Cameroon Cataract Bond Evaluation

Final report

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Summary

This case study report covers the Cameroon Cataract Bond, a pay-for-performance loan, also known as a Development Impact Bond (DIB), designed to provide funding to prevent blindness through the provision of cataract surgeries in Cameroon. Stakeholders launched the Bond in 2018 and concluded it in February 2025. The stakeholders originally planned for the Bond to conclude after five years in February 2023. However, due to the COVID-19 pandemic, stakeholders extended the Bond by 2 years until 2025.

The Magrabi ICO Cameroon Eye Institute (MICEI) is the African Eye Foundation's (AEF) flagship project and first subspeciality eye care hospital and training institute in Central Africa to provide cataract surgery to treat avoidable blindness. AEF secured funding from Dr. Akef-Maghraby (anchor donor and Chairman of the AEF) to build MICEI in 2012. AEF selected Cameroon as the intervention country because the number of avoidable blindness cases in the country was set to double by 2020 if there was no systemic change in the service delivery strategy of eye care intervention[1]. $10 million of funding had been raised to fund the initial construction and set up of MICEI before the DIB; the DIB aimed to raise a further $2 million to finance capital expenditures and working capital for MICEI's ongoing operations.

The Cataract Bond Design Coalition led the DIB. The Conrad N. Hilton Foundation, The Fred Hollows Foundation, Sightsavers, the African Eye Foundation (AEF), and Sagana[2] formed this coalition. The DIB included loans totalling $2 million from the US International Development Finance Corporation (DFC)[3] and the Netri Foundation.

TIME PERIOD: March 2018 – February 2025 (2-year extension)

THEMATIC AREA: Sight restoring cataract surgery

COUNTRIES: Cameroon

TARGET POPULATION: Low-income and middle-income patients with cataract in urban and rural areas in Cameroon

OUTCOME METRICS:

1. Number of Cataract Surgeries (18,000 with a 10% buffer)
2. Quality of Surgeries (at least 50% of surgeries achieving a good outcome)
3. Financial sustainability (normalised EBITDA for FY2024>0)

Bonus Payment: Equity bonus incentive (changed in 2021). At least 40% of surgeries provided to individuals from outreach campaigns, or from hospital walk-ins and then receive free or subsidized surgeries.

LOAN VALUE: $2 million

SERVICE PROVIDERS: Magrabi ICO Cameroon Eye Institute (MICEI)

OUTCOME FUNDERS:

Conrad N. Hilton Foundation

The Fred Hollows Foundation

Sightsavers

Lenders:

US International Development Finance Corporation (DFC)

Netri Foundation

CORDINATION MANAGER: Sagana

INDEPENDENT VERIFICATION: IRESCO

[1] Available at: https://golab.bsg.ox.ac.uk/documents/Cameroon_Cataract_Case_Study.pdf
[2] Volta Capital was the coordination manager and merged with Sagana in 2022. Sagana then took on the role of coordination manager.
[3] DFC were formerly the Overseas Private Investment Company (OPIC).

1.1 DIB design and set-up

The outcome funders consortium committed support to the Cameroon Cataract Bond, aiming to explore a new financing mechanism in the eye care sector and to diversify the funding challenge through mobilising private capital. The outcome funders, hospital, and lenders shared the financial risk, enabling the mechanism to bring in new finance to the eye care sector in Sub-Saharan Africa.

The DIB successfully tested the feasibility of impact investing into the eye-care sector in Cameroon in Sub-Saharan Africa. The DIB activated the hospital as it secured commitment from lenders and outcome funders. The DIB facilitated a strong relationship between the outcome funders and the hospital, as both parties wanted to reduce preventable blindness and understood the hospital's operating context. Furthermore, the DIB enabled the stakeholders to collaborate on common goals and targets. The DIB improved the accountability and design of impact measurement and incorporated targets with payments attached to them such as sustainability and equity. Stakeholders introduced innovation by selecting outcome metrics that strengthened the Bond's design and focus of the outreach programme to achieve the equity bonus incentive.

A disadvantage of the DIB during set-up was the difficulty of finding lenders for the Cameroon Cataract Bond. The original terms of the loan were a capital guarantee of 50% with an interest rate of 5%; however, this did not generate any lender interest. Instead, DFC and Netri negotiated revised terms, including full repayment of the $2 million principal (even if the outcomes were not achieved), and an increase in the interest rate from 5% to 8%. The repayment obligations were to be met through a combination of outcome funders and the hospital, depending on performance. The Netri Foundation was the first lender to join the Bond; however, they were too small to be the lead lender. At the time of the DIB set up, DFC was OPIC; a loss on principal was not an option for OPIC, and therefore, full repayment of principal under the loan terms was required. Some stakeholders expressed disappointment in the change of the original capital guarantee structure and the hospital taking on financial risk. However, lenders felt that the revised interest rate reflected the risks of the transaction at the time, considering it was the first time a DIB had been implemented by the hospital, lenders, and other stakeholders. Moreover, due to the hospital being partially responsible for repayments to DFC and Netri in a failure scenario, there was a risk that the hospital would not have been in a financial position to repay the loan.

The difficulty in finding lenders and the complexity of contracting made the set-up phase longer and more costly than anticipated. Due to this being the first DIB that the outcome funders and lenders have been a part of, there was hope that set-up costs and the complexity of the contract may be reduced in the future, due to now having the experience of a DIB set up.

1.2 DIB delivery

1.2.1 Summary of delivery

The Cameroon Cataract Bond reached the end of Year 7 in February 2025. The Bond, overall, performed well against the outcome targets. The full loan was repaid, plus 8% annual interest. Table 1 shows the results.

Table 1: Final results

	Target	Results
Outcomes	**Number of Cataract Surgeries** (at least 18,000 cumulative cataract surgeries by the end of Year 7, with a 10% buffer)	**16,800** cataract surgeries (within the 10% buffer)
	Quality of Surgeries (at least 50% of cumulative cataract surgeries, to obtain visual acuity in operated eye ≥6/18 in accordance with World Health Organization standards, achieving a good outcome)	**75%** of surgeries achieved a good outcome
	Financial sustainability (normalised EBITDA for Year 7>0)	Positive EBITDA as of 31/12/2024: **$83,338**
	Equity Bonus Incentive: At least 40% of surgeries provided to individuals from outreach campaigns, or from hospital walk-ins and then receive free or subsidized surgeries	**41%** of total cataract surgeries resulting from outreach and walk-in patients who received free or subsidised surgeries cumulatively by the end of Year 7 and excluding years 3 and 4
Outcome payments	If all outcome targets were met, the outcome funders would repay a total of **$2,822,584**	As all targets were achieved and so the outcome funders paid **$2,822,584**
Loan return	If all outcome targets were met, the interest (8%) would be **$641,334**	**$641,334**

During implementation, the hospital faced challenges with the verification of the equity bonus incentive before a new equity measure was introduced. The Bond faced challenges with COVID-19, which forced the hospital to close and reopen at reduced capacity. Stakeholder extended the Bond by two years to provide the hospital with longer to achieve the outcomes and make up for 'lost time' due to COVID-19.

1.2.2 'DIB effects' observed

The evaluation focused on whether the DIB led to better and more relevant, efficient, and effective activities compared to alternative funding models (mainly a grant) – known as the 'DIB effect'. However, without a robust counterfactual, it is difficult to unequivocally determine the 'DIB effect', and evaluator judgement is required.

Overall, we observed an **increased focus on outcomes**, including an increased focus on **equity.** In addition, the DIB did help to **create greater collaboration between stakeholders.** The focus on outcomes also improved the hospital's monitoring and evaluation (M&E), which led to process adaption. While the DIB contributed to a stronger focus on delivery due to the implementation of outcome targets, some stakeholders were not convinced that the DIB was essential in embedding a set of

outcome targets and thought an outcome-focused grant could have had the same effect. However, it is not clear what an outcome-focused grant would look like.

1.2.3 Comparing the Cataract Bond to other outcomes-based contracts

While Ecorys was evaluating the Cameroon Cataract Bond, it was also undertaking an evaluation of the UK Foreign, Commonwealth and Development Office (FCDO) Development Impact Bonds (DIBs) pilot programme, which included three other DIBs[4]. This provides an opportunity to compare and contrast the experiences and impact of the Cataract Bond with other DIBs[5].

The **design** of the four DIBs had some similarities, in that they paid against a range of different outcome metrics, and most had performance bonuses for the service providers. However, the key difference was that the investors in three DIBs in the FCDO programme had either no or much lower capital guarantees.

In terms of **delivery,** all four DIBs were affected by COVID-19, but responded / renegotiated in different ways. In the ICRC HIB the outcomes were not renegotiated. In the VE DIB they agreed to change the outcome metric. In QEI they did not 'count' the years when COVID-19 affected the DIB the most in the results. However, in contrast to the Cataract Bond, the other DIBs did not have extensions.

In terms of **DIB effect,** across all four DIBs there was evidence that the DIB model contributed to a shift in focus to outcomes and greater accountability. However, a key factor across all the four DIBs is that while the success of the DIBs can be attributed to the structure of the DIB, many of the successes were also due to various non-DIB factors and designs. Furthermore, stakeholders in all four DIBs thought the contracting mechanism was complex and thought the same effects could possibly be achieved through simpler structures.

1.3 Summary of impact on patients

The hospital's outreach campaigns targeted the poorest in the community in need of eye care and cataract operations. Many people with cataracts, before accessing surgery from the hospital, were forced to give up their livelihoods due to deterioration in their eyesight. They were also dependent on assistance from others in their families and communities, and in some cases, this had led to individuals with poor eyesight being ostracized from their communities. The cataract surgeries improved patients' eyesight, and with that, their quality of life. After the surgery, many patients we interviewed were able to return to work and became financially independent, and increased their household income. This had reduced the burden of care on families and communities and allowed patients to regain their independence, which in turn improved family dynamics and inclusion within communities. Patients had not only regained their sight, but also independence.

Figure 1: A patient showing a carpet she was able to make after receiving cataract surgery

[4] Findings from the third wave of the Independent Evaluation of the FCDO Development Impact Bonds Pilot Programme Summery Report can be found here: https://iati.fcdo.gov.uk/iati_documents/D0003403.pdf

[5] The pilot programmes involved in the FCDO DIBs evaluation were: International Committee of the Red Cross Humanitarian Impact Bond for Physical Rehabilitation (ICRC HIB) (July 2017 – July 2022), which funded the construction of three new physical rehabilitation centres in Mali, Nigeria and Democratic Republic of Congo (DRC); The Quality Education India Development Impact Bond (QEI DIB) (April 2018 – July 2022), which funded a range of service providers to improve learning outcomes for 200,000 primary school-aged children; The Village Enterprise Micro-Enterprise Poverty Graduation Impact Bond (VE DIB) (November 2017 – November 2020), which aimed to raise the income levels of at least 12,660 householders through VE's micro-enterprise development programme, known as Graduation programme.

1.4 Conclusion

The Cameroon Cataract Bond performed well against its outcome targets. The use of the DIB mechanism likely increased stakeholder collaboration and increased the focus on outcomes and equity. However, other factors also influenced this.

The Cameroon Cataract Bond took a lot of time to get off the ground initially, primarily due to the challenge of finding lenders. Various stakeholders hoped that in future DIBs, due to the increased awareness of this type of financing and having examples of completed DIBs to draw on, there would be greater interest from lenders, and therefore the contracting period would not be as long or as expensive.

At the time of the final wave of research (December 2025), MICEI was in the process of expanding paying services to provide VIP and fast-track services for high- and middle-income patients, allowing the hospital to continue providing subsidized and free cataract surgeries to low-income patients. However, the hospital was finding that the resources generated through the VIP and fast-tracked services was insufficient to meet the growing need of blindness in the underserved communities.

2.0 Information on the intervention and DIB model

2.1 The Magrabi ICO Cameroon Eye Institute

The African Eye Foundation (AEF) created the Magrabi ICO Cameroon Eye Institute (MICEI) as a not-for-profit organisation. The African Eye Foundation was set up by the Magrabi Foundation (a non-profit organisation in Egypt), the International Council of Ophthalmology (ICO), and the That Every Life May Count Foundation (a non-profit foundation organised in Switzerland). The aim of MICEI was threefold: to advocate for and promote better eyesight; to construct and operate a network of integrated, self-sustainable eye hospitals across Sub-Saharan Africa; and to train and equip African eye care experts. MICEI was their flagship project and first subspecialty eye care hospital and training institute in Central Africa. The Cameroon Cataract Bond funded cataract-related equipment, consumables, and activities within the intervention programme at MICEI.

MICEI adopted the Aravind model[6] of cross-subsidisation pricing, high service volume, and revenue diversification strategies to provide quality cataract treatment services to the poor at low or no cost in Cameroon. The Aravind model is a social enterprise model of eye care. It was first popularised in India by the Aravind Eye Care System; however, it has limited implementation in Sub-Saharan Africa due to the lack of flexible capital in less-densely populated and lower-income areas. The Magrabi Foundation adopted the model as a way of financing low-cost cataract surgeries.

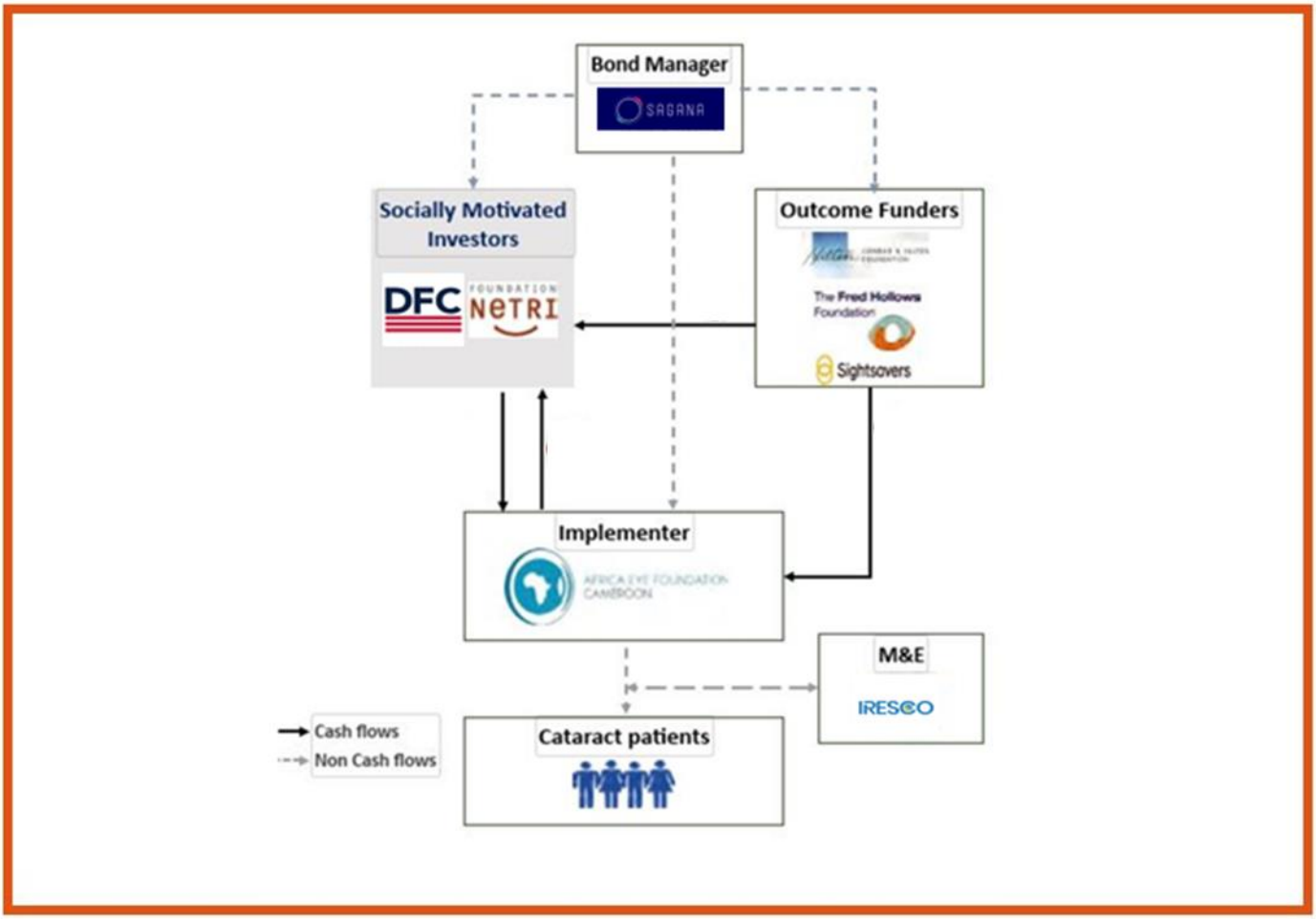
MICEI had two target groups to operationalise the cross-subsidisation model: low-income patients and middle-income patients. At the start of the Bond in 2018, between 30% and 40% of the patients were expected to be middle-income patients from urban areas, who would be able to pay between $100 and $545 and contribute to the financial sustainability of the hospital. It was designed that these funds would then enable MICEI to provide cataract surgery for free or at a subsidized price for patients unable to pay for the treatment. These patients would be targeted through outreach campaigns.

2.2 The performance loan

The African Eye Foundation secured funding from Dr. Akef El-Maghraby (anchor donor and Chairman of the AEF), as well as funding from other global health and disability NGOs for the completion of the hospital, which began in 2012. The Development Impact Bond (DIB) financed an additional $2 million to operationalise the hospital after construction was completed in 2016. The DIB was led by the Cataract Bond Design Coalition, which was formed of The Conrad N. Hilton Foundation, the Fred Hollows Foundation, Sightsavers, AEF, and Volta Capital (later, Sagana). The coalition was a partnership comprised of leading non-profit eye health funders, private sector advisors, and the hospital. The structure of the loan is summarised in Figure 2 and described below.

[6] Available at: Our Story - Aravind Eye Care System

Figure 2: Cameroon Cataract Bond Structure



2.2.1 Outcome metrics

The original four outcome metrics that payments were linked to were:

Performance Targets:

- Number of Cataract Surgeries: At least 7,000 cumulative cataract surgeries by the end of Year 3 (with a 20% buffer); At least 18,000 cumulative cataract surgeries by the end of Year 7 (with a 10% buffer) to provide flexibility in the event of unforeseen shocks
- Quality Outcome: At least 50% of cumulative cataract surgeries to obtain visual acuity in the operated eye ≥6/18 in accordance with the World Health Organization standards, as measured one day after surgery, by the end of Year 3 and Year 7, respectively
- Financial Sustainability: Normalised annual EBITDA (earnings before interest, tax, depreciation and amortisation) for Year 7> $0
- Equity Target:
  - Equity bonus incentive: At least 40% of cataract patients receiving surgery at MICEI belong to the lowest two wealth quintiles in Cameroon by the end of Year 7

The original timeline for the Cameroon Cataract Bond was March 2018 – March 2023. However, COVID-19 impacted the intervention in its second year of implementation. The Cameroon Cataract Bond Steering Committee agreed to extend the

DIB for an extra two years, extending the timeline from March 2023 to February 2025, while maintaining the three original performance targets (though the deadline to achieve these targets was extended to February 2025, apart from the EBITDA target, which was only extended through to December 31st, 2024). This is further discussed in Section 4.

The outcome funders reached a consensus on a revised way of measuring the equity target in early 2022, which was shared with the hospital, AEF, and lenders in early 2023 (see section 4.3). The new equity target measurement was:

- Equity bonus incentive: At least 40% of cataract patients receiving surgery at MICEI come through the Borrower's outreach campaigns, or come from hospital walk-ins and then receive free or subsidized surgeries. This will be measured cumulatively for performance Years 1-2, and 5-7, excluding performance years 3 and 4 (during COVID-19).

2.2.2 Performance loan terms

The Cameroon Cataract Bond provided $2 million in financial support for MICEI's operational costs, including the funding of cataract-related equipment, consumables, and activities. The Conrad N. Hilton Foundation was the Bond's primary outcome funder and covered approximately 90% of what was owed to the lenders, if the intervention succeeded. The Fred Hollows Foundation and Sightsavers covered roughly 5% each.

DFC and the Netri Foundation provided 87.5% and 12.5% respectively of the $2 million upfront capital in March 2018. The loan involved 100% capital protection (i.e., the full $2m principal would have to be repaid even if the outcomes were not achieved). If the outcomes were not achieved, both outcome funders and the hospital would have to share the repayments. The repayment terms are set out in Table 2.

Table 2: Payment Schedule

Scenario	Repayment (including interest)
If performance targets in Y3 were met	Outcome funders would repay 60% of the principal + 8% interest
If performance targets in Y3 were not met	76.5% of the principal would be repaid by outcome funders + 4% interest to DFC only over the next 5 years. The hospital would repay the remaining 23.5% of the principal interest free
If Y3 performance targets were met, and Y7 performance targets were met.	The remaining 40% of the principal would be paid by outcome funders + 8% interest paid in Year 7
If Y3 performance targets were and Y7 performance targets were not met	Outcome funders repay 55% of the remaining principal to lenders + 4% interest to DFC only at the end of Y7 The hospital would repay 45% of the outstanding principal, interest-free over the next 4 years
Equity target was met at the end of Y7	Outcome funders pay a bonus of USD120,000 to the hospital

Initially, the independent monitoring and evaluation of the information provided by MICEI in accordance with the quantity, quality, and equity bonus incentive was conducted by the AEDES/IRESCO consortium from 2018 to 2023. IRESCO (Institute of Research and Behavioural Studies) was selected as the independent monitoring and verification organisation for the Cameroon Cataract Project from 2023 to 2025.

2.3 Evaluation method

The evaluation focused specifically on the design and impact of using a Development Impact Bond to fund the hospital (rather than on the performance of the hospital as a whole). The two evaluation questions were:

- How does the DIB model affect the design, delivery, performance, and effectiveness of development interventions?
- What improvements can be made to the process of designing and agreeing DIBs to increase the model's benefits and reduce the associated costs?

This evaluation focused on understanding the advantages and disadvantages of the DIB model. It explored how any strong or weak performance in the project was attributable to the DIB model rather than other factors, such as local context or the delivery team. The evaluation focused on whether the DIB led to better and more relevant, efficient, and effective activities compared to alternative funding models – known as the 'DIB effect'.

This is the third wave of the Cameroon Cataract Bond Evaluation. The first wave of research was conducted between October and November 2018, and the second wave between April and June 2020. The first wave of the Cameroon Cataract Bond can be found at: Cameroon_Cataract_Case_Study.pdf. The second wave of the Cameroon Cataract Bond can be found at: Cameroon-Cataract-DIB-Case-Study-v5.pdf

All three waves involved consultations with the main stakeholders involved in the design and implementation of the DIB. The third wave of research was conducted between February and December 2025. The third research wave also included a fieldwork visit to MICEI in Yaoundé, where in-person interviews were conducted with MICEI staff as well as patients. See Annex A for a complete list of contacted stakeholders in all three research waves.

3.0 Learning from designing and setting up the DIB

3.1 Background and identification of outcome funders

In 2013, following a report provided by PwC which found that there was insufficient financing going into eye care to eliminate avoidable blindness in middle and low-income countries[7], The Fred Hollows Foundation started investigating ways to encourage organisations to provide funding to reduce preventable blindness. The Fred Hollows Foundation had a strong interest in DIBs, and creating public goods that could be shared with other parties interested in applying the DIB model. Selecting the specific eye care intervention that would best suit the DIB financing model took the Fred Hollows Foundation around 8 to 12 months, and in 2013 they developed a DIB to finance cataract surgeries in large-scale outreach eye camps.

In January 2015, The Conrad N. Hilton Foundation was approached by The Fred Hollows Foundation to become an outcome funder. The Conrad N. Hilton Foundation had a portfolio focused on avoidable blindness in Sub-Saharan Africa, and a previous relationship with the African Eye Foundation. AEF's motivation for being involved in the DIB came from the international recognition that came from working together with the outcome funders, as well as the potential to receive upfront funding with more favourable terms than a commercial loan, while sharing the risk of its operations with the outcome funders.

The Fred Hollows Foundation was the lead outcome funder. The Fred Hollows Foundation engaged D. Capital (who subsequently rebranded to Volta Capital) as the deal's technical advisor in April 2015. In 2022, Volta Capital merged with Sagana, and Sagana took the role of Coordination Manager. Sightsavers joined the DIB as an outcome funder in the design process, which also helped provide specialised knowledge of the eye care sector in Cameroon and experience with monitoring and evaluation. All outcome funders shared a common objective of preventing avoidable blindness and supporting the expansion of innovative financing in the eye care sector.

The Fred Hollows Foundation and Sightsavers split the development costs that initially occurred between May - Oct 2015. The Conrad N. Hilton Foundation covered some of the "pre-launch" costs, which were taken out of the first payment made by the grant, which was approved in November 2015. Soon after, the Conrad N. Hilton Foundation committed funds to the DIB and joined as the final outcome funder.

3.2 Design of intervention

The Fred Hollows Foundation and The Conrad N. Hilton Foundation agreed that the focus of the DIB should be the MICEI eye care hospital in Yaoundé, Cameroon. The original targets were put together in collaboration with the MICEI management team and verified by experts such as The Lion's Aravind Institute of Community Ophthalmology, which is the training and consulting arm of the Aravind Eye Care System, and the Africa Eye Foundation. The setting of the original targets was based on the country's demand for eye surgeries, data from other eye hospitals, MICEI's track record, and World Health Organization standards. Data from the Africa Eye Foundation was used to build the financial modelling behind the performance indicators. The quality indicator specifically aligns with the WHO benchmark for a 'good cataract surgery outcome'.

Overall, stakeholders considered the setting of the targets to be well researched and informed by the evidence at the time of the design of the Bond. This was one of the first DIBs in eye care, and therefore, there was no example to base the design of the outcome metrics on. The outcome funders used their expertise in eye health to agree on the targets, and the targets were generally considered to be fair and achievable, while stretching the hospital.

For the quantity target, there was a buffer of 20% in Year 3, and a 10% buffer in Year 5 (which became Year 7). This meant that if the quantity of surgeries was within the buffer in Year 7, it would be the same as the hospital reaching the full target. In the final performance year (2025), MICEI performed a total of 16,800 cataract surgeries, which is within the 10% of the

[7] Available at: pwc-1-price-of-sight-final-report-2013.pdf

buffer of 16,200 surgeries (the full target was 18,000 surgeries). Stakeholders had mixed opinions about the buffer. Some stakeholders raised questions about the buffer and the main target having the same incentive, which could reduce the desire to strive for the main target, when the buffer amount would be enough to succeed fully. A couple of stakeholders mentioned that it would be worth considering another incentive to reach the main target in the design period, as then it would allow for the safety net of a buffer, while at the same time maintaining the drive to reach the full target.

Some stakeholders expressed that the quality target was not ambitious enough. The target was set at 50%, which stakeholders acknowledged was significantly less than the World Health Organization's standards at the time of the Bond design, which was >80%. The negotiation process led by AEF meant that the target was set at 50%; however, the hospital consistently operated at a much higher quality standard throughout the DIB. The hospital explained that the WHO target had since increased since the outcome targets were designed, but the outcome target remained the same for the whole 7-year period.

All stakeholders highlighted that including equity as an incentive was important and innovative, despite it not being attached to the payments beyond a bonus at the end of the Cataract Bond. The use of the equity bonus incentive within the DIB structure was essential in trying to balance the hospital's financial sustainability and profitability with equity. The original measurement tool was the EquityTool[8], which was used to compare the wealth of its patients to the wealth of a national sample of the population. The EquityTool is a 9-question survey, which determines relative household wealth through measurements such as home building materials, ownership of durable assets, and material possessions, such as owning a television in the home.

When the approach to measure the equity bonus incentive was changed in 2021, the use of the EquityTool was stopped, as the measurement of the target changed from measuring an individual's relative wealth to monitoring the number of individuals being brought to the hospital via the outreach campaigns (see: Update on Delivery).

3.3 Identification of lenders and negotiations

In 2016, the identification of lenders began. Potential lenders had hesitations in committing to becoming the main lender, such as some lenders noting that the intervention did not align with their country priorities (Cameroon) or sector (eye care). Other lenders were reluctant to join due to the risk attached to the loan and the fact that there was not yet a significant and credible lender on board.

In March 2018, the US International Development Finance Corporation (DFC), which was OPIC at the time, agreed to be the main lender and to provide a loan of $1.75 million to the Bond. This was DFC's first DIB, and at the time of set-up, the DIB market was nascent. The Netri Foundation committed the remaining $250,000.

The original terms of the loan were a capital guarantee of 50% with an interest rate of 5%. However, during negotiations, these terms changed. The most substantive change was the move from a relatively small portion of the principal being covered to 100% being contractually owed irrespective of outcome performance, split between outcome funders and the hospital (see Table 2). This was because DFC's mission only enabled the organisation to provide debt financing. This repayment was dependent on the hospital being able to repay, which was a risk – at the time, the hospital was a greenfield project without a track record of operations. The repayment was not fully guaranteed, as it also depended on the outcome funders being able to repay. While this was a smaller risk than MICEI, it was a risk, nonetheless. The fact that MICEI took on some of the risk of project failure gave confidence to the lenders and showed Africa Eye Foundation's commitment to reaching their targets.

The rate of interest was also increased to reflect the commercial and political risks of the loan. The final terms involved a lift in the interest rate from 5% to 8% if targets were met, and a 4% interest rate for DFC if targets were not met (see Table 2). The Netri Foundation refused the term of a 4% interest rate if targets were not met.

[8] Available at: https://equitytool.org/cameroon/

The terms of the DIB were agreed with MICEI, as the terms of the loan were still better than those provided by a commercial loan, and they felt confident that they could achieve the outcome targets.

The lenders' negotiation decreased the financial risk they took on, though they were still carrying risk. Stakeholders discussed how the change in terms to the lender affected the impact of using a DIB as a financial structure and may impact the replicability of the DIB in other situations.

3.4 Enablers and challenges to launching the DIB

These enablers and challenges to launching the DIB are a summary of those discussed in Research Wave 2[9].

3.4.1 Enablers

- Collective leadership. During the set-up of the Bond, stakeholders agreed that the Cataract Bond Design Coalition built strong relationships with all stakeholders, which facilitated the set-up.
- Alignment of objectives and shared mission from the outcome funders meant that there was a shared sense of priority during the set-up phase, as each stakeholder wanted to prevent avoidable blindness. The shared drive also impacted the overall understanding of the importance of the intervention and contributed to the equity bonus incentive.
- Clear outcomes. Cataract surgeries had clear outcomes that could be measured easily, as well as demonstratable impact on patients. It was chosen to be a health intervention for results-based financing as cataract surgeries are cost-effective and have easily measurable outputs and outcomes compared to other health and eye interventions.
- Data to build a business case, including data on the eligible cohort and outcomes likely to be achieved. It was possible to use data from the Africa Eye Foundation to build the financial modelling behind the performance indicators.
- Hospital track record and reputation. The track record of Magrabi running for-profit hospitals in other countries, and their experience in applying the Aravind model, gave lenders' confidence. The hospital also already had a monitoring and evaluation system in place, which one lender noted gave them more confidence in the project and incentivised them to participate.

3.4.2 Challenges

- The complexity of a DIB compared to other traditional grants. Hospital staff explained that at the beginning of the DIB, it took a while to understand the financial instrument as they had not worked with the financing model before, and the structure was complex. The DIB was complicated and had a lot of stakeholders involved, so significant time was spent understanding how the financing model would work in practice.
- Identifying lenders who were willing to invest in the DIB. During the DIB set up, stakeholders believed that the outcome funders' misreading of the risk appetite was a key reason for the challenge in identifying lenders who were willing to invest. A lender explained that a key learning for them is that they wanted to be involved in the set up and design of the DIB from the very beginning. DFC's involvement in the DIB began in March 2017, which was two years after the outcome funders were brought onto the DIB.
- Higher-than-anticipated costs at set up. The process of setting up the DIB took two years, which was longer than expected, which resulted in stakeholders incurring higher costs than anticipated in terms of staff time, consultant fees and legal advice. However, it is hoped that in future DIBs this cost would be lower, as now all stakeholders know how the set-up process works. The development of the Bond required a steady stream of financial support that led the Bond coalition to request multiple grants, such as a grant proposal of USD 200,000 to Standard Chartered Banks'

[9] Available at https://iati.fcdo.gov.uk/iati_documents/60351870.pdf

competitive 'Seeing is Believing' Innovation Fund, which did not go through and forced partners to assume most costs than anticipated.

3.5 Advantages of using the DIB mechanism during set-up phase

- **The DIB allowed for different stakeholders and expertise to come together.** Stakeholders agree that the DIB structure allowed a variety of stakeholders with a range of expertise to be involved, which may not have happened through a more traditional funding structure, such as a grant. The range of experiences and expertise, both in eye care and in investing, positively impacted both the design and implementation of the Bond. Some stakeholders had worked together before; however, it was the first DIB for all, and stakeholders considered it beneficial for them to work together in a different capacity.
- **The DIB brought impact investing and results-based finance into a space that did not exist before by sharing the risk of the loan between outcome funders, the hospital, and lenders.** The risk sharing between the outcome funders and the hospital opened a new space for results-based financing.
- **The DIB model enabled stakeholders to be ambitious in the setting of sustainability targets and equity bonus incentives.** During set-up, the innovative element of having a target ensured the financial sustainability of the hospital was seen as key to ensure the impact of the intervention continued after the DIB ended. Furthermore, while outreach programmes are common, using a performance bonus to encourage the delivery of cataract medical services to the poorest members of the community using outreach campaigns was innovative.
- **The DIB provided upfront capital to MICEI, which enabled them to initiate the operations of the hospital.** Stakeholders acknowledged that it would have been hard for the hospital to get traditional loans from banks due to being a brand-new provider at the time. Therefore, the DIB allowed the loan at the start of their implementation to afford equipment and pay up-front starting costs.

4.0 Learning from DIB delivery (June 2018 to March 2025)

4.1 How COVID-19 affected delivery

The COVID-19 pandemic posed challenges to the hospital. Towards 2020, the hospital experienced increased awareness of its services within the community, and patient numbers were increasing. The hospital hit the Year 3 target. However, COVID-19 became a global pandemic in 2020, with Yaoundé and the rest of Cameroon under lockdown for a short period of time in early 2020. The hospital had to completely shut down in compliance with COVID-19 measures for two weeks. When it did reopen, it reopened progressively and operated at a significantly reduced capacity. This negatively impacted the number of patients coming to the hospital for surgeries and the hospital's confidence in its ability to reach the outcome targets in Year 5.

For the hospital, the biggest challenge was the impact of the pandemic on outreach activities. The hospital had to stop all outreach between April and October in 2020, and from April to August in 2021. After the lockdown eased, outreach activities could not go back to pre-pandemic levels, as gatherings of more than 50 people were banned by the Cameroonian government. Transporting people to and from outreach camps was difficult due to limits on the number of patients they could transport at once. Once restrictions eased, the hospital continued to experience challenges in patient numbers, as people were worried about coming to the hospital for fear of contracting COVID-19. One member of hospital staff said that it was not the physical challenges of COVID-19 that had the most effect, but it was the psychological problem, and it therefore took people a longer amount of time than expected to feel comfortable enough to accept surgery.

The hospital had to put measures in place to get the patients back to pre-pandemic levels. This involved implementing social distancing and increased hygiene measures. The COVID-19 pandemic also impacted the evaluation team; due to the reduced number of patients in the hospital, IRESCO had to visit the hospital more frequently to gather the sample that they needed.

4.2 Extension of the Cataract Bond

There were in-depth discussions around how best to adapt the Cataract Bond given the COVID-19 pandemic. Despite the uncertainty around the pandemic, ending the Bond after the 5th year with no changes to targets and letting the DIB fail, was not considered by the stakeholders. The hospital did not want to be responsible for some of the capital repayment because of the global pandemic, which was out of their control. The outcome funders also did not want to end the DIB even though they would have had to repay less of the loan, because they wanted to be able to gain lessons learnt from the DIB in completion.

The hospital wanted to end the Bond after the 5th year, as originally planned, and negotiate new, reduced outcome targets that they were more likely to be able to achieve. However, other members of the Steering Committee felt like the reduction of the outcomes was unnecessary, and that the Bond should have a chance to be seen to completion.

In 2022, all parties agreed to extend the Cataract Bond for two years, until February 2025, and keep the same outcome targets. The decision to extend the Bond, rather than reduce the targets and end after five years, was partially made based on the hospital's success in meeting the Year 3 targets. The hospital agreed to the extension with the belief that they would be able to meet the final outcomes. Netri waived all interest for two years during the pandemic, and DFC waived interest from May 2021 to May 2023, and the maintenance fee due in 2023 and 2024. This waiver of fees was seen by other stakeholders as a mark of goodwill. Stakeholders agreed that the negotiations around the extension to the Bond and the targets were cooperative, and that the global uncertainty helped unite everyone to find solutions to the impact that COVID-19 had on the Bond.

At the end of the Bond, opinion varied between hospital staff and the Cameroon Cataract Bond Steering Committee on whether the two-year extension was the right decision. The extension was based on the understanding that it would give the hospital time to recover from the pandemic, and the extra two years would replace the years during which the hospital had to operate under reduced capacity. A member of hospital staff said that it took two years to get patients back to pre-pandemic

levels, highlighting how the extension enabled the provider to make up for the impact that COVID-19 had on MICEI's operations.

Financially, the decision to extend the Bond for a further two years had a big impact on the hospital. Global economic factors outside of the DIB's control contributed to rising inflation, which contributed to the cost of surgeries increasing. Therefore, the cost of continuing the number of surgeries to reach the outcome target increased. Despite this, the hospital was happy that the extension took place because it allowed them to achieve the original outcome targets set, as well as reach the buffer for the equity bonus incentive, leading to a sense of achievement and completion. If no changes were made to the structure of the Bond, there was an alternative scenario where the hospital failed to meet the Year 5 targets and was liable to partially repay the loans and suffer the reputational cost of not achieving the outcomes.

'After COVID-19, no one foresaw economic problems such as those in Ukraine and Russia. This has contributed to rising inflation and prices. The cost of doing the remaining number of surgeries to meet the target was almost twice as much. From a financial perspective, it would have been better to revise [the outcome targets].' – Hospital

4.3 Change in equity bonus incentive

In 2022, it became clear that the way the equity bonus incentive was being measured was not appropriate for the context of the hospital. The original target was at least 40% of surgeries being provided to individuals who belonged to the bottom two wealth quintiles of the population in Cameroon by the end of Year 5. During the design of the DIB, AEF was planning on opening a subsequent hospital and eye care centres in other parts of Cameroon and Sub-Saharan Africa. However, due to limited funding available at the time, the scale-up did not happen. Stakeholders, therefore, acknowledged that this presumed scale-up impacted the design of the measurement of the equity bonus incentive. Pre-pandemic, 20% of MICEI surgeries cumulatively were done on patients in the bottom two wealth quintiles (from March 2018 to March 2020), which deteriorated further due to the shutdown of outreach in 2020 due to COVID-19. It became clear to the SteerCo that the measurement of the equity target was not suitable for the context of the hospital, because the bottom two wealth quintiles of the national population in Cameroon did not live in the local area of the hospital.

There was consensus across the SteerCo that the reason the target was going to be missed was because of challenges in how equity was originally being measured. The original assumptions that underpinned the equity bonus incentive were that:

- The 40% target was a stretch target based on the hospital reaching 'pure equity' – i.e., 40% of the population is in the bottom 2 quintiles by definition
- The goal of the cross-subsidisation model was assumed to be for all free/ subsidised surgeries to be completely covered by full-paying patient revenue.

However, Sagana conducted interviews with Aravind and a comparator eye hospital in Kenya and found that the hospitals on which this model was based operated with significant outside funding, as well as operating in wider areas where the poorest population could be reached. In Cameroon, the hospital was based in Yaoundé, the capital city of Cameroon, where the average individual was wealthier than in other regions in the country. Therefore, the patients who could access the hospital were likely to not be in the bottom two wealth quintiles of the national population.

Before the pandemic, the hospital was struggling to meet the equity bonus incentive, as a way of measuring a patient's income was not appropriate for the equity target. Some patients did not understand the questions in the questionnaire and answered them inaccurately. The risk of the hospital not being able to meet the equity bonus incentive was then further exacerbated due to COVID-19, as the hospital's ability to reach patients from the lower quintiles was greatly impacted by government policies of lockdown and social distancing.

In mid-2022, after discussions and further research into comparator hospitals and alternative monitoring approaches, the outcome funders reached a consensus on a revised target, which was shared with the hospital, AEF, and lenders in early 2023. The equity bonus incentive was revised to 40% of cataract patients receiving surgery at MICEI coming through the outreach campaigns, or from hospital walk-ins, and receiving free or subsidised surgeries. It was decided this would be cumulatively measured for performance years 1-2 and 5-7, excluding performance years 3 and 4 due to the impact of COVID-

19 on outreach activities. Stakeholders saw this revision to the way the equity bonus incentive was measured to be a more efficient and appropriate way to monitor the target.

Stakeholders agreed that changing the equity bonus incentive was the correct decision to make due to the assumptions underpinning the original target being incorrect. For the outcome funders, the equity bonus incentive was an important part of the design, and part of the attraction for being involved in the DIB. Therefore, keeping the equity bonus incentive as an achievable stretch goal was important. Table 3 below displays the difference between the old equity bonus incentive, and the new equity bonus incentive.

Table 3: Updated equity bonus incentive

Equity incentive	Description
Old equity bonus incentive	At least 40% of cataract patients receiving surgery at MICEI belong to the lowest two wealth quintiles in Cameroon by the end of Year 5
New equity bonus incentive	At least 40% of cataract patients receiving surgery at MICEI coming through the Borrower's outreach campaigns, or come from hospital walk-ins and then recieve free or subsidised surgeries, measured cumulatively through Year 7, but excluding Year 3 and Year 4

4.4 Enablers and Challenges to delivery

Enablers:

- Collaboration and communication between stakeholders was strong. While the number of stakeholders involved in the DIB meant that there were a lot of voices around the table, multiple stakeholders spoke about the strength of the Steering Committee and collaboration amongst the members. The quarterly Steering Committee meetings held by Sagana were effective in keeping stakeholders informed of the hospital's progress regarding the outcomes, while also allowing for discussions on any challenges that the hospital could have been experiencing.

  'Everyone [the stakeholders] had the right attitude and were flexible when they needed to be.' – Outcome Funder

- Having a close relationship with communities helped the hospital deliver the initiative and reach its targets. Over the course of the Bond, the hospital worked to improve its relationship with the immediate community, as well as the wider community where outreach activities would operate. The hospital created Key Informants in the community. The Key Informants were volunteers who collaborated with the hospital to help identify future patients. This increased awareness and trust of the hospital among communities, and increased word of mouth between patients, which increased patient uptake and the success of the hospital.

- Embedding the verification team as part of the hospital, and not a separate entity. Initially, the verification team experienced challenges in getting patient samples and remote verification over the phone (see below). The verification team was working separately from the hospital and following up with patients after they had been discharged. As the Bond progressed, the hospital and IRESCO worked together to address the challenges around verification and patient uptake, and agreed that the verification team could work in the hospital to verify the results. By having access to the patients in the hospital, the verification team was trusted by patients, and the verification was seen as just another step in the medical procedure. This made the verification process smoother and allowed the team to collect their sample data effectively, while also improving patient relations.

- The M&E and verification process was transparent and fair. Stakeholders agreed that the M&E process was independent and were happy with the method and results. The hospital, along with the M&E team and the Coordination Manager, worked together to build reporting capacity and provided quarterly reports to the Cameroon Cataract Bond Steering Committee.

Challenges:

- **At the start, there were difficulties with the verification method.** To begin with, the verification team operated externally from the hospital and relied upon phoning patients to validate their outcomes. However, there were multiple challenges with this approach. Many patients did not have a phone number, and if they did, sometimes this number was for multiple people at once, making the patient hard to reach. Secondly, patients were not always aware that the verification team would be contacting them and were therefore shocked to receive a phone call. This created issues with privacy, and patients had not consented to being contacted after their surgery. Furthermore, using a 9-question survey as the equity tool to verify the equity bonus incentive was seen as invasive by some patients, and there were issues with patients' understanding the questions and answering on behalf of someone else. Therefore, the questionnaire data were not always accurate. The change in equity bonus incentive removed this challenge, as the questionnaire was no longer needed.
- **The assumptions underlying the original equity bonus incentive being incorrect.** Due to the equity measurement being inappropriate for the context of the hospital, the hospital was not on track to achieve the equity bonus incentive. These factors led to its revision (as described above).
- **Operational challenges with the outreach programme,** including hard-to-reach locations, natural disasters, and staffing. The outreach programme was hard to organise during the rainy season, and often patient numbers reduced during these months due to the extra administrative and logistical challenges. Outreach was often to locations that were hard to reach, leading to vehicles breaking down or suffering damage, which was expensive to mend. The hospital also found it hard to keep track of the number of patients, as the number of patients coming from outreach differed each time.

4.5 DIB effects

This chapter describes the 'DIB effects' observed, i.e., how the design, delivery, performance, implementation, and impact of the intervention was affected because of the use of the DIB as a funding mechanism. To assess the impact of the DIB model on the intervention's implementation, we refer to a list of potential DIB effects derived from the previous research waves, as well as our previous evaluations of impact Bonds. This examines if the DIB effect was present in the project, and if it can be attributed to the Impact Bond mechanism. It is critical to differentiate between the two – just because an anticipated effect of the DIB existed in the project, it does not mean that the DIB itself caused this effect, as other factors could have contributed. In addition, this evaluation has limitations due to the lack of robust counterfactual. Without a robust counterfactual, it is difficult to say that the effects observed were solely due to the DIB.

The DIB effect observations were gleaned from fieldwork, including in-person and virtual interviews with stakeholders.

DIB effect summary

DIB Effect	Effect observed	Attributable to the DIB
Positive DIB Effects		
1 Greater focus on outcomes and accountability	▲	◐
2 Strengthened performance management	▲	◐
3 Adaptive management and course correction, supporting innovation	▲	●
4 Greater collaboration between stakeholders	▲	●
Negative DIB Effects		

DIB Effect	Effect observed	Attributable to the DIB
5 Cherry picking of participants from target population	▲	N/A
6 Level, quality, range and duration of support is reduced	▲	N/A
8 Increased staff pressure affecting other DIB effects	▲	●
Greater outcomes		
9 Increased efficiency and effectiveness, leading to increased number of beneficiaries supported and outcomes achieved	▲	●

Key: ▲ Characteristic observed; ▲ Characteristic observed to some degree; ▲ Characteristic not observed; ● Attributable to the DIB; ● Somewhat attributable to the DIB; ● Not attributable to the DIB.

4.5.1 DIB effects observed/somewhat attributable to the DIB

The Cameroon Cataract Bond improved focus on outcomes and accountability for the stakeholders. There is evidence that the DIB caused a shift in focus towards outcomes, as well as greater accountability. The DIB structure contributed to the hospital's clear focus on outcomes. Having clear targets on quantity, quality, and equity helped focus the provider's aim and provided motivation for staff. This is because of the DIB framework, where the focus on the outcomes was embedded into the contract.

'The Bond has made us more aware of and more sensitive to accountability. It has made us more sensitive to what outcomes we [the hospital] can provide, and to make sure we continue this. It is not like this with other grants; they do not have the accountability.' – Hospital

However, stakeholders believed that the focus on outcomes could have been achieved using a different financial model, which also had a firm focus on outcomes. The hospital felt that there would not have been much of a difference with outcomes if the financing mechanism was a DIB or an outcome-focused grant or loan.

'It all starts with the philosophy of the hospital and the vision. We are not in eyecare to make money – we want to give people sight and hope. Before the Bond, we had other grants and achieved beyond the initial targets... no matter the financing, it would always end up well'. –Hospital

'There was a good focus on outcomes, but you could have this outside the DIB.' – Outcome Funder

The equity bonus incentive was mentioned by several outcome funders as being essential in helping the hospital's focus and direction on sustainability and helping the poorest people.

The equity bonus incentive was a target to help with direction, and to make sure they were focusing on poorer areas and people who could not afford the surgery.' – Outcome Funder

Performance management was strengthened due to the DIB. Throughout the Bond, the focus on reporting and M&E meant that the hospital increased monitoring and evaluation capacity and commitment to performance management. The hospital worked closely with the coordination manager to improve their reporting and improved their financial performance system. The DIB contributed to this, as it provided the framework and the need for the hospital to increase its reporting capacity. An outcome-focused grant or loan could achieve this effect; however, the DIB structure meant that M&E and reporting needed to be strong for the verification of outcomes.

'The Bond has helped us to better measure and understand the work we have to do' – Hospital.

The intervention was adaptive and flexible, which supported innovation. This was partly due to the DIB structure, however, also due to other factors. Across the DIB, there was evidence that the hospital delivered adaptive management and course correction, partly due to the DIB. For example, the hospital had to adjust its sterilisation protocol, and the problem was spotted early on, given its strong monitoring systems introduced as part of the DIB. Furthermore, at the beginning of the intervention, the outreach campaigns charged a small fee for patients. However, after the first year, the fee was reduced to try and encourage more patients to take up the offer of the cataract surgery. After COVID-19 hit, the hospital decided to remove the fee altogether to further encourage people into the hospital. After patient numbers picked back up, the hospital decided that they could not reintroduce the fee, as it risked jeopardising meeting the targets. This adaptability was partly due to the DIB structure, due to the increased pressure on equity.

However, the intervention was also flexible due to the shared understanding of the Cameroon Cataract Bond Steering Committee. Stakeholders noted that, as the pandemic was global, there was goodwill and understanding from all involved, as all stakeholders were affected in different ways. Therefore, the adaption of the intervention during COVID-19, including the extension and the change in equity bonus incentive, was because of the shared vision by stakeholders, and not due to the DIB structure.

The DIB structure created greater collaboration between stakeholders. The DIB brought together some stakeholders that had not worked together before. This resulted in a new way of working, as the outcome funders worked collaboratively with the hospital, lender, and coordination manager. This was unique to the DIB structure; if the funding had been given by a grant, then the only stakeholders involved in the funding mechanism and with the hospital would have been the organisation providing the grant. This provided learning on a new way of working and sharing lessons learned.

However, some outcome funders felt like the DIB did not allow them to work as closely with the hospital as they would have liked or were used to with traditional funding mechanisms. In some outcome funders' experience, a traditional grant had a close grantor and grantee relationship, so the role of the coordination manager to be an intermediary between the hospital and outcome funders and lenders was a challenge to adapt to. One outcome funder felt that not having direct communication with the hospital was a drawback to the DIB structure, as in traditional grants the outcome funder was able to contact the provider directly and discuss inefficiencies.

Hospital staff stated that the DIB brought together a cross section of stakeholders with different expertise, all related to a single main objective. This made it feel as all stakeholders were working as one enterprise, which the hospital found beneficial and unique to the DIB.

'We feel like we're talking to family. They want to help us and help us find solutions to problems. Perhaps the collaboration would have been different without the Bond. Everyone has interest and wants the Bond to succeed' – Hospital.

The Bond helped to increase efficiency and effectiveness of the delivery of cataract surgeries by the hospital, potentially leading to increased number of beneficiaries supported and outcomes achieved. This was driven by previously discussed DIB effects and factors, such as a specific focus on outcomes and greater accountability; strengthened performance management and adaptive management and course correction.

However, the DIB did not help to increase the quality of the intervention, due to the quality outcome target being set too low. The hospital was continuously operating at a higher quality of level throughout the intervention and therefore met the outcome target easily. A higher quality outcome target could have stretched the hospital to achieve a higher quality outcome. The DIB did help increase the number of beneficiaries supported and outcomes achieved by having the equity bonus incentive. Without the equity bonus incentive, it would be unlikely that the hospital would have focused on providing free cataract surgeries to the poorest in the community.

In 2024, the hospital looked unlikely to meet all the outcome targets, and the quantity target was slipping. However, the hospital was able to motivate staff and increase the number of patients operated on, leading to them achieving close to all outcome targets in early 2025. This increase in motivation and final push would have been unlikely to have been achieved without the DIB structure, as the pressure of achieving the outcomes and having to repay lenders increased the pressure to achieve.

The DIB did not necessarily bring additional finance into the development sector, but it did bring new finance into the eye health sector. As the main lender in the Cataract DIB, DFC is a development finance institution, and therefore, the capital provided through the Cataract Bond would, by definition, have been deployed within the development sector. In this sense, the DIB did not introduce entirely new financing into the development sector. However, without the DIB, it is unlikely that such finance would have been directed to this specific context. The sharing of risk enabled the deployment of capital into a highly developmental project in a context (Cameroon and eye health) where DFC had not previously invested. This DIB, therefore, did shift finance into new areas within the development sector.

The DIB did increase staff pressure. The hospital was open that the DIB created extra pressure. This pressure was not just down to the focus on the outcomes, but also because it was the first DIB that the hospital and many of the stakeholders had participated in. This created a lot of pressure on reputations to make the DIB successful.

'It wasn't just the operational milestones; it was also the financial milestones. We had to provide cataract surgery to the very poor, while at the same time having to be financially sustainable. Coupled with COVID-19, it was very challenging, and we did feel a lot of pressure.' – Hospital.

4.5.2 DIB effects not observed

Cherry picking was not observed. Cherry picking is defined as the provider organisation only selecting the 'easiest' members of a population to work with as a means of maximising outcome payments at the expense of the harder-to-help groups. The inclusion of the original equity bonus incentive had the opposite effect, as it provided an incentive to engage the poorest members of society.

The Cameroon Cataract Bond did not lead to a reduction in the level, quality, range or duration of support. The equity bonus incentive meant that the hospital delivered high quality cataract surgeries to low-income households, as well as providing services for higher income patients.

4.6 Spillover effects

There is evidence of stakeholders learning from the DIB, and outcome funders and lenders applying what they learnt into their wider programming and grant making.

Spillover effect summary

Spillover Effect	Effect observed	Attributable to the DIB
Organisation level		
1 Rolling out of processes and learning	▲	◐
2 Increased visibility	▲	◐
3 Diverting of attention	▲	●
Ecosystem level		
4 Capacity strengthening to deliver DIBs	▲	●
5 Increased stakeholder interest in DIBs	▲	◐
6 Contribution to the evidence base	▲	●

Key: ▲ Characteristic observed; ▲ Characteristic observed to some degree; ▲ Characteristic not observed; ● Attributable to the DIB; ● Somewhat attributable to the DIB; ● Not attributable to the DIB.

4.6.1 Organisation level effects

The DIB contributed to the rolling out of processes and learning. A lender said that they were aiming to integrate results-based incentives into more of their impact loan agreements, and it had changed their understanding on the importance of setting milestones and targets throughout loans. It also changed their internal conversations around investing for impact and made them more focused on clear outcomes and targets.

In addition, an outcome funder was using learning from the outreach programme to inform the design and monitoring of other outreach programmes. The outcome funder already had other programmes with outreach components, but the Cataract Bond helped them incorporate learning on costs and reach into the outreach.

The hospital was continuing to operate the outreach programmes after the end of the DIB and saw this as key in the hospital's future, and the increased M&E during the DIB had changed the hospital's reporting capacity.

Some stakeholders experienced increased visibility because of the DIB. As well as being approached by other service providers to share learning on being a part of the DIB, the hospital also had increased visibility in the wider community and with the government. When the DIB was launched, the Ministry of Health and the Ministry of Finance were curious why the hospital received $2 million, which meant the hospital had to explain to the government how the Bond mechanism worked and how the money was tied to outcomes. The hospital explained that this showed that being involved in the DIB created curiosity.

4.6.2 Ecosystem level effects

The DIB strengthened capacity to deliver more DIBs. All outcome funders said that they had learnt about the implementation and delivery of DIBs. For Volta, being the original coordination manager meant that, before the merger with Sagana, they were able to train around 10 team members on impact-based financing through the Cameroon Cataract Bond.

The hospital stated that being the service provider for the Cameroon Cataract Bond provided them with essential learning around DIBs. At first, hospital staff felt it was a steep learning curve to understand how the financing structure worked, and the risks associated with the involvement. However, the hospital increased shared learning with other organisations due to the DIB, which was seen as a positive. The hospital was approached by a service provider working in maternal health who had the opportunity to apply to work within a DIB structure. MICEI shared their experience, as well as challenges and lessons learnt with the provider, who successfully applied to participate in a DIB.

The DIB was successful in increasing stakeholder interest in DIBs. Several stakeholders spoke about the Cameroon Cataract Bond being a 'pilot' for them to see if the DIB worked, and if the outcomes could be achieved. There was an understanding that even if the targets were not met, the Bond would act as a learning for others in the impact finance space. Since the Cameroon Cataract Bond, DFC has participated as an investor in other Development Impact Bonds (DIBs), such as the Refugee Development Impact Bond and the Social Development Goals (SDG) Outcome Fund. These transactions were informed and supported by the experience gained from the Cameroon Cataract Bond, which served as an early example in shaping DFC's approach.[10] Several outcome funders had not funded other DIBs at the time of the third wave of research (February – March 2025) and were hoping to use the learnings from the Cameroon Cataract Bond for future funding decisions.

The hospital reported being willing to participate in a DIB again, due to understanding how the funding mechanism works and having increased capacity for reporting.

[10] Available at: https://www.ubs.com/global/en/media/display-page-ndp/en-20230720-sdg-blended-finance.html

One outcome funder was sceptical about the popularity of DIBs in the development space, and to generate new investment from private lenders, as they have not seen increased interest in DIBs since the Bond launched. They believed that there needed to be further evidence of value of money and the sustainability of outcomes after the Bond comes to an end.

The DIB contributed to the evidence base. Some outcome funders stated that the DIB met their expectations as a learning tool, and that it was important that the DIB had concluded, as it added to the limited evidence base on the entire lifecycle of a DIB.

During the design stage, the Cameroon Cataract Bond was intended to be a pilot, to scale up DIBs in the eye-care sector and be replicated across other healthcare sectors and in other countries. However, this scale-up of the DIB did not happen due to MICEI being a brand-new hospital, and the level of risk being too high.

4.6.3 Sustainability

In March 2025, MICEI provided the Cameroon Cataract Steering Committee Meeting with a presentation on the hospital's plan to sustain the outreach activities, and subsidies and free surgeries for low-income patients. Most stakeholder interviews were conducted before this final Steering Committee meeting, and therefore without the knowledge of how MICEI planned to sustain operations after the end of the Bond. Before the last Steering Committee meeting, outcome funders expressed concern around the sustainability of the cross-subsidization model.

MICEI staff explained in interviews that both the outreach campaigns, and subsidised and free surgeries, were an integral part of MICEI's values. The hospital aimed to continue serving all patients across Cameroon and Central Africa, irrespective of their ability to pay. This was clear from their sustainability plan, presented to the Steering Committee in March 2025. A key part of the sustainability of outcomes was the ability to increase the cross-subsidisation model. MICEI hoped to offer different payment options for treatment – high end VIP services (higher fee), priority and fast-track services (full pay), standard services (subsidised fee for walk-ins), and two payment options for their outreach services, a partial fee of 40 USD per patient, and completely free. The VIP and fast-track patients would pay a higher fee to be seen quicker, and the high fee would be used to subsidize the costs for lower-income patients. However, the funds generated through the VIP and fast-tracked services were insufficient to meet the growing need of blindness in the underserved communities. As an offset, the hospital aimed to expand its optical shop, to include high end glasses to be sold, helping to subsidize the eyecare interventions for lower-income patients also.

5.0 The intended and unintended impact of the DIB – Patient feedback

This section highlights patient feedback. It uses interviews with patients who received cataract surgery to show how regaining an individual's sight had changed their lives. It also shows the wider impacts of the DIB on the hospital and the community, beyond the DIB's performance targets.

Cataract surgeries changed the lives of the people interviewed. In addition to the immediate impact of regaining sight, the surgeries also had economic benefits for the operated patients. For many, the cataract surgery allowed patients to go back to work, something that most people must give up when their eyesight became too poor. This reduced the dependence on the individual's family and wider community, as well as increasing household income. Children returned to school after the adult had received cataract surgery. The restoration of eyesight improved family dynamics and inclusion within the community, as many individuals with sight loss were being isolated by their community.

Wider impacts from the hospital included expanding the boundaries for eye care, and health system strengthening. The hospital trained surgeons in cataract surgeries, working in other hospitals around the region. These surgeons also provided training for the next generation of surgeons. Furthermore, MICEI created direct and indirect jobs and employment opportunities for the surrounding community.

Figure 3: People with low vision use walking sticks to get around. After their successful cataract surgery, many leave behind their sticks as they are no longer needed.

5.1 Patients' stories:

5.1.1 The impact of the Cataract Bond: Jean's Story

Jean[11] was blind after being diagnosed with cataracts 20 years previously. Before she went blind, she loved home decoration and made her income by creating carpets. Due to the deterioration of her sight, she had to give up making carpets.

For the longest time, Jean chose not to have cataract surgery to improve her eyesight due to three main factors:

1. She did not have any information on what the surgery was and worried due to misinformation in community
2. The cost of the surgery was more than she could afford
3. She was afraid due to stories about complications

Jean heard about the hospital though outreach. She felt supported to have the surgery, as the staff were very kind and smiley. After her surgery, and after 20 years of not being able to see, she discovered the light again and could see colours. After the surgery, she could work again and was back making carpets after decades of not being able to. She felt she had economic independence again.

'I want to say thank you. After the removal of the eye patch, it was like I was in paradise, it was so beautiful. After 20 years, I have discovered the light again and see colours. On that day I wanted to cry. The bible says I have been born again, and on that day, I was born again' – Patient (Jean, photo in section 1.3)

[11] Names of patients have been changed to protect anonymity

5.1.2 The impact of the Cataract Bond: Emmanuel's Story

Emmanuel's job was farming sheep. He had cataracts for 20 years and used to use warm water to clean his eyes.

He found out about MICEI through the outreach camps. Despite some discouragement from his community, he moved forward with the surgery due to having experience with hospitals and operations before. He was very grateful for the surgery, which was successful and left him feeling very good. Because of the successful surgery, Emmanuel regained his eyesight and was able to go back to doing farm activities.

5.1.3 The impact of the Cataract Bond: Pierre's Story

Pierre had been blind for one year when he attended one of MICEI's outreach camps. When he first went blind, the community tried to use traditional medicine to cure him, which did not work. Because the cataracts affected his eyesight, he had to give up his job, working on a farm.

When Pierre attended the camp, he was diagnosed with cataracts and referred for surgery. Initially, he was afraid of the surgery, but the excellent care from the staff and kindness made him feel better. Pierre said the hospital was very clean, and he was grateful for the surgery.

Pierre went back to his job in farming and continued to receive free follow up care.

'The hospital has very good quality of staff, and it is good the way people are treated and looked after. They keep the hospital very clean, and I am grateful for what has been done' – Patient (Pierre)

6.0 Comparing the Cataract Bond to other outcomes-based contracts

This chapter is an assessment of how DIB effects in the Cameroon Cataract Bond compare to DIB effects identified within the FCDO DIBs evaluation.

The DIBs under the scope of the FCDO evaluation were varied. The types of programmes funded by the DIBs, and the contexts in which they operated, differed significantly, between themselves and between the Cameroon Cataract Bond. Table 4 categorises the four DIBs against a range of characteristics.

Overall, there were similarities between the Cataract Bond and these three other DIBs:

- In all four DIBs there was evidence that the DIB model contributed to a shift in focus to outcomes and greater accountability, which incentivised stronger performance management and enabled the delivery of adaptive intervention and management
- In all four DIBs, the DIB appeared to have driven performance management
- To a lesser extent, the DIB supported greater collaboration between stakeholders in all four DIBs.
- There was a perception in the ICRC HIB (as well as the Cataract Bond) that the same outcomes could have been achieved through a well-designed grant
- None of the DIBs showed signs of cherry-picking participants from the target population or reducing the level, quality, range and duration of support
- All four DIBs had shown signs of increased staff pressure
- All four DIBs saw evidence of increased efficiency or effectiveness, and this was at least partly due to the DIB mechanism
- In all four DIBs, the DIB led to increased visibility for stakeholders involved
- The four DIBs also experienced a range of spillover effects related to building the innovative financing space and the respective sectors of the DIBs.

Table 4: Comparing DIB characteristics of the four DIBs

Characteristic/ Input	Description	ICRC HIB	QEI DIB	VE DIB	Cataract Bond
Payments					
Nature of payment outcomes	Were payments made squarely for outcomes or was some payment made for inputs, activities or outputs?	Majority of payment on outcomes. Around 4% (EUR 1m) milestone payment on construction of centres	94% payment on outcomes, 6% covers contingency costs on the DIB, including costs for evaluation and advocacy	100% payment on outcomes	100% payment on outcomes (though the achievement of outcomes only affects the interest payable, and how the principal gets repaid (who pays/ when))
Level of innovation / flexibility					
Level of innovation	The features of the intervention, and whether it is totally new, an expansion of an existing programme or involves a programme whose underpinning principles have already been tested	Expansion of the existing programme of a service provider. Implementation of a programme proven successful (efficiency improvement measures testing) and new Digital Centre Management System	Expansion of the existing programme of a service provider and implementation of a programme already proven successful into new schools (using new methods)	Expansion of an existing programme of a service provider	Implementation of a programme already successful but in a new context. A new hospital but building on funding models used elsewhere.
Level of outcome orientation and flexibility versus specific intervention defined	Extent to which the contract involves a specific and well-defined intervention and service provider, or specific outcomes which enables	Contract involves a specific and well-defined intervention, though there is room to test and adapt	Contract focuses on achievement of specific outcomes – intervention defined by subject to change and	Contract focuses on achievement of specific outcomes – intervention defined but subject to change and	Contract involves a specific and well-defined intervention with fixed surgeries, however with

Characteristic/ Input	Description	ICRC HIB	QEI DIB	VE DIB	Cataract Bond
	service providers to organise work as they prefer		adaptation depending on needs	adaptation depending on needs	flexible outreach approaches.
Metrics					
Nature of capital used to fund services	Risk borne by private investors or distributed among different actors through capital protection measures and risk sharing arrangements	Presence of capital protection measures (60%) Presence of risk sharing arrangements – potential downside for service provider	Full risk on investors Presence of risk sharing arrangements – potential upside for service provider	Full risk on investors Presence of risk sharing arrangements – potential upside for service providers	Presence of capital protection measures 100% capital protection, though some risk that service provider unable to honour protection) Presence of risk sharing arrangements – potential upside and downside for service provider
Measuring impact					
Validation of impact	Payment based on experimental/ quasi-experimental or validated administrative data	Payment based on validated administrative data. This will include verification of records and physical verification of mobility of beneficiaries	Payment based on quasi-experimental methods	Type II payments are based on experimental methods. Type I payments (reimbursement of seed capital) are based on seed transfer audits	Payment based on validated administrative data
Operating model					

Characteristic/ Input	Description	ICRC HIB	QEI DIB	VE DIB	Cataract Bond
Strength of performance management system	How hands on are the other stakeholders? Is there a dedicated performance management function?	Strong – internal	Strong – external	Strong – internal	Strong – external
Lead on managing performance	Who takes the lead in performance management?	Service Provider	Investor + intermediary	Service Provider	Intermediary
Type of contract	Typologies of structure depending on which actor has the contract with the outcome funder.	Direct	Managed – the key role is held by the investor	Outcomes fund. Outcome funders directly contract and disburse payments to a trustee (the independent manager of the 'fund'). The trustee separately holds a direct contract with the service provider	Direct

Source: Ecorys, 2021. Findings from the second research wave of the Independent Evaluation of the FCDO Development Impact Bonds Pilot Programme. See: https://golab.bsg.ox.ac.uk/knowledge-bank/resource-library/full-report-findings-second-research-wave-independent-evaluation-fcdo-development-impact-bonds-pilot-programme/

7.0 Value for Money of the Cataract Bond

This section examines the additional costs as a consequence of funding part of the Magrabi ICO Cameroon Eye Institute through a DIB rather than a grant. It then compares these costs with the costs of other DIBs, before considering whether these costs can be deemed good value for money. The analysis is based on cost data and discussions held with the Outcome Funders of the Cataract Bond to estimate the alternative costs of funding the hospital through a grant.

7.1 Methodology

The evaluation team used a pro forma to capture DIB costs. The pro forma included cost categories and definitions that aligned with other tools being used in the sector (such as data definitions used within the INDIGO impact Bond dataset[12]). For each category, stakeholders were requested to fill out a) total DIB costs and b) estimated costs had the project been funded through a grant: a) was subtracted from b) to arrive at the difference, which would be additional costs / savings due to the project being funding through a DIB. Estimates were based on programme cost data and a qualitative assessment (for example stakeholders comparing whether less or additional time was spent on managing the DIB compared to similar grants). These costs, estimates and assumptions were verified with DIB stakeholders.

7.2 Additional costs of DIB

7.2.1 Additional costs for designing and setting up the Cataract Bond

During Research Wave 1 of the evaluation, Ecorys gathered estimates of the additional costs of designing and setting up the Cataract Bond, compared to a traditional grant-funded project. In total, it cost an additional $321,663.00 to design and set up the DIB, compared to if the hospital had been funded through a grant. This breaks down as:

- $66,213.00 additional costs for contract set-up
- $255,450.00 additional costs for DIB design and external advice.

In addition to these direct costs, the outcome funders, the intermediary (Volta) and legal counsel (Linklaters) all contributed in-kind/pro-bono time. On top of the billed hours, Volta Capital provided approximately 25% of hours pro-bono, and Linklaters approximately 33%.

Outcome funders paid retainer and facility fees totalling $36,250 to the lenders as a part contribution to the cost of their due diligence.

[12] See: INDIGODataDictionary2020_v2.pdf

7.2.2 Additional costs for implementing the Cataract Bond

The additional costs for implementing the DIB (compared to a grant) were **$97,647.08** (Table 5).

Table 5: Additional DIB costs: Implementation

Cost Category	Incurred by	Total DIB costs – USD (A)	Estimated costs had it not been a DIB (B)	Additional costs – USD (A) – (B)
Verification	External Evaluator	$192,275.00	$192,275.00	$-
Other evaluation	External Evaluator	$118,242.00	$118,242.00	$-
Service Delivery	Hospital	$2,000,000.00	$2,000,000.00	$-
Loan vehicle/ legal costs	Lender	$36,250.00	-	$36,250.00
Governance	Coordination manager	$66,513.50	$51,164.23	$15,349.27
Performance management costs	Coordination manager	$199,540.50	$153,492.69	$46,047.81
Total additional implementation		*$2,612,821.00*	*$2,515,173.92*	*$97,647.08*

Source: Cataract Bond stakeholders

Forecast service delivery costs and any additional DIB costs incurred by the hospital were estimated based on a costing analysis undertaken by the hospital, as there was not a separate budget for DIB-related interventions against which expenditure was being tracked. The hospital did not think the service delivery costs would have been higher had the hospital received funding via a grant.

Loan vehicle costs, including loan maintenance fees and legal fees, were $36,250.

Additional governance and performance management costs were $15,349.27 and $46,047.81, respectively. This was based on the assumption that 30% of the intermediary's fee (Volta, then Sagana) was additional compared to a non-DIB and 25% of the intermediary's time was spent on governance-related activities (convening meetings and managing all stakeholders) and 75% on performance management activities (outcomes reporting, analysing data, problem solving and using all these to drive improved performance towards outcomes). It should be noted, though, that the coordination manager (Volta Capital, then Sagana) played a central role in performance management, absorbing significant operational and reporting responsibilities. This reduced the burden on the implementation partner.

Some outcome funders also reported savings in terms of less time involved in oversight and management of the hospital, given their more hands-off role in the governance structure. As the intermediary took on the core role of management, it is likely that these savings were passed on to the intermediary and were crystallised in the intermediary fees. Outcome funders would also report savings if the outcome targets were not met, due to the hospital having to repay part of the loan.

7.2.3 Additional DIB costs: Close

The additional costs for implementing the DIB (compared to a grant) were **$761,334** (Table 6).

Table 6: Additional DIB costs: Close

Cost category	Incurred by	Total DIB costs – USD (A)	Estimated costs had it not been a DIB (B)	Additional costs – USD (A) – (B)
Lender return	Outcomes funder	$641,334.00	$0	$641,334.00
Equity bonus incentive	Outcomes funder	$120,000.00	$0	$120,000.00
Total close		*$761,334.00*	*$0*	*$761,334.00*

Source: Contract Bond stakeholders

This is broken down as $641,334 return to the lenders and $120,000 implementer performance award for the hospital for meeting the equity bonus incentive. It is assumed that neither cost would have been present if the funding had been provided as a grant, and therefore both costs are additional.

As we highlight in section 7.3, the equity bonus incentive had a strong impact on the outreach of the hospital, likely leading to greater equity in the patient population than if the funding had been provided through a grant (where such an incentive structure would not exist). The equity bonus incentive also had a strong impact in trying to balance the hospital's financial sustainability and profitability with equity, which can be seen as two different and contradictory outcomes. This is a unique feature of the DIB and the ability to balance the financial sustainability with equity would not have been present if the funding had been provided as a grant.

7.2.4 Additional DIB costs: Overall

Table 7 brings together the additional DIB costs from all three phases of the DIB (set up, implementation and close). This shows that it cost **$3,695,818.00** to provide the hospital with funding via a DIB, and it is estimated that it would have cost $2,515,173.92 as a grant. It therefore cost an additional **$1,180,644.08** to provide the hospital with funding as a DIB. This increased the funding costs by 47%.

The additional DIB costs primarily stemmed from the 'close' costs, and specifically the loan return ($641,334), which made up 54% of the additional costs. 27% of the additional costs ($321,663) came from designing and setting up the DIB, particularly external advice ($255,450, 22% of costs). Implementing the DIB only made up 8% ($97,647.08) of the additional costs, which mainly came from the additional performance management costs ($46,047.81, 4%).

Table 7: Additional DIB costs: Overall

DIB stage	Cost category	Incurred by	Total DIB costs - USD (A)	Estimated costs had it not been a DIB (B)	Additional costs - USD (A)-(B)	Additional DIB costs, % breakdown
Design & set-up	Contract set-up	Intermediary	$ 66,213.00	0	$ 66,213.00	6%
	DIB design & external advice	Intermediary, legal advisor	$ 255,450.00	$ -	$ 255,450.00	22%
	Total design & set-up		*$ 321,663.00*	*$ -*	*$ 321,663.00*	*27%*
Implementation	Verification	External evaluator	$ 192,275.00	$ 192,275.00	$ -	0%
	Other evaluation	External evaluator	$ 118,242.00	$ 118,242.00	$ -	0%
	Service delivery	Hospital	$ 2,000,000.00	$ 2,000,000.00	$ -	0%
	Loan vehicle / legal costs	Lenders	$ 36,250.00		$ 36,250.00	3%
	Governance	Coordination manager	$ 66,513.50	$ 51,164.23	$ 15,349.27	1%
	Performance management costs	Coordination manager	$ 199,540.50	$ 153,492.69	$ 46,047.81	4%
	Total additional implementation		*$ 2,612,821.00*	*$ 2,515,173.92*	*$ 97,647.08*	*8%*
Close	Loan return	Outcomes funder	$ 641,334.00	$ -	$ 641,334.00	54%
	Implementer performance award	Outcomes funder	$ 120,000.00	$ -	$ 120,000.00	10%
	Total close		$ 761,334.00	$ -	$ 761,334.00	64%
Total			*$ 3,695,818.00*	*$ 2,515,173.92*	*$ 1,180,644.08*	*100%*

Source: Cataract Bond stakeholders

7.2.5 Comparing Cataract Bond additional costs with other DIBs

Table 8 overleaf compares the costs of the Cataract Bond with the three DIBs that featured in the FCDO DIBs evaluation[13]. Of the four DIBs, the Cataract Bond had the lowest additional DIB costs - $1,180,644.08 compared to the FCDO DIBs range of $1,836,478 – 2,302,761. However, the Cataract Bond also had the smallest programme budget overall ($3,703,817, compared to the FCDO DIBs range of $5,320,000 - $20,304,239). To aid comparability, it is therefore best to focus on the costs as a proportion of the programme budget. Examined in this way, the Cataract Bond had relatively high DIB costs, increasing the programme budget by 47%, compared to the FCDO DIBs range of 10% - 75%.

Comparing the breakdown of different cost categories, the Cataract Bond costs were broadly in line with the average costs of the three FCDO DIBs in terms of proportion of programme budget. There were, however, a number of places where the Cataract Bond DIB costs varied: design and set up costs were 50% higher in the Cataract Bond compared to the three FCDO DIBs (9% of programme budget in the Cataract Bond vs 6% in the FCDO DIBs); and the loan return was 4.5 times higher in the Cataract Bond (17% of programme budget compared to 4%).

The variations are likely to be due to a number of factors:

- The Cataract Bond was the smallest DIB in terms of programme budget. There are clearly, therefore, economies of scale in designing DIBs, and so the design costs were a smaller proportion of the programme budget in the larger DIBs. For example, the design and set-up costs of the Cataract Bond and Quality Education India (QEI) DIB were very similar ($321,663 and $362,019 respectively) even though the QEI programme budget was 3 times larger ($3,703,817 Cataract Bond; $11,450,000 QEI).
- The Cataract Bond achieved all its outcomes and therefore had a higher loan return. The FCDO DIBs investor return average is brought down by the Humanitarian Impact Bond, which did not achieve its outcomes and so had a 0% investor return. That said, the Cataract Bond return was still 2 times larger – as a percentage of programme budget – than the QEI and Village Enterprise DIBs, which also achieved all their outcomes (Cataract Bond return 17% of programme budget, average of QEI and Village Enterprise 9%).

This therefore suggests that it is more efficient to implement larger DIBs.

[13] External evaluation costs have been removed from the Cataract Bond costs to aid comparability, as these costs were not provided by the other DIBs.

7.3 Examining the value for money of the Cataract Bond costs

To determine whether the Cataract Bond additional costs can be deemed value for money, one should consider the relationship between the costs and benefits, and if there is a close relationship between where the most costs lay, and where the most benefits lay.

As documented in this report, the main benefits lay in the additional focus on outcomes, the likely increased equity of the patient population and spillover effects – mostly regarding the lender focusing on embedding equity targets in future loans. Most of the additional DIB costs lay in the loan return (54% of DIB costs); DIB design (22%); and implementor performance reward (10%). One could therefore conclude there is a close relationship between the additional DIB costs and benefits – the involvement of the lenders (and thus loan return cost) led to wider spillover effects in the lender focus on impact and the implementer performance award led to greater equity in the patient population.

However, whilst there is a close relationship between the additional DIB costs and benefits, it is difficult to conclude whether the two are *proportionate* to each other, i.e. whether the scale of the additional benefits justify the scale of the additional costs. This is challenging because, whilst it has been possible to quantify the scale of the additional costs, it has not been possible to quantify the scale of the additional benefits, because there is not a robust counterfactual that could be used to quantify what would have happened in the absence of the DIB. Whether the additional benefits justify the additional costs is therefore a subjective judgement. The general consensus amongst the stakeholders was that the additional costs were high, but that they were willing to accept these because this was the first DIB of this nature to have been undertaken. The previous sections show that the additional costs were high relative to other DIBs, and that the Cataract Bond would have likely been more cost-effective had it operated at a larger scale. That said, it would have been challenging to operate at a larger scale due to the risks associated with the model. Given this, the additional costs appear justified, however other readers may reach a different conclusion.

Table 8: Comparing Cataract Bond additional costs with other DIBs

DIB stage	Cost Category	Humanitarian Impact Bond		Quality Education India		Village Enterprise		Cataract Bond		Average of FCDO DIBs *(exc Cataract Bond)*	
		Costs	% of budget	Costs	% of budget	Costs	% of budget	Costs	% of budget	Costs	% of budget
Set up	Contract set-up	$514,332.00	3%	Not estimated	-	$284,129.00	5%	$66,213.00	2%	$399,230.50	3%
	DIB Design	$772,952.00	4%	$362,019.00	3%	$192,961.00	4%	$255,450.00	7%	$442,644.00	4%
	External advice on legal & financial aspects										
	Total additional set-up	***$1,287,284.00***	***6%***	***$362,019.00***	***3%***	***$477,090.00***	***9%***	***$321,663.00***	***9%***	***$708,797.67***	***6%***
Implementation	Verification	$68,142.00	0.3%	$592,440.00	5%	$547,643.00	10%	-	0%	$402,741.67	3%
	Service delivery	-	0.0%	-	0%	$151,634.00	3%	-	0%	$50,544.67	0%
	Loan vehicle/ legal costs	$25,808.00	0.1%	$13,350.00	0.1%	$153,732.00	3%	$36,250.00	1%	$64,296.67	1%
	Governance	$455,244.00	2%	$230,791.00	2%	$126,396.00	2%	$61,397.08	2%	$270,810.33	2%
	Performance management costs										
	Trustee costs										
	Total additional implementation	***$549,194.00***	***3%***	***$836,581.00***	***7%***	***$979,405.00***	***18%***	***$97,647.08***	***3%***	***$788,393.33***	***6%***
Closing	Loan return	-	0%	$576,767.00	5%	$730,165.00	14%	$641,334.00	17%	$435,644.00	4%

DIB stage	Cost Category	Humanitarian Impact Bond		Quality Education India		Village Enterprise		Cataract Bond		Average of FCDO DIBs *(exc Cataract Bond)*	
		Costs	% of budget	Costs	% of budget	Costs	% of budget	Costs	% of budget	Costs	% of budget
	Implementer performance award	N/A	-	$527,394.00	5%	$86,737.00	2%	$120,000.00	3%	$307,065.50	2%
	Total additional costs	*-*	*0%*	*$1,104,161.00*	*10%*	*$816,902.00*	*15%*	*$761,334.00*	*21%*	*$640,354.33*	*5%*
Total	Total additional costs:	$1,836,478.00	9%	$2,302,761.00	20%	$2,273,397.00	43%	$1,180,644.08	32%	$2,137,545.33	17%
	Programme budget:	$20,304,239.00	100%	$11,450,000.00	100%	$5,320,000.00	100%	$ 3,695,818	100%	$12,358,079.67	100%

Source of Cataract Bond costs: Contract Bond stakeholders. Source of costs of other DIBs: FCDO DIBs Evaluation

8.0 Conclusion

After seven years of delivery, the Cameroon Cataract Bond has achieved all outcome targets. Outcome Funders, lenders, the coordination manager and the hospital were satisfied with the outcomes of the DIB and saw the DIB as a learning experience, and an opportunity to test the DIB mechanism in the eye care space.

The DIB mechanism led to an increased focus on outcomes and performance management for the hospital. Having clear targets on quantity, quality and equity helped focus the provider's aim and provided motivation for staff. Stakeholders introduced the equity bonus incentive as an innovative addition to the design of the DIB, which meant that social impact was at the heart of the Bond design.

The stakeholders have been able to successfully adapt the intervention to challenges within the Bond's lifetime, such as COVID-19. However, this was because of the shared vision and interests of the stakeholders, goodwill, and less to do with the DIB structure. The two-year extension proved successful in letting the hospital meet most of the outcome targets, and the change in the measurement of the equity bonus incentive was a successful adaption of the design of the DIB, after more insight and knowledge was gained on the original assumption underpinning the original target. The change of the equity bonus incentive also improved the monitoring and evaluation process, making verification easier and more accurate. Overall, stakeholders were happy with the collaboration and communication between the group, and the overall governance structure.

There is a close relationship between the additional DIB costs and the benefits. The main benefits to the DIB lay in the additional focus on outcomes; the likely increased equity of the patient population and spillover effects, such as the lenders focusing on embedding equity targets in future loans. These are also where the additional costs lay. However, it is difficult to state whether the additional benefits justified the scale of the additional costs. The DIB would have been more cost effective if it had launched at a larger scale, but this would have been challenging in the circumstances, and so the higher costs do appear, to the evaluators, to be justified.

The sustainability of the DIB and the outcomes is a key topic of discussion. The hospital aimed to keep providing free cataract surgeries by using the cross-subsidization model to fund the care for low-income patients. The expertise within the Cameroon Cataract Bond Steering Committee helped the hospital understand what was needed to continue the outcomes of the equity bonus incentive, and the design of its outreach programme, which was continuing after the ending of the DIB. The stakeholders brought expertise and rigour into the Bond, which was contributing to the hospital's continued success. Stakeholders were happy to have been involved in the DIB, and found the lessons learned from being involved from start to finish useful.

Many stakeholders, including the hospital, were not convinced that the DIB was needed to achieve the outcomes. Hospital staff thought that the outcomes achieved would have happened with a strong outcome focused grant, due to the philosophy of the hospital and desire to meet targets, no matter the financing mechanism. However, the DIB did provide multi-year focus, which shaped the hospital's aims over a longer period than most grants, although, this is not specific to a DIB. One outcome funder said that the inclusion of four outcome targets was unique to the DIB and could not think of a grant that would have had the same number of targets, highlighting the importance of the DIB in focusing the hospital around four outcomes.

The hospital highlighted that on a personal level for many staff, the DIB had been a great learning experience in understanding and implementing a Bond, and the challenges and risks that come with the financing mechanism. The Bond allowed the hospital to work in a different way, and to collaborate with a wide range of eye care experts and lenders. There were wider effects of the DIB spilling over to the outcome funders and lenders, who were using the learning from the DIB for their wider programming, including for traditional loans. Overall, stakeholders consider that eye care and cataract interventions are a good fit within a DIB structure. Stakeholders mentioned that eye health has easy to identify impacts and outcomes compared to other health interventions, which makes it desirable for a DIB.

The findings from this research suggest that a DIB similar to the Cataract Bond could be applicable if two conditions existed:

1. A hospital was unable to secure a grant for funding, and was only able to secure a commercial loan as the DIB had more favourable terms than a commercial loan
2. There is a desire to focus on outcomes and/or equity: As the DIB strengthened the hospital's focus on outcomes, and particularly the equity of the patient population (though the latter was a result of the equity bonus incentive, which arguably could be introduced without needing the full DIB structure).

Therefore, this model could be replicated in other eye care and healthcare settings, with the right lenders and outcome funders on board. The Cameroon Cataract Bond acts as a key example of a successful DIB in the healthcare sector in Sub-Saharan Africa, and stakeholders hope the success of the DIB will lead to other DIBs in the future.

This report has attempted to provide as robust, comprehensive and objective assessment of the Cataract Bond as possible. This has been difficult to achieve, however, because there was not a similar grant-funded hospital to act as a counterfactual in order to quantifiably compare the DIB with alternative funding mechanisms. To achieve this in the future, we would encourage stakeholders to take a more intentional approach to experimentation and learning. This would entail funding DIB models alongside funding similar interventions through a range of partnership models and more traditional funding modalities, enabling evaluators to make a more robust side-by-side comparison. This theme is explored further in this opinion piece on page 91 of this report:
https://golab.bsg.ox.ac.uk/documents/The_Evolution_of_Social_Outcomes_Partnerships_in_the_UK.pdf.

Annex

Stakeholder consultations

Stakeholder/Organisation	Wave 1 (2018)	Wave 2 (2020)	Wave 3 (2025)
Conrad N. Hilton Foundation	X	X	X
Sightsavers	X	X	X
The Fred Hollows Foundation	X	X	X
NETRI Foundation	X	X	X
US International Development Finance Corporation (formerly OPIC)	X	X	X
Magrabi ICO Cameroon Eye Institute		X	X
Africa Eye Foundation	X	X	X
Sagana (previously Volta)	X	X	X
Aravind Eye Care System	X	X	
Fitsum Birhan Specialist Eye Clinic*		X	

*Only consulted in RW2 as a specialist eye clinic that had used the Aravind social enterprise model