced*	33%		Construction of rainwater harvesting tanks - community	tank	16	16	100%
				Construction of rainwater harvesting tanks - household	tank	645	660	102%
				Construction of water scheme	scheme	3	4	133%
				Construction of PSP (Public Standpoint)/ kiosks	PSP / kiosk	34	34	100%
				Construction of water taps	tap connected to Bunagana scheme	8	8	100%
				Rehabilitation of existing rainwater harvesting tanks	tank	53	53	100%
				Introduce and implement PIP approach in W4V intervention areas/ villages	PIP approach per intervention areas	13	9	69%
Indicator 2	*% of people (disaggregated by age, gender, and community groups) in the project area who consider the project has had a positive impact on reducing conflicts*	45%		Introduce the PMP approach around W4V intervention areas/ parishes	PMP per conflict	9	9	100%
Indicator 3	*% of people (disaggregated by age, gender, and community groups) in the project area who express that the relations with the park authorities have improved*	33%		Establish the advocacy communication mechanisms between communities and PA's (Protected Areas)	platform for dialogue	3	3	100%
				Set up mechanisms for conflict and complaints management around W4V intervention areas/ Parishes/ villages	mechanism per intervention area	8	8	100%
				Strengthen the advocacy communication mechanisms between communities and PA's (Protected Areas)	platform for dialogue	3	11	367%
				Conduct training for PWCC and PPC in Uganda	training	2	2	100%

Table 4. Targets and results of indicators and activities directly contributing to goal, for 3 countries together

4.2.1. Outcome 1: WASH and IWRM

Indicator	Description *(italic if not evaluated in draft internal evaluation)*	Target	Com-pleted	Activity *(italic if not reported in W4V ME Progress Report_V10)*	Unit of measurement	Target_	Com-pleted #	Com-pleted %
Outcome 1: Improved well-being and production through improved WASH and IWRM								
Indicator 1a	% of people men and women of the different age and community groups who consider they are safe when accessing water (safety at water point and along the way)	70%	89%	Community accessing water	household	5.949	11.565	194%
				Conduct studies	study per intervention area?	6	6	100%
Indicator 1b	% of households reporting increase access to water provided by the project	40%	68%	Contract constructors	constructor	24	24	100%
				Conduct stakeholders advocacy meetings on the water scheme	meeting	24	18	75%
Indicator 1c	*% of households (disaggregated by age, gender, and community) reporting increased access to water for their cattle*	30%		Construction of troughs	trough	2	2	100%
				Community accessing water for their cattle	breeder	100	75	75%
Indicator 1d	% change in average agricultural production at household level	10%	28%	Selection and training of PIs	farmer adopting PIP	8.448	2.170	26%
				Scale up PIP at the village/hill level	village adopting PIP	10	9	90%
				Advocate to ban illegal markets to local authorities in DRC	meeting	24	1	4%
				Sensitize communities on farming best practices	PI adhering to best practices	3.060	842	28%
					meeting / activity	24	36	150%
				Select and train government technical staff and village leaders on PIP approach	Gov. technical staff members	45	37	82%
				Farming land converted to sustainable use	hectare?	100	11,4	11%
Indicator 1e	*Number of hectares of agricultural of farmland converted to sustainable use*	5	0	Conduct mapping of the areas	map or hectare?	1.005	753,9	75%
				Conduct soil scan in the area	scan of field	50	144	288%
Indicator 1f	*% of people who consider that they are protected against flooding and erosion*	77%		Initiate IWRM activities	IWRM activity	3	3	100%
				Planting trees and soils stabilization grasses in farmlands	tree planted - grasses included?	433.629	449.308	104%
				Setting up water ponds in the fields and along the roads	water pond	1.060	1.140	108%
				Construct households RWHTs and water ponds to reduce runoff	RWHTs and ponds around it	661	661	103%
				Set up demo plots for sustainable agricultural practices	demo plot	5	6	120%
				Set up kitchen garden	person	50	17	34%
				Set up nurseries and produce seedlings	nursery	1	1	100%

Table 5. Targets and results of indicators and activities contributing to outcome 1, for 3 countries together

Indicator	Description *(italic if not evaluated in draft internal evaluation)*	Target	Com-pleted	Activity *(italic if not reported in W4V ME Progress Report_V10)*	Unit of measurement	Target_	Com-pleted #	Com-pleted %
Output 1.1: Increased access to safe drinking water for all communities								
Indicator 1.1a	% of households that have at least 20 liters of safe water per day	68%	*77%*					
Indicator 1.1b	% of households that have at least 5 litters of safe water per person per day	70%	85%					
Indicator 1.1c	% of households that have at least access to water from a protected source within a walking distance of 30 minutes	55%	80%					
Indicator 1.1d	*Number of functional water facilities (disaggregated by type of facilities) newly constructed by the project - RWHTs*	67		Handover of the scheme to Local Government (LG) /community	scheme?	3	3	100%
	Number of functional water facilities (disaggregated by type of facilities) newly constructed by the project – water schemes	1						
Indicator 1.1e	*Number of functional of water facilities (disaggregated by type of facilities) rehabilitated by the project*	34		Identify and demarcate the cattle corridors	corridor	23	15	65%
Indicator 1.1f	*% of households that access water from protected water sources due to project intervention*	30%						
Output 1.2: Erosion control and soil fertility measures adopted/ implemented								
Indicator 1.2a	*% of targeted households (disaggregated by locality, gender, and age) that have adopted soil erosion control and soil fertility measures*	38%		Sensitize communities on protection of the catchment/ water sources and farming best practices on the hills	PI adhering to best practices	524	878	168%
Indicator 1.2b	*Number of hectares rehabilitated by the community (disaggregated by areas) as a result of adoption of best practices demonstrated*	5		*(in Résultats obtenus comparés aux prévisions V2.pdf)*	hectare	5	631,1	+/- infinite

Table 6. Targets and results of indicators and activities contributing to outcome 1, for 3 countries together - continued

4.2.2. Outcome 2: Water management and governance

Indicator	Description *(italic if not evaluated in draft internal evaluation)*	Target	Completed	Activity *(italic if not reported in W4V ME Progress Report_V10)*	Unit of measurement	Target_	Completed #	Completed %
Outcome 2. Improved inclusive governance and management of water								
Indicator 2a	% of men and women of the different age and communities' groups that declare trusting the local authorities regarding planning and implementing IWRM and water supply activities	78%		Follow-up/coach on parish/chefferie role/responsibility on water governance	Meeting, field visit	24	24	100%
					workshop	1	1	100%
				Facilitate Chefferie/District/sector/ cell to follow up/supervise functional WUCs	WUC/umbrella supervised by LG	737	196	27%
				Functional WUCs supervised by stakeholders	WUC/umbrella supervised by LG	754	213	28%
Indicator 2b	*% of people who declare they are satisfied by water provision (disaggregated by gender, age, and community)*	30%		Put in place WUCs	WUC or umbrella	754	195	26%
				Sign MoUs with WUCs	MoU	17	17	100%
				Facilitate WUC to complete legalization	WUC or umbrella	17	17	100%
				Facilitate stakeholders to legalize WUC	WUC or umbrella	737	19	3%
				Conduct WUC training	WUC member	873	822	94%
					WUC	17	17	100%
				Conduct participatory WUC assessments	assessment	6	0	0%
Indicator 2c	*% change in budget expenditure for WASH and IWRM by local governments (LG)*			Support LG / chefferie in action plan implementation for WASH and IWRM	action plan	4	0	0%
Output 2.1: Citizens participate in local government annual planning and budget cycle								
Indicator 2.1a	*Number of (annual) operational and financial plans for WASH and IWRM adopted by LG based on ideas/wishes from CSO's/ CBOs*	2		Determine budget process to determine right entry points	?	3	0	0%
Indicator 2.1b	% of CSOs/CBOs who have been involved in LG annual planning and budgeting process.	8	27%	Determine number of CSOs/actively involved in budgeting process	?	3	0	0%

Table 7. Targets and results of indicators and activities contributing to outcome 2, for 3 countries together

Indicator	Description *(italic if not evaluated in draft internal evaluation)*	Target	Com-pleted	Activity *(italic if not reported in W4V ME Progress Report_V10)*	Unit of measurement	Target	Com-pleted #	Com-pleted %
Output 2.2: Improved and transparent functional relations between consumers, services providers, and LG (for water service delivery and IWRM)								
Indicator 2.2a	% of households (disaggregated by different community) who consistently pay for the water supply services	70%	51%	Conduct meeting with WUC/stakeholders to set up mechanisms for cost recovery	meeting	8	4	50%
				Support WUC / stakeholders in facilitating communities to agree on water cost	amount of water cost agreed?	2	0	0%
				Establish VSLA	VSLA	19	1	5%
				Field visits with stakeholders to prepare communities on paying / agreed amount	field visit	60	35	58%
				W4V accompany stakeholders to monitor WSP/WUC on payment /agreed amount	monitoring visit	60	42	70%
				Support WSP/WUC to put in place fin. management, accountability mechanisms	WSP/WUC/VSLA with mechanisms	754	18	2%
Indicator 2.2b	% of households (disaggregated by, different community) who attend meetings with LG and service providers on water and watershed management	80%	92%	Engage LG to put water/shed management issues on agenda of community meetings	Watershed issue on LG agenda	3	2,5	83%
				Engage WSP/WUC to conduct meetings with communities on water related issues	meeting of WUC with community	43	43	100%
				Conduct community awareness to attend watershed management meetings	meeting	43	43	100%
				Set up PWCC	PWCC	3	3	100%
Indicator 2.2c	*% of recommendations made by WUCs, WSPs adopted by LG annually due to project intervention*	40%		Follow up on recommendations made during community meetings with WSP, LG	recommendations implemented	12	9	75%
Output 2.3: Support the development of IWRM plan and investment plan by Districts/ chefferies/ Parishes								
Indicator 2.3a	*number of Districts/ Chefferies with IWRM plan with budgets*			Advocate for IWRM plans, budgets	Parish with plan	4	0	0%
Output 2.4: Water user's committee and Service provider functional								
Indicator 2.4a	*% of water user's committee who effectively manage their water points*	70%						
Indicator 2.4b	*% of men and women of the different age and community groups in the water committees*	53%		Female inclusion in WUC	number or %?	445,5	283	64%
				Male inclusion in WUC	number or %?	444,5	283	64%
				>= 35 years inclusion in WUC	number or %?	437	4	1%
				<35 years inclusion in WUC	number or %?	436	4	1%
				Minority group inclusion in WUC	member	76	76	100%
				Majority group inclusion in WUC	member	681	0	0%
Indicator 2.4c	*% of WUCs that has up to date records accessible by members*	47%		Follow-up of availability notebooks	WUC + notebook	754	213	28%

Table 8. Targets and results of indicators and activities contributing to outcome 2, for 3 countries together - continued

4.2.3. Outcome 3: Improved relations

Indicator	Description *(italic if not evaluated in draft internal evaluation)*	Target	Com-pleted	Activity *(italic if not reported in W4V ME Progress Report_V10)*	Unit of measurement	Target_	Com-pleted#	Com-pleted %
Outcome 3: Improved relations and reduction of conflicts between governments, park authorities and local populations regarding access to water and other natural resources								
Indicator 3a	% of respondents that confirm that land-related conflicts exist	20%		*Identify conflict thematics*				
	% of respondents that recognize that inter-ethnic conflicts / issues exist			*set up PMP for conflict transformation on identified conflicts*				
	% of respondents that recognize that customary or tradition-related conflicts / issues exist			*Conflict resolution agreement Signed by conflict parties*				
	% of respondents that recognize that conflicts / issues between pastoralists and farmers exist			*Involve all stakeholders and community members to transform the conflict*				
Indicator 3b	% of identified conflicts between different communities and other stakeholder groups related to WASH and IWRM that have been effectively transformed according to involved stakeholders	60%	70%	*Identify conflicts related to WASH and IWRM*				
Indicator 3c	*number of transboundary cases positively transformed through collaborative mechanisms*	5						
Indicator 3d	% of respondents that recognize that relations with authorities have improved	32%	41%	Construction of physical barriers as agreed by parties (electrical fence)	physical barrier	1	1	100%
Output 3.1: Network of identified mediators/facilitators (persons/organisations/platforms) capable of using effective conflict transformation strategies is established and functional								
Indicator 3.1a	*number of facilitators/ mediators (disaggregated in gender and community) trained by the project who practice conflict transformation techniques and approaches*	70%		Select and train organizations partner to work on conflict transformation	?	3	0	0%
Output 3.2: Trans boundary, national and local identified issues, and conflicts in GVL addressed								
Indicator 3.2a	% of conflicts related to access to safe water and integrated water resource management in the intervention areas addressed by W4V	50%	208					
Output 3.3: GVTC and communities have up to date information on water and land related conflicts.								
Output 3.4: Structured relationships between park authorities, local authorities and communities strengthened								

Table 9. Targets and results of indicators and activities contributing to outcome 3, for 3 countries together

(Mentioned here, as GVTC is active in the three countries:)

Output 3.3: GVTC and communities have up to date information on water and land related conflicts.

GVTC has a centre of excellence (supported by Dutch funding), which shares data and information (physically and virtually), mediates between the district, W4V and other parties when there were conflicts, and provided back up (organizing and inviting stakeholders) in negotiations. GVTC's last human-wildlife transboundary workshop was held in March 2019). Recently, when a flood hit one of the water booster stations in Uganda, the district informed GVTC and it coordinated the search for solutions. No reports on the achievements of the GVTC centre of excellence were received.

4.3. DRC

The project achievements were gathered from observations during field visits, interviews with the different stakeholders, FGD, and household surveys. The latter were carried out in the project areas of Jomba, Rugari, Kibumba and Kisigari and control areas were chosen in Jomba and Kisigari to understand the impact of the project. A total of 46 beneficiaries and 20 control individuals were surveyed across the different groupements.

Indicator	Description *(italic if not evaluated in draft internal evaluation)*	Target	Com-pleted	Activity *(italic if not reported in W4V ME Progress Report_V10)*	Unit of measurement	Target_	Com-pleted#	Com-pleted %
Goal: Reduced conflict through increased access to water and improved watershed management in the Virunga Area								
Indicator 1	*% of people living in the project area (disaggregated by age, gender and community groups) who express that conflicts related to access to water and watershed management have reduced*	0%		Construction of rainwater harvesting tanks - community	tank	2	2	100%
				Construction of rainwater harvesting tanks - household	tank	85	85	100%
				Construction of water scheme	scheme	2	3	150%
				Construction of PSP (Public Standpoint)/ kiosks	PSP / kiosk			
				Construction of water taps	tap connected to Bunagana scheme	8	8	100%
				Rehabilitation of existing rainwater harvesting tanks	tank	53	53	100%
				Introduce and implement PIP approach in W4V intervention areas/ villages	PIP approach per intervention areas	5	5	100%
Indicator 2	*% of people (disaggregated by age, gender, and community groups) in the project area who consider the project has had a positive impact on reducing conflicts*	45%		Introduce the PMP approach around W4V intervention areas/ parishes	PMP per conflict	6	6	100%
Indicator 3	*% of people (disaggregated by age, gender, and community groups) in the project area who express that the relations with the park authorities have improved*	0%		Establish the advocacy communication mechanisms between communities and PA's (Protected Areas)	platform for dialogue	1	1	100%
				Set up mechanisms for conflict and complaints management around W4V intervention areas/ Parishes/ villages	mechanism per intervention area	5	5	100%
				Strengthen the advocacy communication mechanisms between communities and PA's (Protected Areas)	platform for dialogue	1	9	900%
				Conduct training for PWCC and PPC in Uganda	training			

Table 10. Targets and results of indicators and activities directly contributing to goal, for DRC

4.3.1. Outcome 1: WASH and IWRM

Indicator	Description *(italic if not evaluated in draft internal evaluation)*	Target	Com-pleted	Activity *(italic if not reported in W4V ME Progress Report_V10)*	Unit of measurement	Target_	Com-pleted #	Com-pleted %
Outcome 1: Improved well-being and production through improved WASH and IWRM								
Indicator 1a	% of people men and women of the different age and community groups who consider they are safe when accessing water (safety at water point and along the way)	60%	83%	Community accessing water	household	2.149	3.565	100%
				Conduct studies	study per intervention area?	3	3	100%
Indicator 1b	% of households reporting increase access to water provided by the project	40%	46%	Contract constructors	constructor	8	8	100%
				Conduct stakeholders advocacy meetings on the water scheme	meeting			
Indicator 1c	*% of households (disaggregated by age, gender, and community) reporting increased access to water for their cattle*	40%		Construction of troughs	trough	2	2	100%
				Community accessing water for their cattle	breeder	100	75	75%
Indicator 1d	% change in average agricultural production at household level	10%	21%	Selection and training of PIs	farmer adopting PIP	2.688	1778	66%
				Scale up PIP at the village/hill level	village adopting PIP	5	5	100%
				Advocate to ban illegal markets to local authorities in DRC	meeting	24	1	4%
				Sensitize communities on farming best practices	PI adhering to best practices			
					meeting / activity	24	36	150%
				Select and train government technical staff and village leaders on PIP approach	Gov. technical staff members	20	12	60%
				Farming land converted to sustainable use	hectare?			
Indicator 1e	*Number of hectares of agricultural of farmland converted to sustainable use*	5		Conduct mapping of the areas	map or hectare?	1000	750	75%
				Conduct soil scan in the area	scan of field	10	69	690%
Indicator 1f	*% of people who consider that they are protected against flooding and erosion*	65%		Initiate IWRM activities	IWRM activity	1	1	100%
				Planting trees and soils stabilization grasses in farmlands	tree planted - grasses included?	5.584	8.477	152%
				Setting up water ponds in the fields and along the roads	water pond	500	500	100%
				Construct households RWHTs and water ponds to reduce runoff	RWHTs and ponds around it	87	87	100%
				Set up demo plots for sustainable agricultural practices	demo plot			
				Set up kitchen garden	person			
				Set up nurseries and produce seedlings	nurseries	1	1	100%

Table 11. Targets and results of indicators and activities contributing to outcome 1, for DRC

Figure 4. PIs presenting their goal for their farm (DRC)

Indicator	Description *(italic if not evaluated in draft internal evaluation)*	Target	Com-pleted	Activity *(italic if not reported in W4V ME Progress Report_V10)*	Unit of measurement	Target_	Com-pleted #	Com-pleted %
Output 1.1: Increased access to safe drinking water for all communities								
Indicator 1.1a	% of households that have at least 20 liters of safe water per day	55%	95%					
Indicator 1.1b	% of households that have at least 5 liters of safe water per person per day	55%	76%					
Indicator 1.1c	% of households that have at least access to water from a protected source within a walking distance of 30 minutes	45%	59%					
Indicator 1.1d	*Number of functional water facilities (disaggregated by type of facilities) newly constructed by the project*	90		Handover of the scheme to Local Government (LG) /community	scheme?	2	2	100%
	Number of functional water facilities (disaggregated by type of facilities) newly constructed by the project – water schemes	0						
Indicator 1.1e	*Number of functional of water facilities (disaggregated by type of facilities) rehabilitated by the project*	103		Identify and demarcate the cattle corridors	corridor	23	15	65%
Indicator 1.1f	*% of households that access water from protected water sources due to project intervention*	40%						
Output 1.2: Erosion control and soil fertility measures adopted/ implemented								
Indicator 1.2a	*% of targeted households (disaggregated by locality, gender, and age) that have adopted soil erosion control and soil fertility measures*	35%		Sensitize communities on protection of the catchment/ water sources and farming best practices on the hills	PI adhering to best practices	2	3	150%
Indicator 1.2b	*Number of hectares rehabilitated by the community (disaggregated by areas) as a result of adoption of best practices demonstrated*	5		*(in Résultats obtenus comparés aux prévisions V2.pdf)*	hectare	0	624	infinite

Table 12. Targets and results of indicators and activities contributing to outcome 1, for DRC - continued

Output 1.1: Increased access to safe drinking water for all communities

Water access has improved both for domestic and livestock purposes. The percentage of households that have at least 20 liters of safe water per day has grown from 43,3% (baseline) to 94,6% (internal evaluation). Community and household tanks were built for villages located in the hills and a 23 km long gravity flow connection between the uphill and downhill populations was created to improve the distribution of the water (interview). Kamira 3 and two small supply schemes were also developed, and the system towards Kibumba is under construction. W4V has also rehabilitated 53 rainwater harvesting systems (constructed by e.g., Caritas), each with a 5m³ tank. In the case of repairs by a project, the question pops up, why these repairs were not done by the users / owners themselves before. This can be explained by the absence of WMCs formed by previous water supply projects, the low level of community organisation, the financial difficulties experienced by the chiefdom and the lack of plumbing experts in the area. It can be expected that these problems will reoccur in the future when the tanks start to develop new issues.

In the beginning (of the project), in Jomba (Bwisha), the National Park caused heavy runoff in DRC therefore threatening the constructed water scheme (constructed by Fond de Consolidation pour la Paix), which was about to break. W4V therefore rehabilitated the scheme and protected it from erosion, for the town of Bunagana to still have continuous water supply. The ASUREP Bunagana (managing the scheme) contributed to this. Nowadays, the issue of the lack of water is only felt during the dry season by the villagers that do not have access to tap stands. Rainwater is used for domestic purposes such as cooking, washing, and bathing, and some households also use it for drinking (after boiling). In the dry season, when the water stored in the tanks is exhausted, households go to fetch water in the villages with standpipes.

Because of this increased water access, the household surveys reveal a significant reduction in the time spent to fetch water both for domestic purposes and for the livestock. Indeed, while most of the control group (60[2]-80[3]%) need to travel for over 2 hours to collect the water, only 15[4]-18[5]% of the beneficiaries need to travel that far (compared to 22% from baseline study[6]). Most of them require less than 30 min (17[7]-

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[2] 60% of the respondents mentioned that they needed more than 2 hours to collect water for domestic purposes.

[3] 80% of the respondents mentioned that they needed more than 2 hours to collect water for livestock purposes.

[4] 15% of the respondents mentioned that they needed more than 2 hours to collect water for domestic purposes.

[5] 18% of the respondents mentioned that they needed more than 2 hours to collect water for livestock purposes.

[6] The baseline study provided data regarding the distance to both protected and non-protected water source. Here, only the data regarding protected water point are provided.

[7] 17% of the respondents mentioned that they needed less than 30min to collect water for livestock purposes.

57[8]% vs 36% in baseline study) or between 30 min to 1 h our (15[9]-46[10]% vs 19% in baseline study).

Figure 5. Left: RWHT (DRC). Right: tap stand (DRC)

Output 1.2: Erosion control and soil fertility measures implemented

The PIP approach allowed to tackle the issue of the water runoff. Several techniques were promoted such as contour line bunds, trenches, techniques to till on hill slopes (fanya chini, fanya juu), and anti-erosion hedges (Figure 6. Erosion control measures (DRC)

The trenches are dug and managed communally (interview). After heavy rain events, a committee of 12-15 people targeting watershed management at the scale of the village inspected the trenches and managed them. Moreover, herbs (*Pennisetum purpureum*) and trees were planted along these trenches to further prevent the water runoff. Both can also be used as fodder for livestock production.

[8] 57% of the respondents mentioned that they needed less than 30min to collect water for domestic purposes

[9] 15% of the respondents mentioned that they needed between 30min and 1 hour to collect water for domestic purposes

[10] 46% of the respondents mentioned that they needed between 30min and 1 hour to collect water for livestock purposes

Figure 6. Erosion control measures (DRC)

These runoff control techniques seem to have proven successful, based on qualitative interviews, and on the 630 ha rehabilitated farmland (as mentioned in Résultats obtenus comparés aux prévisions v2). Only on the related activity "Planting trees and soils stabilization grasses in farmlands," quantitative data were collected by W4V: 8477 trees were planted (more than the target of 5584), in the following groupements and villages (all in Bwisha chefferie):

- Groupement Jomba: Gikoro: Musongero, Runyoni, Kariba, Katshibo, Runga
- Groupement Bweza: Mihika
- Groupement Kisigari: Shangi: Kanyamarhebe, Kanyabuchuku

On the activity "Farming land converted to sustainable use", unfortunately, no data were collected in DRC, which makes an objective assessment impossible. Although in Jomba, more project beneficiaries experienced floods on their farmland in the past 2 years than the control respondents, the level of erosion was mainly mild (40%) / moderate (60%) and while 100% of the control group experience severe erosion level on their farmland (household surveys). In Kisigari, 10% reported severe erosion, against 60% in the control group. More detailed information on erosion was not collected. Innovative farmers trained in the PIP approach have improved their lands. In Runyunyi / Jomba village, 5 innovative farmers have built plank houses and in Mihika / Bweza, 4 innovative farmers have built 4 plank houses (to live in). Also, many innovative farmers have bought plots (fields) and cattle in the project sites.

The household surveys report an increase (not quantified) in crop production – 63% of the beneficiaries and 45% of the control group (from Bushenge village / Groupement Kisigari and Kabindi village / Rugamba sub-village / Groupement Jomba) report so. The W4V Rapport PIP-aménagement 20210621.pdf mentions increases in yields (of four crops) in DRC, with an average of 26,6% increase (kg/ha). This was an increase after

application of fertilizers, following advice from the soil scanner (which was not calibrated well, see section 5.1.5). The increase in revenue has led to the purchase of new plots, field and to the rehabilitation of houses (interview). Moreover, erosion has reduced cases of conflict between farmers (compared to villages not benefiting from the project's actions).

The control group was interviewed in the villages Kabindi (Groupement Jomba) and Bushenge (Groupement Kisigari). In Kabindi village, the population uses five taps to access drinking water. These taps were built by the Tearfund on the Katagaifu spring and are used by 4000 households. In case of water shortage, households use water from the river. In this village, the NPD organized mediation under the FARM programme in case of conflict between farmers and herders. Currently the mediation doesn't function anymore because of a lack of funding.

People in the control group interviewed did not mention improving yields or anti-erosion measures (FGD).

Output 1.3: Watershed protection measures in place

Regarding the livestock water demand, existing troughs were only rehabilitated by W4V. Water access for livestock purposes remains a challenge for the population (). Consequently, the beneficiaries need to walk long distances to access water for livestock than water for domestic purposes (household survey). For example, the population of Runyunyi travels to Nyarubara to fetch water.

Figure 7. Livestock trough (DRC)

4.3.2. Outcome 2: Water management and governance

Indicator	Description *(italic if not evaluated in draft internal evaluation)*	Target	Com-pleted	Activity *(italic if not reported in W4V ME Progress Report_V10)*	Unit of measurement	Target_	Com-pleted #	Com-pleted %
Outcome 2. Improved inclusive governance and management of water								
Indicator 2a	% of men and women of the different age and communities' groups that declare trusting the local authorities regarding planning and implementing IWRM and water supply activities	60%	48%	Follow-up/coach on parish/chefferie role/responsibility on water governance	Meeting, field visit			
					workshop	1	1	100%
				Facilitate Chefferie/District/sector/ cell to follow up/supervise functional WUCs	WUC/umbrella supervised by LG	177	177	100%
				Functional WUCs supervised by stakeholders	WUC/umbrella supervised by LG	177	177	100%
Indicator 2b	*% of people who declare they are satisfied by water provision (disaggregated by gender, age, and community)*	40%		Put in place WUCs	WUC or umbrella	177	159	90%
				Sign MoUs with WUCs	MoU			
				Facilitate WUC to complete legalization	WUC or umbrella			
				Facilitate stakeholders to legalize WUC	WUC or umbrella	177	0	0%
				Conduct WUC training	WUC member	740	803	109%
					WUC			
				Conduct participatory WUC assessments	assessment	2	0	0%
Indicator 2c	*% change in budget expenditure for WASH and IWRM by local governments (LG)*			Support LG / chefferie in action plan implementation for WASH and IWRM	action plan	2	0	0%
Output 2.1: Citizens participate in local government annual planning and budget cycle								
Indicator 2.1a	*Number of (annual) operational and financial plans for WASH and IWRM adopted by LG based on ideas/wishes from CSO's/ CBOs*	2		Determine budget process to determine right entry points	?	1	0	0%
Indicator 2.1b	% of CSOs/CBOs who have been involved in LG annual planning and budgeting process.	20	24%	Determine number of CSOs/actively involved in budgeting process	?	1	0	0%

Table 13. Targets and results of indicators and activities contributing to outcome 2, for DRC

Indicator	Description *(italic if not evaluated in draft internal evaluation)*	Target	Com-pleted	Activity *(italic if not reported in W4V ME Progress Report_V10)*	Unit of measurement	Target_	Com-pleted #	Com-pleted %
Output 2.2: Improved and transparent functional relations between consumers, services providers, and LG (for water service delivery and IWRM)								
Indicator 2.2a	% of households (disaggregated by different community) who consistently pay for the water supply services	70%	39%	Conduct meeting with WUC/stakeholders to set up mechanisms for cost recovery	meeting	8	0	0%
				Support WUC / stakeholders in facilitating communities to agree on water cost	amount of water cost agreed?	2	0	0%
				Establish VSLA	VSLA			
				Field visits with stakeholders to prepare communities on paying / agreed amount	field visit	24	0	0%
				W4V accompany stakeholders to monitor WSP/WUC on payment /agreed amount	monitoring visit	24	12	50%
				Support WSP/WUC to put in place fin. Management, accountability mechanisms	WSP/WUC/VSLA with mechanisms	177	0	0%
Indicator 2.2b	% of households (disaggregated by, different community) who attend meetings with LG and service providers on water and watershed management	80%	87%	Engage LG to put water/shed management issues on agenda of community meetings	Water/shed issue on LG agenda	1	0,5	50%
				Engage WSP/WUC to conduct meetings with communities on water related issues	meeting of WUC with community	24	24	100%
				Conduct community awareness to attend water/shed management meetings	meeting	24	24	100%
				Set up PWCC	PWCC			
Indicator 2.2c	*% of recommendations made by WUCs, WSPs adopted by LG annually due to project intervention*	40%		Follow up on recommendations made during community meetings with WSP, LG	recommendations implemented	4	4	100%
Output 2.3: Support the development of IWRM plan and investment plan by Districts/ chefferies/ Parishes								
Indicator 2.3a	*number of Districts/ Chefferies with IWRM plan with budgets*	2		Advocate for IWRM plans, budgets	Parish with plan	4	0	0%
Output 2.4: Water user's committee and Service provider functional								
Indicator 2.4a	*% of water user's committee who effectively manage their water points*	70%						
Indicator 2.4b	*% of men and women of the different age and community groups in the water committees*	60%, 40%		Female inclusion in WUC	number or %?	370	223	60%
				Male inclusion in WUC	number or %?	370	223	60%
				>= 35 years inclusion in WUC	number or %?	370	0	0%
				<35 years inclusion in WUC	number or %?	370	0	0%
				Minority group inclusion in WUC	member	74	74	100%
				Majority group inclusion in WUC	member	666	0	0%
Indicator 2.4c	*% of WUCs that has up to date records accessible by members*	70%		Follow-up of availability notebooks	WUC + notebook	177	177	100%

Table 14. Targets and results of indicators and activities contributing to outcome 2, for DRC - continued

Output 2.2: Improved and transparent functional relations between consumers, services providers, and LG (for water service delivery and IWRM)

From the internal evaluation it became clear that the percentage of households who consistently pay for the water supply services (indicator 2.2a) has grown significantly. This is confirmed by the activity "W4V accompany stakeholders to monitor WSP/WUC on payment /agreed amount" that has been relatively successful. Most other targets in this table have not been reached.

The internal evaluation reveals an increase in attendance to the LG meetings from 42,6% during the baseline study to 87,3% during the endline study (internal evaluation). As data from a control group were only gathered during the baseline study, and not during the endline study, it is hard to attribute this increase to W4V. The members of the local water committees include local chiefs, who regularly attend weekly water (and livestock as well) committee meetings as members. In addition, when there are LG meetings on water at the groupement or chiefdom levels, the water committees are often invited to report on their activities. Furthermore, when there is a conflict over water, LGs are often invited to mediation meetings between the conflicting parties, which strengthens the collaboration between the WMCs and the LGs.

Despite the high participation to LG meetings, the level of trust in the local authorities is much higher within the beneficiaries i.e., 74% of the beneficiaries have trust in the local authorities while only 25% on the control group do so. Yet, the satisfaction of the communities regarding the water services provided by the LG remains low (48% of the beneficiaries and 10% of the control group are satisfied). So, this means the relations are definitely improved but not always functional.

Output 2.3: Development of Local IWRM plan and investment plan supported

According to the IWRM engineer, it was indicated that the local IWRM plans, and investment plans were the goals and visions developed for PIP for the households and indicated that these PIP action plans developed at household and community level were the ones used. Without having seen these community and household plans, it can be doubted whether these have a IWRM component which is relevant on a (sub-) catchment scale.

Next to these household plans, an agreement (protocole d'accord, August 2020) has been set up for the catchment of Kamira (in the Bwisha chefferie), to protect the catchment by planting and protecting hedges. A progress report (November 2020) on these activities shows that indeed this has led to some protection measures. This agreement and progress report could be seen as a first step towards the development of an IWRM plan.

Output 2.4: Water User's committee and service provider functional

While only 8% of the household interviewed during the baseline study reported having a water management structure in their community, W4V introduced one water committee per RWHTs or tap stand. These committees are composed of 5 – 7 people (each representing one household) that oversee that the users comply with the rules (e.g., the users respect the hours during which it is allowed to tap the water), and that oversee the maintenance and repair. Each month, all households using the water scheme need to contribute to 1000-2000 CDF / $ 0,5-1,0. Most households seem indeed to pay this, although some households find it difficult to pay this contribution monthly. It is used to pay for taps and small repairs. Only in the Jomba groupement, the collected money is transferred to the Association des Usagers d'Eau Potable (ASUREP) (Association of Drinking Water Users) that takes care of the maintenance of the water schemes in the groupement. ASUREP is a governance mode, so more than one ASUREP exist, and new organisations are being established.

4.3.3. Outcome 3: Improved relations

Indicator	Description *(italic if not evaluated in draft internal evaluation)*	Target	Com-pleted	Activity *(italic if not reported in W4V ME Progress Report_V10)*	Unit of measurement	Target_	Com-pleted#	Com-pleted %
Outcome 3: Improved relations and reduction of conflicts between governments, park authorities and local populations regarding access to water and other natural resources								
Indicator 3a	% of respondents that confirm that land-related conflicts exist	20%	42%	*Identify conflict thematics*		4	4	100%
	% of respondents that recognize that inter-ethnic conflicts / issues exist		3%	*set up PMP for conflict transformation on identified conflicts*		20	4	20%
	% of respondents that recognize that customary or tradition-related conflicts / issues exist		11%	*Conflict resolution agreement Signed by conflict parties*				
	% of respondents that recognize that conflicts / issues between pastoralists and farmers exist		56%	*Involve all stakeholders and community members to transform the conflict*				
Indicator 3b	% of identified conflicts between different communities and other stakeholder groups related to WASH and IWRM that have been effectively transformed according to involved stakeholders	60%	54%	*Identify conflicts related to WASH and IWRM*				
Indicator 3c	*number of transboundary cases positively transformed through collaborative mechanisms*							
Indicator 3d	% of respondents that recognize that relations with authorities have improved	80	20%	Construction of physical barriers as agreed by parties (electrical fence)	physical barrier	1	0	0%
Output 3.1: Network of identified mediators/facilitators (persons/organisations/platforms) capable of using effective conflict transformation strategies is established and functional								
Indicator 3.1a	*number of facilitators/ mediators (disaggregated in gender and community) trained by the project who practice conflict transformation techniques and approaches*	70%		Select and train organizations partner to work on conflict transformation	?	3	0	0%
	Output 3.2: Trans boundary, national and local identified issues, and conflicts in GVL addressed							
Indicator 3.2a	% of conflicts related to access to safe water and integrated water resource management in the intervention areas addressed by W4V	50%	208					
	Output 3.3: GVTC and communities have up to date information on water and land related conflicts.							
	Output 3.4: Structured relationships between park authorities, local authorities and communities strengthened							

Table 15. Targets and results of indicators and activities contributing to outcome 3, for DRC

Output 3.1: Network of identified mediators/facilitators (persons / organisations / platforms) capable of using effective conflict transformation strategies is established

The PMPs are volunteer-based mechanisms for local conflict mediation. The PMP approach has been implemented in DRC, mainly in Kibumba, Jomba and Kisigari groupements. 5 CLCD and 1 CGCD group were trained (covering 76 community members). In 5 groupements, 8 groups (covering 80 community members) have been trained in the PMP approach and when conflicts arise, they are asked to lead mediation sessions in their villages, which strengthens their groups. In turn, members trained in the PMP approach also go on to train others in the village.

The PMP members are now taking part in the village conflict resolution and are asked by the local conflicts resolution structures to train local mediators.

W4V has enabled the transformation of conflicts, which refers not only to the solving of the problem, but to the removal of its root cause as well. Regarding the number of conflicts transformed (in DRC), W4V provided (separately) the following data:

Kind of conflict	Conflict around	# of conflicts	# of people involved
Water related	Management of water tanks	3	355
	Destruction of pipes	4	105
Crop related	Destruction of crops (individuals)	153	430
	Destruction of crops (collective)	1	108
Plot boundary related	Disputes on boundaries (erosion)	201	1006
Park-people	Incursion of wildlife on plots People entering the park	1 (whole region)	54.200

Table 16. Number of conflicts transformed, based on W4V e-mail March 2022

Numerous conflicts were referred to the existing NPD platforms / structures operational in all groupements of DRC. No issues were referred to the police / court, and thus were arranged amicably.

Output 3.2: Transboundary, national, and local identified issues and conflict in GVL addressed

The general trends, of less reported conflicts and a reduction in conflicts, is confirmed by the local authorities who identified a reduction of conflicts with the local communities in the Mikeno sector. This has been achieved through the support of W4V in fostering discussion between the park authorities and the communities (interview). These discussions led to the implementation of the already existing agreement to let communities enter the park on a weekly basis (fixed appointments). They are allowed (guided and controlled) to enter for other natural resources (dead wood, mushrooms, herbs). During these visits water collection is not permitted anymore as water is available now outside the park. This is an improvement as compared to the situation

before, when people went into the park in an uncontrolled way. Consequently, the number of illegal entrances within the parc have decreased within the time span of the project (76% of the beneficiaries and 74% of the control group agree). Interviewed park officials acknowledged that households hardly fetch water from the park.

After the relationship between W4V and ICCN improved, ICCN agreed with the establishment of park-community committees. Earlier, they did not like the idea, because they were concerned that it would only lead to more complaints.
A decrease in the human-wildlife conflicts has also been noted thanks to the implementation of the electrical fence, further improving the relationship between the park authorities and the communities (interviews).

The PIP approach is said to improve relations within households. Wives and husbands plan together the priorities for the households and tensions are said to be avoided. Household unity has been reinforced by the PIP approach: women are involved by their husbands in the development of action plans. It is beyond the scope of the evaluation to really ascertain how the PIP improved relations between husband and wife. The fact that this story is repeated so literally by the respondents all the time makes us suspicious people are repeating what they have heard. However., the Bwisha chefferie mentioned that since PIP has been introduced, the households no longer complain at the chefferie nor at the local police. Behaviour change may be reported (by different individuals) during a project, but it is hard to predict whether this change will be sustainable.

Output 3.3: GVTC and communities have up to date information on water and land related conflicts.

See section 2.3.

Output 3.4: Structured relationships between park authorities, local authorities and communities strengthened

Prior to W4V, there was a climate of mistrust between the Virunga National Park authorities, communities and LG in the Mikeno Sector and several threats to the park's biodiversity were reported. W4V has largely reduced these conflicts:
Next to the improved drinking water supply (by W4V), the park authorities have given permission to (weekly) tap water sources within the park. The communities have recognised this contribution to solving their problem of lack of drinking water.
Following the PMP approach, structures (Conservation and Development Committee / CCD / CLCD / CGCD) to channel the demands of local communities towards the park are now being set up in the five Mikeno Sector Groups surrounding the park.
The constructed electrical fence prevents animals coming from the park to devastate the farmers' fields.

Output 3.5: Inter-government agreements on trans-border water delivery and management prepared

There has been an attempt to work on the trans-border water delivery in Kibumba. However, the attempts were unsuccessful because of the complicated legal environments in both the DRC and Rwanda. It was then agreed that this was no feasible option.

4.4. Rwanda

The project achievements were gathered from observation during field visit, interviews with the different stakeholders, FGD, and household surveys. The latter were carried out in the project areas of Burera, Nyabihu and Rubavu to understand the impact of the project. A total of 30 beneficiaries were surveyed across the different districts.

Indicator	Description *(italic if not evaluated in draft internal evaluation)*	Target	Com-pleted	Activity *(italic if not reported in W4V ME Progress Report_V10)*	Unit of measurement	Target_	Com-pleted#	Com-pleted %
Goal: Reduced conflict through increased access to water and improved watershed management in the Virunga Area								
Indicator 1	*% of people living in the project area (disaggregated by age, gender and community groups) who express that conflicts related to access to water and watershed management have reduced*	50%		Construction of rainwater harvesting tanks - community	tank			
				Construction of rainwater harvesting tanks - household	tank	560	575	103%
				Construction of water scheme	scheme			
				Construction of PSP (Public Standpoint)/ kiosks	PSP / kiosk			
				Construction of water taps	tap connected to Bunagana scheme			
				Rehabilitation of existing rainwater harvesting tanks	tank			
				Introduce and implement PIP approach in W4V intervention areas/ villages	PIP approach per intervention areas	2	2	100%
Indicator 2	*% of people (disaggregated by age, gender, and community groups) in the project area who consider the project has had a positive impact on reducing conflicts*	45%		Introduce the PMP approach around W4V intervention areas/ parishes	PMP per conflict			
Indicator 3	*% of people (disaggregated by age, gender, and community groups) in the project area who express that the relations with the park authorities have improved*	50%		Establish the advocacy communication mechanisms between communities and PA's (Protected Areas)	platform for dialogue	1	1	100%
				Set up mechanisms for conflict and complaints management around W4V intervention areas/ Parishes/ villages	mechanism per intervention area			
				Strengthen the advocacy communication mechanisms between communities and PA's (Protected Areas)	platform for dialogue	1	1	100%
				Conduct training for PWCC and PPC in Uganda	training			

Table 17. Targets and results of indicators and activities directly contributing to goal, for Rwanda

4.4.1. Outcome 1: WASH and IWRM

Indicator	Description *(italic if not evaluated in draft internal evaluation)*	Target	Com-pleted	Activity *(italic if not reported in W4V ME Progress Report_V10)*	Unit of measurement	Target_	Com-pleted #	Com-pleted %
Outcome 1: Improved well-being and production through improved WASH and IWRM								
Indicator 1a	% of people men and women of the different age and community groups who consider they are safe when accessing water (safety at water point and along the way)	80%	90%	Community accessing water	household	2.800	2800	100%
				Conduct studies	study per intervention area?	1	1	100%
Indicator 1b	% of households reporting increase access to water provided by the project	40%	77%	Contract constructors	constructor	8	8	100%
				Conduct stakeholders advocacy meetings on the water scheme	meeting			
Indicator 1c	*% of households (disaggregated by age, gender, and community) reporting increased access to water for their cattle*	10%		Construction of troughs	trough			
				Community accessing water for their cattle	breeder			
Indicator 1d	% change in average agricultural production at household level	10%	40%	Selection and training of PIs	farmer adopting PIP	3.200	50	2%
				Scale up PIP at the village/hill level	village adopting PIP	2	2	100%
				Advocate to ban illegal markets to local authorities in DRC	meeting			
				Sensitize communities on farming best practices	PI adhering to best practices	500	500	100%
					meeting / activity			
				Select and train government technical staff and village leaders on PIP approach	Gov. technical staff members	15	15	100%
				Farming land converted to sustainable use	hectare?	100	11,4	11%
Indicator 1e	*Number of hectares of agricultural of farmland converted to sustainable use*	5		Conduct mapping of the areas	map or hectare?			
				Conduct soil scan in the area	scan of field	40	18	45%
Indicator 1f	*% of people who consider that they are protected against flooding and erosion*	95%		Initiate IWRM activities	IWRM activity	1	1	100%
				Planting trees and soils stabilization grasses in farmlands	tree planted - grasses included?	428.045	440.831	103%
				Setting up water ponds in the fields and along the roads	water pond	560	640	114%
				Construct households RWHTs and water ponds to reduce runoff	RWHTs and ponds around it	560	560	100%
				Set up demo plots for sustainable agricultural practices	demo plot	2	3	150%
				Set up kitchen garden	person			

Table 18. Targets and results of indicators and activities contributing to outcome 1, for Rwanda

Indicator	Description *(italic if not evaluated in draft internal evaluation)*	Target	Com-pleted	Activity *(italic if not reported in W4V ME Progress Report_V10)*	Unit of measurement	Target_	Com-pleted #	Com-pleted %
Output 1.1: Increased access to safe drinking water for all communities								
Indicator 1.1a	% of households that have at least 20 liters of safe water per day	75%	92%					
Indicator 1.1b	% of households that have at least 5 liters of safe water per person per day	75%	96%					
Indicator 1.1c	% of households that have at least access to water from a protected source within a walking distance of 30 minutes	60%	87%					
Indicator 1.1d	*Number of functional water facilities (disaggregated by type of facilities) newly constructed by the project*	100		Handover of the scheme to Local Government (LG) /community	scheme?			
	Number of functional water facilities (disaggregated by type of facilities) newly constructed by the project – water schemes	2						
Indicator 1.1e	*Number of functional of water facilities (disaggregated by type of facilities) rehabilitated by the project*	0		Identify and demarcate the cattle corridors	corridor			
Indicator 1.1f	*% of households that access water from protected water sources due to project intervention*	10%						
Output 1.2: Erosion control and soil fertility measures adopted/ implemented								
Indicator 1.2a	*% of targeted households (disaggregated by locality, gender, and age) that have adopted soil erosion control and soil fertility measures*	40%		Sensitize communities on protection of the catchment/ water sources and farming best practices on the hills	PI adhering to best practices	500	500	100%
Indicator 1.2b	*Number of hectares rehabilitated by the community (disaggregated by areas) as a result of adoption of best practices demonstrated*	5						

Table 19. Targets and results of indicators and activities contributing to outcome 1, for Rwanda - continued

Output 1.1: Increased access to safe drinking water for all communities

Water access for domestic use has increased through the implementation of RWHTs in the four districts of interventions, which decreased the entrance in the park. The percentage of households that have at least 20 liters of safe water per day has grown from 63,3% (baseline) to 91,6% (internal evaluation). It needs to be noted, that during the baseline survey, Indicator 1.1b was defined as % of households (disaggregated by community groups) that have at least *10 liters* of safe water per person per day, while during the endline survey / internal evaluation, it was defined as: % of households (disaggregated by community groups) that have at least *5 liters* of safe water per person per day.

The household survey indicates that the access to water is covering most of the intervention area as 100[11]% and 97[12]% of the surveyed beneficiaries (compared to 54% of the respondents from the baseline study) need to walk less than 30 min for a distance of less than 1 km for domestic and livestock purposes respectively. Because of the increase in water access, the KII in Cyanika and Bugeshi sectors mentioned that the children had more time to go to school. Another consequence of the increased water access is the saving of money otherwise used to buy several jerrycans for both domestic and livestock purposes. The story that children go to school could not be confirmed because the evaluators were only in the field for a few days.

Regarding the tanks constructed in Bugeshi, the beneficiaries are already making a lot of repairs and the leakages are not stopping. The beneficiaries were already having concerns on how they will manage the continuing leakage issues and tap breakages. As the RWHT construction started in Bugeshi, lessons were learnt and improvements in the design were made for the other areas. These tanks were not reinforced, and transport uphill could have damaged the tanks as well (the volcanic eruption in 2021 was not the cause). More so, the tanks, especially in Bugeshi, do not have an overflow drainage area. It was actually noted during FGD with the WMC in Nsherima, Bugeshi that during rain events, the tank overflows and floods the surrounding area. They were requesting for help with this challenge as then still runoff is generated. This help could be really easy by making infiltration trenches but apparently the people lack the initiative, knowledge or ownership to do this

Output 1.2: Erosion control and soil fertility measures implemented

The issue of attribution of erosion control and soil fertility measures was a difficult one: in the districts visited, there was no clear difference between the interventions carried out by the project beneficiaries and those done by non project beneficiaries. The beneficiaries in Bugeshi explained that before the project, they did erosion control

[11] 100% of the respondents need less than 30min to collect a 20-liter jerrycan for domestic purposes

[12] 97% of the respondents need less than 30min to collect water for livestock purposes

measures because the LG wanted them to do so, without knowing their use. Since W4V they started to understand what the use of these measures was. W4V, after discussions with various persons and LG on the desired and functional measures to improve the land and water conservation situation in the area, consensus was reached, and an action plan made. After a shared inventory, the locations where intervention would take place were fixed. So, in this case, W4V and LG have reinforced each other's efforts.

This was less the case with the soil fertilizers, of which the beneficiaries could not explain the use as the project made fertilizer available.
Land restoration measures such as drainage channel using stones, agroforestry, and grass strips – which can be used as livestock feed – were introduced in all sectors of implementation. The agroforestry measures were introduced to slow down water runoff during the rainy season, which have been indicated as a successful measure by the social development officer in Nsherima cell. Regarding the Alnus trees in figure 8: This area was not cultivated before due to erosion from uphill areas that would destroy the crops. The estimated age of these trees is 1.5 to 2 years, which was confirmed by the landowner, and is realistic as Alnus grows at an average rate of 2 feet per year, and the soil conditions are favourable

Figure 8. Left: Alnus trees planted along drainage channel (Kamiro village, Nyabihu district, Rwanda). Right: Close up

In Rwanda, over 85% of the survey respondents noted an increase in their yield over the past 3 years. This will most likely be due to land conservation measures introduced rather than to the water provided by the RWHTs, which is only occasionally (in Bugeshi) used for irrigation of the Irish potato field. In addition, trainings on composting and on fertilizer and pesticide use were given through the PIP approach, after which the use of pesticides has increased. No mention was made of a potato project (funded by the Dutch embassy), and possible changes in the use of pesticides.

Output 1.3: Watershed protection measures in place

The government of Rwanda enforced strict regulation regarding livestock so that the livestock is zero grazed.

4.4.2. Outcome 2: Water management and governance

Indicator	Description *(italic if not evaluated in draft internal evaluation)*	Target	Com-pleted	Activity *(italic if not reported in W4V ME Progress Report_V10)*	Unit of measurement	Target	Com-pleted #	Com-pleted %
Outcome 2. Improved inclusive governance and management of water								
Indicator 2a	% of men and women of the different age and communities' groups that declare trusting the local authorities regarding planning and implementing IWRM and water supply activities	95%	46%	Follow-up/coach on parish/chefferie role/responsibility on water governance	Meeting, field visit			
					workshop			
				Facilitate Chefferie/District/sector/ cell to follow up/supervise functional WUCs	WUC/umbrella supervised by LG	560	19	3%
				Functional WUCs supervised by stakeholders	WUC/umbrella supervised by LG	560	19	3%
Indicator 2b	*% of people who declare they are satisfied by water provision (disaggregated by gender, age, and community)*	10%		Put in place WUCs	WUC or umbrella	560	19	3%
				Sign MoUs with WUCs	MoU			
				Facilitate WUC to complete legalization	WUC or umbrella			
				Facilitate stakeholders to legalize WUC	WUC or umbrella	560	19	3%
				Conduct WUC training	WUC member	133	19	14%
					WUC			
				Conduct participatory WUC assessments	assessment	2	0	0%
Indicator 2c	*% change in budget expenditure for WASH and IWRM by local governments (LG)*			Support LG / chefferie in action plan implementation for WASH and IWRM	action plan			
Output 2.1: Citizens participate in local government annual planning and budget cycle								
Indicator 2.1a	*Number of (annual) operational and financial plans for WASH and IWRM adopted by LG based on ideas/wishes from CSO's/ CBOs*	2		Determine budget process to determine right entry points	?	1	0	0%
Indicator 2.1b	% of CSOs/CBOs who have been involved in LG annual planning and budgeting process.	2	10%	Determine number of CSOs/actively involved in budgeting process	?	1	0	0%

Table 20. Targets and results of indicators and activities contributing to outcome 2, for Rwanda

Indicator	Description *(italic if not evaluated in draft internal evaluation)*	Target	Com-pleted	Activity *(italic if not reported in W4V ME Progress Report_V10)*	Unit of measurement	Target_	Com-pleted #	Com-pleted %
Output 2.2: Improved and transparent functional relations between consumers, services providers, and LG (for water service delivery and IWRM)								
Indicator 2.2a	% of households (disaggregated by different community) who consistently pay for the water supply services	70	34%	Conduct meeting with WUC/stakeholders to set up mechanisms for cost recovery	meeting			
				Support WUC / stakeholders in facilitating communities to agree on water cost	amount of water cost agreed?			
				Establish VSLA	VSLA	19	1	5%
				Field visits with stakeholders to prepare communities on paying / agreed amount	field visit	12	12	100%
				W4V accompany stakeholders to monitor WSP/WUC on payment /agreed amount	monitoring visit	12	12	100%
				Support WSP/WUC to put in place fin. management, accountability mechanisms	WSP/WUC/VSLA with mechanisms	560	1	0%
Indicator 2.2b	% of households (disaggregated by, different community) who attend meetings with LG and service providers on water and watershed management	80%	98%	Engage LG to put water/shed management issues on agenda of community meetings	Water/shed issue on LG agenda	1	1	100%
				Engage WSP/WUC to conduct meetings with communities on water related issues	meeting of WUC with community	19	19	100%
				Conduct community awareness to attend water/shed management meetings	meeting	19	19	100%
				Set up PWCC	PWCC			
Indicator 2.2c	*% of recommendations made by WUCs, WSPs adopted by LG annually due to project intervention*	40%		Follow up on recommendations made during community meetings with WSP, LG	recommendations implemented	4	3	75%
Output 2.3: Support the development of IWRM plan and investment plan by Districts/ chefferies/ Parishes								
Indicator 2.3a	*number of Districts/ Chefferies with IWRM plan with budgets*	4		Advocate for IWRM plans, budgets	Parish with plan			
Output 2.4: Water user's committee and Service provider functional								
Indicator 2.4a	*% of water user's committee who effectively manage their water points*	70%				133	133	100%
Indicator 2.4b	*% of men and women of the different age and community groups in the water committees*	50%, 50%		Female inclusion in WUC	number or %?	67	4	6%
				Male inclusion in WUC	number or %?	66	4	6%
				>= 35 years inclusion in WUC	number or %?	67	4	6%
				<35 years inclusion in WUC	number or %?	66	4	6%
				Minority group inclusion in WUC	member			
				Majority group inclusion in WUC	member			
Indicator 2.4c	*% of WUCs that has up to date records accessible by members*	70%		Follow-up of availability notebooks	WUC + notebook	560	19	3%

Table 21. Targets and results of indicators and activities contributing to outcome 2, for Rwanda - continued

Output 2.1: Citizens participate in LG annual planning and budget cycle

While during the baseline study, respondents mentioned that they did not participate in the LG meetings regarding water services and watershed, all survey respondents (100%) attend LG meetings since the program. Attending the LG meetings is compulsory for every village member anyway. Since W4V, they attend because they believed that it was through the LG that they received this project and benefit from it. It is for this reason that even non project beneficiaries also attended the LG meetings.

Output 2.2: Improved and transparent functional relations between consumers, services providers, and LG (for water service delivery and IWRM)

The internal evaluation reveals an increase in attendance to the LG meetings from 48,6% during the baseline study to 98,1% during the endline study (internal evaluation). Although 93% of the respondents trust their LG regarding the planning and the implementation of IWRM and water supply activities in their community, only 7% are satisfied of the provided water services. This is not attributed to the project, as the LG planning and operation system is very organised with or without external support.

Output 2.3: Development of Local IWRM plan and investment plan supported

No IWRM plans have been developed, but elements of IWRM have been implemented, and plans developed to mitigate landslides. RWHTs were thought to contribute to the reduction of runoff and flooding and constructed in a way to contribute to this reduction. As the soak pits observed were not placed in a way to collect the overflowing water from the top of the RWHTs, this will not contribute much to the reduction of runoff and flooding, even though the water from the RWHTs is used, especially in the rainy season (as in the dry season they are quickly emptied). See section 5.1.3 for more information on the usefulness of the soak pits.

Output 2.4: Water User's committee and service provider functional

The WMCs are composed of all households owning a RWHT (so, most of the households) in a village. The gender balance is well respected in all WMCs. A monthly fee of 200 RWF is collected and put in a revolving fund. These WMCs are functional in all three districts of Burera, Nyabihu and Rubavu (Bugeshi Sector), although the records show that the WMC in Bugeshi stopped having regular meetings in January 2021.

4.4.3. Outcome 3: Improved relations

Indicator	Description *(italic if not evaluated in draft internal evaluation)*	Target	Com-pleted	Activity *(italic if not reported in W4V ME Progress Report_V10)*	Unit of measurement	Target	Com-pleted#	Com-pleted %
Outcome 3: Improved relations and reduction of conflicts between governments, park authorities and local populations regarding access to water and other natural resources								
Indicator 3a	*% of respondents that confirm that land-related conflicts exist*			*Identify conflict thematics*				
	% of respondents that recognize that inter-ethnic conflicts / issues exist			*set up PMP for conflict transformation on identified conflicts*				
	% of respondents that recognize that customary or tradition-related conflicts / issues exist			*Conflict resolution agreement Signed by conflict parties*				
	% of respondents that recognize that conflicts / issues between pastoralists and farmers exist			*Involve all stakeholders and community members to transform the conflict*				
Indicator 3b	% of identified conflicts between different communities and other stakeholder groups related to WASH and IWRM that have been effectively transformed according to involved stakeholders		81%	*Identify conflicts related to WASH and IWRM*				
Indicator 3c	*number of transboundary cases positively transformed through collaborative mechanisms*							
Indicator 3d	% of respondents that recognize that relations with authorities have improved	10	63%	Construction of physical barriers as agreed by parties (electrical fence)	physical barrier			
Output 3.1: Network of identified mediators/facilitators (persons/organisations/platforms) capable of using effective conflict transformation strategies is established and functional								
Indicator 3.1a	*number of facilitators/ mediators (disaggregated in gender and community) trained by the project who practice conflict transformation techniques and approaches*			Select and train organizations partner to work on conflict transformation	?			
Output 3.2: Trans boundary, national and local identified issues, and conflicts in GVL addressed								
Output 3.3: GVTC and communities have up to date information on water and land related conflicts.								
Output 3.4: Structured relationships between park authorities, local authorities and communities strengthened								

Table 22. Targets and results of indicators and activities contributing to outcome 3, for Rwanda

Output 3.1: Network of identified mediators/facilitators (persons / organisations / platforms) capable of using effective conflict transformation strategies is established

Such networks were not implemented in Rwanda.

Output 3.2: Transboundary, national, and local identified issues and conflict in GVL addressed

Several conflicts were identified during the baseline study: 54% of respondents reported conflicts related to water and IWRM, 27.5% of respondents identified land related conflicts, 56% of respondents mentioned conflicts with the park authorities, and 1.6% identified conflicts between pastoralists and farmers. The surveys showed that 100% of the respondents believe that there has been a decrease in illegal entry in the park over the project period. Consequently, the relationship between the communities and the park authorities have improved. Moreover, there are two groups involved in the park management, i.e., the conservation group and the community members. These two groups initially believed to have competing interests. Yet, nowadays, they see each other as partners and the animosity has been strongly reduced.

The stone walls constructed in Rwanda have reduced the crop raiding in Bugeshi but still some animals escape the park. Crop raiding is also still happening in Burera as the wall does not delimit the park entirely.

Output 3.3: GVTC and communities have up to date information on water and land related conflicts

See section 2.3.

Output 3.4: Structured relationships between park authorities, local authorities and communities strengthened

W4V has facilitated maintenance of the physical barriers (existing wall and trench), in Burera as well. The collaboration between the communities, the local leaders, the park authorities and the RDB were reported to have improved in Bugeshi and Nyabihu. Tensions are still existing in Burera because crop raiding is still taking place, as about 1 km of the border is not fenced. The government is spending a lot to compensate the communities for this (FGD and KII with sector authorities).

Furthermore, W4V strengthened the already existing commitment of the Bugeshi villagers that are active in the small savings groups that are being registered into cooperatives, supported by RDB in 2000.

Several MoUs were signed to create an enabling environment for the progress of the project. To detail and ease the implementation of the project's activities, and specifically to manage expectations, in the four districts of intervention, W4V signed four MoUs

with the four districts in 2019 (RMPR October 2019). In addition, in August 2019, W4V signed one MoU with RAB (RMPR August 2019). Another MoU was signed between W4V, IGCP and CBOs to tackle the human wildlife conflicts. Once the discussions were held and the content properly worded, the signing was obvious as the content was supported on all layers in the organisations. During the lifespan of the MoU's, at very few moments reference was made to the MOUs to clarify upcoming cooperation issues.

Output 3.5: Inter-government agreements on trans-border water delivery and management prepared

There has been an attempt to work on the trans-border water delivery in Kibumba. However, the attempts were unsuccessful because of the complicated legal environments in both the DRC and Rwanda. It was then agreed that this was no feasible option.

4.5. Uganda

The project achievements were gathered from observation during field visit, interviews with the different stakeholders, FGD, and household surveys. The latter were carried out in the project areas of Muramba and Nyarusiza to understand the impact of the project. A total of 59 beneficiaries participated in the evaluation across the different sub-counties.

Indicator	Description *(italic if not evaluated in draft internal evaluation)*	Target	Com-pleted	Activity *(italic if not reported in W4V ME Progress Report_V10)*	Unit of measurement	Target_	Com-pleted#	Com-pleted %
Goal: Reduced conflict through increased access to water and improved watershed management in the Virunga Area								
Indicator 1	*% of people living in the project area (disaggregated by age, gender and community groups) who express that conflicts related to access to water and watershed management have reduced*	50%		Construction of rainwater harvesting tanks - community	tank	14	14	100%
				Construction of rainwater harvesting tanks - household	tank			
				Construction of water scheme	scheme	1	1	100%
				Construction of PSP (Public Standpoint)/ kiosks	PSP / kiosk	34	34	100%
				Construction of water taps	tap connected to Bunagana scheme			
				Rehabilitation of existing rainwater harvesting tanks	tank			
				Introduce and implement PIP approach in W4V intervention areas/ villages	PIP approach per intervention areas	6	2	33%
Indicator 2	*% of people (disaggregated by age, gender, and community groups) in the project area who consider the project has had a positive impact on reducing conflicts*	45%		Introduce the PMP approach around W4V intervention areas/ parishes	PMP per conflict	3	3	100%
Indicator 3	*% of people (disaggregated by age, gender, and community groups) in the project area who express that the relations with the park authorities have improved*	50%		Establish the advocacy communication mechanisms between communities and PA's (Protected Areas)	platform for dialogue	1	1	100%
				Set up mechanisms for conflict and complaints management around W4V intervention areas/ Parishes/ villages	mechanism per intervention area	3	3	100%
				Strengthen the advocacy communication mechanisms between communities and PA's (Protected Areas)	platform for dialogue	1	1	100%
				Conduct training for PWCC and PPC in Uganda	training	2	2	100%

Table 23. Targets and results of indicators and activities directly contributing to goal, for Uganda

Indicator	Description *(italic if not evaluated in draft internal evaluation)*	Target	Completed	Activity *(italic if not reported in W4V ME Progress Report_V10)*	Unit of measurement	Target	Com-pleted #	Com-pleted %
Outcome 1: Improved well-being and production through improved WASH and IWRM								
Indicator 1a	% of people men and women of the different age and community groups who consider they are safe when accessing water (safety at water point and along the way)	70%	40%	Community accessing water	household	1.000	5200	520%
				Conduct studies	study per intervention area?	2	2	100%
Indicator 1b	% of households reporting increase access to water provided by the project	40%	96%	Contract constructors	constructor	8	8	100%
				Conduct stakeholders advocacy meetings on the water scheme	meeting	24	18	75%
Indicator 1c	*% of households (disaggregated by age, gender, and community) reporting increased access to water for their cattle*	40%		Construction of troughs	trough			
				Community accessing water for their cattle	breeder			
Indicator 1d	% change in average agricultural production at household level	10%	22%	Selection and training of PIs	farmer adopting PIP	2.560	342	13%
				Scale up PIP at the village/hill level	village adopting PIP	3	2	67%
				Advocate to ban illegal markets to local authorities in DRC	meeting			
				Sensitize communities on farming best practices	PI adhering to best practices	2.560	342	13%
					meeting / activity			
				Select and train government technical staff and village leaders on PIP approach	Gov. technical staff members	10	10	100%
				Farming land converted to sustainable use	hectare?			
Indicator 1e	*Number of hectares of agricultural of farmland converted to sustainable use*	5		Conduct mapping of the areas	map or hectare?	5	3,9	79%
				Conduct soil scan in the area	scan of field	0	57	infinite
Indicator 1f	*% of people who consider that they are protected against flooding and erosion*	70%		Initiate IWRM activities	IWRM activity	1	1	100%
				Planting trees and soils stabilization grasses in farmlands	tree planted - grasses included?			
				Setting up water ponds in the fields and along the roads	water pond			
				Construct households RWHTs and water ponds to reduce runoff	RWHTs and ponds around it	14	14	100%
				Set up demo plots for sustainable agricultural practices	demo plot	3	3	100%
				Set up kitchen garden	person	50	17	34%

Table 24. Targets and results of indicators and activities contributing to outcome 1, for Uganda

Indicator	Description *(italic if not evaluated in draft internal evaluation)*	Target	Com-pleted	Activity *(italic if not reported in W4V ME Progress Report_V10)*	Unit of measurement	Target	Com-pleted #	Com-pleted %
Output 1.1: Increased access to safe drinking water for all communities								
Indicator 1.1a	% of households that have at least 20 liters of safe water per day	75%	43%					
Indicator 1.1b	% of households that have at least 5 liters of safe water per person per day	80%	83%					
Indicator 1.1c	% of households that have at least access to water from a protected source within a walking distance of 30 minutes	60%	94%					
Indicator 1.1d	*Number of functional water facilities (disaggregated by type of facilities) newly constructed by the project*	12		Handover of the scheme to Local Government (LG) /community	scheme?	1	1	100%
	Number of functional water facilities (disaggregated by type of facilities) newly constructed by the project – water schemes	2						
Indicator 1.1e	*Number of functional of water facilities (disaggregated by type of facilities) rehabilitated by the project*	0		Identify and demarcate the cattle corridors	corridor			
Indicator 1.1f	*% of households that access water from protected water sources due to project intervention*	40%						
Output 1.2: Erosion control and soil fertility measures adopted/ implemented								
Indicator 1.2a	*% of targeted households (disaggregated by locality, gender, and age) that have adopted soil erosion control and soil fertility measures*	40%		Sensitize communities on protection of the catchment/ water sources and farming best practices on the hills	PI adhering to best practices	0	342	infinite
Indicator 1.2b	*Number of hectares rehabilitated by the community (disaggregated by areas) as a result of adoption of best practices demonstrated*	5		*(in Résultats obtenus comparés aux prévisions V2.pdf)*	hectare	5	7,1	142%

Table 25. Targets and results of indicators and activities contributing to outcome 1, for Uganda - continued

4.5.1. Outcome 1: WASH and IWRM

Output 1.1: Increased access to safe drinking water for all communities

Water access has been increased through the implementation of RWHTS and the Kisoro Virunga Water Supply Extension (KVWSE) piped water (built with NWSC). The percentage of households that have at least 20 liters of safe water per day has grown from 65,8% (baseline) to 96,1% (internal evaluation). 5200 households (1000 households using water from 14 constructed RWHTs reported in W4V ME Progress Report_V11 November 2021 + 21.000 beneficiaries of the KVWSE / 5 = 4.200 households) now have better access to water. Indeed, new RWHTs were built in all three parishes. Moreover, repairs were done of leakages of pipes in NWSC water supply systems. People did not repair their water supply themselves, because these repairs (of RWHTs) were very costly. They also had alternative sources of water like the small tanks that were provided by IGCP to individual households. The RWHTs are mainly used in the dry season (if they yield water) when the tap stands have dried out. Water from the RWHTs is used for domestic chores like washing clothes, cooking, and drinking in the dry season. During the rainy season, people prefer other water sources like the piped water from NWSC. A challenge was that both the tap stands, and the tanks were set up very close to each other.

The source of the water of the KVWSE pipe is in Nkaanka, in Nyaruvule subcounty. The water is pumped, and the communities can access the water at the 34 tap stands. Thanks to these infrastructures, the percentage of households that have at least access to water from a protected source within a walking distance of 30 minutes, has increased from 40,9% to 93,5 % (internal evaluation). The baseline study identified only 32% of respondents that would walk for less than 30 min to access water before the implementation of W4V.

Output 1.2: Erosion control and soil fertility measures implemented

Through the PIP approach, several techniques were introduced in the area to reduce flooding, soil erosion and gully formation (FGD). These techniques include soil and water conservation practices, trenches, stone bunds, Napier grass and tree planting and terraces building. These techniques seem to be successful as gullies are reported to be regreening, soil fertility is slowly being regenerated and only 39% of the survey beneficiaries mentioned having floods on their farmland, of which 75% induced mild soil erosion (FGD, interview). The KII support this claim as they report a decrease in flood incidences. Stone rows running downhill were meant as a mark between plots (and not for erosion control).

In addition to the above-mentioned soil and water conservation measures and to improve soil fertility, training on compost making, the use of fertilizer, were given through the PIP approach. Through the approach, a mixed crop system was introduced

(moving from Irish potatoes to matooke as well), and a soil scanner was used to identify the potential soil nutrient deficiency. In Uganda however it was found that the soil scanner was wrongly calibrated, so that all the results were inaccurate.

Despite these measures and the mention of increased yields during the FGD, only 20% of the surveyed respondents indicated an increase in their crop production. This is due to the limited land for cultivation and with the introduced mixed farming. Despite these measures and the mention of increased yields during the FGD, only 20% of the surveyed respondents indicated an increase in their crop production. This is due to the limited land for cultivation and with the introduced mixed farming.

Output 1.3: Watershed protection measures in place

The livestock is zero grazed, but it was already like that before the start of W4V.

4.5.2. Outcome 2: Water management and governance

Indicator	Description *(italic if not evaluated in draft internal evaluation)*	Target	Com-pleted	Activity *(italic if not reported in W4V ME Progress Report_V10)*	Unit of measurement	Target_	Com-pleted #	Com-pleted %
Outcome 2. Improved inclusive governance and management of water								
Indicator 2a	% of men and women of the different age and communities' groups that declare trusting the local authorities regarding planning and implementing IWRM and water supply activities	80%	84%	Follow-up/coach on parish/chefferie role/responsibility on water governance	Meeting, field visit	24	24	100%
					workshop			
				Facilitate Chefferie/District/sector/ cell to follow up/supervise functional WUCs	WUC/umbrella supervised by LG			
				Functional WUCs supervised by stakeholders	WUC/umbrella supervised by LG	17	17	100%
Indicator 2b	*% of people who declare they are satisfied by water provision (disaggregated by gender, age, and community)*	40%		Put in place WUCs	WUC or umbrella	17	17	100%
				Sign MoUs with WUCs	MoU	17	17	100%
				Facilitate WUC to complete legalization	WUC or umbrella	17	17	100%
				Facilitate stakeholders to legalize WUC	WUC or umbrella			
				Conduct WUC training	WUC member			
					WUC	17	17	100%
				Conduct participatory WUC assessments	assessment	2	0	0%
Indicator 2c	*% change in budget expenditure for WASH and IWRM by local governments (LG)*			Support LG / chefferie in action plan implementation for WASH and IWRM	action plan	2	0	0%
Output 2.1: Citizens participate in local government annual planning and budget cycle								
Indicator 2.1a	*Number of (annual) operational and financial plans for WASH and IWRM adopted by LG based on ideas/wishes from CSO's/ CBOs*	2		Determine budget process to determine right entry points	?	1	0	0%
Indicator 2.1b	% of CSOs/CBOs who have been involved in LG annual planning and budgeting process.	2	47,0%	Determine number of CSOs/actively involved in budgeting process	?	1	0	0%

Table 26. Targets and results of indicators and activities contributing to outcome 2, for Uganda

Indicator	Description *(italic if not evaluated in draft internal evaluation)*	Target	Com-pleted	Activity *(italic if not reported in W4V ME Progress Report_V10)*	Unit of measurement	Target_	Com-pleted #	Com-pleted %
Output 2.2: Improved and transparent functional relations between consumers, services providers, and LG (for water service delivery and IWRM)								
Indicator 2.2a	% of households (disaggregated by different community) who consistently pay for the water supply services	70%	79%	Conduct meeting with WUC/stakeholders to set up mechanisms for cost recovery	meeting	0	4	infinite
				Support WUC / stakeholders in facilitating communities to agree on water cost	amount of water cost agreed?			
				Establish VSLA	VSLA	0	12	infinite
				Field visits with stakeholders to prepare communities on paying / agreed amount	field visit	24	23	96%
				W4V accompany stakeholders to monitor WSP/WUC on payment /agreed amount	monitoring visit	24	18	75%
				Support WSP/WUC to put in place fin. management, accountability mechanisms	WSP/WUC/VSLA with mechanisms	17	17	100%
Indicator 2.2b	% of households (disaggregated by, different community) who attend meetings with LG and service providers on water and watershed management	80%	90%	Engage LG to put water/shed management issues on agenda of community meetings	Water/shed issue on LG agenda	1	1	100%
				Engage WSP/WUC to conduct meetings with communities on water related issues	meeting of WUC with community			
				Conduct community awareness to attend water/shed management meetings	meeting			
				Introduce, set up PWCC	PWCC	3	3	100%
Indicator 2.2c	*% of recommendations made by WUCs, WSPs adopted by LG annually due to project intervention*	40%		Follow up on recommendations made during community meetings with WSP, LG	recommendations implemented	4	2	50%
Output 2.3: Support the development of IWRM plan and investment plan by Districts/ chefferies/ Parishes								
Indicator 2.3a	*number of Districts/ Chefferies with IWRM plan with budgets*	1		Advocate for IWRM plans, budgets	Parish with plan			
Output 2.4: Water user's committee and Service provider functional								
Indicator 2.4a	*% of water user's committee who effectively manage their water points*	70%						
Indicator 2.4b	*% of men and women of the different age and community groups in the water committees*	50%		Female inclusion in WUC	number or %?	8,5	56	659%
				Male inclusion in WUC	number or %?	8,5	56	659%
				>= 35 years inclusion in WUC	number or %?			
				<35 years inclusion in WUC	number or %?			
				Minority group inclusion in WUC	member	2	2	100%
				Majority group inclusion in WUC	member	15	0	0%
Indicator 2.4c	*% of WUCs that has up to date records accessible by members*	70%		Follow-up of availability notebooks	WUC + notebook	17	17	100%

Table 27. Targets and results of indicators and activities contributing to outcome 2, for Uganda - continued

Output 2.1: Citizens participate in LG annual planning and budget cycle

Before the implementation of W4V, LG meetings on water services and watershed topic were not happening, due to limited funds to facilitate the LG officials. When the project started, LG officials were brought on board to lead trainings on water management and guide election of the WMCs and train them there after.

Output 2.2: Improved and transparent functional relations between consumers, services providers, and LG (for water service delivery and IWRM)

The internal evaluation reveals an increase in attendance to the LG meetings from 76,4% during the baseline study to 90,1% during the endline study (internal evaluation). While 95% of the respondents have trust in the LGs, only 54% are satisfied by the water services provided by them. Initially the people were hesitant about whether the LG would deliver on its promise of bringing more water to the area and other interventions such as PIP but as the interventions unfolded and proved beneficial to them, trust has been built between LG officials and beneficiaries, especially during the trainings. On the other hand, with the non beneficiaries of the project, the little trust that existed reduced because they kept wondering why they had been left out of the project activities, yet they are also in need of the interventions.

Output 2.3: Development of Local IWRM plan and investment plan supported

No IWRM plans have been developed, but plans were developed to mitigate landslides (as an element of IWRM).

Output 2.4: Water User's Committee and service provider functional

According to the project logic, each RWHT and tap (from the KVWSE pipeline) has a WMC installed (interview). The role of the committee is also to supervise the payment per jerrycan of water and to supervise the community cleaning the water points when necessary. The water fee of 50 UGX[13] (piped water) or 100 UGX (for RWHTs' water) is collected per 20-liter jerrycan filled from the RWHTs or the tap stands, therefore reducing the water expenses hugely (from 1500-2000 UGX), as some community members used to get water from the Bodaboda water vendors (FGD).

If indeed, the WMCs are functional as described above, and more than just a committee on paper, remains a question, that could be answered at a later moment (e.g., by checking the status of the RWHTs). What may be a bad sign, regarding record keeping by the WMCs, was that the WUCs just kept mentioning that they keep all the records but could not bring the books for evaluators to verify. What may be a good sign, is that for the old tanks that had been constructed by IGCP, there were water user committees as well.

[13] 25UGX is saved for O&M and 25UGX is transferred to NWSC

In addition, 7 members of the WMCs were elected to form a Parish Water Management Committee (PWMC) (interview). This committee is to oversee and guide the activities of the WMCs. The 3 PWMCs, with the guidance of W4V merged to form an association called the Mgahinga Conservation Development Association (MCCDA). This association is registered at the district level and aims to supervise the conservation of natural resources (including water) in the 3 parishes.

4.5.3. Outcome 3: Improved relations

Indicator	Description *(italic if not evaluated in draft internal evaluation)*	Target	Com-pleted	Activity *(italic if not reported in W4V ME Progress Report_V10)*	Unit of measurement	Target_	Com-pleted#	Com-pleted %
Outcome 3: Improved relations and reduction of conflicts between governments, park authorities and local populations regarding access to water and other natural resources								
Indicator 3a	*% of respondents that confirm that land-related conflicts exist*			*Identify conflict thematics*				
	% of respondents that recognize that inter-ethnic conflicts / issues exist			*set up PMP for conflict transformation on identified conflicts*				
	% of respondents that recognize that customary or tradition-related conflicts / issues exist			*Conflict resolution agreement Signed by conflict parties*				
	% of respondents that recognize that conflicts / issues between pastoralists and farmers exist			*Involve all stakeholders and community members to transform the conflict*				
Indicator 3b	% of identified conflicts between different communities and other stakeholder groups related to WASH and IWRM that have been effectively transformed according to involved stakeholders		75%	*Identify conflicts related to WASH and IWRM*				
Indicator 3c	*number of transboundary cases positively transformed through collaborative mechanisms*							
Indicator 3d	% of respondents that recognize that relations with authorities have improved	5	53%	Construction of physical barriers as agreed by parties (electrical fence)	physical barrier			
Output 3.1: Network of identified mediators/facilitators (persons/organisations/platforms) capable of using effective conflict transformation strategies is established and functional								
Indicator 3.1a	*number of facilitators/ mediators trained by the project who practice conflict transformation techniques and approaches*			Select and train organizations partner to work on conflict transformation	?			
Output 3.2: Trans boundary, national and local identified issues, and conflicts in GVL addressed								
Output 3.3: GVTC and communities have up to date information on water and land related conflicts.								
Output 3.4: Structured relationships between park authorities, local authorities and communities strengthened								

Table 28. Targets and results of indicators and activities contributing to outcome 3, for Uganda

Output 3.1: Network of identified mediators/facilitators (persons / organisations / platforms) capable of using effective conflict transformation strategies is established

The main technique used to resolve conflict is the PMP approach. This approach was used to identify and prioritise the key conflicting area (interview). The meeting through the PMP identified water related issues, animal crop raiding, poor park relations, and then limited information on revenue sharing. There were no interventions implemented in relation to livestock or grazing in Uganda.

Through the PIP training, a good collaboration between the communities and the UWA has been established.

Output 3.2: Transboundary, national, and local identified issues and conflict in GVL addressed

Several conflicts were identified during the baseline study: 61% of respondents reported conflicts related to water and IWRM, 42% of respondents identified land related conflicts, 30% of respondents mentioned conflicts with the park authorities, and 3.3% identified conflicts between pastoralists and farmers. Overall, 98% of the survey respondents indicated that the project had a positive impact on the reduction of conflicts in the area. In addition, 97% of the respondents believe that conflicts related to water and watershed management have reduced and 98% indicated an improved relationship with the park authorities since the past 2 years.

The issue of the human-wildlife conflicts was tackled by the reinforcement of 1.2 km stretch of the stone wall with mortar in Kabande village. The height of the wall was extended by 0.3 m to reach a height of 1.5m (see Figure 9. Stone wall reinforced with mortar (Uganda)

In addition, to further reinforce the wall, 7,440 stem cuttings of Erythrina were planted on both sides of the wall along a stretch of 11.7 km of the wall, therefore reaching 12 villages.

Figure 9. Stone wall reinforced with mortar (Uganda)

Furthermore, a radio show was developed to inform communities on the Wildlife Conservation Act and to spread information on revenue sharing (interview). No transboundary conflicts have been reported.

Output 3.3: GVTC and communities have up to date information on water and land related conflicts

See section 2.3.

Output 3.4: Structured relationships between park authorities, local authorities and communities strengthened

W4V has linked the communities to the government and the UWA (FGD1). All respondents claim that the number of illegal park entrance has decreased so that 98% of the respondents believe that the relationship with the park authorities have improved. This is confirmed by the UWA: since the stone wall re-enforcement (in which communities participated actively) and the provision of water to communities:

- only one problem with an animal outside the park has been registered;
- registered cases of community members herding back strayed buffaloes to the park and call UWA staff;
- minimized registered illegal park entries by community members;
- communities have a better understanding of UWA policies, regulations, and programs.

Several MoUs were signed between W4V and different parties to create an enabling environment for the implementation of the project activities. In June 2019, W4V signed a MoU with the Kabande Tank B and Ruchantege Tank B water users and in June 2020, another MoU was signed with NWSC (UMPR June 2020, 2021). Moreover, two MoUs were signed to reinforce the stone wall. One in October 2020 between W4V and UWA and another one in January 2021 between the villagers of Kabande, the UWA and the

contractors that have reinforced the stone wall with mortar and cement (UMPR October 2020; UMPR January 2021). Finally, W4V has facilitated the set up of dialog platforms (MCCDA and PWCC).

Output 3.5: Inter-government agreements on trans-border water delivery and management prepared

This output is not applicable to Uganda.

5. Assessment of the project

5.1. Relevance

5.1.1. Stakeholder assessment

How do different stakeholders (community members of different (socio-economic, ethnic) background, LG at different levels, park authorities), assess the relevance of the project to their needs and priorities?

During the interviews, most stakeholders stated that the goal and objectives of the project were in line with their needs and priorities. The aim of W4V was to bring cohesion back between the different communities and ethnical groups after long years of war (interview). In addition, the beneficiaries in Runyoni (DRC) and in Uganda confirmed that the project answered their needs regarding conflicts, limited access to drinking water, crop raiding by wild animals, conflicts between farmers and pastoralists (this conflict was only felt in DRC) as well as soil erosion.

While the targets in the implementation were seen as relevant, the objectives of the project as formulated by the embassy and answered to in the expression of interest, was found overly ambitious by some stakeholders. This was the aim for "reduced conflict through increased access to water and improved watershed management in the Virunga area "(Project plan 2016).

The project intervention zone was only one section of the whole instable region (interview). The entry point of the project to the conflict, improved water management and relations with the park, was only part of the of conflict. From interviews with project staff, it became clear that the focus on ethnic diversity and ethnic dimensions in conflict transformations were politically sound but difficult for them. For one, in Rwanda this topic cannot be part of normal conversation or intervention it is made not to exist. The ethnic dimension which included several other groups with conflicting interests was side-tracked to one group and found redundant. For instance, In DRC the emphasis on Batwa participation could not be justified by the numbers of Batwa people because there are only a few Batwa people in the Bishwa chefferie (there is mentioning of a total of 60). We understand that this led away from a more encompassing strategy and discussion on ethnic representation. In the field interviews (similar to the discussions with the embassy) no-one talked about this or had the intention to give an analysis. While the political intentions of inclusiveness and conflict resolution are correct and laudable, the project reality tended to be more tenacious, and the project team seemed not to be able to address the issues. Perhaps for good reasons. Talking about ethnicity in this context is playing with fire. The Batwa problem appeared as one way to avoid broader discussions and touch on the ethnic dimension.

5.1.2. Needs and priorities

To what extent has the project taken the different needs and priorities of different groups into consideration?

W4V tried hard to implement where possible the required drinking water interventions and succeeded in many places. Combined with fencing of the park, this addressed and often solved the ongoing conflicts. In Kisigari, Kibumba, and Buhumba (DRC), the project was unable to tackle all the urgent needs of the population, which were the lack of drinking water and issues regarding water runoff. Currently work is still being done to tackle these issues

The program team stated that ample attention was given to the different needs and priorities of the different ethnical groups in the DRC (interview). They have been included in the WMC and in the PIP approach. Indeed, the PIP approach, given its flexibility, allowed to tackle several needs of the different target groups (interview). PIP allowed the community to restore their soils and catchment areas as well as to increase their agricultural production. From the implementing partners we did receive comments that at a local level the PIP approach addressed questions of ownership that could have sparked some conflicts between different communities but in the end it did not. The field team also did not find any signs of this. Given the discussion above on communities and conflict we believe that it takes a lot more time to really understand these conflict dynamics. The implementation of the PIP approach was not always done according to proper procedures. From field interviews in Rwanda, we found that the PIP approach focussed mainly on men and the women were not consulted when developing the PIP approach for their household (e.g., in Nsherima). The conflicts between pastoralists and farmers were resolved thanks to the implementation of herding corridors and drinking points. Finally, the introduction of the WASH component of the project was important as it increased the use of latrine and improved the hygiene of the population.

For the agroforestry aspect of the IWRM component of the project in Rwanda, the population was only indirectly involved through the involvement of their representatives (cell-, sector-, and district agronomists) to decide the type of trees that would be planted (interview). In Uganda, it was UWA that decided on Erythrina, since Erythrina was already being planted by communities along the wall to strengthen it. The project went ahead with the recommendation from UWA because communities were already planting Erythrina and because UWA were experts, so it seemed like the right decision. There was no talk of fruit trees by the community members as they preferred another tree species which was a tree that they believed would better keep the animals away and strengthen the wall.

Therefore, Alnus spp. (which is an invasive species) was planted while the population claims that they would have preferred to have planted fruit trees that have direct additional benefits for them.

In Uganda and Rwanda, people stated they preferred NWSC / WASAC piped water (as far as they have access to it) to water from the RWHTs, and only use the tanks when the taps are not bringing water, especially in the dry season, which shows the relevancy, even though limited, of the construction of the tanks for the beneficiaries (for the dry season). During the (beginning of the) dry season, depending on which source is exhausted first (piped water or RWHTs), every extra source of water is relevant. But tanks of 5 m^3 (shared by more than one household), can never provide enough water to bridge the dry season; larger volumes could have been considered. The question to solve would be if people are willing to invest time and labour in more or bigger tanks. Particularly if they are not capable of financing operation and maintenance. From the discussions in Kabande village and Rugina in Gitenderi, most of the people uphill also complained that the communities downhill already had piped water from NWSC, and the project also added more tap stands and RWHT.

In Rwanda it was indicated that water tanks provide water for one week only. From field observations and interviews, it was found that most tanks served one or two households (and incidentally, three), because all the neighbours also had their own tanks. This would give 575 constructed RWHTs x 1,6 (-1,7) households = 920 (-978) households benefiting from the RWHTs, which is less than the 2800 households, as reported by W4V. The figure of 2800 seems to reflect rather the target, in which 5 households together share 1 RWHT. The people without tanks were not included in any of the management activities and decisions regarding the tanks despite intentions of the program team to do it differently

5.1.3. Underlying issues

To what extent has the project addressed the underlying issues that led to the development of the project? (water scarcity and tensions between parks and community over people entering the parks and animals leaving the parks)

Several activities were developed to provide both tangible (e.g., the construction of the electrical fence, pastoralist corridor and livestock water points) and intangible (e.g., setting up community structures dealing with conflicts) outcomes that would solve the underlying issues in the region (interview). The project shifted in approach in which one prioritized cause (water scarcity) was made part of a more encompassing approach to resolve conflicts and tension. Overall, we can say that the technical solutions to water scarcity were well addressed. The project needed more time to address the wide variety of underlying causes to conflict and tension (land right, ethnicity, human wildlife conflict).

Water scarcity

In DRC, many interventions sites were fitted with water provision systems, and this reduced the need for people to go into the park to fetch water illegally.

The decisions on siting the new RWHTs in the three countries appeared to be different:

- In DRC, the RWHTs were constructed mainly on the hills where no piped water was available.
- In Rwanda, the RWHTs were constructed in a clustered way upstream or along gullies, in order to contribute to the countering of runoff and soil erosion. This makes some sense as RWHTs are not considered safe drinking water (Ref. National Policy). But the structural problems in constructing the tanks, as well as the tanks filling up quickly made that this contribution was small. Moreover, water supply was to be studied under the D2B project, which finally started with much delay. The idea was that from the study there might possibly a follow-up investment contribution for the construction of infrastructure. However, the study started much later than planned and is taking longer than planned also.
- The water scarcity in Uganda was not addressed for the uphill communities, which were the ones that needed to fetch water in the park. Indeed, all the RWHTs and the pipe water were placed at the downhill population who already received small RWHTs provided by IGCP. Therefore, the population located uphill still walk long distances to access the water downhill.

In summary of the above, the envisaged problem by the construction of the RWHT (water shortage or countering runoff and erosion) were not solved the RWHT were not always relevant (see next sections as well).

Runoff and soil erosion

Within the project organization, conflicting opinions exist on the objective of roof water harvesting: some claim that it can reduce runoff and reduce flooding. Others claim that roof water harvesting was done for water supply only. This clearly impacts the discussion on its relevance. If roof water harvesting is done to reduce runoff, it would need to be applied in a clustered way (at houses close to each other), with safeguards for overflowing tanks, like well dimensioned and positioned soak pits. If roof water harvesting is done to enlarge water supply, tanks should have been dimensioned to hold enough water to bridge a dry season. It would have been good if there had been more discussion and alignment on its objective within the project organization.

From interviews, it appeared that RWH tanks had been distributed (in a participatory way) with the goal to reduce the runoff from the slopes. This led to two exceptional

sitings (in Gahunga sector): one household with more than one tank on their compound, and another with both a tank on their compound and a WASAC piped water supply connection. Selected beneficiaries of the RWHTs were all located upstream or alongside the gullies and collected runoff from the roofs to the tanks would not add to the gullies. Unfortunately, the high rainfall in the area causes RWH tanks to be filled up quickly, allowing the overflows still to spill into the gullies. Soak away pits had been constructed at each RWHT (but not in Bugeshi) to exactly prevent this problem, but these should have been designed in a way to catch all the overflowing water, and not only the excess water from the tap.

The three pictures (figure 10) from Rwanda, particular the left where the downpipe is missing) illustrate the above: in case of an overflowing RWH tank, water will not be easily caught in the soak away pit, but randomly flow around the tank (or from the pipes), and may then easily turn into runoff, which was exactly the reason to construct the RWHTs. In Uganda, the water of the RWHTs is not used until the dry season, leaving the full RWHTs during the wet season to overflow. In the right picture, the gravel / pebbles all around the tank may allow overflowing water to slow down and infiltrate, while in the left and middle pictures, the water from overflowing tanks will hardly end up in the pebbles and gravel, and may therefor still cause small gullies to develop, and thus not prevent runoff and erosion. It has been mentioned that during installation of the tanks, future users indicated that this pipe should be directed to their (future) home garden instead of flowing into the soak away pit. Its fortunate that this strategy was not pursued, tanks only have overflow when it is raining, adding more water to the fields when it is already raining would have led to more erosion.

Figure 10. RWHTs (Rwanda)

The capacity of RWH tanks to reduce runoff is therefore expected to be limited.

Tensions between park authorities and communities

W4V created a link between the communities and park authorities which reduced conflict and created dialogue. Trust has not been entirely achieved and tensions remain. In some places the communities in DRC, Rwanda and Uganda still need to enter the parks to get firewood, bamboo rhizome, and herbs (interview). Yet, while in Rwanda no one is allowed in the park, in Uganda only some people are allowed to enter the park on specific days after having sought approval from the park authorities. If these rules are not followed, the population trespassing could be shot dead by the game wardens (in Uganda).

In Uganda, the PIP approach beneficiaries were encouraged to plant trees to be used as firewood. However, because of the small size of their plots, the population needed all the space for food crops and no trees could be planted. Another source of unresolved tension between the park authorities and the communities was the lack of a buffer zone between the plots of communities and park boundaries. This issue was not tackled by the project.

While the problem caused by the wild animals raiding the crops of the farmers nearby the park has ceased in the project intervention, the wild animals now raid other villages that did not receive the improvement of the stone wall in Uganda. So, even though the project has set constructive steps in addressing the underlying factors of Human-Wildlife Conflicts, the problem of crop raiding shifted to other villages near the park. UWA still has the mandate to resolve these issues

The recently adopted Uganda Wildlife act stipulates that the communities should receive compensation for the damage caused by wild animals. However, since this act is only recently adopted, there is no experience yet within the park authorities on procedures to compensate the communities, this remains to be evaluated later.

The tensions between the park authorities and the communities are therefore not yet entirely resolved and the communities still do not feel confident enough to have discussions with the UWA. Since the UWA only deals with groups rather than individuals, the project formed some groups that would link the communities to the UWA (e.g., MCCDA). However, the MCCDA stated that they had not received (enough) training to be operational. From the W4V monthly reports, it becomes clear that MCCDA is supported in registration, and in preparing a document on governance and leadership; its members (PWCCs) have had a training to monitor operation and maintenance of parish water schemes. A request was made by the MCCDA board to get capacity

building, but no mention is made of an activity; this confirms the MCCDA statement mentioned above.

5.1.4. Changing context

How has the context in which the project was implemented changed over time, and how has this influenced the assessment of relevance of the project and its components?

There were many contextual changes that occurred during the implementation also specified in the introduction. COVID-19 impacted all the countries. This, together with an Ebola outbreak at the start of the program strengthened the importance of the inclusion of the WASH component within W4V.

The security situation in DRC remains instable, causing the postponing or cancelation of implementation activities. In some case armed groups occupied the implementation area or there was a change in governance. In the North-Kivu province the army is governing the province (interview). This showed how the overall goal of the embassy is relevant and the project team did what it could to address some of the underlaying causes but some issues are beyond the control of the program. We cannot stress enough that the evaluators found the project performed very well under these trying conditions in Congo.

The political situation between Uganda and Rwanda changed as the population (and therefore the W4V staff) could not cross the border anymore (interview). This however did not impact the relevance of the project.

5.1.5. Relevance of intervention design

To what extent is the design of specific interventions (water supply schemes, water tanks, PIP, multi-stakeholder platforms) relevant to the direct beneficiaries?

In Uganda, the PIP approach promoted the use of soil and water conservation practices, which were already carried out by the communities before. In Uganda as well, a soil scanner was used to provide some indication on the nutrient state of the soil. However, the users of the soil scanner could not have access to any of the fertilizers needed to correct the nutrient deficiency identified by the soil scanner (anonymous source). In addition, it was indicated that the soil scanner was wrongly calibrated, so that all the results communicated to the communities were inaccurate. The soil scanner would have been relevant if it could have assisted people to understand their soils better and reduce fertilizer input. However, if the extension cannot be bought to that level the intervention is not relevant.

From the discussions with community members in Kabande village and Rugina in Gitenderi, most of the people up hill also complained that the communities downhill already had piped water from NWSC, and the project also added more tap stands and RWHT

5.1.6. Increasing relevance

Could the relevance of the project have been made higher? If so, how?

The project was highly relevant to the region and its communities. People in the project commented that a broader goal could have further increase the relevance of the project. The issues in the target area were not only water access but also conflicts on land and water management and agriculture (anonymous source). W4V shifted its approach to fit this goal after the first year. The project staff nationally and internationally stated that they lacked proper time and opportunities for additional intervention to tackle conflict resolution and for the activities to have long lasting impact (interview). In sum, the adjustments that were proposed were good, but the time needed to deliver on these adjustments was not there.

In DRC, the peer monitoring facilitated by Transition International concluded that W4V should include the Batwa people in their activities. Yet, in the Jomba groupement, there are 13 Batwa households with a total of 60 individuals. While it is highly relevant to include all the stakeholders in the project area, it was very difficult for the W4V staff to find the Batwa people and therefore to work with them. In Uganda, the Batwa only lived in one settlement in Rukeri village, Nyarusiza sub-county within the project area (here the W4V set up a RWHT that is shared with the rest of the community). This limited how much involvement the project could have with them as the rest of the Batwa were far away from the project area.

5.1.7. Matched needs

(From proposal) Are the expressed needs / priorities on which the Water for Virungas project was built the same as the needs / priorities of the final beneficiaries of the project?

The baseline study highlighted the following issues that the communities are facing unsafe access to drinking water, runoff causing soil erosion and flooding, conflicts between farmers and pastoralists, conflicts between park officials and community due to illegal park entry and destruction and wildlife. These needs have been confirmed by the interviewees from the three different countries, therefore showing that the design of W4V was appropriate to answer the needs and priorities of the final beneficiaries.

5.2. Coherence

5.2.1. Coherence of objectives

To what extent was the design and implementation of W4V coherent with the objectives of the Great Lakes Regional Programme?

The GLRP overarching goal is to contribute to the stability of the region (MFA, 2018). The programme is based on two pillars:

- Interventions that are transboundary in nature and contribute to regional cooperation;
- Interventions that take place in Eastern DRC and have an impact on regional stability.

To achieve these overarching goals, several long-term goals have been identified, of which three are in line with the objectives of the Water4Virunga project. These four long term goals are:

- Improved stability in the Great Lakes Region and especially Eastern DRC;
- Improved use of water resources and its catchments in the Kivus;
- Sustainable inclusive agricultural development to foster food security and stability;
- Sustainable gender equitable peace to contribute to stability.

Under each long-term goal, several medium-term goals have been listed, some of them being in line with the W4V project. These being:

- More effective local conflict-resolution through enhanced community-government (including security actors, women, and youth groups) relations;
- Improved access to justice through local structures;
- Improved productivity and income from smallholders;
- Reduced conflict through increased access to water, involvement of communities and improved watershed management;
- The number of people using safely water of good quality has increased;
- Improved conflict sensitivity around natural resource use and management;
- Reduction of violence against women and girls.

The activities tackling conflicts between famers and pastoralists, communities, and park authorities as well as human wildlife conflicts are in line with the first mentioned long-term goal of the GLRP. Like the GL Programme, W4V engaged women in its activities and sought to open inter-ethnical dialogue.

Through the PIP approach, W4V is in line with the second and third listed long-term goal of the GLRP. The PIP approach boosted the yield of the farmers. The increased access to safe water is directly linked to the WMCs, WASH services and increased water access (e.g., piped water, RWH tanks).
Indirectly, because of the decreased need to enter the park illegally to fetch water, there was said to be less violence against women and girls (interview). In the DRC, access to clean water has reduced abuse and violence against the women.

5.2.2. Relation to Great Lakes projects

To what extent was coherence sought and achieved with relevant water and food security projects in the Great Lakes Regional Programme (FARM, Maji ya Amani and GVTC)?

W4V was in line with the other projects taking place within the region as they were also working on regional stability and in water access. For instance, the aim of Maji ya Amani (MYA) was to reduce violence and increase the stability of a groupement through inclusion and increased access of land water resources (Vaessen, 2018). The FARM project on the other hand, focuses more on increased agricultural production (Aidstream, 2021). Yet their approach of bringing governments and citizen together was very similar to the multistakeholder approach of the W4V project.

The embassy encouraged collaboration between the different programs but even though there was lots of overlap in logistics and themes there was no meaningful collaboration.

When after repeated encouragement still no cooperation took place, the embassy made a joint plan a precondition to a no-cost extension for both projects.

5.2.3. Policy environment

To what extent are the project's achievements in line with policies and plans of the provincial (DRC) /district (Rwanda, Uganda) and local authorities in the targeted areas?

Content wise, W4V collaborated a lot with LGs. According to an interviewee, "whether governments are weak or not, we really tried to add value to their capacities": in Rwanda with RDB, and in Uganda with NWSC.

In all three countries, the W4V staff aimed at aligning the projects' activities with the local policies. In DRC, the activities were in line with the chefferie and national plans such as the IWRM plan and the Service National d'Hydraulique Rurale (National Service for Rural Water Supply) (interview). It is important to note that there were few plans and policies targeting the park (anonymous source). In addition, it was not easy to work with the government. In Kibumba groupement, the W4V staff mainly worked with the local chiefs as the chef de groupement was not willing to collaborate.

The project worked very closely with the Rwandan government on its planning (interview), the government officials only provided the enabling environment for the monitoring and information sharing regarding the project. One of the government policies promotes watershed management and soil and water conservation measures. The PIP approach was in line with such policies and implemented these. There were questions in the program team as to how this helped to introduce the program approach or if it was more government extension. If a project such as W4V aligns with government

policies, this adds to the ownership by LGs and thus, to its sustainability. Internally, W4V could have focused more on its IWRM policy.

In Uganda, the project was in line with several other governmental programmes (interview). For example, the human-wildlife interventions were in line with the UWA intentions and aim. The UWA had not yet been able to kickstart the interventions before the arrival of W4V because of a lack of budget. The W4V interventions brought new approaches regarding how to deal with such issues. Through the PIP approach, the farmers were able to diversify their crop system, therefore improve their household nutrition (interview). This was aligned with the Kisoro District Nutrition Action Plan 2015 / 2016 – 2019 / 2020. So, both programs aligned with government priorities but in Uganda the program was more than the implementor of these policies.

Because of the good alignment of the project with the local policies, the District Agriculture officer in Uganda mentioned his interest in incorporating the PIP approach in their development plan of the district. The extension workers are currently working on supporting the PIP beneficiaries as they are viewed as an organised and serious group.

5.2.4. Relation to other projects

To what extent was coherence sought and achieved with other projects in the targeted area?

It seems like few other projects have targeted the area of intervention of W4V. One of them was a project implemented by Mercy Corps (MC). It was stated that MC approached W4V to work together on landscape (hill) management (interview), however, the embassy has strongly encouraged this collaboration and feels it did not result in anything. This testifies to a more widespread phenomena where NGOs feel they cannot mingle with other programs. Almost always this is due to a (misguided) idea about competition over beneficiaries or difficulties with M&E. Particularly in IWRM such turf wars are highly problematic and contra productive.

In Uganda, W4V worked with NWSC to expand the (KVWSE) pipeline to the project area. This was however not a plan of the NWSC initially and this expansion was only feasible through the financial contribution of the W4V project. Yet, as mentioned in the relevance section, the project did not seek enough complementarity to (achievements of) the previously implemented IGCP project who had implemented small portable tanks and RWHTs in the same region as the W4V project.

In Rwanda, W4V worked with the Feed the Future Rwanda Activity (Hinga Weze) in Nyabihu District to build the capacity of the PIP farmers, to increase the trainee's participation in the project, to increase their benefits from the project interventions, and to increase women's empowerment in the agricultural sector using the GALS (Gender Action Learning System). No efforts were made to attribute results to either W4V or Hinga Weze.

5.2.5. Relation to other conflict transformation or peace building initiatives

Specifically for the conflict transformation component: the project decided to work with multi-stakeholder platforms, which are somehow separate from existing structures such as the local peace and development committees in DRC. To what extent does this approach complement and align existing efforts in the field of conflict transformation?

Before the implementation of the W4V project, one CLDC already existed. The committees worked with ICCN and were not focusing on conflict resolution. Therefore, the multi-stakeholder platforms brought this new focus into the project area. The water interventions would initiate new forms of governance and this governance would give a cause to address social inclusion and power dynamics. In reflections on this it was stated by the involved experts that time was just not enough to do this properly. There was a question from the embassy on how realistic it was in the program documents to link conflict resolution to water infrastructure. To some extent the two moved independently as well as consecutively. Where it was dependent on water infrastructure the planning was less realistic within the project period.

The beneficiaries trained in the PMP approach provided positive feedback because of the free services it provides. Yet, the local authorities, who do not appreciate the NPD, found this approach superfluous. We tend to attribute the reduction of conflicts observed in the area to the combination of the different approaches brought by the project rather than the sole PMP approach. Thanks to the PMP approach, the CLCDs have integrated the management of park population conflicts into their mission.

5.2.6. Opportunities for improvement

Could the coherence of the project have been made higher? If so, how?

In all three countries, W4V strove to work hand in hand with the local authorities and to develop activities that fit their policies and development plans targeting the project area. Yet, in Uganda the water access component of the project should have taken the previous IGCP project into account in order not to provide the people who had already received IGCP tanks before, with even more water. The conflict transformation and peace building activities could also have been more intense if staff would have been able to put more time in it, both in years and by local presence. This was partially due to lack of access but also poor planning or a misunderstanding of how much time these processes actually take. The evaluating team also found that in certain aspects there

was incoherence in the implementation strategy. As said, there seems to have been particular ideas on the use of these tanks for reduction of flooding, recharge and water provision which did not always translate into the right way and place of implementation. Also, the fencing of part of the park was a point of debate. One of the loose ends in the project was the different ideas people had about the fencing of the park. The discussion can be summarized as the choice between a hard boundary between nature and people or a permeable boundary with buffer zones, resource benefits for people and compensation for losses. It is true that part of the discussion was already past because at places there was a hard boundary but supporting this and making it larger changes the status of the park. There is a conceptual aspect about nature/people relations before you change the fences from permeable to impermeable but still leave some parts open. The electrical fence was put as a hard boundary; the stone wall in Uganda did not go all the way (as it was a pilot only). Fencing/walling partly has the risk of displacing the problem to the areas where no fence/wall is constructed. So, either you go all the way, or the problem continues to exist.

5.3. Effectiveness

5.3.1. Outcomes and outputs

To what extent did the project achieve its outputs, both in terms of quantity and quality? (Please explain reasons for over-/underachievement)

This question was already addressed in chapter 4 so that this section provides a summary of the project's achievements including the reason of under- or over-achievement. It is remarkable that for outputs that have a link to governance (2c, 2.1 and 2.2, and all outputs under outcome 3), output indicators have hardly or not been achieved. For outcome 3 (with many linkages to governance), no targets had been set for activities, and consequently, few results were achieved. See section 5.5.3 as well.

Outcome 1: WASH and IWRM

Water supply achieved good results in all countries. Indeed, 68.4% of the respondents of the internal evaluation claim that they have increased access to RWH tanks to W4V (the target of 40% per country was achieved). It should be noted that the water from the tanks is not treated, which may in the long run lead to pollution if not well maintained. Respondents attributed good results to the RWH tanks, the communities said they needed to walk shorter distances and have more time for other activities such as school. Given the reports on the shorted lived supplies of water from the tanks it might be there were incidences children had more time for school, but we cannot confirm this is a structural solution.

The agriculture / PIP / IWRM component of the project showed good results. However, the baseline value was set very low i.e., 5 hectares (Uganda) and 100 hectares (DRC)

while 1000 hectares represented only 11% of the project area in DRC. While technologies contributing to IWRM were implemented and accepted as part of the PIP approach, these measures were primarily serving WASH and agriculture objectives. They were not planned or implemented based on a catchment approach, which limited their effectiveness for IWRM purposes. This is confirmed by the fact that no IWRM plans have been developed (but some first steps were set, in DRC). Without a thorough knowledge of IWRM, and the development of IWRM plans, it cannot be expected that IWRM can be implemented effectively. In this case, only isolated measures (elements of IWRM) were implemented, which can still be effective. As an example, in Bwisha chefferie, an agreement for the protection of the Kamira catchment was developed, and some measures to counteract soil erosion / landslides were implemented. According to a KII in DRC, erosion control and runoff was reduced but not stopped.

Outcome 2: Water management and governance

In each country, different water governance bodies were established and operational. The results on water governance and PMP are mixed as not all the beneficiaries/institutes seem to have understood it and apparently there has not been enough follow up to make it stick. Community-based water governance takes time. In Uganda, there was already an institution that ensures more sustainability (unlike in DRC). Overall, there are still places where the setting up of water management is ongoing. Infrastructure is still being developed. International collaboration (on water management as well) between Rwanda and DRC was politically complicated. A specific conflict in Bugeshi was partly solved (see section 5.5.1).

Outcome 3: Improved relations

The improved relations between the different stakeholders cannot be attributed to only one project activity, but rather to the combination of the approaches and activities undertaken throughout W4V, e.g., PMP or PIP approach. PMP shows some early results although the approach needed more time than was planned for. From the KII, it became clear, that people handle conflicts themselves rather than going to the police / local tribunals. Moreover, the beneficiaries trained in PMP now train others in turn. It can be said that the infrastructural works aimed to improve relations have contributed to improving relations. The construction of the electrical fence, stone wall, and trenches also improved the relations between the park and the people. In Uganda this still needs work. The PMP and the PIP approach also contributed to improved relations in the household. The attribution of the results to a specific activity is complicated.

5.3.2. Adequacy of the project logic

To what extent was the programme logic (particularly the assumptions linking outputs to outcomes, and the risk assessment) adequate?

The project's logic originated from a question by the embassy which was in turn informed by an ongoing collaboration between the embassy and GVTC and a hydrological analysis (Deogratias et al. n.d)[14]. The initial assumptions were inclined to technocratic solutions, stating that improved water management and access to water would reduce conflict over water resources. In hindsight, the project's staff reflected on these assumptions stating that the assumption to reduce conflict only by water infrastructure could not appreciate or accommodate the wider causes of conflict in the area and outside. For instance, it was stated that in DRC, the conflicts about water are also conflicts about other issues outside the local context. During the first year, the peer monitoring by Transition International nuanced and improved the project logic and the link between outcomes and outputs. This helped to reformulate the cause and effect so that W4V focussed on conflict but within the limits of water management and relations between the park and the people (human-wildlife conflict etc.). Within these new limitations the project managed to resolve several ongoing conflicts or issues regarding access to water, human - wildlife conflict, issues around livestock and more.

Within the link from outputs to outcomes we see the following mismatches. The fencing or wall making around the park solved the issues partially around the sites of implementation. The field team notices that in some cases (e.g., in Uganda), this moved the problems to adjacent villages. The wildlife therefore encroached on the farms without walls.

In Rwanda, RWHTs were constructed for drinking water provision but distributed with the idea to control runoff. This was based on the observation that concentrated runoff was coming from the roof and the road. However, the idea that roof water harvesting tanks applied on a large scale can adequately mitigate flood water and erosion cannot be supported logically nor empirically. These big volumes of water were also not conducive to the tanks because the overflow was so much the erosion around the tanks starts to create instability. The team in the field found some tanks suffering from runoff and flooding themselves. Many of the tanks were put in Rwanda where rainfall can be 2000 mm/yr. With an average roof size of a small house being around 24 m^2, this means a 5 m^3 tank needs less than 250 mm of rain to fill up and then the rest will spill over. Even if people consume 10 tanks a year, they will not do this in the rainy season. The idea that excess runoff from the tanks needs to go into soak pits was only partially

[14] [
Déogratias, Nahayo, Ntwali Janvier, Nkurunziza Fabrice, Kamana Emmanuel, Bitariho Robert, Katcho Karume, and Byamukama James. "A Survey of Hydrological Systems in the Greater Virunga Landscape, Around the Volcanoes National Park, Rwanda."
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understood by the implementors. Soak pits were constructed around the tap, and not around the (overflowing) tanks. It's a good idea that could have even been done without the implementation of the tanks (soak pits connected straight to the downpipes). Now the clustered distribution of tanks will give cause to discord amongst community members. Who gets to have a tank and who not? Will the people from the other areas really be allowed to use the water? The evaluation shows only the household maintains the tanks. Yet, it is important to note that while RWHTs could not have a large impact on water runoff, their implementation started the discussion within the communities regarding this issue. Indeed, the communities are now aware that there are activities that can be implemented to capture the water runoff and they are now willing to cooperate in that regard. Given the price of a tank and the disadvantages of plastic tanks you would have wanted other options to be considered.

5.3.3. Adequate risk management

To what extent was risk management adequate, and to what extent has the implementation of the project been adjusted based on regular assessments of assumptions and risks?

As far as our understanding goes, the project had an adequate risk management in place. We have not heard of natural or social risks which have led to problems in implementation. With this we also need to add that in the implementation of water infrastructure, the PIP and RWHT's seem to be low risk interventions. The higher risk infrastructure will need to prove itself. The area is a volcano and infrastructure can be affected by earthquakes, landslides, erosion etc. The project team has celebrated the success of payment for water being introduced. In project areas where social unrest and political instability is more a rule than the exception the collection of money should be done cautiously.

5.3.4. Local acceptance

To what extent is there acceptance for the activities and outputs among beneficiaries and LG?

Willingness to pay has been an issue with the beneficiaries and government, but the project needed to overcome this problem of acceptance with long term financial sustainability in mind. The remarks from the previous entry apply. In areas with high social volatility the emphasis on paying for water needs to be balanced with the risks that accumulation of money brings. However, the patience of the project implementors really helped in acceptance of the willingness to pay for water. The W4V internal evaluation revealed that the percentages of people that consistently pay for their water has increased hugely in Uganda, quite a bit in DRC, and diminished slightly in Rwanda. Creating a working relation with the ICCN through the support in constructing a fence also probably helped a lot.

Issues with the acceptance of the need for detailed analysis also seemed to have trickled down to the beneficiaries and governments. When a project starts, people want to see results. When implementation is paused because of research and analysis there might be unrest or loss of faith in the project that makes it difficult for local project staff to do their work effectively.

Technically the interventions were well accepted by both the beneficiaries and the LGs. There was mentioned an incident with the chef de groupement of Kibumba who could not accept water tanks and demanded piped water. Adapting to this has now led to a situation where many people will benefit from piped water. In other areas the tanks were also greatly appreciated, and the fencing of the part was also already known and accepted.

The PIP approach deserves a special mentioning here. The evaluators voiced concerns about the acceptance of this method by LGs and it was understood that in Rwanda for instance the method was adapted to accommodate the will of the LGs. In Bugeshi (Rwanda), the PIP approached was experienced as a top down approach (as an extension of LG policies), while W4V tried to introduce it as a bottom up approach. This can be explained as follows: Bugeshi was the first area to start the PIP approach in Rwanda, LG works more top-down (as compared to in other countries) anyway, and the project staff responsible for this had to many (other) tasks to pay enough attention to the LG.
In Nyabihu (Rwanda), PIP was introduced more bottom up, more time was allocated for sensitizing and training PIP beneficiaries, and achievements and their perception was better. However, in DRC and to a lesser extent Uganda, the method emancipated farmers to look into their own resource base and see what they could do to help themselves. That this was accepted from a vantage point of gender and generation-based hierarchies, bureaucratic hierarchies and intercultural hierarchical perceptions can count as no small feat by the implementors.

5.3.5. Infrastructural quality

What was the quality of the infrastructure that was constructed? To what extent was it in line with design specifications?

In Rwanda, in general, the quality of the infrastructure observed was good. However, most of the observed RWHTs in Bugeshi were reported to be fragile so that the tap stands broke easily, the tap could not be closed, the gutters were open, and tanks were leaking; no counting was done to quantify the exact percentage of RWH tanks with problems in Bugeshi. As stated before (see section 4.4.1), after construction of the first 100 RWHTs in Bugeshi, the design was adapted, for which these problems were not reported.

In addition, in Uganda, the communities reported to have a lot of issues with the bursting of the KVWSE pipes. After being contacted, it takes approximately 2 days before the NWSC reaches the site of where the pipe has burst. In the Gitenderi Parish, the RWHTs had been built by W4V and their design was properly done so that no issues were identified. During the infrastructure observations, it was found that the exteriors of these RWHTs looked much older than the W4V project and looked like the IGCP tanks (constructed before the W4V project). Pictures of the construction of the 14 RWHTs were then shared by W4V to proof that these were newly constructed and not rehabilitated.
There was no mention of issues regarding the quality of the RWHTs in DRC.

Regarding the infrastructure put in place to reduce HWC, the reinforced stone wall in Uganda was mentioned to be sturdy. The existing stone wall in Rwanda needs constant maintenance however, which is under the mandate of RDB. There was no mention of any quality issues of the electrical fence.

5.3.6. MSP achievements

What achievements did the multi-stakeholder platforms have?

Reflections on the PMP (MSP) from the foreign experts unanimously agree that the strategy was good but the time to implement short and it could be done with more attention. From the different interviews in the field, it became clear that the PMPs contributed significantly to conflict resolution. People trained were approached to solve different types of conflicts, and as a result, less people go to the police or to local tribunals. This was confirmed by local authorities as well as park authorities during a KII (DRC). The trainees in turn are approached to train others in mediation of conflicts. In Uganda, the PMP approach improved the quality of service provision (especially conflict mediation) of the local leaders to the communities.
The cases of conflicts that PMP members have facilitated in mediation are about conflicts between farmers related to the disruption of field boundaries by run-off water, or between farmers and herders related to crop destruction by domestic animals.

Among them are the following (from DRC, in 2019):

- In Runyonyi, farmers Nyirabwiruka Kabirigi vs Nkeza Bwabuze were in conflict when the water from streams had disturbed the boundaries of their fields in March 2019. As a solution, the parties voluntarily signed the deed of compromise and each one planted anti-erosion hedges at the boundaries of their fields to stop the erosion.
- Farmers Bukindi Serubungo vs Ntibiramira Ntamuhanga were in conflict when run-off water has destroyed field boundaries in Runyunyi village. The two farmers did not sign the compromise, but each returned to their former

boundaries and planted agroforestry species at the edge of their fields to stabilise the soil.

- Farmer Iraguha Mboneye vs Zacharie Ntamwemezi in Rwumba village were in conflict when run-off water has destroyed field boundaries of their fields. The parties voluntarily signed the deed of compromise and each of them planted erosion control hedges at the boundaries of their fields to prevent erosion.
- Muzairwa Banombe vs Budidi Karekezi farmers in Kariba village. The parties did not sign the compromise but were satisfied with the mediation because in their culture writing is accompanied by drinking.
- Nzabarinda Gahotora resident of Chanzu vs Segege Sebusanane, resident of Kinyangurube village. Segege's cows destroyed eucalyptus seedlings and food crops in Gahotora's field. The parties voluntarily signed the deed of compromise. Segege replanted Gahotora's trees and Gahotora welcomed the mediation (May 2020).

And the following (from DRC, Kisigari, in 2020 and 2021):

- A conflict between a farmer Sinamenye Maisha and a herder Ndeba Ngerero following the devastation of cassava by cows in Kitamorekwa was resolved peacefully by PMP users on 05/10/2020. The owner of these cows paid a sum of 20,000 CDF to this farmer equivalent to the quantity of crops devastated and promising to use the muzzles and corridors already available for his cattle to prevent future conflicts. This conflict was resolved peacefully through mediation by the users of the PMP approach
- A conflict between a farmer Riva Bushiru and a herder Ndangizi Kigingi over the devastation of beans by goats in Gafumba village was resolved peacefully by PMP users on 25/05/2021. The owner of the goats agreed to pay 10,000 CDF to the farmer equivalent to the quantity of beans devastated and promising to use the muzzles for his cattle to prevent conflicts. This conflict was resolved peacefully through mediation by PMP users on 25/05/2021.
- A conflict between a farmer Mpfitumukiza Ndagijimana and a herder Vunabandi Karibushi over the devastation of maize and sorghum by cows in Ruvumu was resolved peacefully by PMP users on 07 April 2021. The owner of the cows agreed to pay 40 bowls of maize and 5 of sorghum to the farmer equivalent to the quantity of maize and sorghum devastated and promising to use the already reopened corridors and muzzles for his cattle to prevent conflicts.

And from Uganda:

- Through PMP, UWA, W4V and the District local government officials trained communities on conflict resolution through sensitization meetings. It is from these trainings that reinforcement of the stone wall was agreed upon and it was seen as a solution to the animal raids. The scale to which the stone wall was

reinforced is what is affecting results but otherwise the animals have not been able to destroy the reinforced part of the stone wall.

The PMP approach was also used to deal with the establishment of infrastructure for water access and the stone wall. The PMP approach was not implemented in Rwanda.

5.3.7. Participatory design

(From proposal) To what extent has the design of infrastructure been a participatory process (leading to the design specifications)?

The PIP approach to water technologies included participatory design and as far as we could establish, the implementers executed this with considerable care. The design of the RWHTs was improved after the first constructions in Bugeshi (Rwanda), leading to a lower need for repairs. The larger water infrastructure was more remotely organized and designed in the Netherlands also because the engineers were not allowed in DRC. Detailed negotiations did take place between the municipalities, utilities, and the project team. In Uganda, the NWSC was well capacitated to engage in these discussions while in DRC the project team worked mostly with the chefferie, and this did not allow technical discussions on the same level as engineers. Negotiations in DRC did take place. In Kibumba groupement for instance, the tanks were rejected by the groupement in favour of piped water. Then, during the implementation local service providers were involved. On the landscape-scale design, as already mentioned, the PIP was a participatory approach, the engagement of the WUR water expertise was less involved in the field and more on the research and analysis than on the practical implementation due to the shift in focus from IWRM to PIP. Non-beneficiary community members showed interest in the PIP approach and were included in the approach.

In Uganda, the tree species selection for planting along the stone wall was not done in a consultative manner as communities explained that they had already planted some Erythrina along the stone wall, but it was not helping and needed to plant other tree species. It is one of reasons the community is not taking initiative to replant the Erythrina in areas where the cuttings did not survive.

Better understanding the need of the beneficiaries would have improved the efficiency of the project. In the DRC, the water tanks installed were too small for the households' needs so that the beneficiaries are still forced to go within the park boundaries to fetch additional water. It might mean that in this case the technology is just not appropriate for the problem and to costly for its impact.

5.4. Efficiency

5.4.1. Costs

How do the costs of implementing this project compare to other projects in the area?

In the DRC, the project Maji Ya Amani (MYA) - Operationalizing the ToC for the Great Lakes Region Integrated Water and Food Security Program worked in South Kivu on issues related to inter-ethnic conflicts and conflicts within communities during May 2017 and February 2021. Their total budget was of $ 24.3 M (€ 21.5 M) with a yearly budget varying between $ 5 to 8 M (€ 4.4 – 7 M).

The Food security and inclusive Access to Resources for conflict-sensitive Market development (FARM) was a four-year program (2017-2021) implemented by Mercy Crops and Search for a Common Ground. Its overall goal is to improve the socio-economic and security conditions of around 25,000 households, from 120 different villages within the province of North Kivu, DRC. Its total budget was of $ 18.4 M (€ 16.3 M) with a yearly budget of $ 1 – $ 4.9 M (€ 880,000 - € 4.3 M).

In Rwanda, Hinga Weze was a project funded by USAID. It targets smallholder farmers, women, and children within 10 different districts of the country. The project has a total budget of $ 32.6 million (€ 28.9 million) for the five-year period of 2017-2022.

In comparison, the W4V total budget and its yearly expenditure was close to that of the FARM project. Yet, FARM targeted many more villages. The MYA and the Hinga Weze projects had a considerably higher budget while they covered smaller areas and took place during a similar time period. Indeed, the total W4V budget was € 14,055,000 and the yearly expenditure varied from € 1.7 to € 4.1 million (audit reports 2017-2020).

It would have been interesting to calculate the costs per beneficiary for each of these programs for the sake of comparison, but that was beyond the scope of this evaluation. W4V came an overall estimate of € 53/beneficiary, with a large percentage of error in the estimate of the number of beneficiaries (3. Cost per beneficiary.pdf).

5.4.2. Comparison with other approaches

How does the implementation of the project compare to alternative approaches?

The PIP approach was new to the project area. The PIP approach incorporated some elements of IWRM and then did come to stand in for the watershed management IWRM part of the program. Compared to other programs that work on IWRM this can be considered unique. It is difficult to compare the effectiveness in IWRM or watershed work because the project did not explicitly monitor the watershed effect of the PIP.

Although not named as such, the Hinga Weze project introduces and supports the development of what in W4V is called IWRM technologies (such as terracing). Because of its agricultural production focus, the project also strongly supports irrigation, improved market access, as well as the cultivation of high-nutrition value crops, which are approaches that were not introduced by W4V.

Like the W4V project, the FARM and the Mayi Ya Amani projects used a conflict resolution approach in DRC. In their Conflict Scan published in August 2020, the Mayi Ya Amani project demonstrates its intention to introduce multi-stakeholder communication platforms (Search for Common Ground, 2020a). One of these intended platforms would comprise the different representative of the local ethnic communities as well as the different level of LGs. The project also mentioned its wish to reenforce and build the capacity of local structure dealing with land tenure mediation. Whether these activities were indeed performed is unfortunately unclear because of the lack of available information. The FARM project has worked with several different conflict transformation community structures (such as NDP, Cellule de paix et de développement (CPDG), Comité local de paix et de développement (CLPD)), these make use of mediation to assist different conflicts arising within and between communities (Search for Common Ground, 2020b).

Financially there appeared to have been internal discontent about the budgeting around implementation, as compared to other programs people had worked on. These other projects were taken to be more transparent and decisions less top down. Implementing organisations stated that they struggled to understand what they could do because budgets were not disclosed to them. Discontent was voiced where one country team thought it deserved more budget than others. To some extent these discussions will be inevitable in a project implemented in 3 countries.

5.4.3. Timeliness

How timely was the implementation of the project (taking into account factors outside the project's control)?

Because the entry is under efficiency, we take the timeliness to mean that the implementers managed to get their deliverables implemented on time. In a project area like this we believe that timeliness should not be judged too heavily. We distinguish between external and internal factors influencing timeliness.

There were external project delays: especially the first five of the following bullets have contributed to the delays in the site selection process.

- Lack of basic info (maps, discharges of sources, present infrastructure, records for base-line);
- Not uniform governmental views/approaches;

- Specifically, unrealistic expectations of the chef de groupement from Kibumba;
- Time needed by beneficiaries, governments, and other stakeholders to understand the approaches, and to manage expectations.
- Insecurity to DRC made access more difficult and caused delays as well;
- The Covid-19 pandemic hit the three countries and delayed the project as lockdowns and traveling restrictions were necessary (UMPR April 2020; RMPR March & April 2020). This unforeseen factor was well outside the project's control although the staff tried to overcome the problems by introducing a stronger online communication.

There were internal factors influencing timeliness:
One general issue was about the budget decision making, allocation, and transparency. In the countries, the decisions on the budget were perceived as taken by the steering committee who did not know the specific situation well, rendering the process of budget allocating to specific activities slower and less efficient, while in fact, the steering committee (following procedures) followed the needs and proposals from the field. This points to a lack of clear communication and expectation management.

In DRC specifically, the project staff complained that this slowed down implementation because they could not plan ahead. Here, this points to a lack of clear communication, leading to different views on the same processes. They reflected on this course of events as being very peculiar and not conducive for an efficient delivery. From our interviews we understood that internally, in the country teams, there were people who knew and others who did not know or could not find out what budgets they were working on. As there were no distinctive budget lines for a specific country activity, this may have led to the unclarity of the available budget for the different country teams. This points again to a lack of clear communication, probably caused by the change from one transboundary project to three country projects (which had many benefits as well), and this may have led to some lack of confidence. The evaluators cannot say if any and (if so,) which activities were delayed because of the lacking clear communication on the budgets.

The peer monitoring of Transition International in year one stopped some organisations from implementation. The project and its M&E framework were redefined. It was reflected by most program staff that the proposed changes were good. Another overarching issue signalled by several local staff was the lengthy discussions that took place over the definition of the roles of the different organisations, which each had different organization cultures, as well as different priorities in the region and the project. As one interviewee, stated: "It took us time to find a way of working." Such issues therefore led to some staff members leaving the project. Similarly, GVTC stopped

its contribution to W4V, which was a decision some of the involved people welcomed, as they saw GVTC as an organization that mainly held meetings. Another interviewee mentioned that time was lost due to the multiple changes to the ToC and the long time spent wording it (e.g., the definition of the word "outcome"). The original project proposal seemed not to have considered the reality of DRC. These delays were within the project's control and could have been avoided, however, it is normal for a program with a diversity of local and international, knowledge and implementing organisations to have disagreements about theory and practice.

No budget and no staff were initially allocated to the IWRM activities, which delayed the implementation of this component of the project to 2018 instead of the start of the project (November 2016).

5.4.4. Efficiency of external expertise

The project relied heavily on international expertise for the design of interventions. Could this realistically have been done differently? If so, how?

W4V had elements of a top-down approach, for instance in designing infrastructure. At the same time one of the successes was also in a bottom-up participatory approach.

As already introduced in section 2.2, the PIP approach was drawn from international experience but landed squarely in the DRC, Uganda and to a lesser extent, in Rwanda. The international experts explicitly committed to field engagement allowing considerably liberty to adjust the approach locally. There were several concerns voiced from the field that the project was too top down. The evaluators believe that more presence in the field by the external experts would have been better, particularly when they want to deliver a conceptual approach such as MSP (as compared to designing infrastructure)

In the implementation of water utilities, the international expertise was necessary although there was a need for closer collaboration and improved communication with the local staff and expertise. For example, in DRC, there was a lack of local partners that made it necessary to rely on the international expertise. In Uganda, the tendering process surrounding the RWHTs would not have been possible without the international expertise brought by the W4V project as W4V needed to be there every step of the way (UMPR October 2018). An interviewee reported that some international research and training groups were included for PIP in the original proposal, but that's didn't work out; in the end, MDF and IGCP implemented the PIP activities.

Some of the implementing partners found they could not participate in the budgeting decisions taken by the project management. This opinion was noted with the disclaimer that it is also not the role of local organizations to determine the budget but to provide

annual plans that can be used for budgeting. Unclarity about this role seems to have led to discontent that could have been avoided.

While the reliance on international expertise was well perceived in Uganda, this point of view differed significantly between the stakeholders within the three countries. One overarching issue was the lack of presence of the international expertise; an issue that was exacerbated by the pandemic. Especially in DRC the absence was felt even before the pandemic when experts were not allowed to go to the field. This made it harder for the international experts to consider the local context, which led to some mistrust and resistance from the local staff.

5.4.5. Ideas for improvement

To what extent could the project have been able to achieve better efficiency? If so, how?

During the first year the project needed to reinvent itself, with several experts flying in on short term exploration. In some cases, the international experts could not engage with the local experts, reducing efficiency. It may have been more efficient and contributing more to team building and ownership to decide to have the international experts based in the region for the first few months (during the design of implementation) rather than making the international experts fly in.

The external input was seen as less applicable to the local situation, whether this was true is not the question, the process was not conducive to the timely implementation. One of the options that could have been pursued more was to bring the local experts to a place where they could also engage with the international experts and present their situation and work on team building. When covid started to make this even impossible there could have been more conference calls with updates from the fields.

Even though there was an early written instruction on the procedure for the selection of service providers / contractors, which was made available to all staff and discussed, to some project staff it seemed that the project did not have such procedures (e.g., on who should sign contracts). This points to a lack of clear communication. So, communication on project management issues (selection procedures, budget, and activity planning) could have improved, especially since the project changed from a transboundary project to three, more independent country sub-projects, and thus needed clear communication between project management and project officers.

The project received considerable input from the embassy and staff were exposed to a peer monitoring already the first year which led to considerable changes and debates about project definition. In general, revisions in the programs outcomes and outputs tend to frustrate implementation and should be avoided. The embassy should be aware

that, however well intended this input would be, there is a donor/client relation that can cloud the content of the input. The advice is to avoid intensive revisions in the program outcomes and outputs. It appears as a lack of understanding at the inception of the program, but also a undermines the ownership of the program staff.

However, a project operating in such a complex international setting with such a wide variety of stakeholders also needs moments of reiteration and reflection. The assumption that water technologies reduce conflict was not likely to hold until the end of the project and the nuance that was brought in after the first year, has led to better implementation.
In such a context, it is easy for local implementing organisations to request more precise instructions and narrower budget definitions, but if solutions would be simple, they would already have been common practice. So, in essence, we would advise to minimize changes in the program theory of change or log frames externally. We also see that this can be needed and that between theory and practice there will always be ambiguity that can lead to complaint. On a more conceptual level, this kind of ambiguity can be productive when local implementing organisations feel confidence and ownership (and have the capacity to do something with this). It can also lead to frustration when discussions are at conceptual level and not translated to reality.

There is a sentiment in the project staff that improvements would have been possible in financial transparency as well as communication on finances. Disbursements were said to come late, even though, once set in motion, they were swiftly handled and paid. It seems therefor that the disbursements should have been set in motion earlier, and that communication should have been clearer. As stated already in section 6.4.3, there were no distinctive budget lines for a specific country activity, this may have led to the unclarity of the available budget for the different country teams. We could not link this directly to delays in project implementation, but these are not sentiments you want to have in your program.

Budget

Regarding the budget of the program, its design could have used more help of the implementors when discussing and choosing the investments required by the project. Moreover, the project would also have gained efficiency had communication on and transparency on the budgeting principles be known to the implementing staff of the project.

Some specific interventions in the project could have benefitted from stricter procedures in the tendering (as stated on the last page already). The price of the construction of the electrical fence by Virunga Foundation (the private development

branch of ICCN) of $ 342.742 can invite questions whether this should have been tendered according to EU and Congolese law. According to the project organization and the Virunga Foundation, no tender procedure was needed, as it was considered a financial support to the parc authorities (ICCN / Parc National des Virungas). The exact relationship between the ICCN / Parc National des Virunga (a Congolese government institution) and the Virunga Foundation (a private actor) then may lead to the question whether Virunga Foundation operates in a fair, transparent and competitive market, as no tender procedure is needed for contracting the ICCN / Parc National des Virunga. In this case, the external accountant should have checked the legal requirements (private branch of a public actor benefiting from the financial contribution) as well as possibilities (lack of security) for a tendering procedure.

Staff & role definition

Staffing issues were an identified problem in each three of the countries of implementation. The issues included a lack of staff, high turnover, and new recruits, which impacted the quality of the training as well as the attitude of the trainees in Rwanda (e.g., staff turnover for PIs in Nyabihu, UMPR April-June 2019; RMPR July & October 2019). The staff shortage created a very high workload for the current staff within the three countries. While staff turnover cannot always be prevented, a more precise initial quantification of the work and therefore of the necessary staff required, prevents future project delay and overwork by the current staff.

From an interview:
The most significant change was that due to the measures like terracing and planting there was a lot less runoff. But now it is about maintenance. So are people really going to pick this up, there are many places that are used as sink pit for runoff. These will silt up, are they really going to do the maintenance? For IWRM, we did not consider check dams, which was just too expensive and demanding too much time and no one was going to maintain them.

5.5. Impact

5.5.1. Attributable changes

What change has occurred in the project area since the start of the project, and what of this can be ascribed to the project?

Impact: Reduced conflict

The field surveys in DRC indicated a reduction of conflict both in general (i.e., 96% of the beneficiaries and 55% of the control group (who were aware of the project) believed that the project had a positive impact on the reduction of conflict in their area, and in

relation to water access, catchment management and in relation to the park authorities. In Uganda, a reduction of conflicts was observed and confirmed during KII), because people access rainwater from the tanks that were installed and the piped water scheme that was extended during the project. W4V clearly facilitated communication and joint action between stakeholders to reduce conflict. These changes can be attributed to the program.

From the survey in DRC, it became clear that it was not only the PMP approach that caused a reduction in conflicts, but rather, the complete set of approaches / project elements together. Modesty and realism from one of the interviewees made them state that the project has contributed to the visible results, but that conflict resolution may be attributed as well to other organizations and individuals. They pointed e.g., to the constructive role of LG (at all levels). In this case, the project has at least created a conducive environment, by bringing relevant stakeholders together, and close MoUs with them.

Outcome 1: WASH and IWRM

One interviewee (project staff) stated that most changes in the water situation can be attributed to W4V; communities were not passive before the W4V project, but they had challenges. W4V has supported the communities in their ongoing efforts; time is now transformed into productive activities (women not being raped anymore as they do not need to walk long distances, children going to school instead of fetching water). W4V's intention on increasing the communities' resiliency and their intention to change their habit of awaiting international aid (as it has been the case for the past 25 years) has led to the introduction of the PIP approach. Through this approach, the most significant change of the project was achieved as people and think at household level and their own solutions. In addition, there was a change in social cohesion: people now meet at the taps stands, just like farmers who meet now. This was illustrated the crop sharing agreement cases for victims of soil erosion on the up and downstream.

Another change attributed to the project that is mentioned, are the changes in the landscape and vegetation due to better farming practices and planting of trees (to diminish runoff) by the project. We must however stress again that IWRM is more than soil and water management. So positive change in WASH and soil and water management can be attribute to the program and this is part of IWRM.

Outcome 2: Water management and governance

While only 8% of the household interviewed during the baseline study reported having a water management structure in their community, W4V introduced one water

committee per RWHTs or tap stand. Particularly for the RWHT these committees have shown very little sustainability also because the technology (and quantity) does not lend itself for committee management. Water management done by small communities has not shown good results worldwide. In the evaluation we noticed considerable differences in management between the countries. In DRC there were active management committees, and they were able to show financial records, we trust these will survive the project. In Rwanda, the RWHT were not really well managed, but there was record keeping. In Uganda there were many excuses as to why the records were not kept and it is likely the committees will not reach the end of the project.

The larger water systems that were institutionally organised did have representation and O&M in place. According to an interviewee, the most important impact in DRC is that all ethnic groups (including the Twa) work together in the same water management and watershed committees in the community interventions for watershed management. This impact is so important as the tensions between the three tribes in the area have in history often lead to e.g., open conflict, instability and people fleeing their homes.

Outcome 3: Improved relations

Community members in DRC report a reduction of conflicts linked to the access to natural resources, and to runoff / erosion problems.

From KIIs in Uganda, it became clear that encroachment has drastically reduced because of improved access to water and increased awareness (because of sensitization training sessions and radio messages by UWA). There is satisfaction, but not to the fullest because animals use the side of the wall that is not reinforced to still encroach on gardens

In this respect, an interviewee mentioned the electrical fence only constructed in DRC and the stone walls against buffaloes in Rwanda. Almost the whole park is now fenced (54 km – 1 stretch in DRC still not constructed) and managed by the park authorities. The project through its intervention has improved the relationship by closing an agreement with the communities to enter the park on a weekly basis. This practice existed before but discussions with park authorities by the project made this functional.

In Rwanda, land conflicts related to water flow on the farms reduced due to trainings on soil and water conservation. In one specific case, a cross-boundary conflict (Bugeshi) between Rwanda (upstream) and DRC (downstream) was addressed through the planting of trees and the construction of RWHTs (on the Rwanda side of the border) to control flooding but was not completely eradicated by the project.

In cases, where conflicts still do arise, it is stated that the PMP approach has led to people not paying to the police anymore in case of conflicts; they instead go now to the members of the PMP community to find solutions.

In Rwanda, talking about (and thus, observing any change in) conflict is a sensitive subject, because of the historical context. But there were reports on household level issues. In Rwanda (Nsherima), among the first PIP generation, men were able to explain the goals of PIP, but the women could not. This could be attributed to the goals, which were focusing more on what the man wants to achieve (like buying cattle, constructing a house). In Rwanda as well (Gaheriheri village), when the women were asked about PIP, they referred to the men because “the men know those things". Both women and men were involved in PIP activities, but there was big difference in the two sectors it was implemented in Rwanda. In Bugeshi, the impact in general was minimal but even far less on the women; the goals were written and well understood by men, while women could not explain them. In Nyabihu on the other hand, the situation was better, some women could explain, although these were still few in comparison to men. It is likely that the implementors did not or could not convey the central values of PIP.

The gender component to implementation leads to another point the evaluators need to make. It would be easy to state that the program in Rwanda did not deliver on the promise of inclusive and gender sensitive development and perhaps in this case it did. In other areas the PIP approach seemed to have emancipated women and men took their productive role more serious. Similarly, the difficulty to address ethic relations in some areas and long-standing conflicts through water provisions could not always be solved. Despite popular ideas amongst donors and NGOs, deeply entrenched ideas about gender society, culture and ethnicity do not change because there is a project. These processes move at a different pace. Projects like W4V then need to balance between reaching impact on for instance the PIP while working with patriarchal relations or doing nothing and missing the chance to call for more inclusive gender relations even a bit.

5.5.2. Unintended effects positive and negative

What unintended (positive and negative) effects has the project had, and on which groups of people?

Most unintended effects, which were noticed, are positive. According to an interviewee, there were quite a lot of those, which is confirmed by the number of these mentioned below. As attention is often not going to unintended effects (as these effects are not expected), others may still exist, and only later (or never) be observed.

Outcome 1: WASH and IWRM

Linked to WASH, three unintended effects should be noted:

- Water sources have been protected, leading to a reduction of water borne diseases (amoebae, diarrhoea, cholera), and thus hygiene and health improvements; this was confirmed by an interviewee in DRC, regarding cholera, typhoid, amoebiasis, malaria, but no statistics could be obtained on this;
- Sanitation has improved by the construction of latrines (individual examples from Rwanda in Nsherema in Bugeshi and Kamiro in Mukamira sectors; and from Uganda in Nyarusiza subcounty, Gitenderi parish, Kabande village); no quantitative statistics on this were collected;
- An individual and interesting case from Bugeshi (Rwanda), comes from one of the PIP beneficiaries. Before PIP, he was having a hard time paying for the health insurance for his family, a family of eleven members but after the trainings for PIP, he was able to revise the way he spent his money and organize himself in that now he can very stably pay for the health insurance, and for his family.

Linked to IWRM and PIP, three unintended effects should be mentioned, which could not be quantified and thus remain anecdotal:

- Better gender balance under the PIP approach (confirmed by three stories of significant change);
- Production of own seeds, selling to others became more important;
- Self-financing for small projects e.g., tree nurseries and bridges; in this case, the people benefited from the project and then realized that they had needs beyond what the project could offer, and anyway they had no access to government services. They then collected money and started setting up a tree nursery and constructing a bridge.

Outcome 3: Improved relations

The only negative unintended effect that was observed, is the dissatisfaction / jealousy of the communities in the areas (in Nyarusiza, Uganda) where the project was not active, but where the people still had heard about the project. Reports of vandalism by jealous neighbours were solved through NWSC encouraging the beneficiaries to keep watch and safeguard the installations and equipment, which they did.

5.5.3. Ideas on improvement

Would it have been possible for the project to achieve more impact than has been achieved? If so, what impact, and how could this have been done?

If resources would have been used more efficiently (see section on efficiency as well), possibly more impact could have been reached. The inefficient use of resources that were observed are the following:

- Time that was lost

    - on setting up cooperation with GVTC, who later did not participate in the project anymore;
    - on setting up cooperation with Mercy Corps (insisted on by the Dutch Embassy); that did not last long (it was not found out why not), and resulted in only 800 instead of 1200 hectares trenched;
    - on focussing on all the right procedure for IWRM and when this proved impossible, move the approach to PIP (including elements of IWRM);
    - on involving local implementing partners only late;
- Budget that may have been lost
    - on the possible lack of a proper tender procedure for the construction of the electrical fence by Virunga Foundation (private sector) / ICCN / Parc National des Virunga (public sector).

Impact: Reduced conflict

Outcome 1: WASH and IWRM

If the understanding of hydrology and the effects of locating rainwater harvesting tanks would have depended on the needs and equal distribution of benefits, rather than on the presumed effects on runoff and erosion, then possibly more people could have benefited from rainwater harvesting tanks; see section 5.6.5 as well.

Outcome 2: Water management and governance

If the IWRM approach could not work according to international principles, then a light version or an alternative version could have been developed that kept in mind the proposed impact of the catchment approach and IWRM. For instance, the objective of IWRM is to reduce water scarcity or flooding. Stakeholder engagement is a prerequisite according to international principles, but if governments do not collaborate fully (which is seldom the case) downscaling the technologies and stakeholders can still deliver on the reduced impact of scarcity and flooding.

Outcome 3: Improved relations

Even though a concise overview (table 14) of the conflicts transformed during the project was shared, W4V has paid much less attention to the monitoring and evaluation of this outcome, as compared to outcomes 1 and 2. With the review of the M&E framework (after the peer monitoring by Transition International), the underlying outputs and activities were reviewed as well. A more consistent follow-up of these underlying outputs and activities might have enabled the achievement of more results. What would definitely have helped in reaching more impact, is the setting of targets for the *activities* under outcome 3, like it was done for most *activities* under outcome 1 and (most of) outcome 2 and was done for the *indicators* (under all outcomes). See section 5.3.1 as well. The peer monitoring (by Transition International, in 2017) would have been

a good opportunity for this. In case activities (originally planned for) would have been thought of irrelevant in the meantime, they could have been reformulated at this moment as well. Especially for governance issues, which are often difficult to quantify, and thus to monitor, this would have helped.

Regarding activities, outputs, outcomes, and thus impact in governance:

- In DRC, the project staff had had only few interactions with the district / chefferie staff especially regarding introducing the project to them. The other way round, the chefferie had introduced the project staff to the communities, and the project staff had been invited to a few meetings at the chefferie but had not discussed incorporating / aligning their project activities in the chefferie plans. Sometimes, the project staff were not aware of existence and / or content of the chefferie/ district plans, and apparently did not understand the importance of this outcome.
- In Rwanda, districts already have a way they operate and are considered and ranked highly. It would have been complicated to have taken more time (then available) to get the project approaches / activities incorporated in the district plan.
- In Uganda, there was more interaction and discussions between project and district staff; some interventions like PIP were to be included into the district development plan according to the district agriculture officer. But the district agriculture officer was concerned about who would fund monitoring of these interventions after the phasing out of the project.

Generally, it can be stated that the component of governance was not given enough attention by the project staff, or not supported enough by the project management. There was no staff directly responsible for the governance component, unlike for other components.

5.5.4. Validity of ToC

(From proposal) What is the validity of the (assumed) causal relationships between activities, outputs, outcomes, and impacts (as stipulated in the theory of change / logframe)? (This will give a link to effectiveness and coherence.)

The picture below is the Theory of Change from the original proposal.

- To reach improved watershed management infrastructure and measures in place, next to the mentioned activities (watershed protection measures and erosion control and soil fertility measures), some support to the institution managing the watershed would be needed as well; this could have been paid more attention during the project;
- To reach increased access to safe drinking water, approaches that can be scaled up, would be needed; the private sector could have been involved / supported more (e.g., business development of rainwater harvesting).

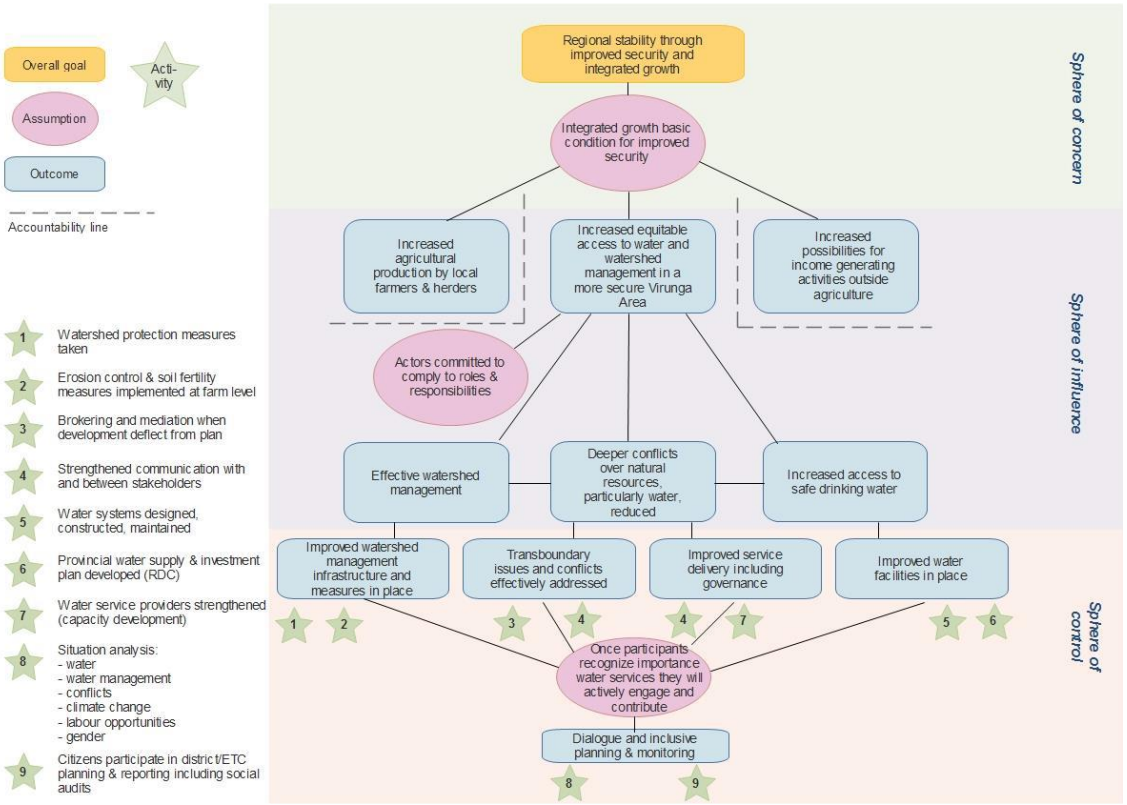

Figure 11. Original ToC

This ToC has not been updated, which could have been relevant. Next to this ToC, a logframe was developed as well:

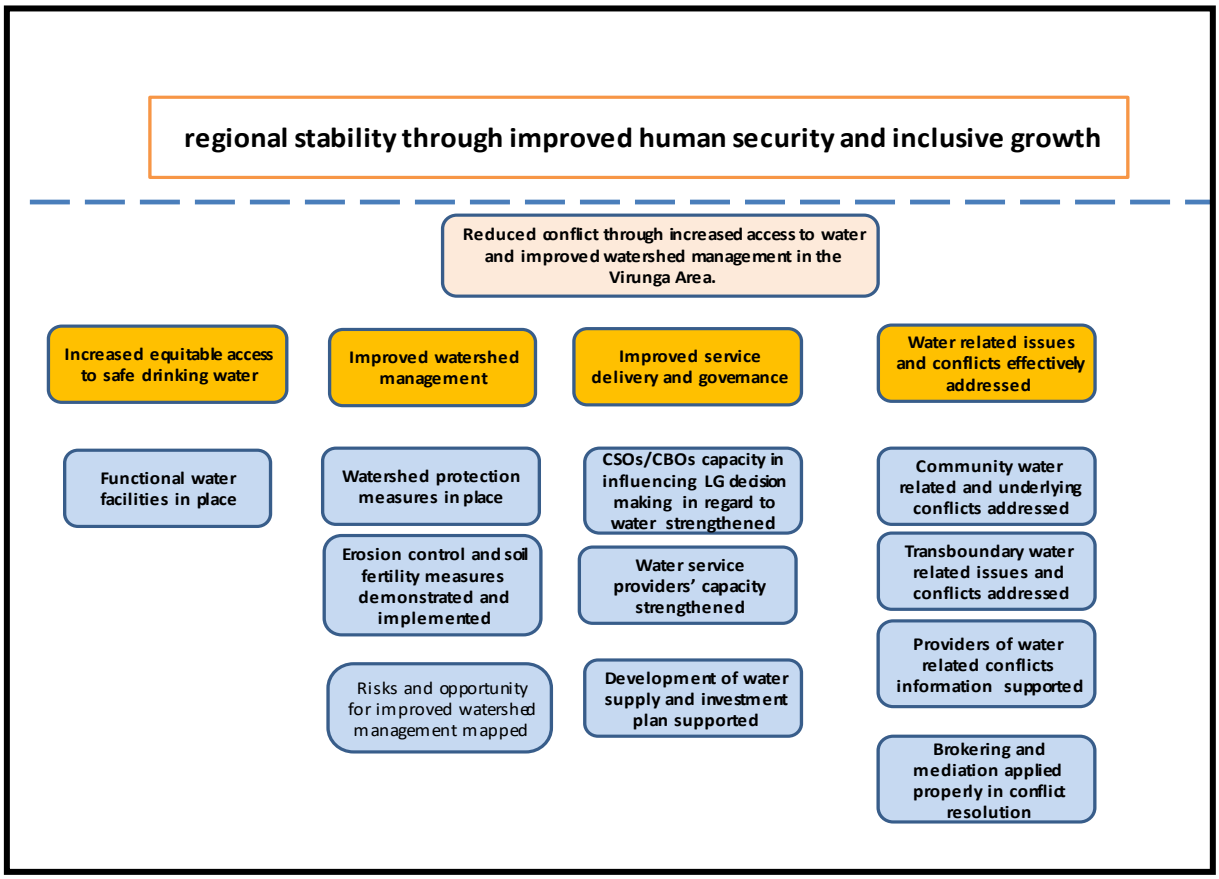

Figure 12. Original logframe

This logframe had separate assumptions (more than in the ToC) for each outcome:

- Outcome 1: Increased equitable access to safe drinking water
  - Cooperation of land owners;
  - W4V legal and technical expertise;
- Outcome 2: Effective watershed management improved;
  - The community adopts new measures;
  - W4V technical expertise available;
- Outcome 3: Improved service delivery and water governance;
  - Local governments are transparent;
  - CSOs and CBOs utilize acquired knowledge and skills;
  - The right people to be empowered with new skills and knowledge are available;
  - Plans will be adopted by relevant local authorities;
- Outcome 4: water related issues and conflicts effectively addressed;
  - Buy-in by local communities;
  - Political will of all countries;
  - Commitment of all actors in enforcing the law;
  - Commitment of stakeholders towards transboundary issues.

After the peer monitoring by Transition International (2017), the logframe was changed as follows, while the (relevant) assumptions seem to have disappeared. It would have been good if the assumptions would have been checked and updated together with logframe, as critical thinking about assumptions can make a project work constructively on the removal of hindrances to these assumptions.

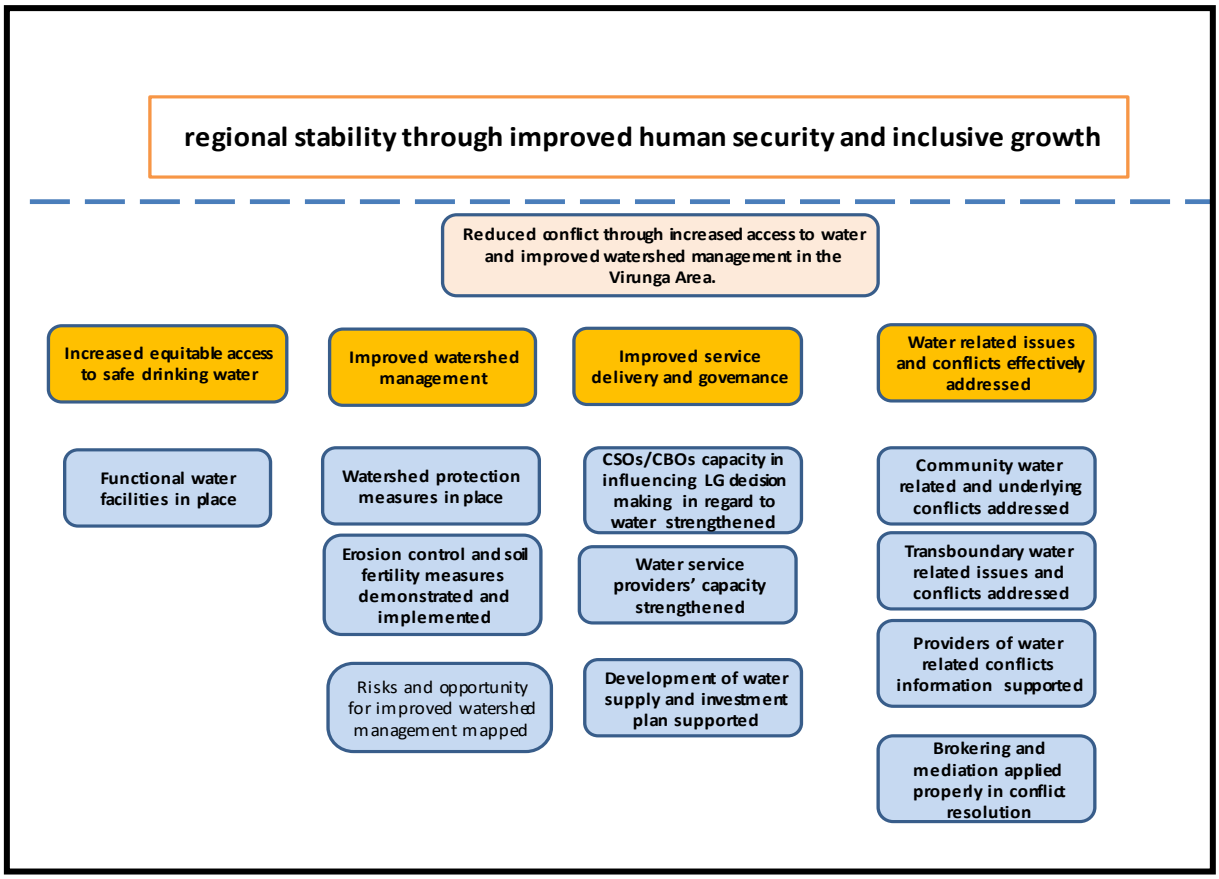

Figure 13. Final logframe

As an example, on this statement on assumptions:

- In the ToC, to reach the outcome "Increased equitable access to water and watershed management in a more secure Virunga Area, the assumption "Actors committed to comply to roles and responsibilities" would have to be fulfilled.
- In the old logframe, to reach the outcome (2) "Effective watershed management improved", the assumptions "The community adopts new measures" and "W4V technical expertise available" would have to be fulfilled, but the ToC assumption "Actors committed to comply to roles and responsibilities" disappeared, while this is quite essential to reach effective and improved watershed management. One needs to have a watershed / catchment management organization (in whatever form) manage and set and enforce rules.

- In the new logframe, the assumptions were not mentioned anymore at all. This links to sustainability of the improved and effective watershed management, which will be hard without a managing organization / institution.

5.6. Sustainability

5.6.1. Ownership

To what extent do relevant stakeholders have a sense of ownership for the different activities?

Impact: Reduced conflict

The PIP method focusses directly on local ownership of the development process at household level. As can also be seen above, this worked in many cases (not all, see the critical remarks on gender above). This is real ownership of the development process which was established and even spread beyond the direct beneficiaries.

Material ownership is at another level but still important to consider that the right entities have ownership. For instance, it makes sense that ICCN is the owner of the electrical fence. It made less sense that ICCN was owner of water schemes since they are not a utility company. However, because this grew historically and ICCN had an interest in maintaining the water infrastructure to keep the people out of the park, this can be acceptable even though it's less optimal. In some cases, ownership relations prevented the development of resources, for instance in DRC there were big landowners (who had tenants). One interviewee commented that "these landowners had no interest in sustainability, we could not work with them". Hence the program actively looked for participants that could be owners of the process.

Outcome 1: WASH and IWRM

In Rwanda, during KIIs and FGDs interviews, community members constantly asked for more RWHTs for members without tanks; apparently the construction of water tanks was a relevant intervention, and a linked a sense of ownership. The people without tanks apparently did not participate in the decision making or repairs, which might lead to a weaker sense of ownership.

In Rwanda, efforts were made to engage LGs (district, sector, and cell agronomists) and Imbaraga (a National Farmer Organization from Rwanda that works to improve the socio-economic conditions of farmers) in PIP activities (trainings, sharing knowledge/tools) as part of the exit strategy. Technicians participated in a study tour and trainings. At the time of the evaluation, it was too early to tell whether this had worked. But it was observed that both at district and sector level, the LGs were well informed about the implemented project activities and there was evidence that, the sector and cell staff indeed had visits to the project communities after the project ended.

In Uganda, it was noted, that people prefer NWSC piped water to water from the rainwater harvesting tanks, and only use the tanks when the taps are not bringing water especially in the dry season. This raises the question on the ownership and participation in discussions of the construction of the tanks for the beneficiaries (see section 5.1.3 as well). Water from the RWHTs is used for domestic chores like washing clothes, cooking, and drinking in the dry season. (During the rainy season, people prefer other water sources like the piped water from NWSC.)

In Uganda as well (FGD), beneficiaries were paid for all the services they took part in, and this has had an impact on ownership of the interventions. The beneficiaries believe that unless they are paid, they will not ensure sustainability of the interventions, yet these are meant to benefit them. This is a serious threat to sustainability.

In DRC as well, it became obvious that fighting erosion needs a community approach, and a cash / food for work approach was needed to make the farmers work on these measures. This may be attributed to opportunistic behaviour, but that was not investigated more profoundly. In DRC, when community work was organised in the context of hillside development (e.g., contouring, etc.), W4V facilitators noted that there were fewer participants when there was no motivation in terms of food for work or cash for work. Payment for labour took place during hillside development in the Jomba Group. It was when the facilitators noticed a slackening in the farmers' leadership that they adopted a man-day payment on some occasions not exceeding $2/person/day.

In Uganda and Rwanda, people were paid for construction of the tanks and reinforcement of the stone wall as well as tree planting along the stone wall. For stone wall and tank construction in Uganda, the foremen were paid 30.000 UGX / $8,3 per day, the masons were paid 20.000 UGX / $5,5 per day, the potters were paid 10.000 UGX / $2,8 per day, while for tree planting, 1250 UGX / $0,3 per tree planted.

Comparably, poor management and cleaning of the tap stands (e.g., in Rukongi Parish), can be attributed to this work left to the caretaker only by the WMC and the water users, as he was the one benefitting from the collected money.

So, despite the fact that the work people got paid for was for their own benefit, it still needed financial incentives in some cases. Unfortunately, this is often the case, especially in areas where people are already accustomed to it. Getting out of that mentality is really the most difficult thing in program implementation, it will just make people reluctant to do anything unless they are paid. Again, the PIP approach found a way around this by only insisting on full ownership and free participation. It needs time and a good understanding by people in the program what they are doing it for.

Outcome 2: Water management and governance

While most of the first steps in institutionalizing water governance (put in place WUCs, sign MoUs with WUCs) were done, for the next steps (legalization of WUCs, and support to WUCs by LGs) of water governance, have not been reached, possibly because these steps take more time. This could endanger the sustainability of the WUCs.

In DRC (Bwisha), the responsibilities of the chefferie were not clear to its members, while the chefferie (as a key actor) would need to support the water committees that were set up.

Outcome 3: Improved relations

A sense of ownership hardly exists in the community for the stone wall, which was constructed before the existence of W4V. This may be due to the doubts on its effectivity, and possibly as well to some jealousy towards the electrical fence in DRC. According to an interviewee, the stone wall was rather a short-term solution that only reduces but not solves the problem (as opposed to the electrical fence, which is regarded as a long-term solution).

In Uganda, the project led to formation of a lot of small VSLAs where project beneficiaries save money (1000 UGX per month, on top of water user fees paid per jerrycan) and at the end of the year, the whole community decides on how the money can be used. As the group (community) decides what the saved money is used for, members may not feel a sense of ownership, as the decision may be contrary to their own interests; this is of course inherent to VSLAs.

5.6.2. Participation

To what extent are relevant stakeholders active in ensuring the sustainability of the different activities?

Outcome 1: WASH and IWRM

PIP beneficiaries of the first generation are active in transferring their knowledge to the second generation, however, such training is hampered by the lack of a road-map and guidelines detailing how and when the beneficiaries can manage training a new generation of PIs. In addition, in some instances, the PIs refuse to train others as they would like to be remunerated for their time and services.

In addition, as already mentioned, the District Agriculture officer is interested in incorporation the PIP approach in their development plan for the district. Although the district is currently facing some challenges regarding the facilitation and monitoring of the trainings, including the PIP approach in the district development plan would ensure that knowledge and discussion around the topic remain so that the approach is not forgotten and can be sustained. In addition, it would create a centre that people can refer to in case of doubts.

In Rwanda, in Bugeshi, the first generation PIP beneficiaries did not train a second generation since they did not understand the concepts welll. In Nyabihu however, a second generation was trained, and farmers were more positive in passing on the knowledge. Differences between Bugeshi and Nyabihu may be attributed to different W4V staff in the two areas, an intern involved in Nyabihu, and a GALS component added in Nyabihu.
It was observed that both at district and sector level, the LGs were well informed and had visits to the project communities after the project ended, which is an indication of sustainability.

Outcome 2: Water management and governance

The set-up of WMCs who take care of operation and management of RWH tanks has been a good approach. In Bugeshi (Rwanda), repair activities have started (which is a good sign for the operation and maintenance, but a bad sign for the initial construction quality).
Here, it has already become an issue that only the people having a tank at their home are responsible for the operation and maintenance, while others (usually, 4 households) also benefit from the water. So far, the other households are allowed to fetch water without a problem. But it was observed that it is just a matter of time before they are prevented from using it because they don't contribute to the maintenance and add to the burden of repair. In this area, the WMC could even not manage all the operation and management issues in the area as these were too many, while the water fees that had been collected were not enough to cater for all the issues. This again testifies to the fact that roof water tanks are a great technology but not for sharing. Especially not when there is only 5 cubic to share.

In Burera, there were already households with tanks that had refused to be part of the WMCs because they did not see why they should be members, yet they must handle all the operation and management issues on their own. This kind of scenario is bound to influence other tank owners to also not take the WMC seriously.

In Gaheriheri village, Butaka cell, Bugeshi sector, the women did not know their roles on the WMCs and could not explain them. In Nyabihu however, a GALS approach was added to the PIP training, which may explain the better understanding of women of the approach in Nyabihu.

During the field work in Uganda, the researchers were not able to have an entire WMC available for an FGD. The ones who showed up, did not always know their responsibilities. This is an indication of a lack of motivation of people to invest time in water management. It seemed that the caretakers of the tanks and tap stands were the

ones in charge and making decisions on behalf of the entire committees, which may be because they are also the ones benefiting from the water fees collected per tank or tap stand.

The WMCs have introduced VSLAs to manage the water infrastructure.

The VSLA system was used (in theory) to improve management and repairs of the tanks. every tank owner (WMC member) brings money on a monthly basis for maintenance of the tanks, which is lent out to members against a low interest. In this way, the money collected for maintenance of the tanks grows, while at the same time giving the members increased access to credit.
The problem in Rwanda is that the amount of money being collected is too small to be lent out or used for repairs. In Uganda, the groups to which people are asked to contribute are too many (water infrastructure maintenance, stone wall maintenance etc) yet the farmers have low income. There is a tendency in international aid to assume people will pay for O&M without taking into account their capacity to pay, their capacity to get organised or even their interest to pay. In an area with more than one program people are likely to wait for the next program to solve their O&M issues. The W4V also contributed to this mentality by repairing existing tanks.

Outcome 3: Improved relations

The first impressions from the field show that the PMP approach has not only been contributing to the reduction of conflicts, but give hope that people are committed to involve themselves in conflict resolution in the future as well. It is hard at this stage to say if this mentality will stay.

5.6.3. Transfer of knowledge

To what extent was knowledge generated during the project transferred to relevant local actors? To what extent was knowledge transfer (and/or participatory knowledge development) part of the project's implementation approach?

Impact: Reduced conflict

During one of the interviews, a worry was expressed that the Dutch Embassy has initiated a new project (TRIDE), without all the W4V partner organizations being involved. Interviewees spoke of a waste of the knowledge (of the approaches and area) build-up started during W4V. However, there is continuity with other organisations and approaches.

Outcome 1: WASH and IWRM

In the field in DRC, worries about the departure of W4V were voiced, reflecting the worry that after the retreat of the project, activities would not be continued. More specifically on the PIP approach: on village level, the modest target (10 villages adopting PIP) was

almost achieved, but on farmer levels, of the ambitious target (8448 farmers adopting PIP), only 2170 farmers (26%) was achieved. This may be due to the importance (inherent to the PIP approach) of capacity building by the first generation to the next generation (and further on); if this capacity building gets stuck at one generation, then the process stops. Quite some people stated their worry that the PIP approach would stop at the second generation of PIP, even when considering the encountered dynamism and innovation of some farmers. Some observed that the people who were formed by the project animators seem to be more dynamic than the ones trained (second generation) by the first generation. In Uganda, it was mentioned that some PIP beneficiaries refused to train others or would request for money to train others. This would affect sustainability in a negative way. Moreover, as already mentioned, there is a lack of a road map detailing when and how the beneficiaries could take over the training. The first-generation beneficiaries in Nsherima Bugeshi (Rwanda) mentioned that they could not train others and needed the project to come back and train more beneficiaries as more people are willing to take up the PIP. These beneficiaries could not explain their goals, had no vision for their households. This may be attributable to the specific training they got.

Opposite sounds on PIP were heard as well: people who have the confidence that especially an approach like PIP, with its chain of different generations, is the best possible method to ensure sustainability, as knowledge transfer is at its core. As this evaluation took place still during the project lifetime (within the DRC project extension period), it may be too early to judge already.

In Uganda, there was the issue of the soil scanning machine, in which many had high trust. As these machines were still under research and they had been programmed wrongly, the conclusion was drawn that results obtained were inaccurate, and that it would be sent back to WUR. Upon withdrawal of the soil scanning machine, all respondents showed concern that they were going back to their crude ways (from before the project) of just adding nutrients to soil without knowing whether these were the right nutrients in the right amounts. This would be a relapse of sustainability.

Outcome 2: Water management and governance

Several trainings were given to the teams on the principles of IWRM. It would have been more interesting if this connected more to the local programs had the IWRM method been implemented. It's likely the knowledge remained theoretical.

Outcome 3: Improved relations

In DRC, like the doubts on the continuation of the PIP approach after the retreat of the project mentioned above, similar doubts were voiced on the PMP approach. Apparently,

some chiefs (of groupements) did not attribute the good results of the spatial planning on hills and of water supply to the PMP approach, and therefor are not motivated to support it. They may feel bypassed by it, and even loose some income (?). Direct beneficiaries however (who were trained by the local NGOS, who in turn were trained by WUR) are more positive on the PMP approach, as this gives especially to the poor ways to solve problems without being forced to pay for legal services. The authorities' dissatisfaction with the PMP approach has much to do with its voluntary nature. Many households have flocked to this approach which not only restores their confidence but is also voluntary. In the past, those who went to the police or the cluster to complain had to pay exorbitant fees without a solution to their problem.

5.6.4. Operation and maintenance water supply

Specifically for water supply activities: How is operation and maintenance (including collection of resources to pay for this) organised, and to what extent will this be able to address O&M requirements after the project? How will communities access expertise for repairs? How much revenue will need to be generated to pay for repairs, and how much is being collected?

One interviewee stated that, especially in DRC, efforts were made to involve the private sector more in water supply, as part of the exit strategy. Technicians were trained to do small repairs.

Outcome 1: WASH and IWRM

Regarding RWHTs: In Rwanda (Burera), several repairs (gutters, tanks, and leakages) over a short period of time were reported. In Bugeshi, repairs to broken tap stands, polluted gutters, and finishing were reported. Apparently, the design in Burera was better than the design in Bugeshi. This need to do regular repairs is felt among more tanks' owners. The need for more trainings on repair was therefor heard often. The savings and credit facility for WMCs may encourage them to meet and solve this need: if members need to fix their tanks, they can take a loan. However, not always sufficient money is collected and available for this, and moreover borrowing of money is complicated (all 7 members of the committee have to sign), which could discourage borrowing. Some WMC members want to be paid a salary for their work. Some households with tanks (Burera) did not join the WMC because they would need to pay 10,000 RWF to join. This could influence others to leave. The WMCs were (being) registered as cooperatives, which have as a guideline that each member pays a registration fee of 10,000 RWF / $ 9,5. These, WMCs thus were larger than other WMCs (normally 5 - 7 members), as they brought together all community members in one cell that had a (W4V) RWHT. It was observed (FGD Burera) that the tank owners who had not joined the WMC hadn't done so for the reason of the obligatory fee. There were already some complaints regarding what the cooperative will do now that the project ended.

In DRC, each household needs to pay 1000-2000 CDF / $ 0,5-1,0 per month. If paid indeed, this would add up (5 households per RWHT) to $ 30-60 / year, which should be sufficient for regular repairs (masonry, new tap, etc.).

In DRC as well, the chiefdom water officers don't have the financial means to supervise / support the WMCs in their work.

One interviewee (from Uganda) mentioned the example of the set-up by the project of MCCDA (Mgahinga Community Conservation Development Association), that oversees all activities. Masons are available (and paid from water fees) to repair tap stand levels.

Regarding piped water from NWSC (Uganda): fees are collected per jerrican (50 Ugandan UGX / jerrycan), and a monthly fee is remitted to NWSC as well; the caretaker then takes 40% of the remaining money as motivation. This monthly fee is paid from what the caretaker collects per jerrycan; there is no clear way of accounting for this, although the chairperson of the committee sits with the caretaker when the bill from NWSC is received, and the caretaker brings out all the money that he collected for that month.
Communities reported that there have been a lot of issues relating to bursting of pipes. NWSC usually takes about two days to repair burst pipes.

5.6.5. Knowledge of IWRM

Specifically, for IWRM activities: to what extent do relevant stakeholders (mostly farmers) have the required knowledge and motivation to maintain the interventions?

More could have been done to make the knowledge of IWRM more fitting to the needs and the implementation. As already stated above, several ideas were formulated about the catchment effect and the erosion control of the water tanks and soak pits. We stated that some of these ideas were not realistic and could not be maintained in the field. However, more knowledge development on the use of soak pits or infiltration pits draining away from the downpipes of households all the way to the implementing technicians could have helped in scaling this approach. Furthermore, the transfer of knowledge on catchment approaches lacked a practical counterpart, so an implementation project where the effect could be seen. The success of the PIP approach in tackling some of the IWRM problems at catchment level is just that, the success of the PIP approach with complementary catchment effects.

In the final W4V ME Progress Report_V11, some indicators underlying outcomes and outputs related to IWRM have not been reported on:

- Output 1.2: Erosion control and soil fertility measures adopted/ implemented: 1 indicator;
- Output 1.3: Watershed protection measures in place: 3 indicators;

- Output 2.3: Support the development of IWRM plan and investment plan by Districts/ chefferies/ Parishes: 1 indicator;

This is an indication of the lack of attention for IWRM as a concept; it is acknowledged that some IWRM elements have been included in the PIP approach.

In DRC, it was proven difficult to involve the communities in the fight against erosion so that such mobilisation was only achieved through paying the farmers for their work in defining the contour line. This shows a lack of motivation (and/or knowledge) that may hamper the sustainability of the activities.

In Rwanda, because of the government campaign on practices for watershed management, including soil and water conservation measures, the IWRM activities have a high chance of being maintained.

5.6.6. Conflict transformation

Specifically for conflict transformation activities: to what extent and how are these expected to continue after the project ends?

Outcome 3: Improved relations

Regarding the reduction of conflicts between wildlife and communities, from one of the KII in Uganda, the good example of the Problem Animal Management (PAM) popped up: this was formed before the project and strengthened during the project to ensure continuity and sustainability of interventions to solve conflicts between wildlife and communities. It is a self-motivated group that wants to strengthen the stone wall (e.g., by planting Erythrina) to reduce conflicts between wildlife and communities. Its elected members are not paid but pay a membership fee (of 10 000 UGX, and a monthly contribution of 2 000 UGX), and it has formed a VSLA for purposes of maintenance and sustainability. This group has contributed to the following results:

- Increased community participation in activities like erecting the stone wall at the foot of the national park;
- Weekly monitoring of the areas near the park to ensure safety of the gardens, which has regulated encroachment;
- Especially at the places where the stone wall is not yet reinforced with cement mortar, animal encroachment is still a problem.

The signed MoUs in Rwanda are good steps towards better cooperation, but it needs signatory parties that have an intrinsic commitment to or allocated budget for the outcomes of the MoU, or clear benefits.

In Uganda as well, the reinforced stone wall has worked as a demonstration plot: other villages now plan to have the same intervention and conservation partners have visited

the site and plan to support the re-enforcement in other affected villages. So far, these are only plans, and it can't be said if they will be implemented indeed.
This could serve as an example for other areas, which can't be confirmed yet at the time of this evaluation.

Regarding the specific case of the stone wall electrical fence in DRC, ICCN / Virunga Foundation has its own sources of income (e.g., tourism), which is used to cover (amongst others) the expense of the maintenance of the fence.

It appears that the solutions to reduce the conflicts between farmers and pastoralists have not yet reduced these conflicts to an acceptable level. Keeping cattle in stables is not applied in the region, and there are no designated grazing meadows, reasons why cattle will always be a threat to harvests and to water. For instance, in Chanzu, pastoralists appear to break water pipes for their cattle to have water, as no cattle troughs are available although 9 will be completed end of 2021. The pastoralists had proposed to rehabilitate the still existing cattle corridors to protect agriculture from their cattle. According to another interviewee, the project indeed has opened cattle corridors. The proposed option of muzzles for the cattle appeared not to be accepted by the pastoralists. The project did not meet the expectations of the farmers: not only are there not enough community pastures in the area, but also the farmers have not adopted the zero grazing or stable rearing technique which would be a solution to cattle roaming. It was observed that farmers reported cases of destruction of their field crops by cows. So, in this type of conflicts, a lot needs to be done before a sustainable reduction of the conflict can be reached.

Regarding the muzzles: An inventory done (by W4V) in December 2021 in DRC gave the following numbers:

TABLEAU SUR L'UTILISATION DES MUSELLETTES DANS LE PAYSAGE VIRUNGAS										
PROJET W4V										
Localités/villages	Statistiques d'animaux destinés au port des muselettes				Nombre de muselettes produits	Nombre des muselettes utilisées	Muselettes utilisées par espece			
	Vaches	Moutons	Chèvres	Porcs			Vaches	Moutons	Chèvres	Porcs
Kinyangurube	44	61	71	201	149	140	19	55	61	5
Gatsibo	21	51	99	197	161	170	21	58	68	23
Chanzu	32	88	103	154	153	122	29	41	46	6
Kariba	36	53	93	121	99	107	21	41	41	4
Rwunga	14	35	58	53	34	75	9	27	37	2
Runyoni	125	209	288	112	210	169	33	45	80	11
Mihika 1	153	206	272	146	215	169	45	44	55	25
Mihika 2	256	201	299	204	188	142	46	46	43	7
TOTAL	681	904	1283	1188	1209	1094	223	357	431	83

Table 29. Use of muzzles

From these numbers, it could be concluded that of the total number of all 4056 animals, 27% (being 1094 animals) were muzzled. For a newly introduced approach, this seems to be a promising number (if followed up).

5.6.7. Key blockages

Overall, what key blockages are foreseen in sustaining the effects of W4V?

- Many conflicts cannot be controlled by the project and will continue to make it difficult for people to maintain a sense of ownership. We also believe that in unstable situations, the collection of maintenance fees can also attract the wrong interest. This will provide blockages for saving and loan groups or intended repairs of infrastructure;
- The park authorities will continue to be in conflict with communities / farmers where the boundary is still permeable;
- A sense of ownership will lack as well if people have been paid to do development work;
- The RWHTs are not likely to be maintained by the WMCs. We already noticed some discord about the management set-up, and this will not likely improve the coming years. We believe the technology in combination with the management set-up and the intended catchment effect is not easy to maintain when people do not truly depend on the infrastructure for their water;
- A lack of understanding of IWRM as an approach at (sub-)catchment level to balance water quantities, if possible, caught in IWRM plans, will make proper land and water management difficult;
- A lack of resources at the level of the LG will be a barrier to continue the activities (e.g., the supervision of the WMCs by the LG water officer).

5.6.8. Stabilizing effect

From proposal: Moved from section on impact) To what extent has the project had an impact on stability in (and around) the targeted area?

This question needs some more time to be answered, as the project has only recently finished (in Rwanda, Uganda) or is still ongoing (in DRC). To give a first indication of the reduction of different conflicts due to the project, possibly leading to more stability:

- *Upstream – downstream* (Runoff, erosion, flood mitigation): The project has shown solutions and how to reach these solutions through the application of bottom-up PIP approach to agricultural water harvesting. However, the upstream downstream connections were a side effect of the PIP agenda. More could be done to reach higher stability. The evaluators believe this aspect of water harvesting deserves more research, or at least more than the current

evaluation and the M&E has allowed. A proposal went out to continue working on this.

- *Park (wildlife and authorities) – communities:* The construction of the electrical fence, and to a lesser extent the construction of the stone wall, have reduced the encroachment by wildlife and the entering of people into the park (looking of natural resources) and thus reduced conflicts between park authorities and communities; the same accounts for the construction of rainwater harvesting tanks;
- *Within households:* In most areas the PIP approach has contributed to involvement of more (and diverse) family members being involved in e.g., planning and spending;
- *Within communities:* The PMP approach has contributed to communities that can solve conflicts themselves without the need to involve (sometimes corrupt) authorities;
- *Between ethnic groups:* This conflict is difficult to speak about in the intervention area.
- *Farmers – pastoralists:* The project has attempted solutions (muzzles, cattle corridors, washing place for cattle, field fencing), some of which have contributed to higher crop yields. We believe that maintaining these practices will be challenging when there is not follow up;
- *Armed groups - government:* the project has hardly been involved in these conflicts (while armed groups are present in the program area; a good sign may be that project staff has never been kidnapped during the programme.

5.6.9. Health issues

(From proposal) To what extent health issues (as part of environmental sustainability) have been addressed?

Outcome 1: WASH and IWRM

In the section on unintended effects, the positive (unintended) results on health have been mentioned already. According to one interviewee, since the project, more people have access to clean water, and people are aware of the quality of water they drink. This has resulted in a reduction of water borne diseases (amoeba, diarrhoea, cholera), which could be partly confirmed by the following epidemiologic data.

Total number of administrated water-related diseases in Kisigari / Kabaya (DRC) 2017-2021:

- 2017: 4701
- 2018: 3093
- 2019: 3635
- 2021: 3914

The steep reduction in 2017 (too fast), and the gradual increase from 2018 (during the project), however cast doubts on a direct causal relationship between the water-related diseases incidence and the interventions by the project.

In Rwanda, it was noted however, that there was a lower water borne diseases prevalence (cholera, diarrhoea, dysentery, typhoid) in their areas because they had clean water nearby (tanks). No statistics could be found to confirm this.

5.6.10. Legal issues

(From proposal) To what extent legal issues (as part of institutional sustainability) have been addressed?

Outcome 2: Water management and governance

Some of the WMCs are supported by a LG.

Outcome 3: Improved relations

Quite a lot of conflicts were transformed by W4V (see table 14), which means that these issues were arranged amicably, and thus not referred to the police / court.

6. Conclusions

6.1. Project achievements

6.1.1. Outcome 1: WASH and IWRM

Water supply achieved good results in all countries. Indeed, 68.4% of the respondents of the internal evaluation claim that they have increased access to water thanks to W4V. The communities therefore need to walk shorter distances and have more time for other activities such as school. The agriculture / PIP / IWRM component of the project showed good results. However, the baseline value was set very low i.e., 1005 hectares, representing 3% of the total intervention area). The IWRM approach was integrated in the PIP approach. A catchment approach, which is one of the principles of the IWRM approach, could not be undertaken and this is a missed opportunity. However, the PIP approach was well received and accepted by the population.

6.1.2. Outcome 2: Water management and governance

In each country, one WMC was established per RWHT or tap stand and were found operational during the external evaluation. The results on water governance and PMP are mixed as not everyone seems to have understood it yet. Community-based water governance takes more time than was available in this program. In Uganda, there was already an institution which ensures more sustainability (as compared to DRC). Overall, there are still places where the setting up of water management is ongoing. Infrastructure is still being developed. International collaboration between Rwanda and DRC is politically complicated

6.1.3. Outcome 3: Improved relations

PMP shows some good results to this effect. The general message from the beginning has been that the approach needs time to start working. It can be said that the infrastructural works aimed to improve relations have worked. The setting up of electrical fences, walls, trenches also improved the relations between the park and the people. In Uganda this still needs work. The PMP and interestingly, the PIP approach also contributed to improved relations in the household. With this outcome the evaluator noticed that attribution became an issue: was the conflict reduced because there is now water available? A fence? The PIP or PMP approach?

6.2. Assessment of the project

6.2.1. Relevance

The project was definitely relevant. Conflicts over water and land, households, interethnic, international and with the part. The relevance was biased towards technical solutions and to a lesser extent stakeholder dialogue. Mismatch between politically

correct changes in the ToC for ethnic diversity and conflict resolution and operational realities. The project tried to address the underlying causes with for instance park authorities but did not always get a result. The PIP approach made itself very relevant to several ongoing issues around gender, land rights, erosion etc.

6.2.2. Coherence

The project aligned with ongoing programs and projects in the area and sought to align with relevant policies and government priorities. When government bodies were willing and able to collaborate, this happened. The project departed from existing initiatives when it introduced the PIP and PMP method, some initiatives were already working in this direction but the PIP and PMP was stronger and implemented separately.

6.2.3. Effectiveness

The effective implementation of the theory of change was delayed by changes in the approach, but these changes led to a more prominent role for conflict resolution using the PIP and PMP. In the meantime, stable progress was made on implementations of technologies such as waterpoints and tanks, leading to access to water. The fencing also provided additional conflict mitigation at these places. The evaluators feel the use of tanks to mitigate floods could not and did not make the proposed impact. In addition, the building of walls and fences should not lead to a migration of the wildlife problem. It was noticed that different ideas existed amongst project staff on the use of walls to reduce encroachment by animals. Different ideas also existed about the catchment impacts of the tanks. Some program staff explicitly stated the tanks were identified as a solution for reducing flooding, hence explaining the clustering of the tanks. What we can signal as evaluators is that if the tanks were supposed to create a catchment or IWRM effect besides water provision than this could have been done better. The soak pits were a good addition, but the team found they were often connected to the tap rather than the downpipe.

The reduction of the IWRM agenda because it should be based on a total catchment perspective and government collaboration is understandable. However, there are alternative approaches. Based on experience from several African countries we can say that if the IWRM principles are followed to the letter there would be very few real IWRM programs. In fact, the bottom-up PIP approach to catchment thinking might be worth much more than many governments supported programs that never come to the implementation stage.

6.2.4. Efficiency

In terms of budgeting the project appears reasonably priced, particularly given the difficult context in which it operates and the over-achievement on the outputs (conflict,

covid etc). Within the project team there was discontent over transparency, which appears to be due to a lack of clear communication.

Some staff were not informed about their budgets which made implementation and planning more complicated. The implementation was delayed by internal restructuring through the evaluation of transition international. But it was unlikely that the implementation of for instance the Kibumba project could have been done quicker and cheaper without these discussions. The efficiency of external expertise was debated within the program. Particularly the Dutch experts who could not travel to the field and provided remote advice on the project were thought to be less efficient and effective. Their role was reduced in favour of local expertise or communication limited to the project coordinator

6.2.5. Impact

The project boasts very good results with both the internal and external evaluation showing large numbers of people with improved access to water, increased water governance and reduced conflict. We can only complement the organisation with these good results that were delivered in a relatively short time span and under these trying conditions. The point of attribution and socially desirable answering might reduce the impact numbers a bit. For instance, to what extent is the reduction of tensions only attributable to the project and its implementation or could it be that the LG's role also contributed? It's difficult to tell in these complex situations. However, we hear sufficient stories from the field that support the quantitative impact and particularly the PIP approach had a lot of unintended positive impact for social cohesion.

6.2.6. Sustainability

To draw conclusions on sustainability when the project has still not ended, is quite impossible. We can only observe what measures have been taken within the project to make the chances on sustainable project results larger. The PIP approach in itself is meant to be sustainable, by the training of the next generations of beneficiaries. It needs to be seen if these consecutive trainings will continue. The PMP approach could be a sustainable approach as well, through the continuation of the PMPs; in a conflict-ridden area like the intervention area however, conflicts may be too many or too severe, and thus may not be solved by the PMPs, which in turn may lead to disappointment. Finally, the set-up of WMCs to take care of operation and maintenance (and the link to VSLAs to cover the costs of repairs) has been well thought through but would need follow-up and support to support in doing too costly or complex reparations.

7. Recommendations / lessons learnt

7.1. Recommendations for the consortium implementing the project

- Changing a ToC, approaches and partner organizations during a project can be relevant and necessary (or caused by a necessary reflection process). This however needs to be compensated with new timelines for the deliverables. The recommendation that follows then is mostly for the donor to give a project a new horizon, the processes and developments that projects need to go through are usually lengthy and need time, often more than 4 years. Revisions in the ToC make this even more unrealistic;
- It would be good to check, at some stage (especially when other changes are asked for, e.g. in the ToC) to check an M&E framework, including indicators, activities and targets on clear and SMART formulation and internal consistency, while removing redundant indicators and activities;
- In a highly complex conflict-ridden area, setting a broad overarching goal may increase the relevance of a project, as complex issues need multidimensional solutions from different sectors. The recommendation corroborates with the above comment on the ToC, leave room between intermediary outcomes and final outcomes (in the form of assumptions) the program cannot control. This will allow the complexity to exist without the program claiming to cover all and do everything;
- From the comments of the people in the field we get the impression that the changing of the ToC based on the involvement of Transition international were rolled out top down. However right the conclusions might have been and as much as the project might have improved due to an external review, the process needs to be owned by all. With this we mean that the emphasis on how to approach conflict in relation to water and land was changed top down. Getting this into the fabric of the project would have been easier if the staff on the ground was made part of it;
- A due diligence or stakeholder assessment of potential project partners can help to prevent high expectations of the implementation capacity of an organisation such as GVTC;
- Implementing staff and partner organizations should have an overview of budgets and activities from the start and be involved in changes in those, to plan and budget more efficiently themselves;
- Having strong guiding documents describing the purposes of the intervention of the project would increase the efficiency of the project. For instance, the

misunderstandings about the catchment role of the water tanks or the siting of the soak pit;

- Similarly, within the program team and between different organisations there was discussion about the extent to which the fencing and walling of the park should have been done all the way around or not. One of the consequences of patching up part of the wall and fencing off large parts in DRC is that some parts remain unwalled and become a hotspot for people wildlife conflict. For the people who live there it is not acceptable that they get raided and their neighbours not. This is a consequence of what is perhaps unfinished thinking of what the park is supposed to be, an island or a continuum with the areas around it;
- To counter the problem having international staff that could not go to the field, it could have been explored to bring the local experts to a place where they could have engaged with the international experts and presenting their situation and work on team building. It was stated that this happened for some international experts but for others there was still clearly a communication and connection gap;
- Using 5 m^3 roof water tanks for floodwater mitigation in an environment with relatively high rainfall cannot create a catchment impact. There was discussion between members of the consortium if this was the intention of the work. Some staff say it is the intention, others not. The implementation strategy (clustering in high runoff areas) suggested this effect. So at least the implementing staff was convinced this was the intention. The soak pits are a good idea to reduce runoff, and this could have worked better if the soak pits were constructed around the (overflowing) tanks, or if the downpipes were connected to the pits. This could also have been brought to a larger scale without the tanks;
- The evaluators understand the difficulty to implement IWRM measures from a catchment perspective in three countries. However, it is believed that IWRM implementation started with too large and ambitious an agenda and was therefore difficult to implement in this context. Smaller infrastructure or multipurpose infrastructure could have been proposed, starting without government involvement and was in fact implemented. Therefore, scaling down the stakeholder expectations of the intervention while at the same time including the catchment effects of the infrastructure in the analysis could have increased the IWRM component. For instance, smaller nature-based solutions (gully plugs, contour lines, bush lines etc.) serve multiple purposes and can be part of a catchment approach to IWRM. This way of approach to IWRM was not found relevant by the people responsible for the IWRM agenda. The evaluators approach would have been to start small and seeing is believing. If at a smaller scale (one tributary) several interventions could have been piloted and

monitored, with a smaller number of stakeholders then this would have created interest from other stakeholders who were first said to be reluctant (such as government actors);

- The catchment effects of the PIP approach were perhaps not enough to cover the whole IWRM agenda, but there was an effect. The evaluators have not been able to assess this impact quantitatively and we recommend to do follow up research on this. This recommendation is not a critique, merely a wish to understand better the processes in the landscape to see how other programs and project can work on this;
- Training could have been extended to other community agricultural extension workers for replication in non-demonstration villages and therefore increasing the impact of W4V;
- Communication and transparency could be improved. Implementing staff and partner organizations should have an overview of budgets and activities from the start, be briefed and involved in changes, to plan and budget more efficiently themselves;
- The theory of change that emerged from the report could have left more room for uncertainty and unexpected results, in the form of (reviewed, updated) assumptions. For instance, by working with intermediary outcomes and then stating the final outcomes are not within the project control. The more practical work with water provision and human wildlife conflict still provided an outcome that people had less issues with water. This outcome could then be seen as an intermediary outcome that feeds into a final outcome whereby conflicts with access to water are reduced. Between the intermediary outcomes and the final outcome is the point where the project should no longer be directly responsible or held accountable but relies on assumptions. Such ambiguity can facilitate local ownership and operationalisation of the project in a dynamic and complicated environment.

7.2. Recommendations for the GLRP

- The GLRP needs to consider whether traditional 4-year implementation programs can be asked to address the underlying causes of conflict in a region like the Virungas. We believe the conflict strategy report for W4V captured the problem well and also how it should be addressed ideally. Operationalisation in the everyday context of a conflict sensitive area could have benefitted from an approach that leaves open more room for local organisations to manoeuvre and adjust to the dynamics of conflicts;
- Considerable input and involvement by a donor during the project can be beneficial, relevant, and necessary, but it can frustrate the implementing

organizations as well in their efforts to implement a project and the need to adapt. If there is strongly felt need to intervene in the project, the GLRP should also consider part of its own shortcomings (because the project was given an initial go ahead). 'Rewarding' the project with more time or more finances then becomes reasonable;

- When working with the PIP approach, including a gender approach can lead to bigger impact as it has been seen in Nyabihu (Rwanda).

7.3. Recommendations for park authorities, LGs

- The extension of the stone wall (both in Rwanda and Uganda) to other villages along the park boundaries would have prevented jealousy between communities and would have reinforced the impact of W4V;
- It is good to have inclusion of (ethnic) minorities incorporated in a project logic, but there needs to be a balance between the numerical presence of the minority and the interventions specifically focused on them;
- While keeping an eye on manageability of many stakeholders involved, involvement of a variety of relevant district departments (Work, Education, Police, etc.) and religious leaders can help to spread messages and mobilize communities.

8. References

(An overview of the W$V documents is given in Annex 9.1)

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MFA (2018). (rep.). *Multi-annual Country Strategy 2019 to 2022 Great Lakes region* (pp. 1–18). Retrieved from https://www.netherlandsandyou.nl/binaries/netherlandsandyou/documents/publications/2020/09/23/great-lakes-multi-annual-regional-strategy-and-qa/Great_Lakes_Multi-Annual_Regional_Strategy.pdf

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Vaessen, T. (2018). (rep.). *Maji Ya Amani Quarterly report (July-September 2018)* (pp. 1–12). Retrieved from https://aidstream.org/files/documents/Maji-Ya-Amani_Q3-Narrative-Report-2018-20190108030142.pdf

9. Annexes

9.1. Overview of available reports for external evaluation

Memorandum

Subject:	Overview of W4V- documents made available to external evaluation
Date:	30 September 2021
Author:	G.Leereveld – PC
To:	External Evaluation Consortium
CC	Wellard Makambo – M&E specialist
	Herman Snelder - PD

Envelop No	Name of report/document	Number of files	Remarques
1	Project proposal of September 2016	2	
2	Beschikking 2016	5	
3	Issue reports	9	Issue report 2021-1 not yet available
4	Annual analytical progress Overview	4	
5	Annual Audit Opinion and Audit report	5	
6	M&E matrix	8	
7	Internal Evaluation 2021	4	(Draft) report not yet available
8	MSC reports	1	
9	Monthly reports W4V internal DRC	42	
10	Monthly reports W4V internal Rwanda	26	
11	Monthly reports W4V internal Uganda	28	
12	Workplans	8	
13	Various internal reports	19	
14	Maps	5	

Total: 166 files, 229 Mb.

Version: 20211005

W4V documents received (most in October 2021)

Name of report / document	Number of files
Landslide / erosion measures	5
Conflict strategy	1
Location of RWHT	1
BV_W4V_Phase III vf.png	1
W4V Internal Draft Report _November 2021.docx	1
W4V progress report to RDB Final March 2021.docx	1
W4V ME Matrix Revised version 29_06_2020.docx	1
Questions March 2020 V1.docx	1

More documents were received afterward, separately.

9.2. Overview key informant interviews

Category	DRC	Rwanda	Uganda	General
LG	• 1 Environment department of Bwisha Chefferie, • 1 rural development department of Bwisha Chefferie, • 1 Public procurement department of Bwisha • 2 members of Local peace and Development Committee	• 3 District staff • 3 Sector Agronomists • 6 Cell staff • 10 Village leaders	• 4 District staff, • 2 Subcounty staff, • 4 Village LCs	
Local leaders	• Clan/ family heads • WMC chairpersons	• 3 WMC chairpersons	• 2 village elders • 3 WMC chairpersons	
Park officials	• Park warden • ICCN	• 1 RDB	• Park warden • UWA	
Project implementors	• MDF project staff (project officer, M&E officer, 3 PIP officers, 1 water Engineer) • 3 PMP partners: GRACE, CRONGD-NK and FEMISA	• 2 MDF project staff • 1 IGCP staff • 1 contractor for water tanks • 1 GVTC staff	• MDF project staff • NWSC staff	• Project officers • Members of the steering committee • International experts • National specialists • External accountant
Donor				• Embassy staff in Kigali

9.3. Overview of FGD

DRC	Rwanda	Uganda
Total 12 FGD, total 89 men, 54 men	Total 76 men, 39 women	Each FGD had 6-10 mixed participants
Jomba Groupement 6 FGDs	Rubavu District 3 FGDs (2 WMC, 2 PIP groups, 1 cooperative group)	Muramba 2 FGDs
Kisigari Groupement 2 FGDs	Burera District 1 FGD (1 WMC)	Nyarusiza 2 FGDs
Rugari Groupement 3 FGDs	Nyabihu District 2 FGD (1 PIP group, 1 WMC)	
Kibumba Groupement 1 FGD		

Age differences were not considered

9.4. Overview of household questionnaires

DRC	Rwanda	Uganda
2 male enumerators (no females because of the security issues in the area), interviewing in Kiswahili	2 male enumerators, interviewing in Kinyarwanda	1 male, 1 female enumerator, interviewing in Rufumbira; interviewees both male and female;
Jomba Groupement 20 Households	Rubavu District 10 Households (5 PIP, 5 RWHT)	Muramba 13 Households
Rugari Groupement 20 Households	Burera District 08 Households (5RWHT)	Nyarusiza 46 Households
Kisigari 20 Households	Nyabihu District 15 Households (5 PIP, 10 RWHT)	
Kibumba 10 Households		

9.5. Overview of observed infrastructure

DRC	Rwanda	Uganda
Jomba Groupement: • Standpipes, • Water tanks, • Corridors and troughs for livestock, • Watershed management	Rubavu District: • Water tanks	Muramba Subcounty: • RWHTs, • Tap stands, • Erythrina boundary planting
Kisigari Groupement: • Standpipes, • Water tanks • (PIP interventions were planned but not visited because of insecurity)	Burera District: • Watershed interventions, • Afforestation, • Water tanks	Nyarusiza Subcounty: • Stonewall, • Erythrina planting, • RWHTs, • Tap stands, • PIP interventions at household level
Rugari Groupement: • Standpipes, • Corridors and troughs for livestock	Nyabihu District: • Watershed interventions, • Water tanks	

9.6. Overview of village visits

Country	Districts, chefferie	Selected districts, sectors, chefferies, groupements, and parishes	Selected villages	Interventions
DRC	Bwisha	Jomba	• Gikoro • Runyunyi • Musongero • Chanzu • Kinyangurube • Kabindi	Standpipes, water tanks, water committees, corridors and troughs for livestock, PIP (Integrated Farmer's Plan), Watershed management, WASH, and conflict mitigation (PMP)
	Bwisha	Kisigari	• Kabaya • Rumangabo • Bushenge	Standpipes, water tanks, water committees, corridors and troughs for livestock, WASH, PIP (Integrated Farmer's Plan), conflict mitigation (PMP)
	Bwisha	Rugari	• Kigarama • Kabaya	Standpipes, water committees, corridors and troughs for livestock, PIP (Integrated Farmer's Plan), WASH and conflict mitigation (PMP)
	Bukumu	Kibumba	• Burambo • Hewu	PMP (conflict mitigation)

Country	Districts, chefferie	Selected districts, sectors, chefferies, groupements, and parishes	Selected villages	Interventions
Rwanda	Rubavu	Rubavu (Bugeshi)-Butaka, Nsherima Cells	• Gaheriheri in Butaka cell (uphill) • Gaheriheri in Nsherima cell (downhill)	• 18 RWHTs • 1 WMC • 4,396,464 trees planted • PIP (25 PIs)
	Nyabihu	Nyabihu (Mukamira sector, Gasizi Cell	• Kamiro (uphill) • Jenda (downhill- agro forestry & tanks)	• 45 RWHTs • 2 WMCs • 359,678 trees planted • PIP (25 PIs)
	Burera	Burera (Gahunga and Cyanika sectors), Gisizi, Nyagahinga Cells	• Nyagisozi • Kabyimana	• 5 RWHTs • 12 RWHTS • 2 WMCs • 50,566 trees planted
	Musanze	Not selected		
Uganda	Kisoro	Nyarusiza subcounty, Gitenderi Parish	• Kabande • Nzogera • Rukeri • Mwangari • Ruchantege	• 2 Communal RWHTs in each village • 1.2 km long reconstructed stone wall, raised to a height of 1.5m, including a 0.3m mortar strengthening at the top (Kabande) • 4 tap stands • 3 PIP beneficiaries 1st,2nd,3rd generation • 1 WMC for the tank • 1 WMC for the tap stand • 1 WMC for the tank before w4v • 7,440 Erythrina planting along the reinforced stone wall. • 3 RWHTs inspected • 3 tap stands inspected
		Muramba subcounty, Gisozi Parish	• Gishondori, chana • Nyagakenke	• 1 RWHT rehabilitated by W4V • 1 WMC for the tank • 1 tap stand rehabilitated by W4V
		Nyarusiza subcounty, Rukongi Parish	• Musasa	• 2 RWHTs inspected, both were rehabilitated by W4V • 1 WMC for the tank • 1 WMC for the tap stand

9.7. Evaluation team

Name	Organization	Tasks
Esther Piracel	Aidenvironment, Uganda	Qualitative research, field work (DRC and Rwanda)
Sarah Nalumansi	Aidenvironment, Uganda	Quantitative research, field work (DRC, Uganda, and Rwanda)
Anne Birungi Kikundwa	Aidenvironment, Uganda	Qualitative, quantitative research, field work (Uganda)
Romain Lwaboshi Ntabiruba	Vision Verte, DRC	Qualitative research, field work (DRC)
Prosper Mweze Rugomba	Vision Verte, DRC	Quantitative and qualitative research, field work (DRC)
Desiré Akonkwa Balagizi	Vision Verte, DRC	Quantitative and qualitative research, field work (DRC)
Maarten Onneweer	Aidenvironment, the Netherlands	Team leader, content overview (Netherlands)
Niels Lenderink	Aidenvironment, the Netherlands	Coordination, evaluation general (Netherlands)
Lauriane Noirot	Aidenvironment, the Netherlands	French document study and reporting, quantitative research (Netherlands)
Tanvi Walawalkar	Aidenvironment, the Netherlands	English document study and reporting, qualitative research (Netherlands)