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PROECCO Phase III: Evaluation Report

Promoting Off-Farm Employment and Income in the Great Lakes Region Through Climate Responsive Construction Material Production (PROECCO) Program

2021 – 2024

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EXECUTIVE SUMMARY

The present evaluation report summarizes the findings, conclusions and recommendations of the SDC funded program "Promoting off-farm employment through climate responsive construction material production" (PROECCO), which is initially a regional program operating first in Rwanda and Burundi and later in the DRC. Overall, the program has been implemented in three phases from 2012 to present, implemented by Skat Consulting Ltd. joined by a delegated project manager in the DRC and Burundi. In compliance with the terms of reference, this final evaluation focuses on phase III, Rwanda component, which mainly aimed at institutionalization, scaling-up, and sustainability. The evaluation's objectives were mainly to assess the effectiveness of the intervention and sustainability of results and to use the findings to guide the pathway of the future post-PROECCO program. A team of three students at the University of Victoria completing a graduate diploma in Program Evaluation, Jessica Moerman, Rachel Stewart and Annonciate Ndikumasabo, performed a field visit from March 11 to March 24, 2024 for data collection. They were supported by two local experts, Lisette Shyamba and Vivine Tuyizere. The overall work is supervised by Professor Jill Chouinard, PhD.
This evaluation was guided by four sets of questions: process and coherence, effectiveness and impact, sustainability, and future.

PROCESS FINDINGS

Process-related questions are designed to test the validity of the program theory, look at actual experiences during implementation and help capture major patterns and implementation issues during the evaluated period. Highlights include:

- **Program implementation**: The program implementation went through adaptive management by seizing opportunities and targeting leverage points in the ecosystem to reach systemic changes. This is reflected in the shift from the initial planning based on the modern brick production and RLB construction technology proper to the first two phases to more focus on urbanization in alignment with the government's interest and policies towards the end of phase 2 and the entire phase 3. Engaging in strategic partnerships with sustainable structures through memorandums of understanding (MOUs) and conversing in the urbanization sector sharing expertise and experiences were found to have been instrumental in getting PROECCO good results be adopted by other partners.
- **What worked well?** Adaptive management to achieve the project objectives, using social capital and program's reputation among partners to mobilize other actors and engaging in policy dialogue were key in finding relevant pathways to sustainable results. Different data sources show that implementation did not stick to the initial theory of change in phase III. Engaging in policy dialogue and developing strategic partnerships with key institutions like the City of Kigali, NIRDA, MININFRA and RTB played an important role in influencing the urbanization sector and motivating government partners to engage. Demonstrating the PROECCO construction technology and the participatory rehousing concept through the Mpazi Urban Transformation Model was also instrumental in bringing to scale the urban informal settlement upgrading model experimented by the project. Building capacity of professionals through training of trainers and transferring skills to sustainable structures were also found good ways of reaching institutionalization and integration of training modules into national curricula.

- **Implementation challenges**: Implementation delays occurred throughout PROECCO III for many reasons. The phase started in a very challenging context with COVID-19 that required new ways of working.
- **Alignment of the transition process started in September 2023**: As PROECCO Phase III was the last phase, the exit strategy was found to be a good tool to institutionalize the results already achieved and pace up achievement of the remaining ones. The merit of the exit strategy is that it serves the two components which were initially divided between the SDC and Skat, thus allowing complementarity of actions to happen. It was a way of focusing on pragmatic dimensions and diving into operations to reach the project's intended objectives within the remaining time of the project. Though its pathways changed from the original project design, the exit strategy is aligned to SDC and Skat's vision to institutionalize objectives already achieved, and to hand over to sustainable institutions (See Appendix A).
- **Implementation of intervention strategies as planned**: According to all data sources, only one of the six intervention strategies foreseen in SDC's credit proposal has been implemented as planned: "Facilitating the re-development of spontaneous neighborhoods to create affordable housing". Others were either partially implemented or not at all.
- **Complementarity, synergies and coordination with other interventions in Rwanda**: Findings indicate that PROECCO played a role in influencing the urbanization landscape in Rwanda. However, coordination within the broader sector was lacking. The coordination mechanisms such as the sector and technical working groups at MININFRA exist but they are not functioning optimally. Diverse partners across stakeholder groups shared positive examples of existing complementarity between PROECCO and other development partners' interventions in Rwanda. At Mpazi, the RUDP II World Bank funded project is working on infrastructure, thus completing PROECCO's work; the partnership with ENABEL -including support to RTB- is running, and other donors like GIZ, GGGI and KFW are working in close concertation with PROECCO. Coordination between PROECCO and SDC's program PROMOST was limited. However, RTB benefitted from the complementarity between the two programmes.

EFFECTIVENESS FINDINGS

Job creation, CO_2 reduction and capacity building: At the impact level, findings show a mixed picture of achievement of planned results. The contribution story of PROECCO in job creation and decent working conditions in the construction sector, in CO_2 reduction and in capacity building for the overall market in Rwanda is difficult to set. Though the operational reports show the indicators as on track or fully achieved, all the stakeholders' perspectives converged on the fact that beyond the project's realm, the impact on these aspects remains very limited. Highlights and achievements include:

- **Institutionalization of the urban transformation approach**: At the outcome level, findings show that the Mpazi model is currently considered by government partners as a flagship project in the urbanization landscape in Rwanda for participatory urban informal settlement transformation and using rehousing. The City of Kigali has already taken over the model and integrated funds in its budget for 19 blocks in Mpazi which were under construction at the time of interviews. However, partners confirmed that at the policy level, there are still gaps in the framework conditions for the scaling up of this approach which are being addressed by PROECCO in collaboration with other partners at the time of drafting this report.
- **Promoting affordable houses:** Government, financial developers, and development partners had differing perspectives on the affordability of houses made with modern bricks and construction technology promoted by PROECCO. Consequently, there were mixed perceptions

about whether affordable housing with modern bricks was an appealing investment opportunity for the private sector. For Government partners, the typology promoted by PROECCO can be the needed solution to rehousing communities living in informal settlements at low cost, though they also agree that without subsidies, the model still can't be affordable for low-income groups. Several other stakeholders agreed that there is currently no innovative financial model promoted by the project that can interest the private sector in engaging in affordable housing. At the time of the evaluation, one study considering a PPP financing model for urban transformation projects was in progress. Nevertheless, the MPAZI demonstration and the partnership with the City of Kigali were key in fostering upgrading informal settlement.

- **PROECCO production and construction technology, RLB**: Concerning the design of the building and the technology model promoted by the project, while some stakeholders acknowledged the reduction of costs in some instances through the construction technology, many expressed concerns about the limits it presented in terms of the number of floors that it allows and restrictions it presented in the construction structure. Findings also show that the competition is still high between traditional bricks and modern bricks, on one hand and between different types of modern bricks, on the other.
- **Promoting innovative financial models and market**: Nearly all the stakeholders converged on the suggestion that for affordable houses to take off in urban cities in Rwanda, the government needs to engage in subsidies or in innovative forms of PPP.
- **Green industrial cluster development**: All stakeholders, especially government partners and donors appreciated the partnership engaged with NIRDA for the creation of the Green Industrial Cluster, ECO- Park. In spite of delays, some steps are already accomplished. NIRDA has full ownership of the process. Discussion with local authorities in Rwamagana reached approval and the site is approved as industrial land. Nevertheless, some stakeholders worried about the ability for it to be completed before the end of Phase III in December 2024 as they find Skat's support very instrumental.
- **Building capacity and skill transfer to sustainable structures**: PROECCO did a tremendous amount of work in capacity building and Skill transfer. Most of the target indicators were reached. Notwithstanding these achievements, all stakeholders judge available skills for PROECCO's blue prints to continue still insufficient.
- **Positive unintended results**: Influencing the urbanization landscape in Rwanda and other development partners which was not the original plan in the logical framework; buy-in of the rehousing model from the government, and neighborhood planning concept which was originally unplanned is now underway.
- **Negative unintended results**: Beneficiaries Rehoused residents of new house units may not be the poorest; bills and maintenance costs for Mpazi residents.
- **Factors that influenced the achievement/non-achievement of results**: Enabling urbanization context in Rwanda, policy dialogue, Skat's expertise and communication, and demonstration projects and exhibitions contributed to achieving results.
- **Sensitivity to these factors**: Project management was opportunistic and adaptive.

SUSTAINABILITY FINDINGS

Evidence that achieved results will continue after the completion of the project:

- High level of ownership by government partners, educational institutions, professional associations, and brickyard owners of some aspects of the project.
- There is a need to ensure sustainable funding in the future.
- Technical capacity has some barriers, including scale, accessibility, and technology.

FUTURE ORIENTATION

Building on the project results, possible orientations include construction value chain, skills training, and coordination within the urbanization sector. Focus for example on the scale-up, replication and stronger institutionalisation of the participatory rehousing process, technical and capacity support to CoK and other national partners, establishment and support to innovative financial models, also in closer partnership with other government entities and international partners, support to international investment attraction.

CONCLUSIONS

Across stakeholder groups, there was consensus in four areas:

- PROECCO's participatory approach was a significant contributor to the success of the project specifically and to the development of affordable housing models in Rwanda broadly;
- Demand and affordability were the primary concerns of modern brick development, particularly when the bricks are used for affordable housing;
- Public-private-partnerships are the key to finding solutions for affordable housing, yet there are different perceptions of the nature of their roles; and
- Value chain of construction materials in Rwanda has room for growth beyond the solutions that what one project can provide.

RECOMMENDATIONS

From these findings, the following recommendations stand out for the SDC:

- Extend PROECCO for at least a year, with skilled staff for completion of activities started. The project support to Eco- Park, City of Kigali and capacity building needs an extension to complete what is ongoing and hand-over to specific institutions.
- Continue with the urban transformation model, especially the participatory approach especially by supporting its anchoring into a specific policy.
- Continue efforts to promote capacity building and skills development along the construction value chain through professional associations and RTB, going through academic institutions such UoR and RP might be difficult as curricula change requires a long process
- For decent work, conduct a specific study to establish concrete changes influenced by PROECCO and take into account in future intervention.
- Increase the role of SDC in sector coordination. If not possible to take a role at the sector coordination level, engage at the technical working group level
- Start engaging with Government institutions from the beginning of project design and conduct policy dialogue on key issues as tax exemption, subsidies to affordable housing and sustainable financing models, tenants' protection law to mitigate gentrification and integrated planning of upgraded areas
- Develop a structural approach to financing and market
- Improve planning capacities to design a SMART Program at both SDC and implementing partners' levels. Find a balance between being adaptive and avoiding the risk of simply jumping on opportunities.
- Conduct further inquiry into the market demand for the modern bricks in order to understand the reasons for stakeholders' differing perspectives, e.g., awareness, coordination, capacity of brickyards, etc.
- Continue to explore how affordable housing projects can be more financially attractive to private investors

ACRONYMS

Acronym	Meaning
AFD	Agence Française de Développement
AFR	Access to Finance Rwanda
BDF	Business Development Fund
BRD	Development Bank of Rwanda
GGGI	Global Green Growth Institute
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
MOU	Memorandum of Understanding
MININFRA	Ministry of Infrastructure Rwanda
NIRDA	National Industrial Research and Development Agency
RHA	Rwanda Housing Authority
RLRO	Rwanda Labor Rights Organization
RTB	Rwanda Technical and Vocational Education and Training (TVET) Board
SDC	Swiss Agency for Development and Cooperation
SME	Small and medium enterprises

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INTRODUCTION

In January 2024, the Swiss Agency for Development and Cooperation (SDC) office in Kigali, Rwanda commissioned an evaluation of the Program *Promoting Off-Farm Employment and Income in the Great Lakes Region Through Climate Responsive Construction Material Production (PROECCO)*. The scope of this evaluation encompasses primarily the third phase of PROECCO, as executed in Rwanda from 2021-2024, and the implementation of the program exit strategy, launched in 2023. The purpose of the evaluation is threefold:

- To provide insights into the project's effectiveness (results achieved), impact (higher level effects) as well as sustainability (persistence of these results over time),
- To analyze the transition process after the program's reorganization in September 2023, including the exit strategy; and
- To provide recommendations both for immediate use (i.e., exit strategy) and future use (i.e., next projects).

This report describes the methods, findings, and conclusions of the evaluation team's field research in Kigali, Rwanda in March 2024.

ABOUT PROECCO

Background

With 538 inhabitants per square kilometer on average, Rwanda is Africa's second most densely populated country (Urbanet, 2022). Of a population of 13,246,394 Rwandans, 28% live in urban areas (Rwanda Census, 2022) and 61% live in informal/spontaneous settlements (UN-Habitat, n.d.). The Ministry of Infrastructure (MININFRA) estimates that 79% of households in Kigali live in slums, inappropriate conditions, and high disaster-risk zones exposed to floods and land sliding (MININFRA, 2015, as cited in the *Project Document* (2021). The number of people living in these informal settlements will continue to increase as the city faces rapidly rising urbanization rates (Urbanet, 2022; World Bank, n.d.).

Like other countries from the Great Lakes region, Rwanda has a young population, with roughly 27% of the total population between 16 - 30 years of age (Rwanda National Institute of Statistics, 2022). With high population density, land is becoming scarce with more young people needing help finding off-farm employment and livelihoods that would take them away from agriculture. While the government has made strides in developing the socio-economic infrastructure in rural areas through initiatives such as the Vision Umurenge Program, the skewed developmental pattern has led to the migration of youth to urban areas, thus increasing demand for employment and affordable housing (Mutandwa et al, 2011). The World Bank (n.d) notes that while youths migrate for several reasons, including the need for temporary and permanent job opportunities, access to social services, and schooling opportunities, a person living in poverty with a limited education level has an 80% chance of getting out of poverty three years after leaving the rural area to settle in towns. In this sense, the link between urbanization, off-farm job creation and poverty reduction seem clear.

The rise of urbanization also correlates with the high production of building materials that have negative environmental effects, including high levels of carbon emissions and increased deforestation (SDC, 2020). When coupled with climate change, these effects cause severe erosion and flooding, further endangering spontaneous housing in working-class neighbourhoods. Since 2012, the Swiss Agency for Development and Cooperation (SDC) has contributed to the construction sector through PROECCO, by promoting local materials, particularly through the production of modern bricks that are being produced in an environmentally friendly manner. PROECCO contributes to the SDC's strategic goal enshrined in the *International Cooperation Strategy (2021-2024)*, namely the creation of decent jobs and the fight against climate change effects. It is also aligned with the *SDC Regional Program for the Great Lakes (2021-2025)*, particularly Outcome 2: Employment and Economic Development, described as job creation and the creation of opportunities for young men and women coupled with the management of urbanization and the development of affordable housing as a way to contribute to the achievement of sustainable development, namely the UN's Sustainable Development Goals 5, 8, 9 and 13. The project also aligns with several national strategies:

- *National Transformation Strategy, NST1 (2017-2024)*, which emphasizes the promotion of industrial production seeking to raise the urbanization rate from 17.2% in 2014 to 35% in 2024.
- A national strategy that fixes housing strategies, namely affordable houses for spontaneous settlements; and
- A national environment and climate change policy, which includes among its goals solutions to irrational exploitation of natural ecosystems and lack of low-carbon materials for housing and green infrastructure development.

Program Overview

The PROECCO Program has been operational in Rwanda since 2012 and has operated in three phases. Table 1 provides an overview of each phase.

Table 1 PROECCO Phases, Years, and Objectives

Phase	Years	Focus
Phase I	2012 - 2015	Preparation of business models, supply channels and technical and financial services which complete the value chain of an environment-friendly local building material industry in the Western Province
Phase II	2016 - 2020	Shift to the urban and peri-urban context of Kigali and validation of solutions not only technically but also economically to showcase modern, semi-mechanised brick making technologies' viability and modern housing solution's attractiveness for homeowners and investors
Phase III	2021 - 2024	Scaling up of industrial production through integrated green clusters, scaling up of sustainable and inclusive urbanization through the rehousing approach, maximisation of the sustainability of acquired knowledge through institutionalisation

In Phase I and Phase II, Skat Consulting Ltd., a Swiss registered private firm, was the sole implementing partner for PROECCO. In Phase III, SDC played a pivotal role, taking on greater technical and financial responsibilities to foster conducive framework conditions and increase ownership and sustainability of results. In September 2023, the SDC and Skat analyzed implementation challenges to PROECCO based on recommendations from a mid-term evaluation; from these findings, the SDC and Skat did a program reorganization to accelerate the achievement of results and promote scaling-up. This process led to the exit strategy, Promoting Off-Farm Employment and Income in the Great Lakes Region Through Climate Responsive Construction Material Production (PROECCO) Program: Rwanda Exit Strategy (2023).

Program Purpose and Logic

Broadly, the purpose of PROECCO Phase III is to improve the livelihood and working conditions of young men and women in the construction sector and to reduce the impact of the production of construction materials on the environment in the region. As reflected in the logic model in Appendix A, the program theory is centred on the construction sector, promoting the modern brick technology and seeking to foster public and private partnerships to increase affordable green housing and off-farm employment opportunities for rural and peri-urban youth. PROECCO's theory of change is sustained by the three outcomes and key outputs that are reflected in the logic model. It is framed as follows:

> "If framework conditions are in place namely urbanization norms and strategies to promote the modern brick, if the private sector is mobilized through market and finances, if the transfer of skills to local actors occurs, if advisory services and a rigorous quality control are provided, if the sector is coordinated coherently, then the PROECCO project will contribute to the sector take-off, the bricks produced will contribute to the construction of affordable houses, many jobs will be created young people from disadvantaged groups, and gas emissions will be considerably reduced because construction costs will fall, a dense and attractive urban habitat will create the demand, the sector will have necessary conditions to increase production and decrease deforestation."(SDC, 2020)

The logic model also reflects the program's assertion that working at the system level, promoting relevant policies, mobilizing strategic partnerships, and embedding the technology in local institutions will lead in the long run to these impacts. PROECCO supports local initiatives in this sense and pools diverse and competent trainers, entrepreneurs, public institutions, and other donors to support this theory of change. To illustrate, at the micro-level, the initial target groups of PROECCO are youth from rural and peri-urban areas who come from disadvantaged groups seeking off-farm employment in urban areas as a way out of poverty, as well as inhabitants of informal settlements in cities that are exposed to risks caused by poor construction. At the meso-level, it supports enterprises in the private sector that are active in the value chain of the construction sector, architecture, and urbanization. At the macro level, it supports public institutions and cooperates with other donors active in urbanization, industrial production, and climate change.

EVALUATION METHODOLOGY

The evaluation team chose a twofold approach: utilization-focused and culturally responsive evaluation. This utilization-focused evaluation used a collaborative participatory approach and gathered both quantitative and qualitative data. Data were collected from multiple key stakeholders through interviews, focus groups, and site visits. Quantitative data were descriptively analyzed for trends, differences, and relationships. Qualitative data were analyzed using thematic analysis. See Appendix B for extensive details on the evaluation design, including prior evaluations results, evaluation approach, evaluation questions, data collection methods, data analysis, and validity and reliability.

FINDINGS

The findings in this report are those deriving from a synthesis and analysis of data collected along the lines of evidence for each evaluation question. They are also sourced from a wide range of documents with rich information on the program fundamentals at the design, implementation, and evaluation stages. These include the credit proposal, the project documents (initial and exit strategy), annual reports and previous evaluation reports. They have been used to get a deep and accurate analysis.

Process and Coherence Questions

Process questions assess the extent to which activities were implemented as planned. They tell the story of the program in terms of what happened and why (Kellog, W.K., 2004). They test the validity of the program theory, look at actual experiences during implementation and help capture major patterns and implementation issues during the evaluated period.

P-1: How were the project activities implemented? What worked well? What were the challenges? How could challenges be overcome in the future?

How Were the Program Activities Implemented?

In PROECCO Phase III, program activities were implemented via three key principles:

Aligning with Government Interests and Policies. The Government of Rwanda has set targets to increase the country's urbanization rate from 18% to 35% in 2024 to support economic growth. An urbanization rate of 35% is the expression of an increase in the urban population by 2.7 million people (RHA, n.d.). To find solutions to accommodate such growth, the MININFRA and RHA both have mandates related to affordable housing development: "Social and Affordable Housing Development'' (RHA, n.d.) and "Urbanization, Human Settlement, and Housing Development Division" (MININFRA, n.d.). PROECCO with its collaboration with CoK and MININFRA fully aligned, supported and, in some cases, informed government actions in these areas. PROECCO Phase III alignment with government interests and policies was also prevalent in the improvement of working conditions in production and construction sites. In the last two years, in collaboration with RLRO, PROECCO organized a two-day workshop with the Government of Rwanda to develop

Sector-specific Labour Inspection Guide for Brick Industry decent work checklist for construction and production worksites, Decent Work Rwanda 2023 (Ahmad, 2023). Over the last year, the RLRO collaborated with PROECCO in implementing a checklist to assess work conditions in brickyards through Labour Inspectors. Today, the RLRO works with PROECCO to train key stakeholders like engineers and site inspectors to implement this checklist and to ensure working conditions are respected.

Engaging Partnerships Through Memorandums of Understanding (MOUs). SDC and Skat collaborated with diverse government partners, financial institutions, donors, and educational institutions and professional associations, including the City of Kigali, NIRDA, Access to Finance Rwanda, MININFRA, Enabel, the University of Rwanda, Rwanda Polytechnic (RP) and the Rwanda TVET Board (RTB), as well as Institution of Engineers Rwanda, Rwanda Institute of Architects, and STECOMA (artisans trade association). Each MOU established a mutual understanding of the roles and responsibilities of the partnership and supported each organization in achieving shared goals. Most of these institutional collaborations began within the first two years of Phase III and marked a significant modality change in how PROECCO operated in Rwanda.

Conversing and Consulting in the Urbanization Sector. In Phase III, the SDC regularly engaged in conversations and consultation with key players in the urbanization sector in Rwanda. As a result, the program visibility increased extensively, government partners became very motivated to engage, and donors were interested to learn about the Mpazi Affordable Housing model. As confirmed in interviews, other donors such as ENABEL, GIZ, GGGI, EU and AFD are using learnings from PROECCO to design their intervention in the urbanization sector. ENABEL and GGGI for example have already expressed interest in collaborating with the development of the Ecopark and in reproducing some of PROECCO's project components that proved relevant to their goals and values. For many donors, key elements of success for PROECCO's implementation were in how the SDC and Skat modelled stakeholder and community engagement processes, and in how the modern brick technology, guidelines, and manuals were shared publicly.

What Worked Well?

Phase III started with two components. Component 1: "Policy Work", was under the SDC's responsibility and was aimed at influencing framework conditions and strengthening institutional partnerships. Skat was responsible for Component 2, which was focused on knowledge transfer to the authorities and the private sector. There was a shift in approach during Phase III which moved the focus from technology to engagement with sustainable institutions. While SDC and Skat held differing perspectives on overall project management, there was consensus that activities related to the following dimensions yielded tangible results and worked well.

Finding Different Pathways to Achieve the Project Objectives. The SDC and Skat reported that overall, they were satisfied with the achievements of the project. To illustrate, at the Implementing Partners Focus Group, participants were asked to rate their level of satisfaction with the achievements of PROECCO on a scale of 0 to 10. They rated the level of satisfaction between 7 and 8 and shared activities related to policy work and skill transfer worked very well although not implemented as planned. During interviews, implementing partners reflected that what they were controlling directly was moving forward. The logic model (see Appendix A) shows this adaptation while keeping the objectives. As one of the implementing partners said, to achieve institutionalization and systemic changes, they did not wait for the Exit Strategy to adapt. Instead,

they chose to engage in adaptive management, seize opportunities, and capitalize on results already achieved by looking at what was in progress. To this end, implementing partners reported their use of social capital and engagement of state institutions as key in defining new ways to achieve project results.

Engaging in Policy Dialogue and Developing Strategic Partnerships. For implementing partners and some government partners, putting government institutions in the driver's seat, though slow in implementation, increased their motivation to engage. However, for many stakeholders, engaging in strategic partnerships with key institutions like the City of Kigali, NIRDA, MININFRA, and RTB was key in influencing the urbanization sector. Many government partners commended this approach and shared that the project set the ground for them to take over. At the time of writing this report, the City of Kigali had integrated budget funds for 19 blocks of affordable housing units, for which they will count on Skat's support. Thus, as reported throughout interviews, the complementarity between the SDC's work in policy dialogue and Skat's expertise increased the credibility of the PROECCO model to different stakeholders and their interest in the project.

Demonstrating the PROECCO Construction Technology Through the Mpazi Urban Transformation Model. Activities around the Mpazi demonstration pilot project were key in bringing to scale the urban informal settlement upgrading model experimented with by PROECCO. Technical support in the design and construction and bringing technology and construction techniques was very much appreciated by different stakeholders. For government institutions, the model was a solution to the urbanization policy related to affordable housing in Rwanda. Likewise, all donors interviewed highlighted the positive impact of the demonstration through the so-called "Swiss cube" in 2018 and the Mpazi pilot project in their interest to learn about the model. All the donors gave credit to PROECCO for effectively engaging communities very well and implementing the RLB technology as a cost-effective construction technology. Activities to engage with brickmakers and small businesses were also judged useful, as these were considered the most important players in the value chain.

Building Capacity and Skill Transfer to Sustainable Structures. In Phase III, PROECCO focused on capacity building in an integrated manner: training, skill transfer and integration of modules in curricula, development of tools and manuals, and skill transfer, technical advisory services to different actors, etc. PROECCO brought the methodology and design and developed tools and guidelines. The target groups of the capacity-building activities are very diverse, including investors, producers, urban planners, laboratories for quality control, professional associations, worksite inspectors, certification authorities etc. Most of the target indicators were reached. As shared by government partners, PROECCO was successful in enhancing the capacities of brickmakers to produce eco-friendly and locally made construction materials. For donors, the documentation and tools produced by Skat and disseminated through open source are crucial and are used as a reference for their projects. For government institutions, PROECCO was successful in training their professions, including "Training of Trainers", engineers, architects, and masons. RTB, a government institution in charge of professional and vocational education, stated that PROECCO was particularly successful in supporting the integration of new module related to clay-products and upgrade of construction technology in curricula. The City of Kigali also appreciated Skat's support in terms of the technology for low-cost construction and design in the implementation of upgrading informal settlements policy. For NIRDA, PROECCO continues to play a key role in the scale-up of modern brick production and in establishing criteria and monitoring systems on quality control of the bricks.

What were the Implementation Challenges? How Could Challenges be Overcome in the Future?

Across all stakeholder groups, the most challenging barriers discussed were often outside of the control of any one group or were dependent on multiple players to act. The following barriers were identified:

Implementation Delays. According to INNOVABRIDGE Foundation (2023), implementation delays occurred in phase III until mid-term review. Many stakeholder groups spoke of this challenge during interviews and highlighted its impact on the ability to achieve the project's activities. SDC and Skat stated they have been aware of the implementation delays throughout. Both agreed that activities requiring government or institutional partnership were lagging due to contextual factors, including government or institution staffing, heavy workloads, internal changes, regulatory demands, or the length of time required to build relationships with new partners. Furthermore, SDC, Skat, and other key stakeholders noted that the participatory approach used in transforming informal settlements, while yielding substantial results in terms of equity and community consensus, requires additional time and effort, especially at the proof-of-concept stage. One of the biggest delays noted was the study and the implementation of the Industrial Ecopark, which remains in the study and site preparation phase. PROECCO Phase III has also been in a changing global context, particularly with the pandemic. Much of the work planned for Phase III was developed in 2019. COVID-19 brought about the need for e-learning, as well as changes in the market and investors. Some of these delays were addressed by bringing on a Program Officer at SDC so that Skat had the needed support and advocacy to move certain pieces along, such as MOUs with public institutions. Other stakeholders reported implementation delays at the institutional level, including:

- ***The regional setup and the project design.*** Throughout interviews, the implementing partners reported that PROECCO's regional set-up across Burundi, the Democratic Republic of Congo, and Rwanda complicated implementation. During COVID-19, movements between the three countries were very limited. As one implementing partner noted, remotely, it was impossible to cover thematic issues in another country without any strong backstopping. SDC's engagement in policy dialogue was therefore missing until the arrival of the Program Manager in the Kigali office. As raised by INNOVABRIDGE (2023), the transition from Phase II to Phase III was not easy because attributing Component 1 to SDC and Component 2 to Skat proved operationally difficult. According to the SDC and Skat, the program was very ambitious and was working on diverse dimensions, from urbanization and housing, quality control of the modern brick to working conditions, capacity building, management, and marketing. In addition, the log frame was complicated due to incoherence in the results chain and difficult-to-measure indicators. Consequently, the original plans were not seen to completion.
- ***Internal issues.*** From desk review and discussions with implementing partners, the transition to the implementation modality of Phase III proved challenging due to changes in Skat's organigram and in the responsibility repartition between HQ and teams on the ground, the unexpected turnover of some staff in key positions, and the regional nature of the local coordinators roles which proved less efficient than expected.
- ***Kiln and construction technology (RLB).*** One larger brickyard owner (Amegerwa) reflected that PROECCO has focused on kiln technologies, he considered insufficiently mechanised and thus too labour intensive in light of his growth scenarios. Therefore, he chose the most recent kiln design and states, that it can increase production most easily. The program theory was initially premised, among other objectives, on mobilizing the private sector based on their

interest in modern bricks and RLB construction technology. As implementing partners reflected on throughout interviews, the market decides whether a project is successful. For PROECCO, initial predictions of the project were very optimistic. Potential developers and some development partners expressed concern that the modern brick supply could not keep up with an increase in demand because promoted kilns are limited to the pace they can produce bricks.

- ***Awareness and Link to Supply & Demand.*** Lack of sufficient awareness of modern bricks and their benefits came up multiple times throughout the data collection process. As observed during site visits, brickyard owners and operators reported mixed rates of demand. One site had stacks of bricks available but reported no demand; another site was not producing any bricks due to a lack of demand, and another site was in high production mode with high demand. Some stakeholders involved in the brickmaking or building design process believed there was still a large demand for traditional bricks. Among modern bricks, they felt that RLB technology was challenging to use. As one partner reflected, awareness of the modern brick had improved over time, but more was needed.

P-2: How did the transition process that started in 2023 align with the project's intended objectives?

Alignment of the Transition Process and Consistency of Planned Results with the Project's Objectives

The INNOVABRIDGE Foundation (2023) confirmed the relevance of PROECCO Phase III in most of its dimensions, including planned objectives. It highlighted the need for an exit strategy. Implementing partners described the exit strategy as an adaptive management tool. It reflects the willingness to focus on pragmatic dimensions and dive into operations to reach the project's intended objectives with the remaining time in Phase III. Implementing partners reported observing the alignment between the transition process and planned results in the efforts to institutionalize objectives already achieved, and to hand over to institutions from the public, trades, and academia.

The exit strategy (SDC, 2023) is built on four pillars:

1. Consolidate the results already achieved in PROECCO's areas of intervention by anchoring them in key partner institutions;
2. Support these institutions to take over PROECCO's planning, management and technical expertise functions, including by creating new entities such as societies or ad hoc structures;
3. Ensure that the skills and knowledge developed throughout the project are synthesized in high-quality documents/training, and transferred to key players to ensure sustainability; and
4. Support the creation of conditions that allow SDC to continue its activities after the end of PROECCO according to the priorities established during the mid-term evaluation.

See Table 2 for a comparison of PROECCO's original objectives found in the Credit Proposal (SDC, 2020) and the objectives found in the exit strategy (SDC, 2023).

Table 2 Original Objectives from Credit Proposal (SDC, 2020) versus Objectives from Exit Plan Strategy (SDC, 2023)

Component	Original Objectives	Exit Strategy Objectives
Overall Goal	To promote off-farm employment and income in the Great Lakes/Rwanda through climate-responsive construction material production	The construction value chain generates a reduced impact on the environment and contributes to the creation of new jobs with better working conditions while making a substantial contribution to Rwanda's sustainable and inclusive urbanization.
Objectives	Component 1: Create framework conditions, partnerships, access to finance and the market, with 2 outcomes (OCs): ● Outcome 1: Legal frameworks and tools aimed at construction norms promote low carbon services and an enabling environment for private investment. ● Outcome 2: Public authorities and the private sector promote modern bricks; they contribute to the realization of low-carbon infrastructure and affordable houses, and an attractive framework allows the private operators to access financing. Component 2: Knowledge transfer to authorities and the private sector with two outcomes: ● Outcome 3: Local service providers are equipped with technical competencies that are needed for the development of the value chain of the habitat in modern bricks and transfer them to authorities and the construction sector. ● Outcome 4: Local investors, producers and planners are competent for the establishment of low carbon brickyard, construction and planning in MB, thanks to advisory and quality control services.	Outcome 1: Institutions are equipped and capable of implementing inclusive urban transformation and green affordable housing projects and have the tools to mobilize private sector players. Outcome 2: The skills and knowledge needed to design and operate a green building materials production plant are available on the private market, and public institutions support the growth of the sector by facilitating the establishment of clustered industrial facilities and promoting quality control measures. Outcome 3: Educational institutions and professional associations have the technical skills and tools needed to provide technical and vocational training throughout the construction value chain.

Though the exit strategy serves the project document's component 2 regarding capacity building and skill transfer, implementing partners shared in interviews that it also serves outcome 1, going further into institutionalization through strategic partnerships and work at the policy level. As one stakeholder reported, the exit strategy helped to review a log frame that was overly complicated with a cumbersome theory of change. It made the project a bit clearer, reduced the scope, and set more realistic indicators without compromising initial targets. When comparing the objectives in the Credit Proposal (SDC, 2020) and the Exit Strategy (SDC, 2023), it appears that the pathways changed completely between the original project objectives and the exit strategy, but alignment with the goals of institutional frameworks, private sector vehicles and capacity building remained. To illustrate, instead of talking about legal frameworks in general, the exit strategy focuses on urban transformation projects and green affordable houses; instead of speaking of the private sector in general, the exit strategy establishes and operationalizes the industrial cluster and capacity building and becomes more focused on skill transfer.

Quality of the Revised Logical Framework

A log frame is a table that lists a program's activities, short-term outputs, medium-term outcomes, and long-term goals; it shows the logic of how the planned activities will lead to the intended outputs, outcomes, and ultimately the goal (Tools4Dev, 2022). The assessment of the quality of the logical framework of the exit followed criteria set in the SDC's guidance template for log frames (SDC, 2021). These include whether goals are SMART (specific, measurable, result-oriented and time-bound), if cause-and-effect linkages are observable, and if indicators provide information on risks and assumptions that can hinder the achievement of results. Using these lenses, the analysis of the log frame of the exit strategy shows that the criteria are not filled. The column on assumptions and risks is missing. Besides, while the new log frame is aligned with the initial objectives in some ways, it does not link objectives and results. For example, the impact seeks to reach job creation and reduction of CO_2 emissions but the outcomes are focused on capacity building and skill transfer. The plausible linkage between outcomes and outputs is hard to grasp. For example, while outcome 1 speaks of institutions capable of implementing urban transformation projects inclusively, the focus at the output level is on the City of Kigali and indicators are framed based on what the project has been doing. The operational team explained that this was done to seize context opportunities and move straight to institutionalization and scaling up of results already achieved or promising. SDC's guidance on log frames and adaptive management states that in program adaptation, outcomes and impact goals should remain valid, and changes should be mainly advised at the output level and activities. All objectives in the new logframe have been reformulated and reduced in scope compared to initial objectives.

P-3: To what extent is the PROECCO intervention strategy implemented as planned? Which strategies were the most successful? Why or why not?

The SDC's *Credit Proposal* (2020, p.6-8) describes six intervention strategies for PROECCO as follows :

Strategy #1: Creating an Environment Conducive to the Development of Bricks

Strategy #1 focused on the policies, laws, and strategies needed to support brick development. According to partners, this was one of the most challenging parts of the project to implement. At different stages of PROECCO Phase III, Skat and SDC engaged with several stakeholder groups, including government partners, donors, financial institutions, and private developers. Engagement with MININFRA occurred late during Phase III, as the MOU, though covering the period 2021-2024, was only signed in 2023 due to COVID-19. In the first three years of PROECCO, the focus was on component 2, but the ambition to work on the entire ecosystem did not materialize. From interviews, very few framework conditions were influenced by the project. The finance and market component remained weak, as reflected in the decision to leave it out during reorganization. Different stakeholders reported that framework conditions are the hardest part of affordable housing in Rwanda.

Strategy #2: Improving Working Conditions and Gender

From interviews and desk reviews, very little was found in terms of explicit actions to improve working conditions and women's power in decision-making. Partnership with RLRO, though very strategic, occurred late in the project. Therefore, it was too early to talk about the impact of PROECCO on improving working conditions in the construction sector. Interview participants reported that the construction sector is largely informal and as such is very difficult to track compliance. For gender equity on the production side, it is too early to assess the results of the implementation of the gender-sensitive guidelines. During interviews and focus groups at different brickyards, when asked about women working on site, participants commonly shared the view that the construction sector is an unappealing workplace for women because it is typically short-term and casual work, which is difficult when supporting a family. In terms of numbers, women remain in the minority (2 out of 25 workers in Gati, for example) and are assigned specific tasks only. According to RLRO, the package covered by the partnership with PROECCO is also partial in terms of the needed pillars for decent work. Two out of 5 brickyards visited are owned by women. However, compared to the project's ambition of bringing change in women accessing decision-making positions in brickyards in the credit proposal and construction sites, it is still limited.

Strategy #3: Facilitating the redevelopment of spontaneous neighborhoods to create affordable housing

All stakeholder groups described the Mpazi model as a key success of the PROECCO project. SDC and Skat successfully supported government partners in implementing the Mpazi Affordable Housing Project with 104 units built. At the time of writing this report, the RHA and the City of Kigali have committed to building an additional 680(+) houses using modern brick. PROECCO has also provided technical support in transforming neighborhoods at five sites. The Mpazi model continues

to be presented to local and foreign groups via guest lectures, workshops, exhibitions, and conferences (Made in Great Lakes, 2024). However, the issue of affordability was raised by different stakeholders. Many affirmed that they drew lessons from the PROECCO model, picked some elements and used them to experiment further on the possibility to supply housing solutions affordable to the lowest-income groups in urban areas.

Strategy #4: Scaling up production of modern bricks by increasing the number of modern bricks in brickyards and fostering framework conditions for industrial clusters

The partnership with NIRDA for the establishment of the Eco Industrial Park responds to this goal. However, it was clear from interviews that this was done late and might not be accomplished before the end of the project. The concern expressed is that the initiative might disappear if the project ends without its completion.

Strategy #5: Activate the project's contribution to reducing greenhouse gas emissions

This strategy was not implemented as planned. According to interviews, no collaboration was done with MyClimate. Instead, Skat replaced Myclimate with Southpole and local consultants.

Strategy #6: Operations management

This strategy worked partially in Rwanda. Stakeholders shared that the MOD never worked, and that the agreement with government authorities occurred late (e.g., MININFRA and NIRDA). However, stakeholders did note that the implementation of component 2 by Skat happened as planned.

P-4: To what degree is PROECCO complementary and coordinated with interventions in Rwanda, both within DFAE (SDC-SECO) and from other actors (e.g., local government, NGOs, UN, private sectors, other donors etc.)?

Compatibility, Synergies, and Complementarity Between PROECCO and Other Existing Interventions in Rwanda

Within the urbanization sector, several partners stated that PROECCO was relevant to the national dialogue on urbanization. Diverse partners across stakeholder groups shared positive examples of existing complementarity between PROECCO and other development partners' interventions in Rwanda. At Mpazi, the World Bank funded RUDP II project is working on infrastructures, thus complementing PROECCO's work on the housing component; the partnership with ENABEL -which also includes support to RTB is running. Other donors like ENABEL, GIZ, GGGI and KFW are working in close concertation with PROECCO on the green construction material and the Eco Industrial Park along with AFR and BRD in the urbanization sector. UN-Habitat has played an important role in the co-development of the participatory guidelines used in Mpazi site and will serve as a guiding tool for other sites.

At the sector level, stakeholders expressed that coordination was lacking, and greater collaboration between donors and stakeholders was needed for future success. For example, one partner stated the Urbanization Sector Working Group is an existing mechanism co-chaired by the World Bank that has the potential to enhance coordination efforts. However, it is not functioning optimally. They also noted another option could be the use of technical working groups, which existed but were not fully operational at the time of the interview. Sector Coordination was judged of paramount importance as there are currently many development partners in urbanization. They shared two risks: duplication of efforts and overwhelming government institutions that might be understaffed for efficient coordination and steering.

Coordination within SDC

In interviews and focus groups, the operational team stated that regrettably, coordination between PROECCO and SDC's TVET program PROMOST was limited. However, RTB benefitted from the complementarity between the two programmes.

Coordination between SDC and Skat

INNOVABRIDGE Foundation (2023) states that inter-institutional steering committees were "the rule in Rwanda" in the PROECCO Phase II but have not occurred during Phase III for some time. During interviews and desk review, it was discovered that for 1.5 years, Skat was working alone until 2021 with the arrival of a full-time dedicated Program Manager. The program review and the financial audit in 2022 contributed to breaking silos along components 1 and 2 and increasing coordination between the two. For example, SDC reallocated the budget for component 1 to activities related to component 2, including the Eco Industrial Park. From there, Skat brought expertise and the SDC worked on policy dialogue.

See Table 3 for a list of current MOUs with PROECCO partners

Table 3 Current MOUs with PROECCO Partners

Partner	Description
City of Kigali	Tripartite MOU regarding Mpazi Affordable Housing Project
NIRDA	Three-party MOU with NIRDA, Skat, and SDC focused on the population making bricks
Access to Finance Rwanda	MOU with SDC and Skat to tackle answers to sustainable capital for affordable housing and informal settlements
MININFRA	MOU with SDC was originally drafted for 2021 but was delayed due to COVID-19 and changes within MININFRA itself, e.g., new ministers elected. With the impact of these shifts, the original MOU could not be signed, so a new one was developed and signed in 2023.

Enabel	MOU with SDC regarding skills transfer on construction technologies; supported Rwanda TVET Board with revising the curriculum. Co-financing the ongoing study on the Eco Industrial Park.
University of Rwanda	MOU with Skat regarding skills transfer via public lectures and on-site training of Architecture students
Rwanda TVET Board	MOU with the purpose of "delivering quality vocational training in Row Lock Bond Masonry techniques, manufacturing of the clay soil-based bricks and blocks and the skills of TVET students to be up-to-date responding to the labour market needs in the construction sector" (RTB, 2022)
Institution of Engineers Rwanda	MOU for skills transfer aiming at the integration of construction management and structural design of RLB construction technology for affordable housing supply and inclusive urbanization into the continuous professional development (CPD) programme
Rwanda Institute of Architecs	MOU for skills transfer aiming at the integration of architectural design of RLB construction technology for affordable housing supply and inclusive urbanization into the continuous professional development (CPD) programme
STECOMA	MOU for skills transfer with the aim of upskilling mason trainers through ToT prgramme and promoting low-cost construction technologies, with the goal of reaching a large number of its members
Rwanda Labour Rights Organisation	MOU for the development of sector-specific labour inspection guide in collaboration with MIFOTRA aiming at advocating the specific need for labour inspection in the brick industry, training labour inspectors, and adding to the current labour inspection tools

Effectiveness and Impact

Effectiveness and impact in this evaluation are assessed based on two key questions as defined by OECD-DAC criteria:

- The extent to which the intervention was achieved, its objectives and its results, including any differential results across groups, and
- The extent to which the intervention has generated significant positive or negative, intended or unintended, higher-level effects.

INNOVABRIDGE Foundation (2023) assessed the three first years of the project and judged effectiveness as unsatisfactory. This final evaluation builds on these results using the program logic model. Thus, the basis of the analysis of the effectiveness and impact of PROECCO in this evaluation is the revised planning that occurred in 2023. Other DAC criteria such as relevance and efficiency, which are mandatory in all SDC evaluations, were not considered, as they were not part of the terms of reference, and the mid-term evaluation results done in early 2023 on these criteria remain valid.

E-1: To what extent have the planned results been achieved?

See Appendix G for the level of achievement of planned outcomes and outputs, as reflected in the project report by Skat 2023. This table reflects the level of achievement as assessed by the operational team. The December 2024 targets were used to show how much work is remaining in the project. According to this data, fourteen indicators are fully achieved, twelve are partially achieved, and one is not yet achieved.

Overall, the annual report shows that the project has overachieved many of its indicators. The tactical choice of objectives and indicators at the program review early in 2023, building on what was already achieved to scale up, can explain this achievement. As observed from the desk review and explained by the SDC and Skat team, initial planning did not align with the actions that were implemented. The findings below reflect the views from other stakeholders interviewed and observations from site visits.

Overall Impact: The construction value chain generates a reduced impact on the environment and contributes to the creation of new jobs with better working conditions while making a substantial contribution to Rwanda's sustainable and inclusive urbanization.

***Job Creation and Working Conditions*.** From various PROECCO reports, an employment calculation tool was developed and used, relying on the estimates derived from brick production within the whole construction value chain. It is estimated that PROECCO has catalyzed the creation of over 3,700(+) jobs in brick production with 3000(+) jobs created along the construction value chain. However, during interviews, few stakeholders commented on the creation of new jobs based on PROECCO activities during interviews and focus groups. One group of stakeholders commented that job creation at Mpazi among residents was not achieved because while some Mpazi residents had the required skills, developers used their own crews. Residents at Mpazi confirmed this during focus groups. Most other stakeholders commented on job creation as a potential benefit of the PROECCO model as it supports the production of construction material, but not a direct outcome of it. PROECCO created job opportunities through the support to brickyards and construction sites such as Mpazi.

***Environmental Performance and CO_2 Reduction*.** Stakeholders involved in the construction sector (development partners and brickyard owners) and the environmental conservation (GGGI, MININFRA) appreciated the efforts and techniques used by PROECCO for environmental preservation. Many expressed it was clear that the production methods of modern bricks were more ecologically friendly than traditional bricks. The CO_2 emission calculation tool used by the project shows that the production of 23 million bricks in 2023 has resulted in a saving of 17,058 tons of CO_2 emissions. During site visits, operations managers showed the type of fuel that was used in their brickyards (for example, coffee husks and sawdust) and explained their benefits. They also explained that the use of agricultural by-products in the bricks' burning supports in the CO_2 emission reduction and also the clay quarries' rehabilitation, which contributes to environmental protection. No stakeholders were able to comment on any concrete numbers related to CO_2 reduction. Prior evaluations (INNOVABRIDGE Foundation, 2003; Project Consult, 2016) have also gone into depth about the ecological advantages of modern bricks and their ability to reduce CO_2 emissions. Though not functioning optimally, inspection from national level (Ministry of Environment and Rwanda Environmental management Authority, REMA) ensures compliance to related guidelines.

Capacity Building. A key impact indicator in capacity building is the percentage of people (men and women) who have undergone PROECCO training and have been employed in the construction value chain in the last six months. According to a recent PROECCO report (December, 2023), 85% of people trained have been employed in the brick production value chain in a period of six months. Key capacity building partners, including RTB, RIA, EIR, STECOMA and brickyard owners, confirmed and appreciated the above achievements; they noted that many of their members received training on RLB bricks. The most successful parts with RTB acknowledged by different stakeholders include the following: having the technology embedded in curricula; completing related manuals and sharing them with 210 TVET schools; having trainers available; and having the curricula nationally approved and nationally accredited. Two modules (Make soil-based brick and blocks, and Erect bricks, blocks masonry walls) were developed with the technical support of Skat and integrated into TVET schools' curricula. Government partners found the focus on the production of modern bricks and construction technology very limited, as trainers do not have appropriate equipment to apply the learned theories on the RLB technology. Development partners like ENABEL, GIZ, and some private developers appreciated the efforts in capacity building but mentioned that there are still skill gaps in the construction sector.

Outcome 1: Institutions are equipped and capable of implementing inclusive urban transformation projects and affordable green housing and have the tools to mobilize private sector players

Institutionalization of Inclusive Urban Transformation Approach Promoted by PROECCO. The Mpazi demonstration project was a great success according to all stakeholders interviewed. Many confirmed that their interest in the project model largely increased from the exhibitions done on the model commonly known as Swiss Cube on different occasions in Rwanda and abroad. Findings on this objective reveal success stories on the following:

- ***The participatory rehousing mechanisms:*** As heard in interviews with multiple stakeholders, the participatory mechanism used in the Mpazi demonstration project was a great success. Almost all donors confirmed that they will replicate the approach in their respective projects. Government partners like the City of Kigali and MININFRA found this methodology very appropriate to the context. According to them, this approach addresses key concerns around people staying in their areas, children continuing to go to school, and people staying connected to their land and their socio-economic activities. As heard during field visits, Mpazi residents in transformed urban neighborhoods are grateful for the process and the changes the outcome brought to their lives. Before, people were expropriated and had to leave. Notwithstanding this appreciation, discussions with current and future residents revealed some individual issues. For example, some of the current residents said they were consulted only before demolishing their former houses and when the houses were handed over to them after completion. For some, their expectations were not met. As one participant shared, they had a large family, and the new units could not host everyone. Consequentially, some had to stay in a separate unit. For them, this broke family cohesion and prevented parents from following their children.
- ***Institutionalization of the urban transformation approach:*** Findings show that the Mpazi model is currently considered by government partners as a flagship project for rehousing in the urbanization landscape in Rwanda. At the time of data collection, the City of Kigali has committed to integrating budget funds for 19 blocks. They confirmed the importance of Skat's

expertise in this process and stated that the project was ending while it was still needed. PROECCO, in collaboration with UN-Habitat, supported them in the development of community engagement guidelines in urban transformation and rehousing that is already approved and in use. The City of Kigali also appreciated PROECCO's support in the conceptualization of neighborhood master plans and unit typologies based on comprehensive technical studies. Insights from interviews also reflected PROECCO's fading role in the support in line with the institutionalization goal. For example, moving from financing and building the first houses, to supervising the construction of 5 initial blocks, to only advising the City of Kigali for the remaining 19 blocks. However, both the City and MININFRA confirmed that at the policy level, the framework conditions for the scaling up of this approach is not yet in place. They also highlighted several other areas where work was still to be done, including the launching of the City of Kigali's urban transformation unit, developing sustainable financial models, and engaging financial models utilizing public-private partnerships. Performance rate on these dimensions ranges from 20 to 30%. The delays in the establishment of the Urban Transformation Unit embedded in the City of Kigali were explained by the presence of several issues that needed to be clarified between the funder (SDC) and the City and, ultimately by the internal governance of the City. The most important ones that were mentioned are related to the composition and tasks of the team, a mix between Skat's team and their staff and the approval procedures to establish such unit.

- ***Affordable houses:*** Government, financial, and development partners had differing perspectives on the affordability of houses made with PROECCO's construction technology and inclusive design process. Consequently, there were mixed perceptions about whether affordable housing with PROECCO's modern bricks was an appealing investment opportunity for the private sector. Many factors were given to explain this: the most important ones are related to heavy requirements from construction regulations, building materials costs and high taxes. As one partner reflected, this discrepancy may be also because definitions of "affordable" and the market have changed over the lifetime of PROECCO. As a BRD study, *Affordable Housing in Rwanda: Housing Market and Low-Cost and Efficient Building Materials and Technologies* (2023) realized by the Rwanda Development Bank confirmed, affordable housing is a critical issue in Rwanda. It found that a significant proportion of urban households in Rwanda are poor; an estimated 30% of urban households in Rwanda have a net monthly income of RWF 100,000 or less and a further 27% of households have a monthly income of between RWF 100,001 and RWF 200,000 per month. On the other end of the income scale, there are around 30,000 urban households with a household income of more than RWF 1 million (equating to 3% of urban households). Several stakeholders agreed that there is currently no innovative financial model that can interest the private sector. The same explanation was given for the absence of public-private partnerships. As they said, "The market decides". During the drafting of this report, a study on the feasibility of an innovative PPP model tailored on Rwanda is being conducted by PROECCO in partnership with AFR, MININFRA and CoK.
- ***Building model design***. Concerning the design of the house model promoted by the project, while some stakeholders acknowledged the reduction of costs through the construction technology, many expressed concerns about the limits it presented in terms of the number of floors that it allows. While a G+3 block can be built using solely RLB technology, a mix of technologies, including concrete frames would be required for flats beyond. There are also restrictions related to the span between walls that limits the use of the model (see annexed Engineer's note).

- ***Innovative financial models and market:*** As shared throughout interviews, financial models and PPP structures definitions are currently ongoing and not yet achieved or tested in a real-life scenario. Nearly all the stakeholders converged on the suggestion that for affordable houses to take off in urban cities, the government needs to engage in subsidies. Otherwise, in the current context, it would be hard for the private sector to engage. The private sector is profit driven. For most of them, the current financial modality tends to favor high-end developers. There was no mention of any existing public-private partnership (PPP) promoted by the project, but a multi-stakeholder study on the establishment of a PPP model for scaling up urban transformation was in the making between PROECCO, MININFRA, AFR and BRD.

Outcome 2: The skills and knowledge needed to design and operate a plant producing green building materials are available on the private market, and public institutions support the sector's growth by facilitating the establishment of clustered industrial facilities and promoting measures to control quality and related outputs

Green Industrial Development: At the institutional level, the partnership with NIRDA is very appreciated by government partners and donors, though deemed late in the project life. It is a good step toward creating the green industrial Ecopark, even though the SPV is not yet in place. Many stakeholders discussed the delay in embarking on the first phase of the Ecopark but appreciated the level of ownership by NIRDA. At the time of this report, feasibility studies for the Eco Industrial Park are underway, and a report is foreseen in June 2024. Discussion with local authorities in Rwamagana have already reached approval. Discussion with NIRDA revealed the importance they attach to the possible social and economic impact that relocating landowners can have on communities. On a site visit, one could observe the site being prepared. Some stakeholders worried about the ability for it to be completed before the end of Phase III in December 2024.

Working Conditions: Though PROECCO supported the promotion of decent work through RLRO, interviewees shared that working conditions in the construction sector are still very poor. Involved stakeholders stated that even though inspectors were trained, and guidelines approved, the informality of the sector and the high interest of workers had more to do with getting jobs than with proper conditions, thus hindering progress. While the desired number of trainers trained was fully achieved, concrete changes to working conditions due to the activities of PROECCO will need longer to observe than the timeline included in this evaluation. This indicator would be an ideal topic of study for a future long-term impact evaluation.

Outcome 3 and related outputs: Academic institutions and professional associations have the technical skills and tools needed to provide technical and vocational training throughout the construction value chain

Outcome 3 saw success in fully achieving its intended results, however, interviews and focus groups with stakeholders indicate that there is still some way to go to reach institutionalization. Many of the professional associations stated that despite there being some training opportunities, it was still not enough to ensure the sustainability of results in the long-term. For RTB, two modules were integrated into the national TVET curricula, yet this covered only a small portion of their programme. In addition, issues related to the lack of equipment to apply the learnings might hinder the sustainability of the skills transfer. A partnership with the University of Rwanda did not work up

to the plans due to heavy bureaucracy according to the implementing partner. Skill transfer was still done through individual public lecturers, engagement of students and lecturers on site activities such as situation analysis, and use of Mpazi as target area for studio and classes. The university requested to receive the PROECCO library at the end of the program. In addition, implementing partners reported that a partnership between the project and Rwanda Polytechnic, which aims at the training of trainers and curriculum review for technical and vocational schools at advanced diploma level in Rwanda, did not occur due to issues internal to the institution.

Besides, professionals in the brick industry still need appropriate skills and knowledge to responds to the market needs on the entire construction value chain. The following number of professionals participated in skill- and knowledge-building training opportunities: 553 in the clay value chain, 31 in the quality control and quality assurance, 123 in kiln operation and maintenance, 277 in modern brick production (PROECCO, 2024). The online marketplace for trainees as well as professionals who are already in the market to register and show their availability is another tool that now exists to meet the demand of skilled workers. On this point, some stakeholders believed that PROECCOs focus on modern brick production limits its impact within the value chain. Furthermore, the "Number of Employees (direct and indirect)" in brick industrial development on PROECCO's online portal (madeingreatlakes.com) does not state their significance to the market needs.

Were There Any Unintended Results?

There were positive unintended results:

Influencing the Urbanization Landscape in Rwanda and Other Development Partners. Different stakeholders stated that the Mpazi demonstration project was very instrumental in influencing the urbanization landscape. One of the government partners referred to it as "a game changer," particularly in scaling up community rehousing as it led other development partners to start integrated programs in the sector. As one partner reflected, PROECCO's triumph has acted as a catalyst, inspiring other development partners to embark on analogous initiatives. The concept developed was very instrumental in finding the right ways to human-centered participatory rehousing approach, land planning and land consolidation.

Buy-in by the Government. The relevance of the PROECCO in the urbanization sector was demonstrated by the actions and decisions taken by the institutional partners towards the end of 2023 and early 2024 (NIRDA & City of Kigali). Most of them expressed their commitment to continue using the MPAZI model and found it a good solution in line with the government's goal in urban development.

Neighborhood Planning, Originally Unplanned, is Now Underway. In the beginning, the Mpazi model was a demonstration site. It was not expected to develop and grow the way it did. The City of Kigali bought the idea and started neighborhood planning to upgrade the informal settlements in Mpazi Phase 3, Karuruma, Nyarutarama, and Gatsata. Surveys at proposed rehousing sites led to the decision to replace Gatsata with Karuruma, where comprehensive master plans have been developed. PROECCO's support has extended to large real estate operators such as RSSB/UDL in Rusororo, Gasabo District, aimed at middle-income households. This increased interest by the largest real estate operator in the county signifies a strategic shift towards inclusive, sustainable urban development in Rwanda.

There were also negative unintended results:

***Gentrification*:** For some stakeholders, the government mandate that new homeowners cannot sell their homes for five years was enough to limit gentrification in Mpazi. For other stakeholders, gentrification is inevitable. Dedicated tenant protection policies are now being studied and should bring improvements to this aspect.

Beneficiaries May Not Be the Poorest: Two perspectives emerged. For some stakeholders, homeowners and tenants in cities, even in slums, are not the poorest groups in need of support in Rwanda. Another dimension raised was about who got the jobs in construction sites that were supported by the project. Exchanges with communities revealed that while they were asked to register for jobs based on relevant skills, the developers that conducted constructions came with their own workers to fill the skills gap. Findings from developers and financial institutions also revealed that the model aims at high-end developers, not small and medium ones. Reasons why require further investigation, as well as investigation on induced jobs and communication on these.

***Bills and Maintenance Costs*.** Current residents in Mpazi expressed bills and maintenance costs as a collateral effect. Modern equipment in the new units requires maintenance costs that they cannot afford. Examples given were related to water and electricity, for example, flushing toilets means an increase in water consumption, which also means a higher water bill. There may have been a communication of information processing gap about the new lifestyle during the participatory housing design, with new habits either not fully adopted or not sufficient to limit the increase of costs.

What are the major factors that have influenced the achievement or non-achievement of expected results?

Factors that positively affected the achievement of results included:

***The Urbanization Context in Rwanda*.** The political will and the existence of the urbanization development vision that resonates with the project was considered key. Urbanization is one of the key priorities in Rwanda. PROECCO works on the main pillar of urbanization policy, including finding solutions to land densification, job creation, affordable housing. and creating livable cities in a climate friendly way. Some other stakeholder believed that the government sees the added value of PROECCO's human-centered approach. Through such initiatives, the government can provide citizens' needs.

***Policy Dialogue*.** The creation of MoUs has supported PROECCO in reaching its targets. As many stakeholders expressed, PROECCO's approach through government institutions was the best option to reach sustainable results. Once they understand the relevance, partners with MOUs mobilized many required resources.

***Skat's Expertise and Communication*.** As expressed by many all stakeholders, Skat is known in the sector for its expertise. There was much appreciation for PROECCO's ability to package processes and guidelines and make them accessible online. Throughout, partners stated that this demonstrated a willingness to collaborate, which helped them think of ways they could apply PROECCO's approaches in their context.

***Demonstration Projects and Exhibitions*.** Nearly all stakeholders agreed on the fact that Mpazi demonstration project was instrumental in increasing their interests. Exhibitions of the model house "Swiss cube" in Rwanda and at the Second Session of the UN-HabitatAssembly in Nairobi were strong triggers of curiosity. One government partner who was present in Nairobi shared those other countries are requesting to come and learn on the PROECCO model (Tanzania).

How sensitive was the intervention to these factors?

The operational team stated many times that the project management was opportunistic and adaptive. One proof of this management modality is PROECCO's shift from pure modern brick production to urban transformation. This agility was a sign of sensitivity to the context and willingness to achieve results. The primary link to urbanization discussed throughout interviews and focus groups was PROECCO's effective demonstration of the participatory approach to implementing affordable housing. For most partners, this human-centred approach was the crucial factor in gaining community, government, and donor buy-in, while also considering new solutions to densification and disrupting the affected communities minimally. It was also observed from community members living in Mpazi that they experienced both positive and negative results from the participatory process. Many appreciated the participatory process, felt the valuation process was fair, and appreciated a new home.

Sustainability

S-1: What evidence is there that the achieved results will continue after the completion of the project? Which major factors might enhance the effects achieved or prevent them from continuing?

Level of Ownership

Government partners expressed a significant sense of appreciation for PROECCO's use of modern bricks and the use of a participatory approach in resettlement sites. For these same reasons, donors expressed interest in staying involved in the urbanization sector. Across both stakeholder groups, this appreciation turned into the implementation of similar plans in their projects, thus cementing a sense of ownership for the RLB technology and participatory approach. To illustrate, GGGI has engaged in discussions with Skat and NIRDA regarding the establishment and scale-up of the Ecopark, the future clustered site of green construction material production.

Educational institutions and professional associations expressed a sense of ownership over the technical capacity-building aspects of PROECCO. These partners specifically declared that the modern brick and RLB technology would continue to be used in their work, and has been embedded in their programs, including curricula. One interviewee stated that they felt confident in their ability to manage resources in ways that would increase sustainability, such as the Marketplace website. Another interviewee reflected that ownership happens once someone uses the brick successfully in a project, and then they keep wanting to use it. For them, this first-hand experience with modern brick and RLB technology was essential.

As noted during site visits and interviews, brickyard owners and operators have, to varying degrees, embraced modern brick production for RLB technology. For some, this brick is the only type of brick they produce, and they are very committed to the technology. For others, it is one of several types of modern bricks they produce. For example, Amegerwa Ltd. has 40 different bricks in their catalogue and RLB brick makes up roughly 5% of their overall sales.

Financial Sustainability and Affordability

Almost all stakeholders spoke of the need to ensure sustainable funding for the future. Government institutions wondered about the potential of private investment, while donors, financial institutions, and private developers believed that some level of government investment would still be needed for any initiative in affordable housing to succeed.

The RLB construction technology was introduced to be more affordable based on two key characteristics: the bricks would require fewer construction materials overall and the bricks would be locally produced. However, key implementing partners and development partners shared that when they used RLB bricks in their affordable housing projects, the costs were higher than estimated because of, among other factors, construction regulation requirements that are high in terms of expertise needed, quality of materials. One partner stated that the price was more suited to a middle-class young professional than a lower-income household. Throughout these conversations, partners considered the difficult question: if the units themselves are not affordable, could targeted subsidies ensure financial affordability?

Technical Capacity

For many stakeholders, while significant progress has been made to build technical capacity, more progress is needed. Throughout these conversations, stakeholders described different barriers to building technical capacity:

Scale. 60 members of STECOMA were trained; however, they have a membership of over 78,000 who will require additional work to continue to build the technical capacity for modern bricks. A similar sentiment was expressed by other professional associations: training has been positive, but it needs to continue at a bigger scale. Importantly, this training does not have to be formal, as capacity-building can happen on-site with practical experience and peer coaching.

Accessibility. For some stakeholders, the RLB technology can be complicated and not always easily accessible to the average person. Those who completed training of trainers expressed they had the skills but lacked the resources to carry out additional training. For others, some training has not happened yet, but they are scheduled to happen later this year.

Technology. As seen in site visits, brickyards ranged in technical capacity. At the lowest-tech site, the clay was mixed manually by a worker stepping on a mix of clay and water. On the day of the site visit, workers were installing a higher tech mixing machine, which would help build their technical capacity. At the highest-tech site, production was determined by the schedule and capacity of their kiln. In terms of sustainability, there was no evidence that the technology and semi-industrialized kilns will be brought at a larger scale.

Future Orientation suggestions

F-1: Building on the project results, what orientation(s) present a potential for the future (e.g., functional urban planning, urban governance and inclusivity, urban resilience linked to climate change and environment, digitalization of urban planning and upgrading)?

Overall, stakeholders agreed that there should be some sort of continuation of PROECCO and that there is still a lot of work to be done in the urbanization sector. The form of that continuation varied depending on the stakeholder group. One stakeholder very concretely suggested either hiring consultants to provide technical support to NIRDA and the City of Kigali or extending the contract by one year with a focused scope to complete pending activities, especially the industrial cluster. Some further ideas suggested by stakeholders include the following:

Construction Value Chain

Stakeholders believed that it is important to look at the entire sustainable construction value chain. Some wondered about bringing in other sustainable building materials that included more than bricks. One developer felt that providing opportunities for employment could be more impactful than providing affordable housing. Others felt that affordable housing was still an important aspect given the need for housing, particularly in urban centers.

Skills Training

Skills training came up very frequently throughout interviews and focus groups. Many stakeholders believed that skills training remained an important element of PROECCO and that it held potential for the future. One donor believed that money would likely go the farthest with a skills training program that led to greater opportunities for employment. Others noted the importance of continued and more in-depth skills training opportunities, such as business skills to ensure high quality of customer service and longer-term business success. One stakeholder explained that trainers within TVET educational institutions are with them for a short time, and move on; therefore, it would be beneficial to have long-term support from PROECCO to provide some continuity.

Coordination

Stakeholders frequently shared that they believed more needed to be done to coordinate players in the sustainable urbanization sector, with an eye to avoiding duplication of efforts. They felt that SDC could play a valuable role in this coordination, especially by coordinating with private sector actors.

Regardless of the next direction taken by PROECCO, stakeholders identified a few key factors that could increase the chances of the project having a sustainable impact in the future.

Awareness: Many stakeholders, particularly those directly involved in construction sector, overwhelmingly agreed that greater awareness is a factor that is needed to increase chances of sustainable impact in the future. Some highlighted the need for those in the construction sector to know about the technology itself, others felt there should be greater communication about the cost benefits of the technology. They seemed to agree that the technology is good and holds great potential, and that raising awareness was important.

Financing: Many stakeholders continued to raise the issue of financial sustainability and felt that having strong private and public sector financing would help to increase the chances of having a sustainable impact in the future. Many stakeholders shared that the housing developed was not affordable for lower-income households unless it was subsidized or put on the market with different modalities (e.g., rental). BRD conducted a study in 2023 which presents the issues of low-incomes in the majority of households in Rwanda and financing by the banks which is at a very high interest rate. One suggested collaborating with stakeholders such as BRD on studies about affordable housing.

CONCLUSIONS

Across stakeholder groups, there was consensus in four areas:

- PROECCO's participatory approach was a significant contributor to the success of the project specifically and to the development of affordable housing models in Rwanda broadly;
- Demand and affordability were the primary concerns of modern brick development, particularly when the bricks are used for affordable housing;
- Public-private-partnerships are the key to finding solutions for affordable housing, yet there are different perceptions of the nature of their roles; and
- Value chain of construction materials in Rwanda has room for growth beyond the solutions that what one project can provide.

Throughout, there were differing perspectives within stakeholder groups regarding the roles of the government and private investors. On the one hand, some stakeholders expressed that the government needs to provide subsidies or tax incentives to private developers to generate interest in investing in affordable housing. On the other hand, some stakeholders expressed that the private sector must invest in the production of construction materials and other efficiencies that lower production costs to ensure the model is cost-efficient for everyone. Throughout these diverse perspectives, many stakeholders stated that skills development and training for the construction sector was a positive investment of time and resources.

Although PROECCO's activities did not entirely follow its plans, it still achieved positive results in many areas and was regarded well among stakeholders involved in this evaluation. The highlight of the project that stood out to most stakeholders was the participatory approach to rehousing. Those who implemented the process liked it, as did those who participated in the process itself. Others still appreciated the process and wanted to use it in their own projects. The potential for this approach ties in well with broader urbanization goals, including supporting the idea of an inclusive city. This is an important area to be built upon in the future. Interestingly, the results of this process contributed more directly to results related to housing and empowerment among community members, rather than creation of jobs and reduction of greenhouse gases.

Some key concepts arose in which stakeholders presented differing views. For example, as noted in the findings, there was a difference in perspective about supply and demand, with some thinking there was great demand, and others thinking otherwise. This difference in perspective suggests that there is a missing connection between those who need the bricks and those who can produce them. The second example is regarding financing. There was overall agreement that a solution was needed for financial sustainability regarding affordable housing projects; however, some stakeholders felt there should be more public/government investment, while others felt there should be more private investment. Awareness continued to be a theme that arose among multiple evaluation questions and is clearly an area for future reflection. Without awareness, one cannot expect changes in behavior of people adopting the technology.

RECOMMENDATIONS TO SDC

Given the findings discussed above, the following are some recommendations for SDC to consider as they move forward in their planning:

- Extend PROECCO for at least a year, with skilled staff for completion of activities started. The project support to Eco-Industrial Park, City of Kigali and capacity building need an extension to complete what is ongoing and hand-over to specific institutions.
- Continue with the urban transformation model, especially the participatory approach especially by supporting its anchoring into a specific policy.
- Continue efforts to promote capacity building and skills development along the construction value chain through professional associations and RTB, going through academic institutions such UoR and RP might be difficult as curricula change requires a long process
- For decent work, conduct a specific study to establish concrete changes influenced by PROECCO and take into account in future intervention.
- Increase the role of SDC in sector coordination. If not possible to take a role at the sector coordination level, engage at the technical working group level
- Start engaging with Government institutions from the beginning of project design and conduct policy dialogue on key issues as tax exemption, subsidies to affordable housing and sustainable financing models, tenants' protection law to mitigate gentrification and integrated planning of upgraded areas
- Develop a structural approach to financing and market
- Improve planning capacities to design a SMART Program at both SDC and implementing partners' levels. Find a balance between being adaptive and avoiding the risk of simply jumping on opportunities.
- Conduct further inquiry into the market demand for modern bricks in order to understand the reasons for stakeholders' differing perspectives, e.g., awareness, coordination, capacity of brickyards, etc.
- Continue to explore how affordable housing projects can be more financially attractive to private investors

REFERENCE LIST

Ahmad, I. (2023). Decent Work Rwanda 2023. https://wageindicator.org/documents/decentworkcheck/africa/rwanda-english.pdf

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Chouinard, J.A., & Cram, F. (2020). *Culturally responsive approaches to evaluation*. Thousand Oaks, CA: Sage.

Creswell, John W. (2007) Data Collection (ch.7) in Qualitative Inquiry and Research Design: Choosing Among Five Approaches. 2nd ed. Thousand Oaks, CA: Sage Publications.

Development Bank of Rwanda (BRD). (2023). Affordable Housing in Rwanda: Study on the Housing Market and Low-Cost and Efficient Building Materials and Technologies. https://housingfinanceafrica.org/documents/affordable-housing-in-rwanda-study-on-the-housing-market-and-low-cost-and-efficient-building-materials-and-technologies/

Donnelly, J. (2010). "Maximizing participation in international community-level project evaluation: a strengths-based approach". Evaluation Journal of Australasia, 10(1), 43-50. https://doi.org/10.1177/1035719X1001000206

Frierson, H., Hood, S., & Hughes, G. (2002). Strategies that address culturally responsive evaluation, in J.F. Westat, The 2002 user-friendly handbook for project evaluation, The National Science Foundation.

Frierson, H.T., Hood, S., Hughes, G.B., & Thomas, V.G. (2010). *A guide to conducting culturally responsive evaluations*. In National Science Foundation. The 2010 User-Friendly Handbook for Project Evaluation. National Science Foundation, Directorate for Education and Human Resources, Division of Research, Evaluation, and Communication. REC 99-12175 pp.75-96.

Gill, S., Kuwahara, R., & Wilce, M. (2016). Through a culturally competent lens: Why the program evaluation standards matter. Health Promotion Practice. 17(1), 5-5.

INNOVABRIDGE Foundation. (2023). *Mid-term external evaluation of the project "Promoting employment and non-agricultural income in the Great Lakes region through the production of climate-friendly building materials (PROECCO): Final Evaluation Report.* Internal report (Swiss Agency for Development and Cooperation). Unpublished.

Mertens, D. M. & Wilson, A. T. (2019). *Program evaluation theory and practice: A comprehensive guide*, 2nd ed. Guildford Press.

Ministry of Infrastructure Rwanda (MININFRA). (n.d.). Urbanization, human settlement, and housing development. https://www.mininfra.gov.rw/digital-transformation-1

Patton, M. Q. (2012). A utilization-focused approach to contribution analysis. Evaluation, 18(3), 364–377. https://doi.org/10.1177/1356389012449523

Priester, M., Murererehe, S., Ngendakuriyo, A., & Rimpel, E. (2016). *Promoting Off-farm Employment Through Climate Responsive Construction Material Production (PROECCO): Evaluation Findings & Strategic Recommendations for a Second Phase – Final Report.* Internal report (Swiss Agency for Development and Cooperation). Unpublished.

PROECCO. (2024). Project status. https://madeingreatlakes.com/market-observatory

Rwanda Housing Authority. (n.d). Social and affordable housing development. https://www.rha.gov.rw/2/affordable-housing-planning-development

Swiss Agency for Development and Cooperation (SDC) & Skat Consulting Ltd. (2018). *Evaluation Policy: Swiss Agency for Development and Cooperation SDC.* Internal report (Swiss Agency for Development and Cooperation). Unpublished.

Swiss Agency for Development and Cooperation (SDC). (2020). *Credit Proposal No:7F-08320.03: Promoting Off-Farm Employment and Income in the Great Lakes Region Through Climate Responsive Construction Material Production (PROECCO)*. Internal report (Swiss Agency for Development and Cooperation). Unpublished.

Swiss Agency for Development and Cooperation (SDC) & Skat Consulting Ltd. (2021). *Project Document: Promoting Off-Farm Employment and Income in the Great Lakes Region Through Climate Responsive Construction Material Production (PROECCO) Program – PROECCO, Phase III (2020-2024).* Internal report (Swiss Agency for Development and Cooperation). Unpublished.

Swiss Agency for Development and Cooperation (SDC) & Skat Consulting Ltd. (2023). *Rwanda Exit Strategy: Promoting Off-Farm Employment and Income in the Great Lakes Region Through Climate Responsive Construction Material Production (PROECCO) Program*. Internal report (Swiss Agency for Development and Cooperation). Unpublished.

Tools4Dev. (2022). How to write a logical framework (logframe). https://tools4dev.org/resources/how-to-write-a-logical-framework-logframe

APPENDIX A: PROECCO MODELS

Figure 1 PROECCO Initial Logic Model

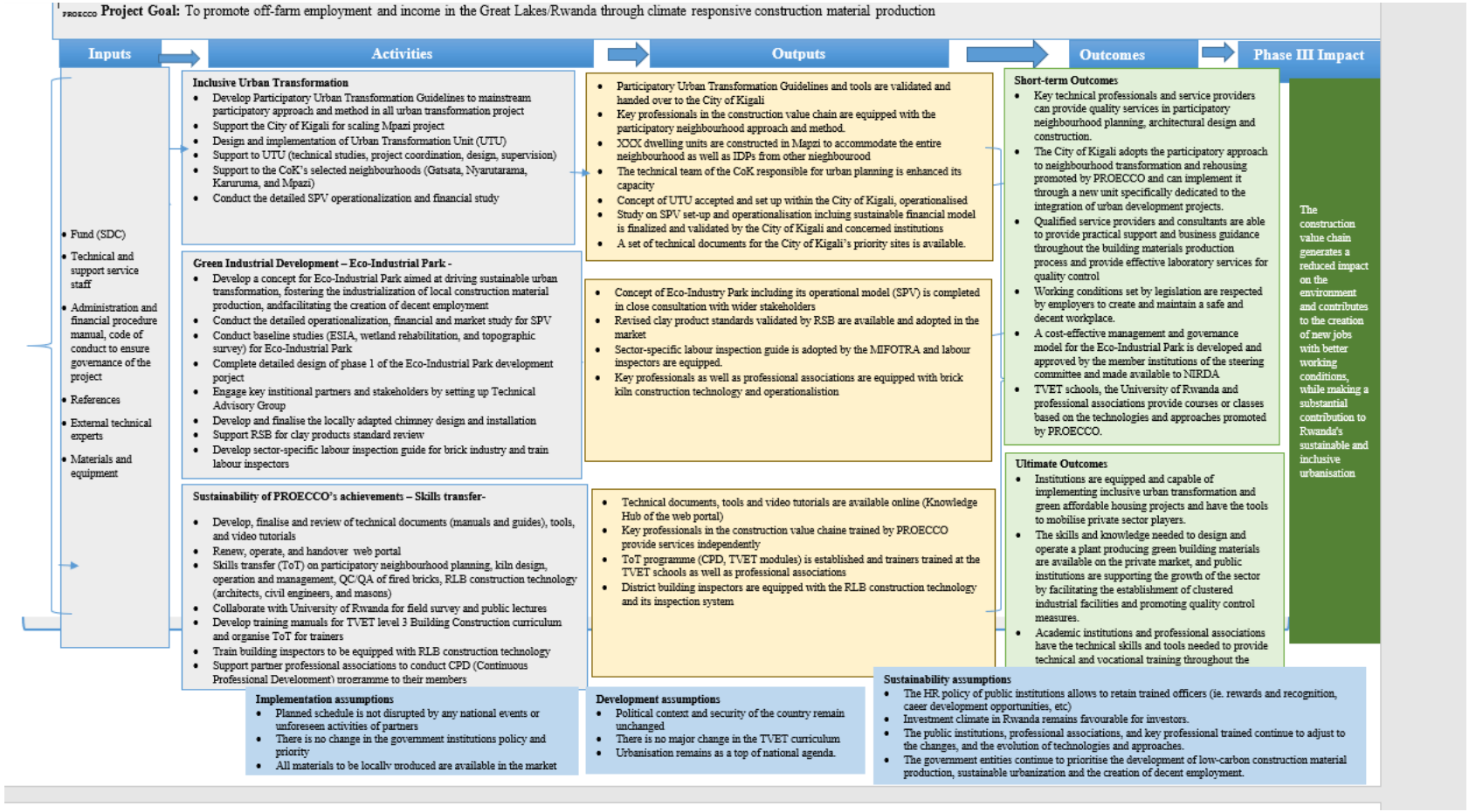
PROECCO Project Goal: To promote off-farm employment and income in the Great Lakes/Rwanda through climate responsive construction material production

Inputs	Activities	Outputs	Outcomes	Impact Phase III
Funds: government funding, donors, foundations, community partners Program staff Expertise – technical assistance Delegate partners Technology equipment Quality control	**Policy-Level** • Organize workshops on urbanization public policies and affordable housing procurement strategies based on PPP • Facilitate the drafting , review and implement ion of standards, plans, regulations, strategies to promote modern bricks • Conduct and share studies and analyses on peri-urban zone management and implementation of low carbon clusters • Support the design and creation of public and private units managing urban transformation	• Number of framework conditions in place to promote green construction using modern brick (strategies, regulations, plans, cluster management tools, norms) • Integration of modern brick technology in urban transformation strategies, based on public-private partnership s (PPP) • Number of pilot urban transformation PPP projects using the modern brick technology • Existence and use of gender-sensitive guidelines in the modern brick habitat value chain • Existence of public and private units engaged in the implementation of green construction using the modern bricks framework conditions	**Short-term outcomes** • Public institutions are equipped and have the skills to implement inclusive urban transformation and green housing projects, to manage the sector and mobilize the private sector players • Educational institutions and professional associations have the skills needed to provide technical and vocational trainings along the construction value chain • Private entities have the skills needed to design and operate plants producing green building materials and understand the value of doing so • Quality control facilities are in place, equipped and operational **Intermediate Outcomes** • Public institutions embed participatory urban transformation and green affordable housing projects into their policies and strategies • Public institutions are supporting the sector growth by facilitating the establishment of clustered industrial facilities and promoting quality control measures • Educational institutions and professional associations take ownership of training modules • Low carbon Clusters in place meet the Gold standards of Myclimate • Interested investors have better access to finances and market **Long-term Outcomes** • Sector take-off • Construction of low-carbon affordable houses scaled up • Jobs increased for those living in poverty with better working conditions	Greenhouse gas emission considerably reduced, and employment opportunities increased, contributing to a decrease in poverty experienced
	Partnership Mobilization • Construct model/demonstration houses using modern bricks • Organize awareness building events on the modern brick and its benefits • Develop partnerships with public isntitutions, private and other donors with an interest in the modern brick value chain • Support investors in the sector to access finances and market	• Number of mechanisms promoting the modern brick and its value chain established by (development) partners • Number of strategic partnerships with key national and international actors for the development of the modern brick value chain sustaining initial operations of low-carbon clusters established • Number of low carbon and affordable housing projects using the modern bricks implemented with the participation of authorities • At least 3 low carbon clusters become operational with the participation of authorities, the private sector and donors • Adoption of PROECCO approach by other donors in projects and state institutions in tenders • Existence of preferential loans provided by banks for low-carbon constructions • Number of pilot affordable houses built in modern bricks under PPP • Employment opportunities created		
	Skill Building and Transfer • Produce a toolbox for the capacity building of professionals in the value chain of modern bricks • Design and implement a train-the-trainer model (including educational and professional associations) for technicians and professionals active in the value chain • Plan and lead on-job trainings for service providers, with a particular attention to women • Provide advisory services to authorities, private sector and financial sector • Support laboratories in the quality control of the modern brick	• Relevance to the needs of professionals in the value chain of guides and technical tools for capacity building produced. • Number of public and private sector service providers trained and equipped. Proportion of women trained. • Number and types of training modules accessible incl. online • Connection between service providers and investors established • Management tools including quality control available and accessible to service providers and professionals • Tools integrated in the curricula		

External Factors

- National and local authorities are involved in the development of framework conditions and implement them
- National and local authorities participate actively in low-carbon infrastructure projects
- Public institutions take ownership of implementing acquired knowledge

Figure 2 PROECCO Actual Theory of Change



APPENDIX B: EVALUATION DESIGN

The evaluation team chose a twofold approach: utilization-focused and culturally responsive evaluation. Utilization-focused evaluation involves identifying and working with primary intended users to design and interpret an evaluation to ensure that the results of the evaluation are meaningful to all stakeholders and used for program decision making or change (Patton, 2012). This entails a collaborative participant-oriented approach, involving key stakeholders in all phases to capture participants' multiple needs, values, and perspectives, thus reflecting their voices both in the process and the outcome of the evaluation (Mertens & Wilson, 2019). Culturally responsive evaluation involves collaborating with program users and beneficiaries to examine "impacts through lenses in which the culture of the participants is considered an important factor, thus rejecting the notion that assessments must be objective and culture-free if they are to be unbiased" (Frierson, Hood, Hughes & Thomas, 2010, p. 76). Therefore, culturally responsive evaluation aims to ensure the effectiveness and relevance of an evaluation conducted within diverse communities (Chouinard & Cram, 2020). To enact both evaluation approaches, the evaluation team designed their methodology in a way that valued co-creation and balance and equity among participants. In doing so, they maintained that "people come embedded in cultures, wrapped in history, language, communal habits" (Gill et al., 2016) to consider related influences. In addition, the evaluation team remains vigilant of power imbalances that historically exist between evaluators and program participants, recognizing that they themselves are cultural beings and thus bring their own biases and preconceptions to the evaluation that is ultimately by and for Rwandans. The evaluation team also considered issues of gender among participants and applied a strengths-based approach (LaPoint & Jackson, 2004 as cited by Chouinard & Cram, 2020).

Prior Evaluations

Three prior evaluations were completed on PROECCO for Phase 1 (2012-12015), Phase 2 (2016-2019), and a mid-term evaluation of Phase 3 in 2023 (Priester et al, 2016; Urban plan, 2019; Innovabridge, 2023). See Table 4: Prior Evaluations for an outline of key information about these evaluations. To better inform this evaluation, the evaluation team has reviewed all of them. All have taken approaches that are multi-stakeholder, utilization-focused, participatory and have consulted with multiple stakeholder groups. Recurrent themes in these evaluations are related to issues of sector transformation/framework conditions, technology transfer, new production methods. The technological results of the project have been clearly demonstrated in the first two prior evaluations, with both reports recommending that conditions need to be in place in order for further success of the project. The third evaluation highlighted challenges in the transition between phase 2 and phase 3, and the need for significant changes for the final part of phase 3.

Table 4 Prior Evaluations

Date	Purpose	Approach/Methods	Notable Findings	Recommendations
2016	Phase 1 Evaluation: this summative evaluation assessed initial results from Rwanda and Burundi and the impact of the program.	Mix of qualitative and quantitative methods. Desk study, interviews, and field visits Comparisons between Rwanda and Burundi; rural and urban; small-scale and medium-scale businesses Used different dimensions of sustainability as a lens: economic, social, environmental, technological, and policy/legal	Strengths: technological achievements, stakeholder relations, focusing on the entire value chain, standardized support services for business partners, flexibility of the project and being open to opportunities, and regional exchange. Weaknesses: lacking anchoring in institutional frameworks, less focus placed on "soft" factors for business success, less efficiency in human and financial resources, centralization challenges, less uptake in rural areas, lacking a monitoring system, operating in isolation.	• Move into a consolidation phase. • Expand focus from private sector only to macro level of partner countries through the establishment of an enabling environment. • Within private sector, reduce scope of services and focus on the production of building materials. • Form strategic partnerships with other initiatives for the upstream and downstream linkages and focus on the mandate. • Focus on quality over quantity to create interest and recognition from government institutions.
2020	Phase 2 Evaluation: assessed results in Rwanda, Burundi, and the DRC	Qualitative; limited facts and figures Interviews, group discussions, and site visits Focused on results, strengths and weaknesses, lessons learned, recommendations, risk	Successes: technological achievements, particularly around the high quality of bricks with material resistance and durability, alternative combustion materials; program visibility; some progress at institutional level and in training of stakeholders Inconclusive results: institutional grounding; training of stakeholders; job creation;	• Further conditions favorable for the promotion of modern bricks (looking at governing bodies, financial partners) • Strengthen the professional body of the brickmaking sector

		factors and measures to support sustainability of the modern brick construction market. For analysis used different dimensions: political and institutional framework, economic model of improved brick production, technical and environmental viability, social and cultural viability, and institutional set-up	promotion of modern brick manufacturing sector Highlighted the contextual differences between regions, and also between rural and urban areas	
2023	Mid-term Evaluation, Phase 3: purpose to improve implementation of Phase 3 and sustain results, and determine whether redesign was necessary	Desk review, interviews	Significant internal challenges at the start of phase 3, which also coincided with Covid. Noted that impact was not possible to measure	• Revise logical framework and contract. • Present an exit strategy. • Carry out a functional reorganization of PROECCO. • Finalizing and translating tools into French. • Focus training plans on end users. • Review annual and half yearly reporting model.

Evaluation Approach

In alignment with the evaluation's design, many stakeholders, particularly the reference group, were actively involved throughout the evaluation process. Other actors were also involved in providing input and feedback on evaluation questions. The evaluation was based on mixed methods used to measure both process, effectiveness, and sustainability, and to get insights into the strategic orientation of the post-PROECCO program. The evaluation team collected both qualitative and quantitative data via document analysis, site visits, focus groups, and interviews to support the assessment of PROECCO's merit and to identify factors that have hindered or supported its implementation.

Evaluation Questions

This evaluation was guided by seven questions. The evaluation questions are a mix of process-focused questions, effectiveness and impact questions, including forward-looking questions to identify insights on future orientation. Process-level questions were designed to assess how activities were implemented, and how the program management was adaptive and flexible to context factors and coordination with others. Effectiveness and impact questions assessed whether PROECCO made a difference and helped identify expected and unexpected results. Forward-looking questions sought to build on the project's results and context dynamics in the urbanization landscape to gather insights on relevant niches for SDC's future intervention in the sector. See Table 5 for a list of the evaluation questions organized by question type. See Table 6 for the full evaluation matrix.

Table 5 Evaluation Questions

Question Group	Evaluation Questions
Process and Coherence	P1: How were the project activities implemented? What worked well? What were the challenges? How could challenges be overcome in the future? P2: How did the transition process started in September 2023 align with the project's intended objectives? P3: To what extent is the PROECCO intervention strategy implemented as planned? Which strategies were most successful? Why or why not? P4: To what degree is PROECCO complementary and coordinated with interventions in Rwanda both within DFAE (SDC-SECO) and from other actors (e.g. local government, NGOs, UN, private sectors, other donors etc.)?
Effectiveness and Impact	E1: To what extent have the planned results been achieved? • Were there any unintended results? • Which positive, lasting effects and behavioural changes can be identified?

	• Which component of the program had greater effects? In which ways did PROECCO contribute to making urbanization more inclusive, resilient and/or functional? • What are the major factors that have influenced the achievement or non-achievement of expected results? • How sensitive was the intervention to these factors? • Did the intervention achieve a greater or lesser impact in terms of climate change than expected?
Sustainability	S1: What evidence is there that the achieved results will continue after the completion of the project? Which major factors might enhance the effects achieved or prevent them from continuing?
Future	F1: Building on the project results, what orientation(s) present the potential for the future (e.g., functional urban planning, urban governance and inclusivity, urban resilience linked to climate change and environment, digitalization of urban planning and upgrading)?

Table 6 Evaluation Framework

Evaluation Questions	Indicators	Data Sources	Data Collection Methods
Process and Coherence Questions			
P-1: How were the project activities implemented? What worked well? What were the challenges? How could challenges be overcome in the future?	• # and types of activities for each of the two components • # and types of implementation challenges and barriers identified • Effectiveness of measures taken to overcome challenges • Overall satisfaction with activities	PROECCO program documents Periodic reports PROECCO staff Program participants	Desk review Interviews Focus groups
P-2: How did the transition process started in September 2023 align with the project intended objectives?	• Alignment of the transition process and consistency of planned results with the project's intended objectives • Quality of the revised logical framework	PROECCO staff SDC staff	Document reviews Interviews
P-3: To what extent is the PROECCO intervention strategy implemented as planned? Which strategies were most successful? Why or why not?	• # of elements of the modern brick ecosystem in place for a conducive environment • Level of improvement of working conditions for women and children • # of pilot transformation of spontaneous sites that created affordable houses • # of measures taken to scale-up the approach • #of clusters created and certified by MyClimate of low carbon emission • Effectiveness of operational modalities adopted	PROECCO program documents PROECCO staff SDC staff Gov't partners Private sector partners Other donors	Desk review Interviews Site visits
P-4: To what degree is PROECCO complementary and coordinated with interventions in Rwanda both within DFAE (SDC-SECO) and from other actors (e.g. local government, NGOs, UN, private sectors, other donors etc.)?	• Existence of Sector coordination mechanisms • Degree of compatibility, complementarity, and synergies between existing interventions • Extent to which the program is coordinated with other SDC units, SECO active in the sector • Compatibility between PROECC interventions with those of other actors in Rwanda and thematic field	PROECCO staff SDC staff Gov't partners Private sector partners Other donors	Document reviews Interviews
Effectiveness and Impact Questions			
E-1: To what extent have the planned results been achieved? • Were there any unintended results? • Which positive, lasting effects and behavioral changes can be identified? • Which component of the program had greater effects? in which ways did PROECCO contribute to making	• Level of attainment of planned results • # of positive and negative unintended results • Types of lasting effects and behavioral changes achieved • # and types of activities that contributed to making urbanisation more inclusive, resilient and functional • Difference in level of achieving results between the program components	PROECCO program reports PROECCO staff Gov't partners Private sector partners Program participants	Desk review Interviews Focus Groups Site visits

urbanisation more inclusive, resilient and/or functional? ● Did the intervention achieve greater or lesser impact in terms of climate change than expected? ● What are the major factors that have influence the achievement or non-achievement of expected results? ● How sensitive was the intervention to these factors?	● Existence of green building practices and policies ● Identified that have influenced achievement or non achievement of expected results ● # And types of measures that prove sensitivity to contextual factors		
Sustainability Question			
S-1: What evidence is there that the achieved results will continue after the completion of the project? Which major factors might enhance the effects achieved or prevent them from continuing?	● Extent to which partner institutions and involved stakeholders embraced the aims and activities originally promoted by the project (level of ownership) ● Existence of financial resources in partner institutions and involved stakeholders to continue activities independently ● Level of technical capacity in partner institutions and involved stakeholder to continue the modern brick technology ● Types of factors that might enhance or prevent results from continuing identified.	PROECCO program reports PROECCO staff Gov't partners Private sector partners Program participants	Interviews Focus Groups
Future Orientation			
F-1: Building on the project results, what orientation(s) present potential for the future (e.g., functional urban planning, urban governance and inclusivity, urban resilience linked to climate change and environment, digitalisation of urban planning and upgrading)?	● Identified measures/factors that could increase the chances of having sustainable impact ● Types of elements proposed by stakeholders for a future intervention ● Priorities agreed on to continue being addressed ● Types of orientation(s) with a potential for the future agreed on	Key stakeholders (SDC, Gov't partners, private sector partners, universities)	Focus group Interviews Workshop

Data Collection Methods

Data collection was implemented during three interconnected phases: inception, field research, analysis, and interpretation. Findings from each phase informed subsequent phases, thus allowing the evaluation team to adapt their data collection strategies as their understanding of PROECCO and its context deepened (Chatterji, 2009; Lincoln & Guba, 1985). The data collection phases were as follows:

- **Inception:** In this phase, the evaluation team drafted an inception report outlining the evaluation plan. The inception report was then sent to key contacts at SDC and Skat for review. The evaluation team then met with SDC and Skat for individual interviews to request their feedback on the perceived strengths and gaps of the inception report, to ask for the contact information of potential interviewees and focus group participants, and to inquire which evaluation questions they were most interested in pursuing.
- **Field research:** In this phase, the evaluation team gathered on-site in Kigali, Rwanda. Key activities included site visits, interviews, and focus groups. At the end of the field research, the evaluation team invited several SDC and Skat staff for a debrief. The goals of this debrief were twofold: to present preliminary observations from the data and to invite ideas for recommendations and next steps.
- **Analysis and interpretation:** In this phase, the evaluation team engaged in data preparation and cleanup, data analysis, and synthesis of evaluation findings into a final evaluation report.

Data Sampling

For data sampling, the evaluation team utilized two strategies. First, the evaluation team used maximum variation to document diverse perspectives and to identify important patterns. Second, the evaluation team used convenience sampling to identify sites or individuals that were accessible with the time and resources available during field research (Creswell, John W., 2007). Seven key stakeholder groups were identified: donors, government institutions, professional associations and educational institutions, financial institutions/private developers, labor rights organizations, brickyards, and community members in resettlement sites. Stakeholder names and contact information were provided by project staff from both SDC and Skat. The evaluation team contacted individuals by email to arrange interviews and two of the focus groups. Phone calls were used to follow up as needed. Skat contacted the community members from Mpazi and brickyard workers who participated in focus groups.

Data Collection

The data collection methods included in this evaluation were: document analysis, site visits, interviews, and focus groups. These methods were chosen to provide in depth qualitative data to capture the complexity of the project. In addition, this selection and combination of methods maximized the number and diversity of participants possible, specifically within an international development context (Donnely, 2010). A key limitation of this data collection design was that the evaluation team could not audio record interviews and focus groups due to culturally appropriate considerations. Therefore, data were captured via notetaking and verified by cross-examining notes between the multiple team members present at the interview or focus group. Language barriers were an additional limitation. See Appendix E for a copy of the consent form.

Descriptions of the data collection methods are as follows:

Document analysis: Reviewed a range of documents from PROECCO's program records, including:

- *Assessment of Second Phase of PROECCO – Final Report (2019)*
- *Credit Proposal No:7F-08320.03: PROECCO (2020)*
- *End of Phase Report, July 2016-December 2020: PROECCO (2021)*
- *Evaluation Findings & Strategic Recommendations for a Second Phase – Final Report, PROECCO (2016)*
- *Project Document: PROECCO, Phase III, 2020-2024 (2021)*
- *Rwanda Exit Strategy: PROECCO Program (2023)*
- *Mid-term external evaluation of the project PROECCO: Final Evaluation Report (2023)*

Site visits: The evaluation team visited three brickyards and one industrial cluster site in person. Skat identified sites that were within reasonable travel distance and that had availability during the data collection phase. Skat also coordinated the visits and accompanied the evaluation team to each site. Brickyard owners/operators provided tours of each brickyard. One focus group with 18 brickyard workers was held at one brickyard, and four owners/operators were interviewed across the three brickyards. No interviews or focus groups were held at the industrial cluster.

Semi-structured interviews: Interviews were held with a total of 27 people, including the following: 5 staff from SDC and Skat; 8 individuals representing donors; 6 individuals from government institutions; 1 staff from an educational institution; 4 staff from professional associations; 1 staff from a labor rights organization; and 2 staff from financial institutions. Interviews typically lasted 30-60 minutes and were not audio recorded. The majority of interviews were held in English. A few were in French or Kinyarwanda and local evaluation team members provided translation. See Appendix C for copies of the interview protocols.

Semi-structured focus groups: A total of four focus groups were held. One two-hour focus group was held with 6 key staff from SDC and Skat. Two one-hour focus groups were held at Mpazi: the first with 12 residents who already live in the units; the second with 15 residents who are waiting for their units to be completed. Skat coordinated a space on site at Mpazi to hold the focus groups and also communicated with all attendees. These two focus groups were held in Kinyarwanda, with translation of the notes completed by local evaluation team members. A final one-hour focus group was held with 4 individuals representing 2 financial institutions and 1 private developer. Focus groups were not audio recorded. See Appendix D for copies of the focus group protocols.

See Table 7 for a summary of the data collection strategies utilized, the group or organization data were collected from, the sample size, and their relationship with the project. Over 80 individuals were consulted via interviews or focus groups.

Table 7 Summary of Data Collection Methods, Sources, Samples, and their Relationship to the Project

Group or Organization	Sample	Number (n=#)	Relationship with project
Semi-Structured Interviews			
SDC	Funder	n=1	Program Manager
Skat Consulting Ltd.	Implementing partner	n=3	Rwanda Managing Director Monitoring and Evaluation Officer// Social Participation Advisor Industry Development Component Manager
Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH	Donor (Germany)	n=1	Coordination with PROECCO. GIZ is entering urbanization and informal settlement upgrading with a new project starting summer of 2024. Actively learning from PROECCO
KFW	Donor	n=1	Funding Green City Kigali (in a similar sector). Technical collaboration with PROECCO to some extent - wish to use modern bricks in Kinyinya.
Enabel	Donor (Belgium)	n=1	Implementing the UEDi Project-upgrading and planning of secondary and satellite cities. Many synergies with PROECCO in Clay Value Chain; collaboration on current Ecopark study
European Union	Donor	n=1	Coordination. Co-funding of KISUP with AFD and UEDi with ENABEL. other works on smart cities, digitalization, and urban mobility

Global Green Growth Institute (GGGI)	Donor	n=1	Collaboration with PROECCO on limited studies, publications, and events. Potentially interested in Ecopark
UN Habitat	Donor	n=1	Collaborated with PROECCO on the participatory informal settlement upgrading guidelines, in the framework of their PSUP project
World Bank	Donor	n=1	Funding informal settlement infrastructure upgrading through RUDP projects. The current RUDP project was selected to host Mpazi PROECCO pilot rehousing.
AFD (Agence Française de Développement)	Donor (France)	n=1	KISUP (Kigali Informal Settlement Upgrading Project) started in 2023. Working in 3 neighborhoods of Kigali, the Mpazi rehousing approach is one of the 3 modalities they will use. Co-funded by EU
Ministry of Infrastructure Rwanda (MININFRA)	Government	n=2	Overarching government partner for PROECCO, MoU signed for Phase III in 2023. Oversees RHA
City of Kigali	Government	n=2	Partner in implementing informal settlement upgrading in Mpazi since 2018. Tripartite MoU between CoK-Skat-SDC renewed in 2022. Foreseen for the institutionalization of support within the end of PROECCO and maybe in the future program.
National Industrial Research and Development Agency (NIRDA)	Government	n=1	Partner in implementing the Eco-industrial park for sustainable construction material production (scaling up semi-industrial bricks). Their mandate is to develop industry in Rwanda to replace imports with local value chains.
Rwanda Housing Authority (RHA)	Government	n=1	Limited collaboration with PROECCO. Underwent deep restructuring in the past years. New DG for a couple of

			months. There is potential for future collaboration in promoting affordable housing at a national level.
Rwanda Technical and Vocational Education and Training (TVET) Board (RTB)	Educational institution	n=1	Support by PROECCO in drafting manuals. Production and Construction modules are officially part of the curriculum. Collaboration with PROECCO to create and update a curriculum on masonry and construction using modern bricks.
Rwanda Institute of Engineers (IER)	Professional association	n=1	Knowledge transfer partner, with the hand-over in 2023 of several catalogues, guides and manuals produced by PROECCO. A potential candidate for maintaining the platform www.madeingreatlakes.com
Rwanda Institute of Architects (RIA)	Professional association	n=1	Knowledge transfer partner, with the hand-over in 2023 of several catalogues, guides and manuals produced by PROECCO. A potential candidate for maintaining the platform www.madeingreatlakes.com
STECOMA	Professional association/ union of workers	n=2	Trade union of mason workers. Collaboration with PROECCO on the training of masons.
Rwanda Labor Rights Organization	Labor rights organization	n=1	Collaboration with PROECCO on the training of labour inspectors for brickyards.
BRD (Rwanda Development Bank)	Financial institution	n=1	Collaborating on a study on housing finance. Has commissioned studies on housing demand and housing supply (thorough analysis of both markets), recently published. Has worked on affordable housing as PROECCO
BDF	Financial institution	n=1	MoU between PROECCO and BDF dating 2014, expiring soon. Aimed at providing loans for entrepreneurs wishing to open a modern brickyard. The product was not

			attractive enough and the guarantee fund (USD 200'000) was never used. PROECCO working on designing a new product that could serve the first investors of the Ecopark.
Briqueterie de Gati	Brickyard	n=1	Supported by PROECCO in Phase II. Expanded the factory with new kilns without support.
Optima Clay	Brickyard	n=2	Woman-owned small brickyard. Supported by PROECCO with training, supplies, and marketing.
Amegerwa	Brickyard	n=1	New brickyard that started operations in 2023 with limited support from PROECCO (project partners offered consultancy services for the design and commissioning). The project exposed Amegerwa to Brazilian technology and imported and exhibited their model equipment at the BMC.
Semi-Structured Focus Groups			
SDC & Skat: Operational Team	Funder management Funder program manager Funder TVET program manager Implementing partner staff Implementing partner program manager	n=1 n=1 n=1 n=1 n=1 n=1	PROECCO Supervisor (SDC) Program Manager (SDC) TVET Program Manager Skat Rwanda Managing Director Monitoring and Evaluation Advisor/ Social Participation (SKAT) Industry Development Component Manager (SKAT)
Access to Finance Rwanda (AFR), Rwanda Development Bank (BRD), Solaria Developments: Financial Institutions and Private Developers	AFR: Financial institution BRD: Financial institution Solaria: Private developer	n=2 n=1 n=1	AFR: Partner in conducting a study with PROECCO on housing finance, as a means of scaling up the Mpazi rehousing approach through a private-public entity that could leverage on investments. BRD: Collaborator with AFR in the study on housing finance. Has commissioned studies on housing demand and housing supply (thorough analysis of both markets), recently published.

			Solaria: Private developer who used an in-situ kiln to produce modern bricks for their construction. Benefitted from PROECCO advice.
Gati	Brickyard	n=18	Supported by PROECCO in Phase II. Expanded the factory with new kilns without support.
Mpazi residents – current	Community members	n=12	Group that participated in the Mpazi neighborhood plan, and selected landlords for their unit design. Engagement managed with Skat, UN-Habitat, and City of Kigali.
Mpazi residents - future	Community members	n=15	Group that is waiting to move into new sites and has engaged in a participatory process.
Site Visits			
Gati	Brickyard	-	Brickyard
Optima Clay	Brickyard	-	Brickyard
Amegerwa	Brickyard	-	Brickyard
Rusororo	Brickyard	-	Traditional brickyard
Ecopark	Industrial cluster	-	Industrial cluster
Program Documentation			
Documentation	All available documentation	-	Available documentation on the Shareweb, e.g., credit proposal, project document, annual reports, program evaluations
Total		**n=86**	

Data Analysis and Interpretation

Quantitative data were descriptively analyzed for trends, differences, and relationships. Qualitative data were analyzed using thematic analysis. Thematic analysis is a qualitative research method used to identify, organize, analyze, and report themes and patterns within data. It typically follows a series of steps, each focused on helping the evaluation team notice and identify patterns of meaning and issues of interest in the data (Braun & Clarke, 2006). See Table 8 for a description of each stage (adapted from Braun & Clarke, 2006).

Table 8 Steps in Thematic Analysis

Step	Description
Step 1: Becoming familiar with the data	Transcribe data, read the data multiple times, make note of potential codes
Step 2: Generating initial codes	Systematically code interesting issues throughout the entire data set
Step 3: Searching for themes	Gather all relevant data for each code and collate them into potential themes
Step 4: Reviewing themes	Check if themes work in reaction to the individual codes and broader themes
Step 5: Defining and naming themes	Continue analyzing the specific details of each theme, note the overall narrative of the analysis, and generate names for each theme
Step 6: Writing the report	Select compelling abstract samples that relate to the research question and literature review

Validity and Reliability

As in any evaluative inquiry, the evaluation team considered potential threats to the validity and reliability of their data analysis and interpretation. For this evaluation, the evaluation team identified three potential threats to the study's validity and took control measures to minimize these threats. See Table 9 for the potential validity issues identified and the associated control measures that were taken.

Table 9 Potential Validity Issues Identified and Control Measures Taken

Validity Issue	Potential Threat	Definition	Control Measures Taken
Internal validity	Construct validity	Assesses how correct inferences are about the constructs used to define the project implementation, processes, outputs, outcomes, and impacts	Validation of the logic model with the operational team during the interviews and focus groups
	History	Events that occur during the study that can influence the results	Included multiple groups who experienced the "history" event, but not all of which who experienced PROECCO
External validity	Lack of explicit description of the independent variable	The level of detail used to describe PROECCO so that others know what needs to be included should they implement PROECCO in another setting	Clearly defined the intervention being studied (PROECCO)
	Multiple treatment interference	Participants experience several things as part of PROECCO	Clearly defined PROECCO as the intervention of study for participants, and asked probing questions about what they report as part of their experience of PROECCO

APPENDIX C: INTERVIEW QUESTIONS

The following interview protocols were the general templates for each stakeholder group. As all interviews were semi-structured, the interviewer could adapt the questions asked in response to the interviewee's responses.

Skat Interview

1. Forget about the formal logic model. Think about what you've done, Phase III.
    a. What were the resources/inputs?
    b. What are the key activities?
    c. What are the key outputs?
    d. What are the outcomes?
        i. Which of these are outcomes from the original plan?
        ii. Which of the outcomes from the original plan were underserved?
        iii. Which of these outcomes were unplanned?
2. Looking at the above, which activity-output-outcomes do you think are key for moving this work forward in the future?
3. Thinking about the above activities, which joint projects do you have with other partners and donors?
4. Talking about skills transfer, can you tell us about
    a. The modules integrated into curricula
    b. The number of people trained
    c. Has enough skills transfer happened or is more needed? If so, what is still needed?
5. Let's talk about modern brickmaking. We heard last time and from others that the demand is not as high as it could be. There are other modern bricks (RLB row lock bricks) that are not Skat (e.g. Brick 10 etc) that are also in competition.
    a. What factors do you think affect the Skat brick's competitiveness in the market?
6. Based on your experience, what were some of the lessons you learned through the project in Mpazi?
    a. Can you tell us about the other transformation sites listed in the Excel data table? What are they? How many were done with other donors?
7. Very briefly (or in summary) what lasting effects and behavioural changes do you think have been achieved (could be for the entire project, not just Phase III)? What about just Phase III?
8. Last time we talked a little about the progress of the exit strategy. This time we are wondering:
    a. Is the exit strategy aligned with the overall project goals?
    b. Which of the project outcomes is the exit strategy contributing towards?
9. What measures have you taken to scale up the project thus far?
10. Thinking about the future: Based on your experience and expertise, where do you think this work should go next?
    a. What measures might enhance or prevent results about sustainability from being continued?
    b. Thinking about the financial model, how are you currently supporting access to finance within the sector?
    c. What ideas do you have to increase financial sustainability? (e.g. public-private partnership, etc)
    d. What do you think is the role of the private sector? (e.g. public-private partnership)

SDC Interview Protocol

1. In Phase III, how did the two components of the project work, and how were they complementary?
2. What kinds of unexpected results have you observed? (that you might not have been able to address in the focus group)
3. From SDC's perspective (we've now heard from many other perspectives), what part of the project are you most proud of / was most successful?
4. On the other side, what should be changed?
5. Which partnerships have SDC been part of? What was the nature of the partnership?
6. Were there any policies they managed to influence based on PROECCO experiences?
7. Can you tell us your opinion on project efficiency? Related to financial and human resources, and also time. How appropriate do you think it was concerning the results achieved?
8. We have been able to observe and hear some information related to sustainability. In your opinion, to what extent will partner organizations be able to carry on activities?
9. Thinking about the future: Based on your experience and expertise, where do you think this work should go next?
    a. What measures might enhance or prevent results about sustainability from being continued?
    b. Thinking about the financial model, how are you currently supporting access to finance within the sector?
        i. What ideas do you have to increase financial sustainability? (e.g. public-private partnership, etc)
    c. What do you think is the role of the private sector? (e.g. public-private partnership)
10. Last time we talked a little about the progress of the exit strategy. This time we are wondering:
    a. Is the exit strategy aligned with the overall project goals?
    b. Which of the project outcomes is the exit strategy contributing towards?
    c. What measures, if any, will you take to scale up?

Government Authorities

1. Please describe your institution's involvement with PROECCO
    a. How long have you been involved with PROECCO?
    b. What was the nature of your involvement?
2. Let's talk about the project activities you were involved with:
    a. What were the intended outcomes?
        i. Who benefited most from the project?
        ii. To what degree did the project align with government priorities?
    b. What worked well?
        i. Why do you think that specific aspect was successful?
        ii. Were there any unexpected benefits from this?
        iii. How can PROECCO replicate or build on this success in the future?
        iv. Do you think PROECCO had spillover?
            1. Are there any development partners that are using the model?
            2. How do you see the role of the private sector?
    c. What kinds of implementation challenges/barriers did you experience?
        i. How were these challenges/barriers addressed?

ii. What were the results? Was the challenge/barrier resolved?
iii. Were there any unexpected impacts from these challenges/barriers?
iv. How might you address these challenges/barriers in the future? What is the institutional capacity to do so?

d. Overall, to what degree would you say PROECCO was successful in achieving its intended outcomes
i. In your opinion, what caused the results (positive or negative)?
ii. What kinds of policies and regulations are in place to create a conducive environment for the modern brick value chain? (production, green construction, plans, guides and so on)
iii. Do you know about the resettlement sites developed with the support of PROECCO? Can you tell us more about them? (e.g. how many, how affordable are the housing units, how inclusive of the communities are these sites, how did they prevent conflict)

3. Let's talk about the future of the project. Based on your experience and expertise:
a. How do you think people will describe the impact of PROECCO in 10 years time?
i. What changes/effects did it have?
b. What would increase the chances of PROECCO having a sustainable impact in Rwanda?
i. What about PROECCO should stay the same?
ii. What about PROECCO should change?
c. What resources do you plan to put in place for this work to continue?
i. Listen for the kinds of resources they share and
1. whether they are new or existing
2. who is/would be responsible for them
3. Whether the interviewee believes this is possible
ii. How have you embraced PROECCO's approach? Has it been included in budgets and plans?
d. What should be the focus for the future of PROECCO in Rwanda, e.g., functional urban planning, urban governance and inclusivity, etc.
i. What measures would you take to scale up the PROECCO approach?
4. Is there anything else you would like to discuss that we have not yet had time to address?

Donors

1. Please describe how aware you are of PROECCO
a. Have you engaged with PROECCO and for how long?
b. What was the nature of your engagement?
i. To their knowledge, have there been any interactions between PROECCO and other organizations?
2. In your opinion:
a. What aspects of PROECCO did you think worked well?
i. Why do you think that specific aspect was successful? [only ask in case they know PROECCO]
ii. Is there anything you took from PROECCO (e.g., technology) that inspired another project or future programming?
iii. Do you think PROECCO had spillover in Rwanda? With whom? In which area?
1. Are there any development partners that are using the model?

2. How do you see the role of the private sector?
   b. From your knowledge of the project, what kinds of implementation challenges/barriers did you observe?
      i. How were these challenges be addressed?
   c. Overall, what made the PROECCO model appealing to you?
3. Let's talk about the future. Based on your experience and expertise:
   a. How do you think the PROECCO model will influence urbanization in Rwanda? On affordable houses?
      i. If you were to take the PROECCO model, what would you keep and what would you change?
   b. What would increase the chances of PROECCO having a sustainable impact in Rwanda?
      i. If you were to advise SDC on the future of PROECCO, which elements do you think are most important
4. Is there anything else you would like to discuss that we have not yet had time to address?

Educational Institutions, Professional, and Labour Associations

1. Please describe your awareness of PROECCO
   a. How have you been involved with PROECCO?
   b. Can you tell us more about the trainings?
      i. Who was trained, how many TVETs?
      ii. Kinds of trainings (e.g. did they use ToT), which trades?
      iii. How many trainings (frequency)?
      iv. How many students and instructors?
      v. Have these trainings been integrated into any of your curriculum & how?
2. Let's talk about the project activities you were involved with:
   a. What were the intended outcomes?
      i. To what degree did the project align with the priorities at your educational institution/professional association?
         1. What is the TVET strategy?
   b. What worked well?
      i. Why do you think that specific aspect was successful?
      ii. Who benefited most from the project? Who did you think would benefit most from the project? (could listen for students, employers, etc)
      iii. Were there any unexpected benefits from this project?
      iv. How can PROECCO replicate or build on this success in the future?
   c. What kinds of implementation challenges/barriers did you experience?
      i. How were these challenges/barriers addressed?
      ii. What were the results? Was the challenge/barrier resolved?
      iii. Were there any unexpected impacts from these challenges/barriers?
      iv. How could you avoid or minimize these challenges/barriers in the future?
   d. Overall, to what degree would you say PROECCO was successful in achieving its intended outcomes
      i. In your opinion, what caused the results (positive or negative)?
3. Let's talk about the future of the project. Based on your experience and expertise:
   a. What plans are in place for your work with PROECCO to continue? What resources are needed to continue your work with PROECCO?
      i. Listen for the kinds of resources and plans they share and

1. whether they are new or existing
2. who is/would be responsible for them
3. Whether the interviewee believes this is possible

b. What should be the focus for the future of PROECCO in Rwanda?
    i. What measures would you take to scale up the PROECCO approach?

4. Is there anything else you would like to discuss that we have not yet had time to address?

Engineers, Architects, and Masons

1. Can you tell us a bit about your association/organization?
    a. What is the nature of your relationship with PROECCO?
    b. How do your association's priorities align with PROECCO?
2. Can you tell us more about the technology of the modern brick
    a. What are the advantages?
    b. What are the disadvantages?
    c. To what extent is the brick eco-friendly?
    d. What is the demand for modern bricks like?
        i. Who uses the bricks?
    e. What does the government pay for bricks?
        i. What about individuals/private companies?
    f. How affordable is it for an average builder to use?
        i. How likely are they to use it?
        ii. Are they aware of it?
3. What kinds of training are there?
    a. How many were trained by Skat? Were they enough?
    b. How have the training been rolled out?
4. If Skat disappeared today, would there be enough skills from the training for this approach?
    a. What about resources?
5. What challenges do you see for labour rights in the construction sector?
    a. What, if any, changes in labour rights have you observed because of the PROECCO project?
    b. What changes in policy are currently advocating for, or do you want to advocate for?
    c. What is your association's gender policy & practices?
6. What kinds of resources are in place or do you plan to put into place for this work to continue?
7. If you could share any recommendations for the future, what would they be?

Brickyard Owners & Operators

1. Can you tell us a bit about how you started in the brickyard sector?
    a. Did you start with traditional brick?
    b. How did you shift to modern brick?
2. Can you tell us a bit about your work with PROECCO?
    a. How long have you been the owner/operator of this brickyard?
3. Can you tell us about the advantages and disadvantages of this brick?
    a. What is the demand for the bricks?
    b. How interested are developers in this brick compared to traditional bricks?
    c. How do people know about them (e.g. marketing)?
    d. Are you able to meet the demand? (e.g. also enough supplies for demand, enough kilns, etc.)

4. Is the clay on the site enough to meet demand, or will they need more clay in the near future?
5. How successful do you think this modern brick is?
6. Do you know how many other brickyards use this technology? If so, how many? Do you think this is an accessible model?
    a. What are the costs of the modern bricks compared to traditional bricks?
    b. Do you typically sell to individuals or to companies with contracts with the government?
    c. How much does a brick cost for an individual versus a brick sold to a company?
7. What are the benefits and challenges of modern brickmaking?
    a. How do you manage the maintenance of the kilns?
8. What is the capacity to maintain them?
9. How easy is it to get funding to operate the brickyard? What are the challenges?
10. How many women are employed here or own a brickyard?
11. What kinds of obligations do you have towards decent work? What are the challenges with that?

APPENDIX D: FOCUS GROUP QUESTIONS

SDC and Skat

1. Review slide of activities that were planned
    a. What changes occurred and why?
    b. What factors contributed to that change? (ability to adapt and seize opportunities)
2. We will now discuss the project activities this group was involved with: For each category. what has worked well, what did not, and why?
    a. Policy level
    b. Value chain (including brick production)
    c. Brick ecosystem
    d. Capacity building
    e. Skill transfer
    f. Ownership
3. How is the exit strategy working?
    a. What is going well?
        i. What has been achieved already?
        ii. Are you heading in the right direction?
    b. What are the current challenges and gaps?
    c. What would you like to change?
4. How is PROECCO contributing to the transformation of spontaneous sites to create affordable houses for low-income groups?
    a. How did you make the process inclusive of low-income families?
    b. How did you assess the affordability of the homes and the modern bricks compared to traditional bricks?
5. What green building policies have been influenced by PROECCO?
6. What evidence is there that the achieved results will continue after the completion of the project?
    a. To what degree did you see partners and stakeholders embrace the aims and activities of the project?
    b. To what degree are financial resources available to continue the activities independently? (listen for who)
    c. To what degree do partner institutions have the technical capacity to continue the modern brick technology independently? (listen for who)
    d. What factors might enhance or prevent results from being continued?
7. Thinking about the future: Based on your experience and expertise, where do you think this work should go next?
    a. What measures might enhance or prevent results about sustainability being continued?
    b. What measures have you taken to scale up the project thus far?
8. Is there anything else you would like to discuss that we have not yet had time to address?

Community Members at Mpazi: Treatment Group

At start, ask for a show of hands to say if they are a renter or an owner

Ask head of village: How many live at this site?

1. What was the process like in order to live here? Was it easy, challenging, etc.?
    a. How were you involved in the process?
    b. What worked well? What was challenging? Why?
        i. Did you feel the process was fair? Why or why not?
        ii. Did you feel like you were heard? Why or why not?
        iii. Did you experience any conflict in securing a place to live?
            1. If yes, how was it addressed?
2. What kind of changes have you experienced in your life as a result of living here?
    a. Listen for benefits (including economic/employment ones during construction period)
    b. Listen for drawbacks
3. What difference do you notice with the bricks that are used in this building compared to houses built with traditional bricks?
4. Do you think this housing is affordable if not supported by the government?
5. Who maintains the housing units, for example if there is a problem with the water or sanitation etc.?
6. Do you think other people in the community are aware of this housing opportunity?
    a. How do you think awareness could be increased?
7. What happened to the previous tenants?
8. If another site were to be built, what should be done the same? What should be done differently?

Community Members at Mpazi: Control Group

At start, ask for a show of hands/during intros say if renter/owner

Ask head of village: How many live at this site?

1. Is this a place where a PROECCO housing unit is expected to come?
    a. Have you been engaged at all yet? If so, how?
    b. What do you like about this process?
    c. Would you want to participate in it and why/why not?
    d. What do you think would be challenging?
    e. What have you heard about the process?
    f. What is your opinion on the process?
    g. Have you heard of any conflicts?
2. If you decide on your own to use this brick to make your own house, do you think it would be easier or cheaper for you?
3. How do you perceive the unit design and size?

Financial Institutions and Private Developers

1. Introductions: Who you are, where you work, and what your institution does in or for the construction sector (which could include financing)
2. Modern Bricks:
    a. How many of you know about the modern brick (Skat)?
    b. For developers, what types of bricks do you use in construction?
    c. What are the advantages/disadvantages of using the Skat modern brick? Listen for quality, supply
3. Affordable Housing

    a. How many of you are aware of Mpazi resettlement site?
    b. Are you involved in building any local affordable housing projects, using modern bricks?
    c. To what extent is the private sector involved?
        i. For banks, are there any preferential loans provided for constructions that are low-carbon?
        ii. What about any credit packages for affordable housing?
    d. What are the challenges with affordable housing projects in the long term? What ideas do you have for solutions?
4. Private Public Partnership
    a. Are they involved in or are they aware of any public-private partnerships for these types of affordable housing projects?
    b. What are the challenges with these private public partnerships? What ideas do you have for solutions?
5. Sustainability
    a. Mpazi is looked at a lot because it's a first time model, and it was successful. This was adopted and financed by the government. Would this type of model be of interest to the private sector to invest in in the future?
    b. What motivates you to be involved in this sector?

Brickyard Workers

1. Can you tell us a bit about how you started in the brickyard sector?
    a. How long have you worked in the sector?
    b. Did you start with traditional brick?
    c. How did you shift to modern brick?
    d. How long have you worked at this specific brickyard?
2. What kind of training have you received?
    a. Has the training been sufficient? If not, what else is needed?
    b. What other resources are needed?
3. Can you tell us about the advantages and disadvantages of the modern brick, from a brickmaking perspective?
4. What do you like most about working here?
5. How do the working conditions at this modern brickyard compare to those in a traditional brickyard? In what ways?
    a. Listen specifically for responses from women and men

(observe # of women employed)

APPENDIX E: CONSENT FORM

University of Victoria

Participant Consent Form

Evaluation of PROECCO: Promoting Off-Farm Employment and Income through Climate Responsive Construction Material Production

You are invited to participate in an evaluation of PROECCO, conducted by Jessica Moerman, Annonciate Ndikumasabo, and Rachel Stewart, students in the Graduate Diploma in Evaluation program, School of Public Administration Program, University of Victoria.

If you have further questions, please contact Dr. Jill Chouinard, the instructor for this course at jchouinard@uvic.ca.

As graduate students, students are required to conduct research as part of the requirements for a graduate diploma in program evaluation that is being conducted under the supervision of Dr. Jill Chouinard. You may contact the course instructor at jchouinard@uvic.ca This study is also being conducted for the Swiss Agency for Development and Cooperation (SDC).

Purpose and Objectives
This evaluation is intended to:

- provide insights into the PROECCO's effectiveness (results achieved), impact (higher level effects), as well as sustainability (persistence of these results)
- analyze the transition process after the program's reorganization in September 2023, including the exit strategy
- provide recommendations both for immediate use (i.e. exit strategy) and future use (i.e. next projects)

Importance of this Research
PROECCO's Phase III is coming to a close in December 2024. This evaluation will provide information that SDC can use to make future program decisions.

Participants Selection
Participants for interview and focus groups were identified in consultation with SDC and Skat based on their involvement in PROECCO.

What is involved
If you consent to voluntarily participate in this research, your participation will include participation in an interview / a focus group that should take approximately 60 minutes of your time.

Inconvenience
Participation in this study may cause some inconvenience to you, including the time required to participate in an interview or focus group which should take approximately 60 minutes.

Risks
There are no known or anticipated risks to you by participating in this research.

Benefits
The potential benefits of your participation in this research include helping SDC to increase the relevance and effectiveness of its programs.

Voluntary Participation
Your participation in this research must be completely voluntary. If you do decide to participate, you may withdraw at any time during the interview / focus group process without any consequences or any explanation. If you do withdraw from the study your data will not be used and will be destroyed. Your responses will be confidential, identifying information such as your name, email address and residence will be included as a part of participating in this phone interview.

Anonymity
In terms of protecting your anonymity, no identifiable information will be included through participating in the interview or focus group.

Confidentiality
Your confidentiality and the confidentiality of the data will be protected by keeping the data in a secure, password-protected online database with additional web-based securities.

Dissemination of Results
It is anticipated that the results of this study will be shared with others in the following ways: a summary of results will be provided to SDC and additional key stakeholders of the project. The summary of results will also be provided to the instructor for this course.

Disposal of Data
Data collected in interviews and focus groups will be disposed of after four years.

Contacts
The individual that may be contacted regarding this study is Dr. Jill Chouinard who can be reached at jchouinard@uvic.ca

In addition, you may verify the ethical approval of this study, or raise any concerns you might have, by contacting the Human Research Ethics Office at the University of Victoria (250-472-4545 or ethics@uvic.ca).

Your signature below indicates that you understand the above conditions of participation in this study, that you have had the opportunity to have your questions answered by the researchers, and that you consent to participate in this research project.

_____	_____	_____
Name of Participant	*Signature*	*Date*

APPENDIX F: SUMMARY OF INTERVENTION STRATEGIES FROM THE CREDIT PROPOSAL (2023)

Strat. #	Title	Shortened Description
1	Creating an environment conducive to the development of bricks	Work on the entire ecosystem: banks, access to finance, laboratories for quality control, capacities for rapid and robust industrialization of the brickyard sector
2	Improving working conditions and gender	This program will work with the International Labor Organization to improve working conditions in brickyards and on construction sites. This will include continuing to train women and support women-run brickyards, increasing their power in decision-making.
3	Facilitating the redevelopment of spontaneous neighbourhoods to create affordable housing	PROECCO's Mpazi model has shown the possibility of redeveloping spontaneous neighbourhoods in a participatory way by grouping small plots to enable multi-story houses that increase the urban density by a factor of three (3 dwellings transformed into 10 apartments). In Phase III, this approach will be scaled up by supporting regional authorities in urban redevelopment projects with technical advice, test buildings, and packaging of the developed approach in a way that's attractive to local and foreign real estate investors.
4	Scaling up production of modern bricks	To meet the demand for modern bricks and to replace traditional bricks in the future, the number of modern brickyards must increase quickly and be clustered. Clusters will provide brickmakers with the necessary services and stimulate competition. PROECCO will seek to put in place the framework conditions and legal framework conditions for these clusters to help standardize the approach to attracting investors outside the brick sector.
5	Activate the project's contribution to reducing greenhouse gas emissions	In the third phase, the clustering of brickyards will enable them to be certified by myclimate. This certification of emission reductions will translate into additional income for brickmakers, making modern bricks even more competitive.
6	Operations management	In each country, the SDC will sign a project agreement with the national authorities. For Component 1, the cooperation offices will use the services of a specialized project engineering firm to manage the implementation of the pilot district rehabilitation operations. The firm will act as MOD. For Component 2, SKAT will assume responsibility for implementation.

APPENDIX G: TABLES – PLANNED OUTPUTS AS PER ANNUAL REPORT (2023)

IMPACT:

Indicators	% of attainment	Category
Impact: The construction value chain generates a reduced impact on the environment and contributes to the creation of new jobs with better working conditions, while making a substantial contribution to Rwanda's sustainable and inclusive urbanization.		
a. Employment:		
Number of people with new or decent jobs (direct and indirect)	Baseline 2020: 3689 Target 2024: 6000 Achieved 2023: 3787– 65%	On track (65%)
b. Capacity building		
Percentage of people (men and women) who have undergone PROECCO training and have been employed in the construction value chain in the last six months	Baseline 2020: 24% Target 2024: 50% Achieved 2023: 85% – 170%	Fully attained (170%)
c. Environmental performance		
Tons of yearly CO2 emission prevented through the production and use of modern bricks in the construction industry	Baseline 2020: 6600 T/Y Target 2024: 10000 T/Y Achieved 2023: 17.058 T/Y – 170%	Fully attained (170%)

OUTCOMES AND OUTPUTS:

OUTCOME 1:

Indicators	**% of attainment**	**Category**
OUTCOME 1: Institutions are equipped and capable of implementing inclusive urban transformation projects and affordable green housing and have the tools to mobilize private-sector players		
Inclusive Urban Transformation:		
Number of inclusive urban transformation projects supported by the project or by an ad hoc entity established in partnership with Kigali City Council	Baseline 2020: 1 Target 2024: 5 Achieved 2023: 4 – 80%	On Track (80%)
Institutionalized Community Engagement:		
Number of people involved in a participatory rehousing mechanism as part of a formally recognized process within local institutions	Baseline 2020: 50 Target 2024: 500 Achieved 2023: 280 – 60%	Partially attained (60%)
Innovative Financial Models		

Public institutions have access to innovative financial models for entering partnerships with the private sector	Baseline 2020: 0 Target 2024: 1 Achieved 2023: 30%	Not on Track (30%)
Output 1.1: Key technical professionals and service providers can provide quality services in participatory neighborhood planning, architectural design, and construction.		
Indic 1: Number of professionals (architects, town planners, civil engineers, building inspectors and contractors) with expertise in participatory neighborhood planning, architectural design, and modern brick construction	Baseline 2020: 0 Target 2024: 500 Achieved 2023: 678 – 140%	Fully attained (140%)
Indic 2. Number of professionals registered on the marketplace of the madeingreatlakes.com portal	Baseline 2020: 0 Target 2024: 300 Achieved 2023: 49 – 20%	Not on Track (20%)
Output 1.2: CoK adopts the participatory approach to neighborhood transformation and rehousing promoted by PROECCO as one of the key tools in its processes and can implement it through a new unit specifically dedicated to the integration of urban development projects.		
Indic 1: CoK adopts and applies the guidelines for participatory rehousing as one of its main intervention strategies	Baseline 2020: 0 Target 2024: 3 Achieved 2023: 3 - 100%	Fully attained (100%)
Indic 2: CoK has specialized staff trained to promote and implement integrated and inclusive urban processes	Baseline 2020: 0 Target 2024: 5 Achieved 2023: 5– 100%	Fully attained (100%)
Indic 3: A unit within CoK is dedicated to the management and integration of complex urban projects	Baseline 2020: 0 Target 2024: 1 Achieved 2023: 30%	Not on Track (30%)
Output 1.3: Inclusive urban transformation is supported by specific financial models that can promote collaboration with private partners and other investors		
Indic 1: CoK is equipped with financial tools to establish partnerships with the private sector to carry out inclusive urban transformation processes	Baseline 2020: 0 Target 2024: 1 Achieved 2023: 30%	Not on Track (30%)
Indic 2: CoK adopts and launches the implementation of a PPP model based on the rehousing approach tested in Mpazi.	Baseline 2020: 0 Target 2024: 1 Achieved 2023: 20%	Not on Track (20%)

OUTCOME 2:

Indicators	% of attainment	Category
OUTCOME 2: The skills and knowledge needed to design and operate a plant producing green building materials are available on the private market, and public institutions support the sector's growth by facilitating the establishment of clustered industrial facilities and promoting measures to control quality.		
Green Industrial development:		
The government has adopted a roadmap for stepping up and promoting the production of environmentally friendly building materials, by encouraging the private sector and building on the creation of ecoparks.	Baseline 2020: 0 Target 2024: 1 Achieved 2023: 30%	Not on Track (30%)
Output 2.1: Qualified service providers and consultants can provide practical support and business guidance throughout the building materials production process and provide effective laboratory services for quality control.		
Indicator 1: Total number of individual professionals capable of providing services in the production of modern bricks	Baseline 2020: 20 Target 2024: 100 Achieved 2023: 132 – 131%	Fully attained (131%)
Indicator 2; Number of professionals registered on the marketplace of the madeingreatlakes.com portal	Baseline 2020: 0 Target 2024: 100 Achieved 2023: 59 – 60%	Partially attained (60%)
Indic 3: Number of laboratories equipped and providing clay and brick quality testing services outside PROECCO	Baseline 2020: 0 Target 2024: 1 Achieved 2023: >100%	Fully attained (100% and +)
Output 2.2: Working conditions set by legislation are respected by employers to create and maintain a safe and decent workplace.		
Indic 1: Number of inspectors trained in working conditions inspection protocols specific to the clay value chain	Baseline 2020: 0 Target 2024: 25 Achieved 2023: 34 – 136%	Fully attained (136%)
Indic 2: Number of employers participating in sessions on labour standards and workplace responsibilities	Baseline 2020: 0 Target 2024: 30 Achieved 2023: 32 – 107%	Fully attained (107%)
Output 2.3: A cost-effective management and governance model for the Eco Park is developed and approved by the member institutions of the steering committee and made available to NIRDA.		

Indic 1: The study on the management structure, the financial and governance model, and the operationalization of the Eco Park are approved by the SDC, NIRDA and other competent institutions	Baseline 2020: 0 Target 2024: 1 Achieved 2023: 30%	Not on Track (30%)
Indic 2: The site of the first Eco Park is identified, correctly zoned, and designed in detail	Baseline 2020: 0 Target 2024: 1 Achieved 2023: 50%	Partially attained (50%)
Indic 3: Work on the first phase of the Eco Park is launched by the management company	Baseline 2020:0 Target 2024: 1 Achieved 2023: 0 %	Not on Track (0%)

OUTCOME 3:

Indicators	**% of attainment**	**Category**
OUTCOME 2: Academic institutions and professional associations have the technical skills and tools needed to provide technical and vocational training throughout the construction value chain.		
Sustainability of PROECCO's achievements:		
Number of courses and training programmes supported by PROECCO and delivered independently by education institutions and professional associations	Baseline 2020: 1 Target 2024: 4 Achieved 2023: 4 – 100%	Fully attained (131%)
Output 3.1: Guides, manuals, and catalogues are completed and available on the Knowledge Hub of the web portal.		
Indic 1: Number of technical documents available	Baseline 2020: 20 Target 2024: 100 Achieved 2023: 132 – 131%	Fully attained (131%)
Indic 2; Number of documents downloads	Baseline 2020: 0 Target 2024: 100 Achieved 2023: 59 – 60%	Partially attained (60%)
Output 3.2: TVET schools, the University of Rwanda and professional associations provide courses or classes based on the technologies and approaches promoted by PROECCO.		
Indic 1: Number of courses developed by PROECCO offering training on the production and use of green building materials	Baseline 2020: 0 Target 2024: 4 Achieved 2023: 5 – 125%	Fully attained (125%)
Indic 2: Number of trainers trained and able to deliver training on RLB construction technology and modern brick production	Baseline 2020: 0 Target 2024: 20 Achieved 2023: 36– 180%	Fully attained (180%)

APPENDIX H: TECHNICAL NOTES

Evaluation Note on the Environmental aspects of the Rowlock bond brick production.

The Rowlock bond brick production and use in Rwanda has played a significant role for the construction industry, providing essential building materials for different housing projects and creating employment opportunities in both urban and rural areas. However, alongside the benefits of the production and use, comes environmental considerations that need careful examination and mitigation strategies. This analysis focuses on various stages of the Rowlock bond brick manufacturing process, including raw material extraction, production methods, transport, and end-use applications.
This assessment has focused on different environmental aspects in consideration of the information from different partners and field observations.

A. Rowlock bond bricks production:

The Modern brick production requires different activities that mainly include raw materials extraction, preparation of clay, molding, drying, and firing of the bricks and transportation of the produced bricks. All these activities require much attention during the process, to avoid any negative impact to the environment. PROECCO III's main objective was having means of subsistence and working conditions of workers improved by **reducing the impact of the material production for the construction on the environment and climate** in the Great Lakes region.

- **Clay Extraction:** the **Rowlock bond brick** is made from clay extracted from quarries using hoes (the example of the case of Optima Clay brickyard) or using heavy machinery like excavators (the case of Gati and AMEGERWA brickyards). The extraction activities are being performed by trained people, where after the extraction, quarries are supposed to be rehabilitated. The case of visited brickyards, most of the quarries are being rehabilitated after extraction but not all. The areas of clay extraction are in marshlands near the brickyards, and their rehabilitation is not successfully completed as there are many that are left open after extraction. With no rehabilitation works and continuous excavation activities, there is a risk of ecosystem damage.

- **Preparation of clay and molding:** according to the interviewees at the visited sites, the extracted clay is then transported to the brickyards where it undergoes preparation. The impurities as rocks, twigs and other debris are removed, and the clay is mixed with other materials like sand, kaolin, and water. The mixing requires a good quantity of water, where for the case of Amegerwa brickyard, tap water is used while in other local brickyards, like Optima Clay and Gati, water comes from the nearby wetlands/marshlands near the clay quarries. Once clay is prepared, it was molded into brick shapes using mechanical molding or mechanized processes using mechanical presses.

- **Drying and firing:** the RLB brick is dried on an open air to lose moisture, and the firing of the molded modern bricks is being performed using agricultural by-products like saw dust, coffee husks and rice husks. This technique is used in all visited Modern Brickyards except Amegerwa that uses a more advanced electrical technology. This showed efforts made by PROECCO in encouraging the environmental protection through the reduction of the use of charcoal and firewood.

- **Cooling and Quality control:** once the RLB bricks are fired, they are allowed to cool gradually inside the kilns before removal. This is because rapid cooling can result into thermal shocks and lead to cracking of the brick. Of the case of RLB bricks, after firing, they are left into the kiln for cooling and removed after they are cool enough to be loaded for transportation.

B. Environmental aspects analysis for the MB production:

- **Raw materials Sourcing and Extraction:** it was observed that the RLB bricks production relies on clay as a primary raw material. The extraction of the clay results in the habitat destruction and alteration of the landscape. The good practice of quarries rehabilitation, after clay extraction, promoted by PROECCO was a good practice for environmental protection. However, the little involvement of the brick makers into the total rehabilitation on the clay quarries may result in environmental damages with time. This is not only due to clay extraction activities, but also as the fact that the same marshlands where the clay is being extracted are also being used for different agricultural activities. They are undergoing much pressure (e.g.: the case of Optima Clay).

- **Energy consumption:** the firing process in Kilns is the step that requires significant energy inputs (e.g., coal, natural gas, biomass). According to the Rwandan partner GGGI and local MB makers, PROECCO's strategy of using agricultural by-products in the MB firing process has been a life changing to the brick making industry and a great contribution to the environment protection. This led to a reduction of firewood and charcoal use, resulting in trees saving.

- **Greenhouse gas emissions:** the greenhouse gases include carbon dioxide, (CO_2), methane (NH4), Carbon Monoxide (CO), etc... The main greenhouse gas that is produced during the brick firing is mainly CO_2. During the interviews, many stakeholders involved in the construction sector (Development partners and brickyards owners) and in the environmental conservation (like GGGI) appreciate efforts and techniques used by PROECCO for CO_2 emission reduction. According to the PROECCO report, with the development of the CO_2 emission calculation tool, the production of 23million bricks (since the start of PROECCO) has resulted in a saving of 17,058 tons of CO_2 emissions. This achievement greatly underlines the substantial environmental impact of the project and underlines the efficacy of the approaches used to mitigate the carbon footprints in the construction sector. However, greater achievements can be made if they were also a use of renewable energy sources or improvement of Kiln efficiency (as many of them are very old and use an old technology).

- **Water usage:** clay processing, molding, and cooling are the steps that require water. Most of the visited brickyards were using tap water or water from the nearby wetlands. The wastewater discharged from the processes is not a lot as the production of the MB is still low. But with time, there might be a risk of the greater quantities of water consumption and wastewaters production to be considered. Rainwater use should be an option to consider in the future and a wastewater management plan should be implemented.

- **Waste generation:** MB production generates waste materials such as excess clay and broken bricks. It was observed that the excess clay is well conserved by brick makers for future use and some damaged/broken bricks are being recycled or sold at a lower price to local builders (Source: Optima Clay). This reduces the quantity of waste generated at the Brickyards.

Conclusion:

In Rwanda, the production and use of the modern bricks promoted by PROECCO, have impacted the construction sector by giving building materials and generating jobs, however environmental considerations require careful attention and mitigation. Throughout the modern brick making process, including raw materials extraction, preparation, molding, firing and transportation; environmental aspects have been analyzed. The clay extraction poses risks of habitat destruction and landscape alteration, with ongoing efforts to rehabilitate the quarries. This requires regular inspections and a regular reporting mechanism to track compliance. Energy consumption during the firing, mitigated by PROECCO's promotion of use of agricultural by-products, has reduced reliance on firewood and charcoal, yielding significant trees preservation.

While greenhouse gas emissions, primarily CO_2, persist from brick firing, PROECCO's initiatives have notably curbed emissions, emphasizing the potential for further reductions through renewable energy adoption and kiln efficiency enhancements. Water usage and the management of wastewater remain manageable for now, but require attention as production scales, with future considerations for rainwater harvesting. Waste generation, primarily excess clay, and broken bricks, is mitigated by conservation and recycling efforts at brickyards, reinforcing sustainability goals.

In summary, while the modern brick production benefits Rwanda's construction industry, sustainable practices and continued mitigation efforts are imperative for long-term environmental preservation and resources management.

Evaluation Note on Engineering and technical aspects of the modern brick production

1. Modern brick Vs. Traditional brick

- The **Traditional brick** is the most popular brick used in Rwanda, but mostly in rural areas and in the informal construction sector. The production technology used are archaic brick clamps, whereas the process starts with manually mixing the clay with water, followed by molding the bricks individually using wooden forms. The bricks are then air-dried and stacked in piles which are later fired with fuel wood from nearby forest or woods. Challenges include: the excessive use of fuel wood, the limited production capacity, no working capital, no stock, quality that varies tremendously, …. rendering the business not sustainable. It is worth noting that the market for traditional bricks is still high.
- The **Modern brick** on the other hand involves modern production technology, as it can use eco-friendly fuels (saw dust, coffee husk, rice husk, etc.), has a kiln for firing, machines for grinding, mixing, and water content control – ensuring a higher quality of the brick and higher production capacity. Furthermore, job security and working conditions are enhanced, in the MB approach.
- At Gati brickyard, workers highlighted the following differences:
    - **The molds:** Trad: one type. MB: several types.
    - **Mixing:** Trad: done using feet. MB: done using machines.
    - **Workers are paid:** Trad: based on the production (10 rwf per brick). MB: on a daily basis. (2000rwf per day)
    - **Market:** Trad: Regular. MB: Irregular.
    - **Quality of the brick:** Trad: Low. MB: High.
    - **BM process:** Trad: Slow. MB: Fast.
- **Additional key differences, as per SKAT document (Construction manual for RLB):**
    - Traditional production degrades the environment, as it significantly contributes to deforestation. The archaic brick firing methods consume up to 4 times more energy than modern brickyards and leave 30-40% of all bricks underfired and weak.
    - With the shift to modern brickmaking, the overall energy consumption can be reduced by 50%, while the brick production can actually be doubled.
    - Perforated modern bricks consume less clay than solid traditional bricks, contributing to an additional energy savings of 20-30%.

2. Though the manufacturing technology presents similarity, the modern bricks are made in various shapes, sizes and intended use. **Types of manufactured MB:**

- Based on the intended end use: Maxspans for suspended slabs, Facing bricks for wall cladding, Rowlock bond bricks (RLB) for loadbearing walls ()
- Based on the different sizes B10, B12, B17, etc.
- Hollow bricks vs Solid bricks
- Note that Amegerwa mentioned that they are currently able to produce 40 different types of bricks but are only producing 28 types.

3. Emphasis on the Rowlock bond brick (RLB):

- This is one of the construction technologies introduced, locally adapted and improved by PROECCO in the market. The RLB fired clay brick is designed to be used for the construction of load-bearing or self-bearing walls. In other words, this indicates that, if used as intended and

following the design and construction rules, the walls are to carry the dead and imposed loads without the need of introducing concrete or steel frames for support. This specific type of brick is produced industrially or semi-industrially and has a minimum strength of 10 MPa (note that the traditional brick strength ranges from 3 to 5 MPa).

- The RLB construction technology
  - Description: As stated above, the RLB brick is designed to be used for building self-bearing walls. Manuals and tools were developed to guide the builders to effectively use this construction technology.
  - The builders need to be trained in this specialized construction technology.
  - Limitations of the technology includes:
    - ◊ The maximum span of 5m in between walls. This limits the designers, especially constrains in designing commercial buildings that normally has larger spans.
    - ◊ The maximum story level is G+3, beyond which a concrete frame is required. It then looses its efficiency.
    - ◊ The expertise required to design and build is not yet widespread. Very limited technicians are trained and able to implement onsite. Same for the engineers in regards to the design aspect.
  - The RLB fired clay brick and RLB construction technology is only cost effective for G+3 buildings.
- Design tools that provide key design requirements were developed and available to the public. The same applies to guidelines for construction quality and control.

4. Description of the brick production:

- Raw material: Clay and Kaolin.
- Production processes that affect the end product quality are:
  - Preparation of raw material (clay and kaolin + water) – this may include crushing, mixing, grinding, segregating
  - Forming the bricks through the selected mold – it determines the shape and size of the brick
  - Air-drying (Up to 20% water content)
  - Firing (from 7% to 0% of water content)
  - Storage of the brick – preferably under a shed, a covered area.
- To manufacture modern bricks, the manufacturer can opt for different equipment, machines, kilns that will subsequently impact the production processes. However, the principles remain the same.
- Laboratories have the necessary equipment and capacity to conduct quality checks.

In conclusion:

Overall, it can be concluded that modern brick technology offers significant advantages over traditional methods in terms of efficiency, quality, and sustainability. By adopting modern production techniques using eco-friendly fuels and advanced machinery, the quality and consistency of bricks are greatly improved while reducing environmental impact. The shift to modern brickmaking not only enhances job security and working conditions but also contributes to overall energy savings and increased production capacity. However, challenges remain in terms of widespread adoption and expertise in specialized construction techniques like Rowlock bond brick (RLB) construction, particularly for larger and more complex building projects. Continued training and investment in technology will be key to maximizing the benefits of modern brick manufacturing and construction methods in Rwanda's building industry.

APPENDIX I: ASSESSMENT GRID FOR PROECCO PHASE III, RWANDA

DAC criteria and SDC/SECO sub-criteria	Score	Justification
1 Relevance: Is the intervention doing the right things? Summary: The extent to which the intervention's objectives and design (at the time of design and at time of evaluation) respond to beneficiaries' and involved stakeholders' needs and priorities, and continue to do so if circumstances change. *Note: Understanding gendered power dynamics and reflecting on the SDG commitment to "leave no one behind" are crucial in understanding relevance.*	*Please do not write anything here. The DAC criteria score will automatically be calculated as the arithmetic mean of sub-criteria.*	Click here to enter text.
1.1 ***Responsiveness to needs, policies and priorities***: the extent to which the objectives (at output, outcome and impact levels) of the intervention respond to the needs and priorities of the beneficiaries (target group), involved stakeholders (involved in funding, implementing and/or overseeing the intervention) and, when relevant, to indirectly affected stakeholders (e.g. civil society, etc.). *Note: A particular emphasis should be placed on beneficiaries. If there are trade-offs, please describe them in the justification.*	**1 - highly satisfactory**	Intervention design was not assessed in this evaluation. We considered the rating in the mid-term review still valid
1.2 ***Sensitiveness and responsiveness to the context and capacities of the beneficiaries and involved stakeholders****:* the extent to which the context was considered in the design of the intervention (e.g. economic, environmental, equity, social, cultural, political economy and last but not least capacity considerations). *Note: Evaluators are encouraged to describe which contextual factors are most pertinent to the intervention.*	**2 - satisfactory**	Intervention design was not assessed in this evaluation. However, in the second half of phase III, the programme management proved to be adaptive, seizing opportunities in the context which allowed ultimately to achieve results anchored in sustainable structures
1.3 ***Quality of design****:* the extent to which core design elements of the intervention (such as objectives and their related indicators, logframe, theory of change including related assumptions, choice of services and intervention partners, exit strategy) reflect the needs and priorities of the target group, are	**3 - unsatisfactory**	This evaluation reviewed the exit logframe. SDC's guidance on log frames and adaptive management states that in program adaptation, outcomes and impact goals should remain valid, and changes should be mainly advised at the output level and activities. All objectives in the new logframe have been

DAC criteria and SDC/SECO sub-criteria	Score	Justification
appropriate, realistic, clearly defined, measurable and feasible (technical, organisational and financial feasibility). *Note: the exit strategy should be planed from the outset of the intervention to ensure the continuation of positive effects as intended, whilst allowing for changes in contextual conditions.*		reformulated and reduced in scope compared to initial objectives.
1.4 ***Adaptation over time****:* the extent to which the intervention has meaningfully adapted to changes over the course of its lifespan (e.g. evolving policy and economic contexts, change of funding, new opportunities, outbreaks of conflict or pandemic, etc.).	**1 - highly satisfactory**	PROECCO has had to adapt, particularly in this most recent phase when COVID-19 interrupted activities. The project has also adapted based off of what was learned in previous evaluations and in response to local contexts.
1.5. ***Process:*** the extent to which activities were implemented as planned	**2 - satisfactory**	PROECCO was divided under 2 components at the beginning. Until mid-term, component 1 was not working. However, exit strategy developed in September 2023 and reorganisation managed to fix the subsequent implementation challenge, which paced up achievement of results
2 Coherence: How well does the intervention fit? Summary: The compatibility of the evaluated intervention with other interventions in a country, sector or institution, i.e., the extent to which other interventions (in particular policies) support or undermine the intervention and vice versa.	*Please do not write anything here. The DAC criteria score will automatically be calculated as the arithmetic mean of sub-criteria.*	Click here to enter text.
2.1 ***Internal compatibility***: the extent to which the intervention is compatible with other interventions of Swiss development cooperation in the same country/region and thematic field (consistency, complementarity, synergies, avoiding duplication of efforts, subsidiarity). *Note: if feasible, evaluators are encouraged to also take into account compatibility with the interventions of different levels / departments of the Swiss government in the same operating context (e.g.: development, diplomacy, trade, security, etc.)*	**3 - unsatisfactory**	In interviews and focus groups, the operational team stated that regrettably, coordination between PROECCO and SDC's TVET program PROMOST did not happen, except through ENABEL in support of RTB.
2.2 ***External compatibility***: the extent to which the intervention is compatible with interventions of other actors in the country and thematic field (complementarity, synergies, overlaps and gaps, value-added, use of existing systems and structures for implementing activities, harmonization, coordination, etc.).	**2 - satisfactory**	Diverse partners across stakeholder groups shared positive examples of existing complementarity between PROECCO and other development partners' interventions in Rwanda. However, stakeholders expressed that coordination was lacking, and greater collaboration between donors and stakeholders was needed for future success. Recommend increasing SDC's role in sector coordination.

DAC criteria and SDC/SECO sub-criteria	Score	Justification
3 Effectiveness: Is the intervention achieving its objectives? Summary: The extent to which the intervention achieved, or is expected to achieve, its objectives and its results, including any differential results across groups.	*Please do not write anything here. The DAC criteria score will automatically be calculated as the arithmetic mean of sub-criteria.*	Click here to enter text.
3.1 ***Achievement of objectives**:* The extent to which the intervention achieved or is expected to achieve its intended objectives (outputs and outcomes) as originally planned (or as modified to cater for changes in the environment), including its transversal objectives (e.g. gender, climate) *Note: If some – but not all – of the objectives were achieved the evaluators will need to examine their **relative importance** to draw conclusions on the effectiveness.*	**2 - satisfactory**	The December 2024 targets were used to show how much work is remaining in the project. According to these data, fourteen indicators are fully achieved, twelve are partially achieved, and one is not yet achieved.
3.2 ***Unintended effects***: The extent to which the intervention has responded adequately to the potential benefits/risks of the positive/negative unintended results.	**2 - satisfactory**	PROECCO has built on positive unintended effects. Stakeholders identified some negative unintended effects (e.g. bills & maintenance costs, etc.)
3.3 ***Differential results**:* the extent to which the intervention results (outcomes) were inclusive and equitable amongst beneficiary groups and the extent to which key principles such as non-discrimination, accountability and leave-no-one-behind were taken into account during the implementation.	**3 - unsatisfactory**	Gender equity was limited. Though there were women involved and data was tracked, it was still a limited number of women involved in the construction sector.
If an additional sub-criteria is relevant please formulate it here	select	Click here to enter text.
4 Efficiency: How well are resources being used? Summary: The extent to which the intervention delivers, or is likely to deliver, results in an economic and timely way.	*Please do not write anything here. The DAC criteria score will automatically be calculated.*	Click here to enter text.
4.1 ***Timeliness*:** The extent to which the intervention delivered the results (outputs, outcomes) in a timely manner (within the intended timeframe or reasonably adjusted timeframe) and the extent to which efforts were made to mitigate delays. *Note: in case timeliness was unsatisfactory for reasons outside of the intervention's control, the rating should still be unsatisfactory and explanation provided in the justification field.*	**3 - unsatisfactory**	Significant delays occurred throughout the phase for many reasons before reorganisation (see Mid-term evaluation). SDC and Skat stated that they have been aware of them and continuously worked on them. After reorganization, many were linked to the kind of approaches adopted namely going through sustainable public institutions.

DAC criteria and SDC/SECO sub-criteria	Score	Justification
5 Impact: What difference does the intervention make? Summary: The extent to which the intervention has generated or is expected to generate significant positive or negative, intended or unintended, higher-level effects. Impact addresses the ultimate significance and potentially transformative effects of the intervention. It seeks to identify social, environmental and economic indirect, secondary and potential consequences of the intervention that are longer term or broader in scope than those already captured under the effectiveness criterion. It does so by examining the holistic and enduring changes in systems or norms, and potential effects on people's well-being, human rights, gender equality, and the environment. *Note: depending on the timing of the evaluation and the timescale of intended benefits, evaluators can assess for both actual impacts (i.e. already evident) and foreseeable impacts.*	*Please do not write anything here. The DAC criteria score will automatically be calculated as the arithmetic mean of sub-criteria.*	Click here to enter text.
5.1 ***Intended impacts*:** The extent to which the intended (planed and, where applicable, revised) 'higher-level effects' (i.e. lasting changes in the lives of beneficiaries) of the intervention were (or are expected to be) achieved. *Note: also consider the extent to which the intervention contributed to "holistic and enduring changes in systems or norms" and transformational change (addressing root causes or systemic drivers of poverty, inequalities, exclusion and environmental damage).*	**2 - satisfactory**	**Intended Overall Impact**: The construction value chain generates a reduced impact on the environment and contributes to the creation of new jobs with better working conditions while making a substantial contribution to Rwanda's sustainable and inclusive urbanization. This evaluation did not study environmental performance in-depth because prior evaluations have already clearly demonstrated this. However, some stakeholders acknowledged to contribution of PROECCO in developing standards for green building. The PROECCO methods and techniques for construction material production were found by many stakeholders as ecologically friendly though the scale is still limited PROECCO reports show job creation, however evidence from interviewees was limited. Capacity-building was highly discussed in interviews and assessed to be relatively successful, but with some continued work to be done. PROECCO contribution to sustainable and inclusive urbanization through the urban transformation concept was appreciated by many stakeholders. Government partners are taking over and can continue after the project.

DAC criteria and SDC/SECO sub-criteria	Score	Justification
5.2 ***Unintended impacts***: Has the intervention brought about (or is it expected to bring about) any unintended (positive and/or negative) higher-level development results? If yes, to what extent have these higher-level effects been positive (or are likely to be positive)? *Note: consider here any kind of unintended effects such as escalating or deescalating effect on a conflict or context of fragility, effect on the legitimacy of the state or non-state actors, effect on the inclusion or exclusion of vulnerable groups, unintended pollution, etc.* *If there wasn't any noteworthy unintended impact (higher-level effect), mark this question as non-applicable (n/a) and do not give a rating.*	**2 - satisfactory**	Positive: The project has built buy-in at higher systemic levels (e.g. City of Kigali). The participatory approached was widely appreciated and embraced. Negative: Gentrification is a negative unintended impact that is inevitable though the government prohibited new homeowners to sell their homes for a period of five years. Similarly, the most vulnerable populations may not be included. Examples given were related to landlord.
5.3 ***Differential impact***: the extent to which the intervention's intended and unintended higher-level results (impacts) were (or are expected to be) inclusive and equitable amongst beneficiary groups and the extent to which key principles such as non-discrimination, accountability and leave-no-one-behind were taken into account during the implementation. *Note: Keep in mind that positive impacts overall can hide significant negative distributional effects.*	**3 - unsatisfactory**	Limited data was available on gender equity While two of the brickyards visited are owned by women. However, compared to the project's ambition of bringing change in women accessing decision-making positions in brickyards and constructive sites, it is still lacking in significant progress.
6 Sustainability: Will the benefits last? Summary: The extent to which the net benefits of the intervention continue or are likely to continue. Includes an examination of the enabling environment for sustainable development, i.e. financial, economic, social, environmental, and institutional capacities of the systems needed to sustain net benefits over time. Involves analysis of resilience, risks and potential trade-offs. *Note: depending on the timing of the evaluation and the timescale of intended benefits, evaluators can assess for both actual sustainability (i.e. the continuation of net benefits created by the intervention that are already evident) and prospective sustainability (i.e. the net benefits for key stakeholders that are likely to continue into the future)*	*Please do not write anything here. The DAC criteria score will automatically be calculated as the arithmetic mean of sub-criteria.*	Click here to enter text.
6.1 ***Capacity and resilience development***: The extent to which the beneficiaries and development partners have strengthened their capacities (at the individual, community, or institutional level), have the resilience to overcome future risks and external shocks that could jeopardise the intervention's results and have improved their ownership or political will.	**2 - satisfactory**	While there was significant ownership and buy-in from beneficiaries and partners, with many having participated in capacity-building opportunities, they still expressed that additional supports could better improve long-term resilience.

DAC criteria and SDC/SECO sub-criteria	Score	Justification
6.2 ***Financial sustainability***: The extent to which development partners have the financial resources to maintain the intervention's net benefits over time (e.g. increased national, and where applicable subnational, financial or budgetary commitments).	**2 - satisfactory**	Conversations were underway to develop strategies for financial sustainability, such as public-private-partnerships. Though the City of Kigali voted the budget for 19 blocks based on PROECCO model, challenges related to sustainable financial models were raised as critical for the future.
6.3 ***Contextual factors***: The extent to which the context is conducive to maintain the intervention's net benefits over time (e.g. policy or strategy change; legislative reform; institutional reforms; governance reforms; increased accountability for public expenditures; improved processes for public consultation in development planning). *Note: It includes assessing the trade-offs associated between instant outcomes and potential longer-term effects as well as the trade-offs between financial, economic, social and environmental aspects.*	**3 - unsatisfactory**	Policy work was identified as a key area for future growth. Recommend engaging with government on areas such as tax exemption, subsidies to affordable housing and sustainable financing models, tenants' protection law to mitigate gentrification and integrated planning of upgraded areas.
7 General comments Summary: this section is only for free text (no score). The evaluator may provide an overall assessment of the evaluated intervention, explore and reflect on relationships and synergies between different criteria (this includes considering if and how they are causally related).		In the context of an urbanizing country as Rwanda, the project's relevance is undeniable. Moving from a regional set-up to a country program was very relevant in the case of Rwanda. With the new programme logic (current ToC), the likelihood of yielding systemic changes increased as shown in the evaluation report. For the future, it would be critical to engage with government institutions from the start and engage in coordination as there are many development partners in the sector.

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Federal Department of Foreign Affairs FDFA
Swiss Agency for Development and Cooperation SDC
Swiss Regional Cooperation Office Great Lakes
Rwanda, Burundi, DR Congo

Management response to the

Hybrid, final evaluation of the programme *Promoting Off-Farm Employment and Income in the Great Lakes Region through Climate Responsive Construction Material Production (PROECCO)*, 2012-2024, Rwanda

The Management Response (MR) states the position of the SDC on the recommendations of the hybrid, final evaluation of the programme *Promoting Off-Farm Employment and Income in the Great Lakes Region through Climate Responsive Construction Material Production (PROECCO)*, 2012-2024, Rwanda.

Assessment of the evaluation

The evaluation was conducted by a team led by one internal evaluator, Mrs Annonciate Ndikumasabo, Senior Governance Advisor of the Swiss Regional Cooperation Office Great Lakes in Kigali, in the frame of her Graduate Diploma in Policy and Program Evaluation from the University of Victoria, Canada. The team was completed by two fellow students, Mrs Jessica Moerman and Mrs Rachel Stewart, and by two local consultants, Mrs Vivine Tuyizere and Mrs Lisette Gaju. The evaluation was supervised by Prof. Jill Chouinard, in accordance with international standards. The evaluation process was managed satisfactorily and included close involvement of SDC's Programme Officer in charge of the PROECCO programme.

The main objectives – 1) Providing insights into the project's effectiveness, impact and sustainability; 2) Analysing the transition process after the project reorganisation in September 2023; 3) Formulating recommendations useful for the preparation of the next programme supporting sustainable urban growth – have been either fully or largely met by the evaluators. SDC appreciates the comprehensiveness of the evaluation report and the high quality of the methodology that met rigorous academic standards.

SDC acknowledges the intrinsic complexity of evaluating the PROECCO programme arising from 1) the multidisciplinary nature of the project and the degree of specialisation in each discipline, that would have required one or several senior technical profiles within the team of evaluators (e.g., urban economist, industry expert) to deliver deeper analyses, contextualisation or validation of statements that are lacking in certain cases; and 2) gaps in terms of coherence between the project logical framework which serves as the basis for assessing results, and the project intervention strategy as outlined in the credit proposal and as largely implemented by Skat, which led to instances of statements that can be perceived as contradictory because using one or the other reference framework to evaluate results.

The report's analysis and resulting recommendations are in any case considered to be useful for strengthening the strategic orientation of SDC's future programme *DiversCITIES (Designing Inclusive, Vibrant and Efficient Rwandan Settlements and Cities)* and identifying items for which further attention is needed.

Main findings

SDC welcomes the broadly positive conclusions presented by the evaluation regarding the impact and results achieved by PROECCO despite an initially slow start into phase III.

Acknowledging the pioneer work done by Skat under the project and the concrete influence its activities had on official policies and strategies such as mainstreaming the participatory rehousing approach for informal settlement upgrading, the evaluators also accurately pointed out shortcomings or future points of attention for SDC, such as unintended social effects – gentrification, increase of the cost of life for rehoused households – or affordability of housing for the most vulnerable groups.

The evaluators encouraged the continuation of activities in the construction materials sector, in particular supporting further the establishment of an Eco-Industrial Park, which SDC was considering with less emphasis for its future project. They challenged the contribution level of the project to the market dynamics, while highlighting the still volatile market for modern bricks and the need to widen and consolidate the catalogue of construction technologies and skills. Cautious consideration will be given to this topic when designing *DiversCITIES* in detail.

Regarding capacity building in the construction sector, the evaluation raised the question of responsibility for scaling up trainings and skills: SDC is of the opinion that a solid basis has been laid by PROECCO and that the private sector and professional associations need to take over, following the market evolution – in one direction or the other.

The evaluation confirmed that the project was conducting relevant activities for consolidation and scale-up before closing and highlighted the need to sustain SDC's support to institutional actors in order to consolidate and scale-up approaches promoted by the project. It also highlighted the importance of policy dialogue and sectoral coordination, without which the project would have remained with successful yet anecdotal pilot realisations.

SDC notes the need for a more structured adaptive management approach and the reinforcement of the capacities of its staff as well as partners in this regard. Greater attention will be given to this topic during the design and implementation of *DiversCITIES*.

Appreciation of recommendations

Out of ten recommendations, seven are 'fully agreed' (green), two are 'partially agreed' (orange) while one is not agreed (red) – see table below. The SDC agrees to seize this opportunity to improve its results by taking specific measures in line with the recommendations.

1.	Extend PROECCO for at least a year, with skilled staff for completion of activities started. The project support to the Ecopark, City of Kigali and capacity building need an extension to complete what is ongoing and hand-over to specific institutions.	
2.	Continue with the urban transformation model, especially the participatory approach especially by supporting its anchoring into a specific policy.	
3.	Continue efforts to promote capacity building and skills development along the construction value chain through professional associations and RTB. Going through academic institutions such UR and RP might be difficult as curricula change requires a long process.	
4.	For decent work, conduct a specific study to establish concrete changes influenced by PROECCO and take into account in future intervention.	
5.	Increase the role of SDC in sector coordination. If not possible to take a role at the sector coordination level, engage at the technical working group level.	
6.	Start engaging with Government institutions from the beginning of project design and conduct policy dialogue on key issues as tax exemption, subsidies to affordable housing and sustainable financing models, tenants' protection law to mitigate gentrification and integrated planning of upgraded areas.	

7.	Develop a structural approach to financing and market.	
8.	Improve planning capacities to design a SMART Program at both SDC and implementing partners' levels. Find a balance between being adaptive and avoiding the risk of simply jumping on opportunities.	
9.	Conduct further inquiry into the market demand for modern bricks in order to understand the reasons for stakeholders' differing perspectives, e.g., awareness, coordination, capacity of brickyards, etc.	
10.	Continue to explore how affordable housing projects can be more financially attractive to private investors.	

Fully agree | Partially agree | Disagree

Next steps

Action points for SDC after the completion of this evaluation are the following:

- Extend PROECCO for one year, implementing the extension through institutions and providing them with expertise and backstopping to consolidate results while enhancing sectoral coordination and policy dialogue.
- Include points of further attention in the scope of the preparatory study and in the design of *DiversCITIES*, to be conducted closely with government partners.
- Organise a CSPM training for SDC staff and consultants selected to draft the *DiversCITIES* ProDoc.
- Coordinate internally with other SDC projects to ensure continuity and synergies.

Kigali, 30.09.2024

COOPERATION SUISSE AU RWANDA

Marc De Santis
Regional Director of Cooperation
SDC Great Lakes

Overview of recommendations, management response and measures

Recommendation 1		
Extend PROECCO for at least a year, with skilled staff for completion of activities started. The project support to the Ecopark, City of Kigali and capacity building need an extension to complete what is ongoing and hand-over to specific institutions.		
Management response		
Fully agree	Partially agree	Disagree
After 12 years of implementation through a third-party, institutionalisation of activities and processes is paramount to sustain results. This process has been started partially with secondment of Skat staff to the City of Kigali from August 2024. Moreover, PROECCO is finishing on two design studies for scaling up pilot solutions that risk having a limited impact if they do not lead to the set-up of the entities they designed. Continued support to NIRDA, CoK and MININFRA is key to ensure the implementation of these entities. *On the capacity building front, the evaluation does not mention clearly what activities need to be carried on, but rather a perception that "capacity building was not enough". This needs further investigation.*		

Measures	Responsibility	Timing
a) Sign a financing agreement with MINICOM and MINECOFIN for a contribution to NIRDA aimed at implementing the Ecopark.	SDC PO E&DE	September – November 2024
b) Sign a financing agreement with CoK and MINECOFIN for a contribution aimed at rehabilitating further informal settlements using the rehousing approach.	SDC PO E&DE	September – November 2024
c) Second key experts (advisor or backstopping) to assist in the implementation of the financing agreements	SDC PO E&DE	January – June 2025
d) Consider opportunities for more capacity building in the construction sector for the new programme	SDC PO E&DE	January – April 2025

Recommendation 2		
Continue with the urban transformation model, especially the participatory approach especially by supporting its anchoring into a specific policy.		
Management response		
Fully agree	Partially agree	Disagree
Agreed, even if acknowledging that the project has limited direct influence on policies. Continuous dialogue is being carried out at the sector working group level. SDC contributed to consultations during the revision of the expropriation law in 2023, without any communication from GoR on the outcomes so far. Rehousing is specifically mentioned in NST2 and the urbanisation SSP thanks to PROECCO work.		

Measures	Responsibility	Timing
a) Maintain advocacy within the urbanisation sector working group for inclusive urban transformation.	SDC PO E&DE	Immediate and continuous

Recommendation 3		
Continue efforts to promote capacity building and skills development along the construction value chain through professional associations and RTB. Going through academic institutions such UR and RP might be difficult as curricula change requires a long process.		
Management response		
Fully agree	**Partially agree**	Disagree
The evaluation does not mention clearly what capacity building activities need to be carried on, but rather a perception that "capacity building was not enough". Project objectives were however reached with a curriculum reviewed and approved by RTB, and a number of engineers and architects (including trainers) trained in rowlock bond construction technology at IER, RIA and STECOMA; additionally, IER has taken over the project website and data bank containing manuals, briefs, tutorials, etc. SDC acknowledges however the possibility that the critical mass is not yet reached to satisfy the demand, and that medium-term follow-up is needed to ensure quality.		

Measures	Responsibility	Timing
a) Consider a training center within the future Ecopark, in collaboration with RTB and professional associations.	SDC PO E&DE	January – April 2025
b) Coordinate with SDC's *Support to the Dual Education Sector* programme implemented by RTB to follow-up on the curriculum of construction materials and techniques.	SDC PO E&DE	Immediate and continuous

Recommendation 4		
For decent work, conduct a specific study to establish concrete changes influenced by PROECCO and take into account in future intervention.		
Management response		
Fully agree	Partially agree	Disagree
It would have been appreciated to have a deeper analysis within the scope of the evaluation. This question will be included in the scope of the preliminary study for DiversCITIES.		

Measures	Responsibility	Timing
a) Include considerations of decent work in the scope of the preliminary study for DiversCITIES.	SDC PO E&DE	October 2024

Recommendation 5		
Increase the role of SDC in sector coordination. If not possible to take a role at the sector coordination level, engage at the technical working group level.		
Management response		
Fully agree	Partially agree	Disagree
It has been a priority for SDC in the past two years, yielding tangible results: SDC has been nominated by MININFRA in June 2024 to co-chair the technical working group on housing development within the urbanisation sector working group.		

Measures	Responsibility	Timing
a) Endorse the role of TWG co-chair, hiring a secretariat to support coordination efforts.	SDC PO E&DE	October 2024 – February 2025

Recommendation 6			
Start engaging with Government institutions from the beginning of project design and conduct policy dialogue on key issues as tax exemption, subsidies to affordable housing and sustainable financing models, tenants' protection law to mitigate gentrification and integrated planning of upgraded areas.			
Management response			
Fully agree	Partially agree	Disagree	
It is planned that the ProDoc for DiversCIIES will be drafted together with a consultant and MININFRA, ensuring ownership and an openness to dialogue from the start.			
Measures		Responsibility	Timing
a) Co-design DiversCITIES with MININFRA and other relevant stakeholders.		SDC PO E&DE, Consultant	January – April 2025

Recommendation 7			
Develop a structural approach to financing and market.			
Management response			
Fully agree	**Partially agree**	Disagree	
This recommendation is vague and not fully understood. PROECCO has mandated a design study for a public-private vehicle that proposes to solve the issues of financing urban transformation. SDC is developing the MASAF project proposing solutions to the financing gap for MSMEs, that could serve the construction sector as well.			
Measures		Responsibility	Timing
a) n/a		[n/a]	[n/a]

Recommendation 8			
Improve planning capacities to design a SMART Program at both SDC and implementing partners' levels. Find a balance between being adaptive and avoiding the risk of simply jumping on opportunities.			
Management response			
Fully agree	Partially agree	Disagree	
In fact, CSPM was supposed to be part of PROECCO phase III but was never implemented. A training for SDC staff and the consultants selected to write the DiversCITIES ProDoc would be beneficial.			
Measures		Responsibility	Timing
a) Organise a CSPM training for SDC staff and partners		Regional Advisor Governance	January 2025
b) Conduct regular steering committees for DiversCITIES		SDC PO E&DE, Implementing agencies	From July 2025 on

Recommendation 9		
Conduct further inquiry into the market demand for modern bricks in order to understand the reasons for stakeholders' differing perspectives, e.g., awareness, coordination, capacity of brickyards, etc.		
Management response		
Fully agree	Partially agree	**Disagree**
It would have been appreciated to have a deeper analysis within the scope of the evaluation. The project implementation team also has good knowledge of the actors and current dynamics of the brick production sector. Given the fact that the current design study for the Ecopark has included a market analysis, SDC renounces to conducting any further study.		
Measures	Responsibility	Timing
a) n/a	[n/a]	[n/a]

Recommendation 10		
Continue to explore how affordable housing projects can be more financially attractive to private investors.		
Management response		
Fully agree	Partially agree	Disagree
This is tackled in PROECCO's design study for the public-private vehicle that proposes to solve the issues of financing urban transformation. The extension of PROECCO (recommendation 1) should also cater to this issue. No further measures necessary.		
Measures	Responsibility	Timing
a) n/a	[n/a]	[n/a]