DEVELOPING TOOLS AND EVIDENCE TO DELIVER PROSPERITY

EVALUATING THE WORLD'S FIRST DEVELOPMENT IMPACT BOND IN THE EDUCATION SECTOR: A CASE STUDY OF EDUCATE GIRLS DIB

Tarini Pancholi

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For further information please contact: **igp@ucl.ac.uk**

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Abstract

The aim of this dissertation is to evaluate Development Impact Bonds (DIBs), a subset of Impact Bonds, through a case study of Educate Girls DIB (EGDIB). The study takes into account the effect of EGDIB on its beneficiaries, its service providing social enterprise and the overall sectorial ecosystem. The research explores the question, "What is the impact of development impact bonds (DIBs) on its various actors?". The research presents the complexities and challenges involved during the design and implementation of this DIB as an 'all private parties' transaction. The DIB surpassed all its target outcomes as the service provider adapted their operations based on the data-finding throughout the programme. This research concludes that beyond the complexities of these financialised transactions, there lies an opportunity for the service provider to experiment with new methods and resources that focus on outcomes. If service providers can sustain and scale the leanings from the program, DIBs can open doors for flexible funding avenues. On the other hand, the direct impact on beneficiaries were striking at the end of the programme but could not last post-completion of the DIB. Thus, the time-bound nature of these contracts cannot guarantee its benefits on beneficiaries in the long-term even when targeted results are achieved as per the pre-determined criteria. In the overall development ecosystem, DIBs should be perceived as a Research and Development (R&D) tool rather than an absolute intervention because their high complexities and cost create entry-barriers at multiple fronts.

Key words: Development Impact Bonds, Social Impact Bonds, DIBs, SIBs, Impact Bond in India, Educate Girls DIB, evaluation of Impact Bond in India, Social Finance, Impact funding, Outcome based finance, Impact Investments, Impact bonds in Education

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1. CONTEXT

Finance is a crucial tool for any social development intervention as many development interventions require monetary corporation or transactions with either service providers or beneficiaries. Post 2008 financial crisis, investments and financial focus on social welfare has developed through various terminologies. Ethical capitalism, Philanthrocapitalism, and Humanitarian Finance are a few of prominent concepts that have surfaced and have been discussed by various academics (Andreu, 2018; Dowling, 2016; McGoey, 2012; Ogman, 2019).

Under these ideologies of using capitalisms for philanthropy and social welfare, emerged a new tool called Impact Bonds. The fundamental theoretical idea behind impact bonds is to promote private investments for public welfare. It is done by treating social welfare as an investment opportunity and providing return to the investors if predetermined outcomes in social welfare are achieved. Introduced in 2010 in the UK, there are now more than 200 Impact Bonds in 35 countries in various social sectors like education, health, employment etc. (Brookings, 2021).

Impact bonds are not like typical bonds i.e. they are not a debt instrument through which loan or borrowing takes place on a fixed interest. They are rather a form of ***payment by result (PbR) contract***[1] where the outcomes funder (typically governments) will only have to pay for cost of the service, with pre-set returns, if desired outcomes are achieved. Since impact bonds pay-out contingent and variable returns depending on the outcomes achieved, they are more like an equity product (McHugh et al., 2013; Fraser et al., 2016). Impact bonds were introduced and promoted by the consecutive UK governments to scale the payment-by-results (PbR) model in the social welfare/development sector. In a standard PbR contract the service provider gets paid when the desired outcomes are achieved. Whereas in impact bonds the service provider gets paid by the investors irrespective of the outcomes and the investor recoup their investment (with return) from outcome funders if results are achieved as per the contract. Impact bonds are promoted as a PbR contract that transfers financial risk from the social sector service providers to impact investors, while de-risking governments spending (Albertson et al., 2018). The governments' reasoning behind the origin of impact bonds will be discussed in detail in the literature review section of this paper. From a public fund spending perspective, they are part of the payment-by-results models while from a financial/investment perspective, they come under the umbrella of impact investments and from the enterprising framework perspective, they are part of the social enterprises eco-system.

1 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/249928/Payment-by-Results.pdf

2. AIMS AND OBJECTIVES

The aim of this dissertation is to evaluate Development Impact Bonds (DIBs), a subset of Impact Bonds, through a case study of Educate Girls DIB (EGDIB). Implemented in India, EGDIB is the world's first completed DIB and it surpassed its target outcomes (Sturla et al., 2018). Using the case study of EGDIB this dissertation aims to evaluate the impact of such 'timeline' and 'PbR' based intervention in less change receptive settings of rural India. The objective of the evaluation is to present the motivations, challenges, advantages and shortcomings of DIBs during and after their implementation. The study takes into account the effect of such programmes on their beneficiaries, their service providing social enterprise/s and the overall sectorial ecosystem, during and after the implementation. The main research question for this study is:

What is the impact of development impact bonds (DIBs) on its various actors?

The paper starts by building a conceptual understanding of impact bonds followed by a literature review appointed under key themes discussed on impact bonds across varied literatures. The case study part is structured in the chronological manner where it starts with the ideation and inception stage of the EGDIB, then sheds light on the design and implementation part highlighting the main intricacies of the process, and then presents the results of EGDIB. Apart from explaining the structure and decoding the design of this DIB, the case study section also presents some key challenges and conflicts that occurred during the design phase of the EGDIB. Those challenges are then linked to the overall analysis on DIBs in the later sections. The post-implementation impact of EGDIB section talks about the current scenario for its beneficiaries, service provider and the larger ecosystem in India while accounting the effects of covid-19 pandemic. The discussion part identifies vital components from the case study (some of them are co-related with the literature review section of this paper) followed by a conclusion.

3. UNDERSTANDING IMPACT BONDS

Each impact bond is designed and implemented in its own customised framework and many different versions of impact bonds exist around the world. They target social intervention like healthcare improvement, recidivism, education, employment etc. Typically, an impact bond would have four to five institutional stakeholders. The ***outcome funder*** is usually a government body or an aid agency/ charity/philanthropy who is responsible for repaying the initial investor (with returns) if predetermined outcomes are achieved. Most of the impact bonds launched so far are Social Impact Bonds (SIBs), in which governments bodies are the outcome funders. The ***service provider*** is a social enterprise or similar form of third sector organisation[2] who is responsible for delivering and implementing the intervention service the impact bond is targeting. The ***investor*** is the initial investor who funds the impact bond's implementation by providing operating and working capital to the service provider. They bear the financial risk involved with the achievement of outcomes. If outcomes are not achieved they may lose some or part of their money invested in the contract. Many impact bonds also have ***intermediaries*** and/ or a ***project manager***, who are responsible for establishing the deal, negotiating with involved parties/stakeholders, finding the funders, designing the impact bond and managing the overall service delivery. They may be responsible for some or all of these services. Some impact bonds have an external and independent evaluator, who are responsible for the design and evaluation of the metrics that are linked with outcomes. There can be one or multiple stakeholders for each role. For instance, an impact bond can have 5 outcome funders, 4 service providers and 1 investor; while other impact bonds can have one stakeholder for each role. It is noteworthy that not all impact bonds have all of these stakeholders in design. The stakeholders of impact bonds are collectively referred to as the 'working-group' in context of an impact bond.

At the core of any impact bond is the ***beneficiaries*** who are the target population for whom the impact bond intervention occurs, thus they are the prime users for any impact bond. However, they are not involved in any financial transaction under the impact bond. The size of the target group of beneficiaries of an impact bond varies and depends on the context and scale of the impact bond. Sweet Dreams impact bond in Canada targeted 22 beneficiaries (mother and children) to provide safe accommodation and career support to at-risk mothers (Sweet Dreams SIB, 2014). Whereas, Quality Education Impact bond targets 200,000 beneficiary children in India to improve their literacy and numeracy skills (QEI, 2021).

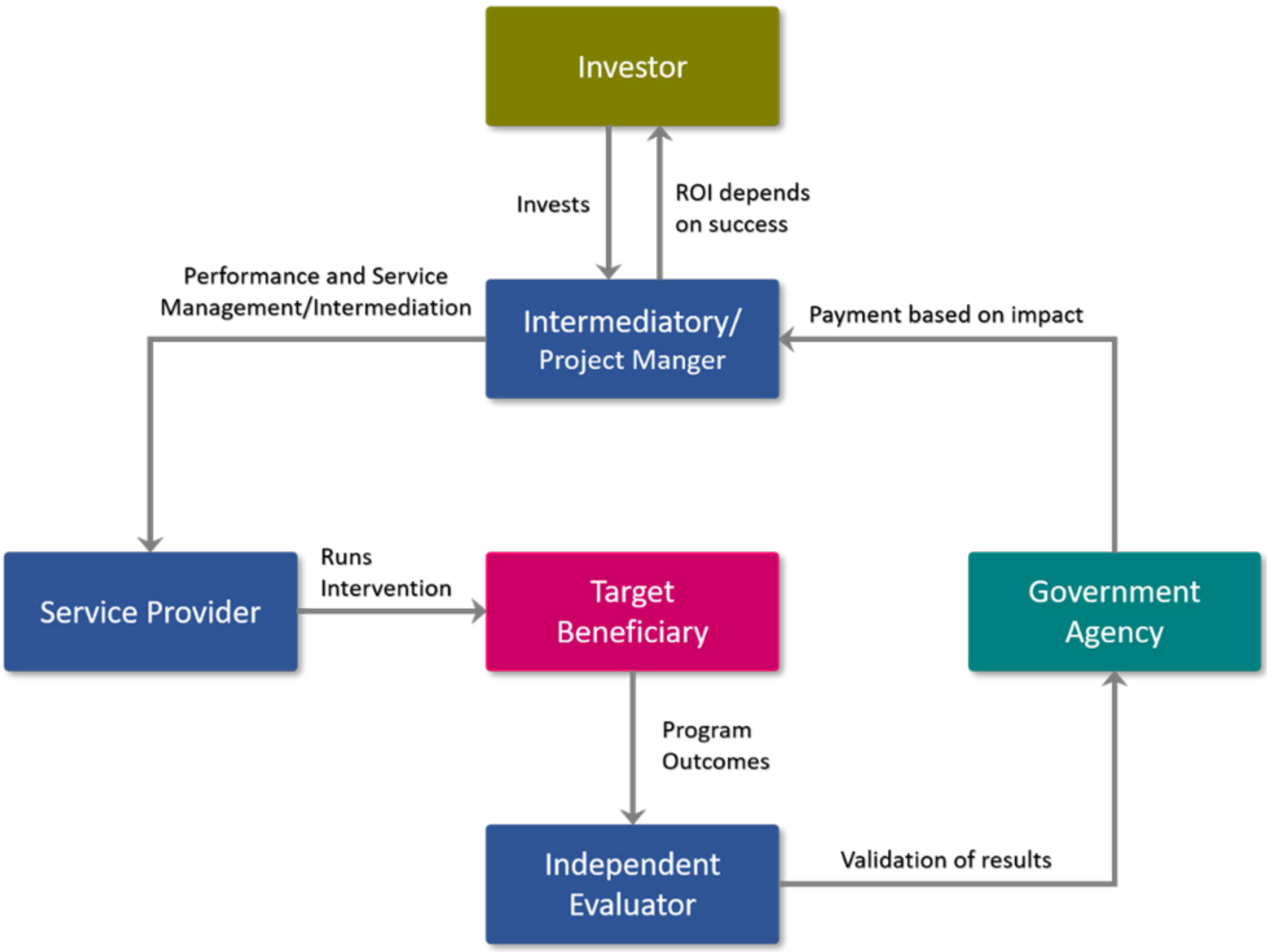
Depending on the context, an impact bond can be initiated by the government or the intermediary or the service provider. In developed countries likethe UK, most of the impact bonds are initiated by the government (GoLab, 2021). . In other cases, at times the intermediaries can also initiate an impact bond. World's first impact bond was launched in the UK in 2010 to reduce recidivism at the Peterborough Prison. It was initiated by the intermediary, Social Finance (Disley et al., 2011). There are instances where service providers have also initiated the dialogue of impact bonds. For example, the selected case study, Educate Girls Development Impact Bonds (EGDIB) was initiated by the service provider Educate Girls, a non-profit organisation in India (Saldinger, 2016).

2 https://www.nao.org.uk/successful-commissioning/introduction/what-are-civil-society-organisations-and-their-benefits-for-commissioners/

The impact bond fundings can be sought in two models. One is through an individual impact bond, in which a stand-alone impact bond is funded and implemented. Another is through impact bond funds, in which multiple contracts can be issued targeting the same or similar social intervention. As of September 2017, the UK government had 6 different funds set-up to issue multiple impact bonds to target issues like homelessness, sleeping disorder, unemployment in disadvantaged youth etc, (UK Gov, 2017).

A subset of impact bonds is Development Impact Bonds (DIB). Development Impact Bonds are similar to their popular counter parts, Social Impact Bonds (SIBs), with an exception that in DIBs the outcome funders are private parties (philanthropies or charities or aids) instead of government. Thus, DIBs transactions involve only private players. DIBs are implemented to make way for potential SIBs in the future by providing proof of concepts to governments that cannot afford to invest in experiments. Most of the critiques of SIBs, which will be discussed in the literature review section, around the transfer of wealth from Public to Private sector through the means of social welfare, do not apply to the DIBs, which are fundamentally different in these regards. "In high-income countries the outcome funder is typically the government—these deals are called social impact bonds (SIBs). In low- and middle-income countries— where government may not be ready to engage as an outcome funder—third parties, such as donors or foundations, may play this

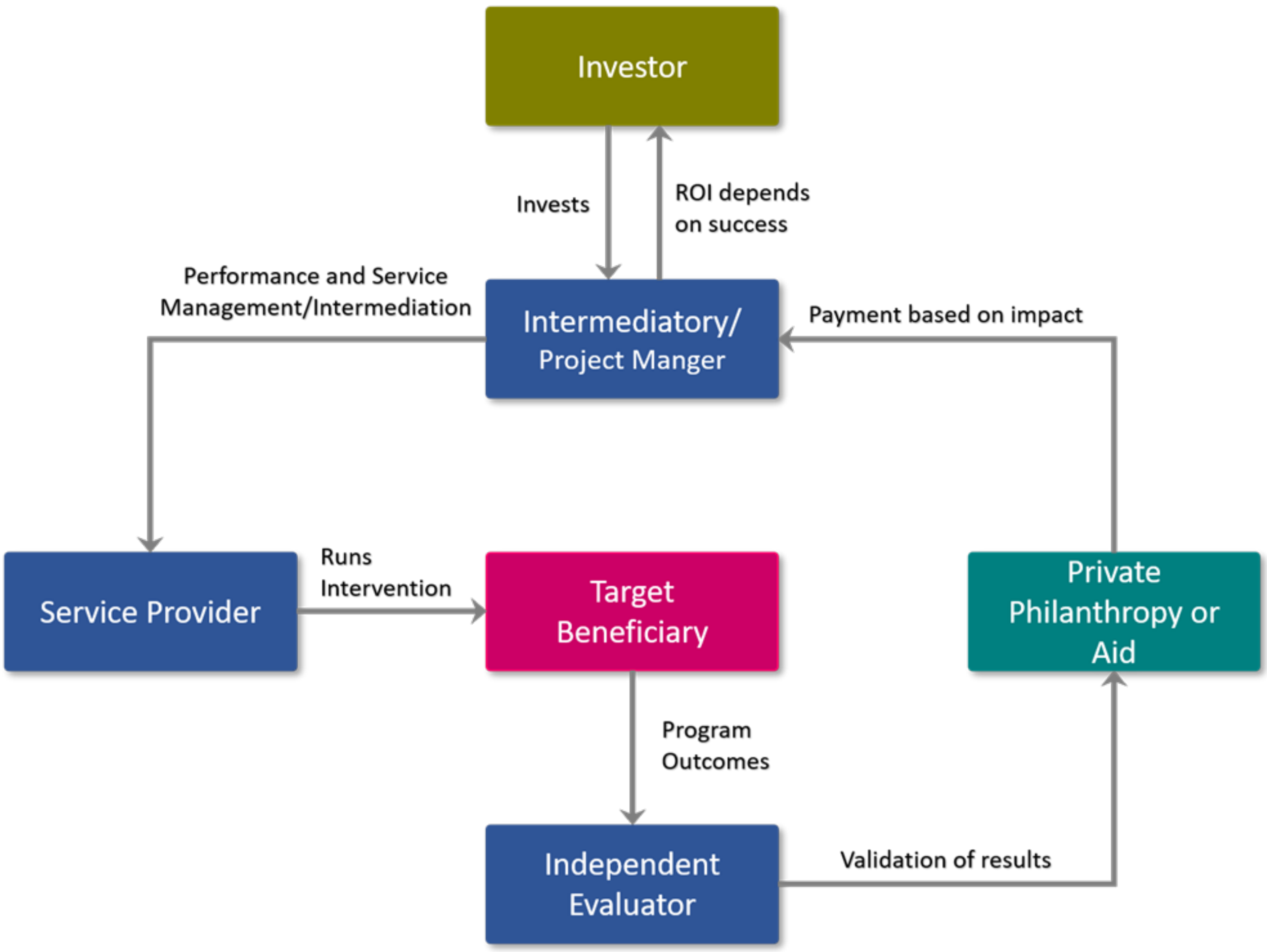
Figure 1. Framework of a typical Social Impact Bond (SIB)



role; these contracts are called development impact bonds (DIBs)" (Gustafsson-Wright & Boggild-Jones, 2019, p11).

Figure 1 and Figure 2 show the structure of a typical SIB and a typical DIB respectively. While the structure of DIBs is similar to SIBs, the outcome funder is different.

Figure 2. Framework of a typical Development Impact Bond (DIB)



4. LITERATURE REVIEW

Even though impact bonds are relatively new, they have gained significant attention worldwide from the public bodies and governments, the social investment sector, the third sector (which includes social enterprises), as well as academics . . There is ample grey literature on impact bonds (white papers, media articles, reports, non-peer reviewed articles, blogs etc.), most of it is published by their present or potential stakeholders (government bodies or financial institutes or third sector service providers). However, very limited academic and research work is done around DIBs in developing countries with an exception of Kabli et al (2021) and Alenda-Demoutiez (2019).

Taking a critical viewpoint on impact bonds, especially in regard to the developing world, Alenda-Demoutiez (2019) refers to DIBs as “fictitious commodities exchanged within private–private partnerships” (p.892). Emphasising on the point that DIBs are not inclusive of local/national government bodies as a key participant, Alenda-Demoutiez (2019) argues that welfare efforts for the most in need may not always yield lucrative financial returns in short-term to attract private investors. “Private investors will concentrate on short-term actions and target populations; public action is part of a longer-term vision for the welfare of the citizens” Alenda-Demoutiez (2019, p. 903). On the other hand, drawing mostly on the grey literature (by stakeholders of various impact bonds), Kabli et al (2021) emphasize on the applications of Impact Bonds as “business model” in welfare and development sector that facilitate capital requirements and quantified outcomes. This analysis is problematic considering the very nature of welfare efforts which is beyond quantified outcomes and capital management. In their systematic literature review of SIBs Fraser et al. (2016) present that the grey literature on impact bonds broadly posit optimistic ‘win-win’ perspective from the public as well as private finance sector ‘reform narrative’. However, most of the academic literature available on impact bonds are either direct critique of impact bonds or present arguments that lean towards questioning their ideology and efficacy through a ‘cautious narrative’ (Fraser et al., 2016).

Following both the grey literature and the academic literature on this novel tool, the literature review part of this paper highlights the key characteristics and themes of impact bonds discussed by both its proponents and opponents in the literature referred.

4.A ON THE COST SAVING AGENDA

The inception of impact bonds in the UK was fundamentally driven by the advocacy for cost-saving (Dowling, 2016). Proponents of impact bonds have argued that by using impact bonds, the government only bears the cost of welfare if outcomes are achieved, thus they prevent their investment in an expenditure that may not result in future cost-saving (Social Finance, 2016). Moreover, since the outcomes achieved are ensured through pre-determined evaluation metrics, the government can save future-cost of fixing social issues that may arise in absence of the intervention target by the impact bond (Warner, 2013). For instance, by ensuring youth education and training through an impact bond, the government can argue to save costs by preventing future spending on unemployment benefits.

However, there are multiple studies conducted by academics to gather evidence on this claim and so far no conclusive evidence on their actual cost savings have been found. Edmiston and Nicholls (2017) in their in-depth cost-benefit evaluation study of 4 impact bonds in the UK found no clear evidence on future cost savings. Edmiston and Nicholls (2017) argue that since impact bonds’ design and evaluation bring added costs to the project, it is unlikely that they present any direct cost saving for the program. “This is particularly problematic if private social investors are paid on the assumptions that cost savings will be made and the high transaction costs associated with SIB set-up and service experimentation will be covered as a result” (Edmiston and Nicholls, 2017, p. 17). Ogman’s (2016) study on the Peterborough prison impact bond also presents that no evidence of cost-saving was found in the intervention. Rather since the government paid the investor with returns, the public expenditure of the transaction was increased (Ogman, 2016). Similar findings were presented in McKay’s (2013) study, of a proposed impact bond in Maryland to reduce recidivism, which concluded that with increased transaction cost and greater contractual complexities, government would increase the operational risk as well the costs. Since many impact bonds have added stakeholders in the transaction (intermediaries, project managers, evaluates etc), the increased complexity and time by default adds to the cost of the service delivered. Adding another aspect to it, Tse and Warner (2018), drawing reference from the Utah Preschool SIB, point out that the investor Goldman Sachs constitutes 95% of the savings from the Utah SIB programme and were overpaid. “SIBs that overpay their investors divert funding from social services” (Tse and Warner, 2018, p. 829). This is because in the Utah SIB case the local authorities were already cash-strapped and instead cost-saving the SIB end-up diverting funds from the local authorities’ pockets.

Due to lack of quantitative analysis and quasi-experimental design evaluation, it is unclear that any public funds savings are made through impact bonds; however, investors are paid with return on the ground of hypothetical savings that are not realised so far (Tan et al., 2015; Fraser et al., 2016). Dowling (2016) also argues that even if the hypothetical cost savings turn out to be actual, they are transferred to investors (as return against the capital they are providing) rather than getting utilised for other public welfare interventions. Impact bonds fundamentally promote the idea of making social welfare effective and successful thus, gaining positive outcomes is eventually the aim of all the impact bonds. Underpinning this scenario, Fraser et al. (2016) argue that even though governments as commissioners defer their payments in order to avoid putting money into failed intervention, at the end they will have to keep an extra budget to pay the investor due returns. Thus, they might end up paying more than what they would have paid “in a more conventional way” (Fraser et al., 2016, p. 16)

4.B TRANSFERRING THE FINANCIAL RISK TO INVESTORS

Another important aspect of introducing impact bonds in the social welfare regime is that it offloads the burden of financial risk from the service providers (often a social enterprise) who are responsible for implementing the ground interventions but often lack financial resources to uphold risks. From long before impact bonds were introduced, governments worldwide have been using the payment- by- result (PbR) model for infrastructural development projects by outsourcing third parties for implementation (Albertson et al., 2018). However, unlike the PbR model, under the model of impact bond the financial risk associated with the project is borne by the social investor instead of the service provider. In the USA, some impact bonds, mostly infamous ones, have had mainstream investors like Goldman Sachs (Albertson et al., 2018). As argued by Garton Grimwood et al. (2013), one of the shortcomings of the PbR model (not impact bond model) is that it is not inclusive of grassroot organisations that often work efficiently at the local level but are not cash or capital-rich to bear the cost of intervention in advance. Proponents of impact bonds advocate that by bringing social/impact investors into the transaction, in order to bear that risk and provide up-front capital to service providers, impact bonds offload capital burden from social enterprises (Warner, 2013; Albertson et al., 2018).

This augment is underpinned by an assumption that the PbR model is the most suitable and efficient model to solve social welfare issues, and it should be adapted in social welfare through impact bonds. However, there is no evidence that PbR models improve efficiency and service delivery (NAO 2015). Study by Lagarde et al. (2013) present that empirical evidence to prove that PbR delivers greater outcomes than conventional payment models, especially in public welfare, are limited and inconclusive. Edmiston and Nicholls (2017) have pointed out the same inclusivity issues in impact bonds that were pointed out in the PbR model by Garton Grimwood et al. (2013). “Far from granting smaller third sector organisations a place at the table in outcome-based commissioning, SIBs have principally been awarded to larger third sector organisations deemed to be investment-ready” (Edmiston and Nicholls, 2017, p. 73).

Dowling (2016) argues that to overcome financial risks, governments have opened one more door for private investors, under the regime of impact investment, to make profits from the welfare sector through impact bonds. “On the one hand, the state accesses finance to achieve social policy goals; on the other hand, finance uses the state to accumulate financial profits” (Dowling, 2016, p. 295). Moreover, McHugh et al. (2013) also points out that even though impact investors may look beyond just financial outcomes, they also get greater autonomy in selecting which social welfare cause is worthy of an intervention. Other authors also raised this concern of ‘cherry-picking’, which will be discussed in the next section.

In the UK, the impact investment market is estimated to be worth more than 5 billion GBP as of 2020 and has grown six times over the past decade (Big Society Capital, 2020). This exponential growth indicates that the impact investment lobby now has gained significant influence to promote their new products like impact bonds. McHugh et al. (2013) acutely points out that even though the additional finance sources in social welfare are welcomed in context with cash-strapped organisations, other similar alternative forms of social investments like community share[3] and community banks[4], that do not have influence of private capital markets, have not been discussed and promoted the way impact bonds are. Some scholars also posit deep concerns about impact bonds enabling the transfer of autonomy of human life beyond just the financial risk. Underpinning the history of racial oppression through financial products like bonds, Kish and Leroy (2015) argue that “The metrics of success for such social finance instruments reveal that intimate aspects of the everyday lives of bonded subjects are accounted for, and made accountable to, investor expectations’’ (p. 640).

4.C OUTCOME-BASED EVALUATIONS

This section discusses the literature on advantages and disadvantages that are associated with the quantified evaluations of social welfare through impact bonds. One of the objectives behind establishing clear evaluation metrics of impact bonds payment is to shift the focus of the intervention from ‘process to result’ (Fox and Albertson, 2011). Fox and Albertson (2011) suggested that impact bonds foster efficiency in interventions by “providing minimal prescription as to how these outcomes should be achieved” (p. 399). Shifting the focus from inputs to outcomes, impact bonds can lead service providers to innovate by allowing

3 Community shares - Community Shares, 2012, www.communityshares.org.uk/

4 Community banks Ainsworth, D, 2012, Charity Bank and Senscot join forces to create a Scottish Community Bank, Third Sector: www.thirdsector.co.uk/go/social_enterprise/ article/1148030/charity-bank-senscot-join-forces-create-scottish-communitybank/

them for greater personalisation of interventions as outcomes to be achieved are pre-defined through evaluation methods (Jackson, 2013). Maier & Meyer (2017) suggest that through negotiations impact bonds may align the interest of stakeholders with beneficiaries and taxpayers if rigorous outcome evaluations are put in place.

Furthermore, by enabling funding that is based on outcome rather than the inputs, impact bonds facilitate their service providers with flexible capital that can be used as they deem appropriate as long as target outcomes are met. Tan et al. 's (2015) study in health and social care SIBs suggests that there was a great enthusiasm recorded for SIBs in many service providers as such contracts provided them flexible capital instead of restrictive funding that comes with process-driven contracts. This emphasis on the importance of flexible funding through outcome-based evaluations has been noted in multiple other publications including Griffiths et al. (2016) and White and Day (2016).

However, many scholars also posit deep concerns with the challenges associated with outcome-based evaluation of impact bonds. "The challenge of measuring outcomes is substantial, particularly in sectors where outcomes are difficult to define and evaluate. Once outcome measures are agreed, evaluation raises further challenges" (Albertson et al., 2018, p. 24). Often the complexity of 'wicked' social problems that impact bonds are addressing is replicated in the complexity of evaluation designs of the impact bonds (Albertson et al., 2018). While broadly every scholarly article on the subject touches upon or elaborates on the complex nature of impact bond, Fraser et al.'s (2016) literature review draws from multiples studies that concluded that complexity (which increases time and cost) associated with the design of outcome evaluations is one of the biggest short-comings of impact bonds. The studies point out difficulties faced by various stakeholders regarding outcome evaluations. It suggests that during the design phase of the impact bonds, one of the significant challenges for stakeholders is to come to agreements on what needs to be measured, by whom it should get measured, how it should be measured and how often it should be measured. (Fraser et al., 2016).

As touched upon earlier, another crucial challenge that scholars have pointed out with impact bond's outcome-based commissioning is that it may lead to 'cherry-picking', where investors as well as service providers will be inclined towards easily attainable outcomes. "Those most vulnerable and in greatest need may be 'parked' and neglected due to the difficulty, cost and time involved in dealing with them satisfactorily, while operations are focused instead on 'creaming' clients with less need, but who are easier to remove from claimant counts, thereby fulfilling incentivised or contractual outcomes" (McHugh et al., 2013, p. 250). Moreover, not all social problems can be solved through quantification as the outcome calculations are hard to measure in certain cases. "Outcomes-based commissioning may encourage service providers to concentrate on achieving those outputs and/or outcomes that are included in the reward system, even though other (less easily observed) outcomes might be just as important" (Albertson et al., 2018, p. 24; Hoverstadt, 2011). Broadening the perspective on social issues, Dowling (2016) argues that while some of the social impacts can have measurable outcome that can be quantified, for example reducing homelessness, providing employment etc., others like happiness, freedom, contentment etc, are not that straightforward to calculate, thus such issues cannot be catered to under such models.

4.D FINANCIALISATION OF THE SOCIAL WELFARE

In the neo-liberal era, we have previous examples where financialisation has made its way in the public domain through physical infrastructure projects by building roads, universities, hospitals etc. As a result, physical infrastructure has now emerged as a new asset-class globally (O'Neill, 2017). This section of the literature review discusses the characteristics of impact bonds as a product that facilitated the financialisation of social welfare.

Historically, financialisation has been used as a tool to accumulate wealth by commodification of vulnerable populations. Stating financialisation as a deeply racialised process Kish and Leroy (2015) points out the undertones of white supremacy through philanthrocapitalist investment in which beneficiaries are often “populations that cost society and attempt to rehabilitate them into value by making them investible risks’’ (p.633). Although most of the impact bonds are funded by public funds, the use of private capital/investments to finance them fundamentally makes them a market product fabricated in the social welfare sector that utilises the existence of a marginalised population (Tse & Warner, 2018). Moreover, the financial transaction structure of the impact bonds is only limited to the institutional players involved in the transaction. Although the whole concept of impact bonds is underpinned by the existence of beneficiaries at the very first place, the literature review conducted for this paper has not presented any impact bond that has incentivised its user (beneficiaries) for performing and progressing in the intervention which have yielded returns to the investors. It is ironic how actors (who are already disadvantaged) are not included in the incentives structure of a transaction that is based on their existence and performance. Contrarily, there are concerns of democratic and informed choice of the user’s (beneficiaries) participation in some SIB programmes in the healthcare sector (Morley, 2019).

Even though social investments take both social and financial return into account, investors often play by the rules of the market (Dowling & Harvie, 2014; Tan et al., 2019). “The financialization of the welfare state is characterised by the introduction of a financial calculus into policy-making and an increased exposure to financial market logics that lead to a new form of privatisation marked by the transfer of public assets to private investors as interest payments on the money lent to governments to fund social policy initiatives” (Dowling, 2016, p. 295). Unlike in the UK where most of the investors of impact bonds are social impact investors, in the USA, mainstream investors like Goldman Sachs have invested in multiple SIBs projects (Albertson et al., 2018). For example, in Rikers Island SIB, the investor Goldman Sachs had their investment secured with a philanthropy (Gonen, 2015). The project was not successful yet Goldman Sachs was able to recoup almost 80% of their 7.2 million USD investment from Bloomberg Philanthropies (Gonen, 2015). This securitisation of capital investments by the investors contradicts the governments’ advocacy of impact bonds. The rationale by its proponents that investors are paid with returns because of the risk they are bearing does not justify the use of philanthropic resources to provide cushioning to cover private investors risk. Moreover, the UK government’s agendas around impact bonds also include creating a secondary market around it, which might expose social interventions to the volatilities of financial trading (Dowling, 2016).

5. RESEARCH METHODOLOGY FOR EGDIB CASE STUDY

This case study is focused on evaluating the process and post-implementation impact of EGDIB through primary and secondary data. As discussed in the literature review section, so far almost all of the grey and academic literature around impact bonds is based on SIBs in developed country settingsIdentifying the gap in the literature for this distinctive subset of impact bonds, this research aims to present the process, challenges and aftermaths of DIBs in complex socio-economic settings of rural India. Considering that DIBs are a pilot tool for facilitating future SIB transactions, I have addressed the research questions keeping the broader context of impact bonds in mind.

For the purpose of this dissertation research, intensive online research was conducted to obtain material on Educate Girls DIB. More than two dozen white papers, reports, news articles, and other sources of online data were found. Most of these resources provided insights on the design-process, implementations, results and metrics. However, no formal post-implantation evaluation was found. To draw a post-implementation scenario, I followed a mixed-method data collection design by conducting multiple interviews with various stakeholders (including in-direct stakeholders, teachers) and using the quantitative data on EGDIB evaluations and public databases. I have followed the explanatory case study design based on Yin's (2018) classifications and triangulations have occurred at various points of the research and analysis.

As part of the primary data collection, seven school teachers from the different villages of two blocks out of three where this DIB was implemented were conducted. The teachers were not part of the implementation of the program, however, to assess the current scenario of education in the region amidst covid-19 and post-implementation impact of the DIB, their inputs were sought. Since the teachers are not part of any of the direct participating organisations of the DIB, theoretically there was very little conflict of interest. . Two community volunteers of Educate Girls, Team Balika, from two different villages of one block were also interviewed. Team Balika were the on-ground community volunteers who were responsible for delivering the learning intervention in their respective villages during the DIB. Their interviews provided insights on their experiences through the program and gave grasp on the current scenario in their respective village. One interview was conducted with the founder of Educate Girls (the service provider of NGO), Safeena Husain. Since there was plenty of secondary data available on her approach and experiences through the DIB, this interview was focused on her post-implementation look-out and learning of the DIB. All the interviews were conducted in the semi-structured framework. See Appendix A for the list of questions. Table 1 consolidates and codes the interviewees.

Ethical framework as per the Institute for Global Prosperity and UCL guidelines have been followed during the research. Although the names of the teachers and their villages are kept anonymous, they have agreed to mention the zone details and the designation for the purpose of this research. For Team Balika all the location details have been kept anonymous as per their consent. The founder of Educate Girls has agreed to using her interview reference in the study after a review. The consent is recorded.

Table 1. Interviewees list

S.No.	Participant	Code	Medium
1	Safeena Hussain - Founder	A	Zoom
2	Team Balika - Community Volunteer	B	WhatsApp video call
3	Team Balika Community Volunteer	C	WhatsApp video call
4	State Govt. Upper Primary Teacher – Bijolia Zone	D	WhatsApp video call
5	State Govt. Upper Primary Teacher – Bijolia Zone	E	WhatsApp video call
6	State Govt. Primary Teacher – Bijolia Zone	F	WhatsApp video call
7	State Govt. Primary Teacher – Bijolia Zone	G	WhatsApp video call
8	State Govt. Upper Primary Teacher – Bijolia Zone	H	WhatsApp video call
9	State Govt. Upper Primary Teacher – Mandalgarh Zone	I	WhatsApp video call
10	State Govt. Primary Teacher – Mandalgarh Zone	J	WhatsApp video call

6. EGDIB CASE STUDY

The case study is articulated as follows. This section beings with a background on the inception of the EGDIB which was a result of a pivot process. Following that, the Design section narrates the complexities and negotiation in the design phase and states the payment terms. The implementation part highlights the interventions methods and course-corrections, followed by the final results. The information until the result part of DIB has been primarily collected from secondary data, however, for any gap in the information loop primary data was collected during the interviews.

6.A BACKGROUND ON INCEPTION

Educate Girls DIB (EGDIB), was implemented from mid-2015 to mid-2018 in rural locations of Bhilwara, Rajasthan, India. The DIB programme is named after the implementing NGO/service provider, Educate Girls (EG). Established in 2007, Educate Girls focuses on girls' education in India's rural and educationally disadvantaged areas (EducateGirls). The NGO was formed after consultation with the Ministry of Human Resource Development in India (ILSS, 2019). The founder Safeena Husain got in touch with the government to identify the most challenging geographies to cater for girls' education advancement in India (ILSS, 2019). Since 9 out of 26 critical gender gap districts were in one state, Rajasthan, Safeena decided to start from there as she aimed to transform the most disadvantaged areas in girls' education in India (ILSS, 2019). From the beginning, the founder wanted the organisation to serve at scale because the scale of the problem it addressed was also massive (Datla, 2019). There are more than 75,000 government-run schools in Rajasthan and since the divide in quality of education between government and private run schools was striking, Educate Girls decided to cater to government schools only (Datla, 2019). Moreover, since the majority of the beneficiary girls for Educate Girls' interventions could have access to government school education only, it made theoretical sense to stick to government run schools in the rural areas (interview A). Acknowledging the importance of working 'within the system', Educate Girls entered into an agreement with the State Government of Rajasthan in 2008, that allowed EG to partner and access government schools across the state (ILSS, 2109; Datla, 2019). EG scaled its partnership and interventions from one government school in 2007, to 5000 schools in 2013 (Datla, 2019).

While EG was scaling rapidly, the founder was concerned about the efficiency indicators that lack in the non-profit sectors. Emphasising on monitoring and outcomes, she wanted the organisation to be more accountable for its outcomes and deliverables at the grassroots (Datla, 2019). "I wanted to ensure that we were scaling quality and outcomes rather than activity" (as quoted by Safeena Husain in ILSS, 2019). Thus, she decided to take the outcome-based or PbR financing route to establish an answer to the efficiency question that often comes while raising funds.

The idea for the EGDIB has its roots tracing back to 2012, with collaboration between Educate Girls and Instiglio, who later became the intermediary and project manager of the DIB (Saldinger, 2016). Initially the founder of EG collaborated with Instiglio to bring a result-based payment component for a proposal to be made to Department For International Development (DFID), UK (Saldinger, 2016). The team worked for nearly nine months to create the proposal, however, later in the year 2013, DFID decided to withdraw all traditional fundings in India (Saldinger, 2016). As a result, the team was left with a result-based financing proposal but no targeted programme or funder despite clearing multiple stages of DFID's Girls Education Challenge. (Datla, 2019). This was when the team decided to pivot and take the DIB route as they had a ready proposal for outcome-based funding but no investor and project to implement it with (Saldinger, 2016). The co-relations between outcome-based funding (or PbR) structure and impact bonds have been discussed in the literature review section of this paper. After pitching unsuccessfully to several investors, they finally managed to bring UBS Optimus Foundation (UBSOF) on board as the investor (Saldinger, 2016). UBSOF then approached their long-time partner CIFF to become an outcome funder and CIFF accepted that invitation after some deliberations (Datla, 2019). By mid-2014, the intermediary Instiglio, the service provider EG, the investor UBSOF and the outcome funder CIFF were on-board (Datla, 2019). The evaluator of the DIB, IDinsight, was approached by the intermediary Instiglio and was on-board by the end of 2014 after having multiple presentations with the rest of the participants.

6.B DESIGN OF THE EGDIB

The previous section exhibits that after almost 18 months of planning, coordination and search, all the key institutional participants of the EGDIB were on board. This section will elaborate on the key negotiations during the design phase and will explain the enrolment metrics that were linked to the outcomes.

EGDIB had the following five key institutional participants. They are collectively referred as 'the working group'.

1. *Service Provider: Educate Girls* - The implementor of the program who was facilitated with upfront working capital by the investor to achieve the targeted outcomes in the given timeframe as per the contract.

2. *Investor: Zurich based UBS Optimus Foundation (UBSOF)* – Based in UBSOF is the philanthropic and social investment wing of Swiss Bank UBS. It was the primary investor who provided the working capital to EG. Upon completion of the DIB, UBSOF would recoup their investment with returns if the targeted outcomes are met.

3.*Outcome Payer: Children's Investment Fund Foundation (CIFF)* - A London based philanthropic arm of Christopher Hohn's hedge fund, which is known to be one of the most profitable hedge funds, was the outcome funder who would pay back the investor initial capital with return as per the outcomes, if targets are archived.

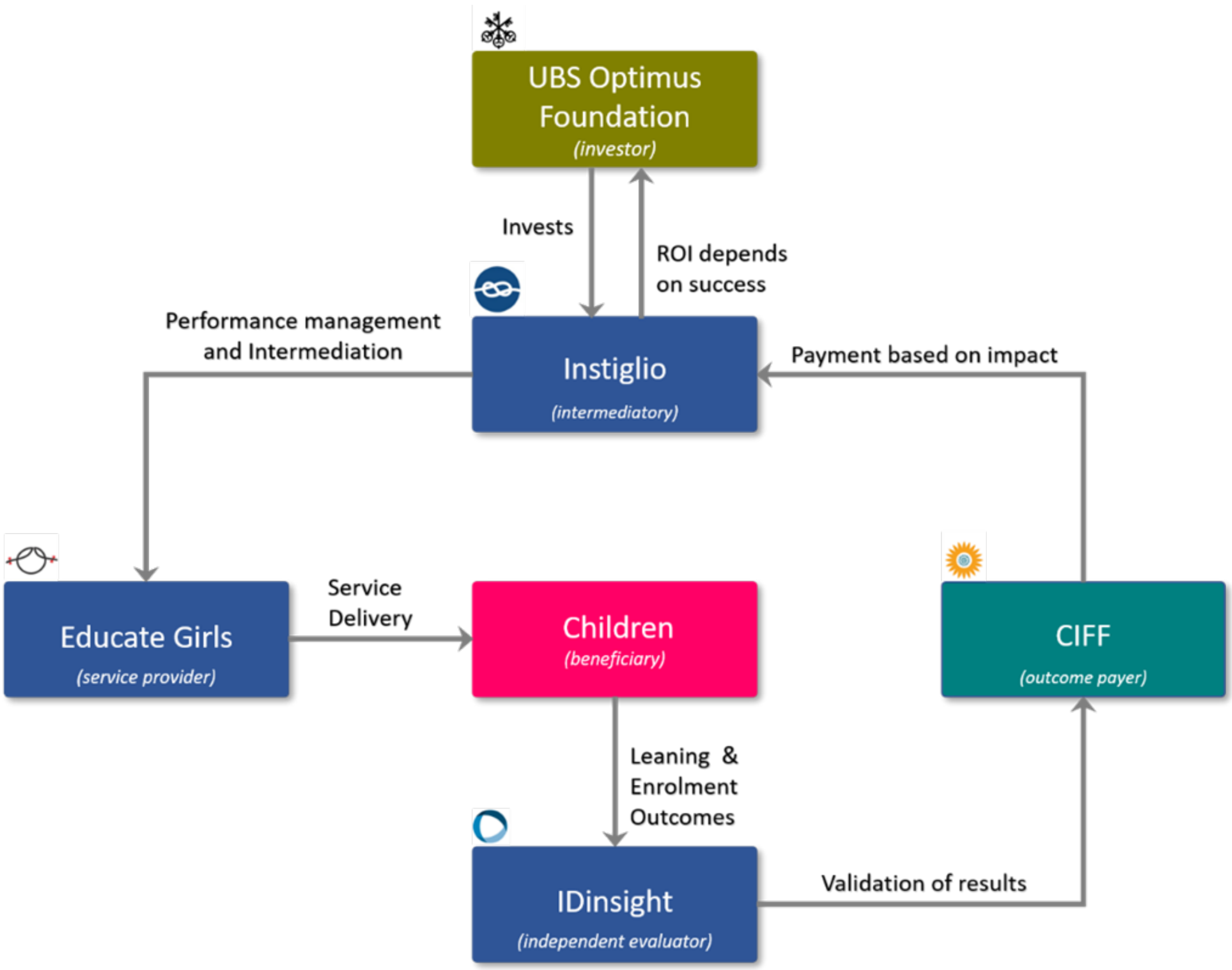
4. *Project Manager: Instiglio* - A non-profit intermediary based in Bogota, Colombia. Instiglio managed the design of this DIB and delivered performance management services to Educate Girls over the three years of the contract. Their payments were covered by EG, UBSOF and CIFF collectively depending upon the services each used.

5. *Outcome Evaluator: IDinsight* - An impact evaluation and data management firm headquartered in San Francisco. It designed and implemented the outcome targets and evaluation. They were responsible for conducting independent evaluations to measure the outcomes. As with most of the impact bonds, evaluator's service cost was borne by the outcome funder, which is CIFF in this case., CIFF to conduct all tasks related to outcomes measurements and evaluation of the DIB.

Apart from the working group, the Government of Rajasthan (GoR) also played a crucial role in facilitating this transaction. Since all schools covered in the DIB were government-run or administered school, multiple Memorandum of Understating (MoUs) were signed with GoR (Instiglio, 2015). EG signed an MoU with GoR to have access to schools, database and pedagogies for implementation and IDinsight signed an MoU with GoR to have access to school for evaluation of learning outcomes as well as to confirm the enrolment status of girls enrolled during the programme as per EG's reporting (Instiglio, 2015).

Adapting to the framework created for building the understanding for SIBs and DIBs (c.f. Figure 1 and Figure 2.), Figure 3 shows the framework of EGDIB. The working group was in agreement on the selected geographies of the intervention from the beginning of the design phase(interview A). As mentioned in section 6.a, EG were already working in the most disadvantaged geographies of India both in terms

Figure 3. Framework of EGDIB



of gender gap and learning poverty. Thus, the proposed location in Rajasthan for the DIB program seemed apt to all the parties (Center for Universal Education at Brookings, 2018).

This impact bond had two outcome targets that were part of the evaluation and payment metrics. As observed in many other impact bonds, EGDIB also had its fair share of negotiations around defining and measuring the outcomes of the program. The outcome funder CIFF was initially only concerned with the learning outcomes of the programme. They argued that enrolment and attendance are just indicators that could be measured with process analysis (Datla, 2019). Their primary reason to invest in the DIB was to see learning outcomes, thus enrolment metric was part of outputs for them instead of outcomes (Datla, 2019). On the other hand, EG were inclined towards their community mobilisations strategy under which enrolment and retention of girls were the core interventions they were catering to (Datla, 2019; A). For them out-of-school girls were at a greater risk to be a victim of child marriage and child labour (interview A). Thus, EG insisted and pursued the outcome funder CIFF to include metrics beyond just learning outcomes to maintain EG's organisational ideologies (Datla, 2019). Eventually, after months of deliberations around it, CIFF agreed to include enrolment metrics as part of the outcome payment. "It took me almost a year to convince outcome funders to include enrolment metrics but we were headstrong to not go into a program that did not include the most vulnerable children in our service area" (interview A). UBSOF (the investor) and the intermediary (Instiglio) both were sympathetic to EG's advocacy to be inclusive of girls who were not part of the education system (Datla, 2019). For Educate Girls, attaining learning targets was easier than attaining enrolment targets but the organisation's alignment to its purpose was also equally crucial. (interview A). After months of planning and discussion with evaluators and outcomes funder, by the mid-of 2015 the outcome metrics of the DIB were finalised and CIFF agreed to include the enrolment outcomes but just as 20% of outcome payments (Datla, 2019). The 3 years DIB was aimed at achieving two targeted outcomes in the following metrics and structure.

I) LEARNING OUTCOMES (80% OF THE TARGETED OUTCOMES AND PAYMENT):

While the discussions around including the enrolment metric as part of the final outcomes were taking place, simultaneously there was a lot of deliberation around using the right evaluation metric (Saldinger, 2016). EGDIB was implemented in a data-poor environment where the administrative data provided by the government was neither up to date nor accurate (Center for Universal Education at Brookings, 2018). The core requirement for any impact bond is the measurement of metric through data, since there was no reliable data available, evaluator IDinsight had to develop their own metrics from scratch to evaluate the DIB. "One of the key sticking points was over how to evaluate and measure progress, with the outcome payor and investor wanting an intensely rigorous evaluation and Educate Girls wanting to use a more scalable form of measurement" (Saldinger, 2016).

The evaluator presented the option of Randomised Control Trials (RCTs) in which they would measure the difference in learning progress of treatment schools (where EG delivered the DIB programme) versus control schools (where the program was Not delivered but learning progress of students was measured to prove the difference and causal effect) (IDinsight, 2018). The investor and outcome funder advocated for RCTs to make sure that the evaluation proves the efficacy of the model they want to promote and attributes the results solely to the intervention of the DIB (Datla, 2019). Even though for the outcome funder, the cost of conducting the RCT evaluations was almost the same (rather slightly higher than the implementation budget), they were keen on using it to determine the causal effect of the programme (Datla, 2019). The overall investment by UBSOF for implementation was of $277,000, where the cost of evaluating the programme is estimated to be over $ 300,000 (Datla, 2019). However, EG was worried that since RCTs would lead to a comparison between government schools where their intervention was taking place and the government schools where they did not provide intervention, it may break their alignment with the government (Datla, 2019). If the intervention turns out successful it may put government schools functioning in a bad light and that was a point of hesitation for EG since they work in coordination with the government since their inception. Although, after realising that the evaluation will lack rigour and accountability in absence of RCTs, EG encompassed it (Center for Universal Education at Brookings, 2018).

The learning outcomes were targeted at 7300 beneficiary students from grade 3-5 in rural government schools in 3 blocks of Bhilwara district in Rajasthan. The aim was to improve their learning gains in Hindi[5], Math and English (EducateGirls).

II) ENROLMENT OUTCOMES (20% OF THE TARGETED OUTCOMES AND PAYMENT):

Compared to the learning outcomes evaluation, the evaluation of out-of-school girls was fairly less complex. Since EG was already operating in the geographies where the DIB was implemented, they

5 National Language of India

had a ready list of 837 out-of-school (OOS) girls in the treatment villages (IDinsight, 2018). The target for EG was to enrol 662 girls from that list into schools (IDinsight, 2018). The list of identified out-of-school girls was based on a census-like door-to-door survey carried by EG in the 34000 rural households of the Bhilwara district (Saldinger, 2018). Evaluator IDinsight validated a list of 837 OOS girls by visiting the schools and verifying the list with headmasters and by cross-checking the school enrolment and attendance registers (IDinsight, 2018). At the end of each intervention year, EG handed over the list of enrolled girls in the treatment villages and that list was also verified by IDinsight through the same process (IDinsight, 2018). "Due to budgetary constraints, the DIB Working Group decided not to conduct a parallel census of out-of-school girls in control villages. As a result, we cannot rule out the possibility that other factors besides the Educate Girls program influenced enrolment in treatment villages" (IDinsight, 2018, p.11). Girls were deemed eligible for enrolment if they were between 7 and 14 years old, lived-in treatment villages, and have not previously been reported enrolled by Educate Girls (IDinsight, 2018).

PAYMENTS TERMS

All the figures presented in this section are denoted from the Design Memo of EGDIB published by the project manager/intermediary Instiglio (Instiglio, 2015; see Appendix B). The implementation cost for DIB was $ 277000 which was given as upfront working capital to EG by UBSOF. The return for UBSOF upon completion was subjected to outcomes achieved after 3 years of implementation of the program. Outcome funder would pay UBSOF only if the targeted outcomes are achieved by 86% or above. In case where targets are achieved by 86%, CIFF would pay UBSOF their initial investment plus a 13% return on investment (ROI) after 3 years. If targets are met by 100%, the outcome payment to UBSOF was set at 32% ROI i.e. $ 89000 over and above the initial investment. In case of 100% or beyond outcome achievements, UBSOF would share one-third of their ROI with EG and reinvest the remaining returns in other development programmes. In case of over achievement of targets beyond 100%, the ROI also increased up to 52% and was capped at that range. That means if EG would over-achieve their targets by say 30%, then CIFF would pay UBSOF their initial capital of $ 277000 plus a return of $ 144000 app. The exact structure would apply if EG exceeded the target by 60% or 80%. EG would receive 32% of any return that would be recouped by USBOF if targets are met.

It is noteworthy here that the payment to the evaluator IDinsight for evaluations (app. $ 300,000) by CIFF and the capital payment to EG by UBSOF for project implementation (app. $ 277000) were not subjected to the outcomes of the programme (Datla, 2019). That means those payments were fixed irrespective on any results archived or none achieved at all.

6.C IMPLEMENTATION

The above sections present the 3 year long process of conceptualising and designing the EGDIB. While those sections provided insights on how these programmes are developed and the complexities & cost of the processes, they also highlighted the hurdles faced during the negotiations on outcomes and evaluations. This section will elaborate on the actual implementation part of the DIB where the beneficiaries were exposed to the programme. By mid-2015, three months before the implementation was due for launch, the legal contracts including the outcome evaluation and payment terms were finalised (Saldinger, 2016). Once the contracts were in place, the respective teams started their on-ground work.

The first task was for the evaluator to create the baseline for measuring the progress. IDinsight deployed a team of surveyors for RCTs (IDinsight, 2018). The assessment was based on the Annual Status of Education Report (ASER) tool, a widely used and validated tool created by Pratham[6], to measure

6 https://www.asercentre.org/

fundamental competencies in Hindi, English and Maths (IDinsight, 2018). The Baseline assessment created the starting point of the programme and based on that the outcomes were quantified. The baseline assessment was conducted in 396 schools in 338 villages of three blocks covering almost 15000 students from grade 1-5 (IDinsight, 2018). Although the program was targeted for students from grade 3-5, grade 1 and 2 students were also assessed as they would be the cohort joining the programme in year 2 and 3, respectively. After the baseline evaluation, each village was randomly paired with another village in the same block to assign treatment vs control group status (IDinsight, 2018). The villages were matched on the criteria of male-female student ratio, student-teacher ratio, enrolments and level of schooling (IDinsight, 2018).

Simultaneously, EG started the preparation and delivery of the project. The process of designing a district-level intervention programme usually takes nine months for EG, which was to be done in three months (Saldinger, 2016). They recruited 200 new employees for project implementation and trained 160 community volunteers, Team Balika, in the treatment villages (Saldinger, 2016). The community volunteers were the key drivers of the project delivery on-ground for both learning and enrolment activities (interview A). They are unpaid volunteers (both boys and girls) in the age group of 18-30 who are usually the most educated youth in their respective villages (Agapitova and Navarrete Moreno, 2017). "They were incentivized with a small number of skill and career development opportunities, such as free English classes and the possibility of being hired by EG in the future" (IDinsight, 2018). Educate Girls trained volunteers to deliver a child-centric curriculum one to five times in a week in the treatment schools (IDinsight, 2018). These were supplement lessons on top of their classroom learnings through government school teachers (interview I). During year one, EG was primarily occupied with setting-up the processes, performance metrics and curriculum structures. The results achieved during the year showed some increment in learnings, which were concentrated to students who were regularly attending the schools, but could only achieve 26% of the learning targets (Center for Universal Education at Brookings, 2018; IDinsight, 2018).

During year two, with the help of insights provide by the Project Manager, Instiglio, EG focused on the chronically absent students and included the provision of home schooling (Saldinger, 2018) Also, outcome-based performance management systems (OPMS) were introduced and dash-boards managements were set in place to monitor the process and progress (Agapitova and Navarrete Moreno, 2017). In year 3, EG introduced a new curriculum called "Gyan Ka Pitara" ("Knowledge Box"), under which the number of teaching sessions were increased per day (IDinsight, 2018). Moreover, the first-year evaluation also showed that results in English were not at par, so schools were supplemented with learning materials to support teaching staff who were identified as 'not-confident' with their own English skills (Saldinger,2016). Simultaneously to facilitate enrolment and retention of OOS girls, administrative and governance reforms were pursued in the school with local administration and EG's on-ground staff at village-level (Agapitova and Navarrete Moreno, 2017). These reforms were targeted to make school infrastructure more girl-friendly by ensuring facilities like drinking water, girls toilets, etc. (Agapitova and Navarrete Moreno, 2017). The evaluator IDinsight conducted the RCTs to evaluate the learning outcomes and verified the enrolment outcomes at the end of each year. The final results will be discussed in the next section.

6.D RESULTS

At the end-line assessment in year 3, the evaluator recorded that EG surpasses both its targets. The recorded learning outcomes were 160% of the set targets, and enrolment outcomes achieved were 116% of the set target. The ASER metrics are specialised metrics to understand learning gains and can be challenging to relate to the quality of learning achieved. Thus, using the information available through IDinsight's final evaluation report of the DIB and the panel discussion from the result announcement event (Center for Universal Education at Brookings, 2018; IDinsight, 2018), some conversion of learning outcomes achieved can be translated as follows. Less than 2% of the students at the baseline assessments (start of the program) were able to read a word or a sentence in English. After 3 years of intervention, 64% students were able to read a complete sentence in the treatment group compared to 28% of students who were in the control group who did not have any exposure to the programme. Similarly, for math, at the baseline assessment (start of the programme) less than 1% of student in each group could solve a division problem and after having 3 years of exposure of the program, 50% of student in the treatment group were able to do that, while only 22% of students in control group could achieve that. The learning gains in Hindi were high for both treatment and control school and there was not much of a difference recorded; it was because both the groups had exposure to this language in their daily life.

These results were based on aggregated findings; that means that they are cumulative of all the groups in the treatment villages. However, the evaluation report suggests that learning gains were mostly evenly distributed between all the subgroups of gender, caste, villages, age etc. (IDinsight, 2018). There was no major concentration observed. This can be attributed to EG's focus on lagging groups in years 1-2 and rapid course-corrections done during the programme that led to home schooling, teacher support, etc. (see 6.c).

Enrolment outcomes were verified as 116% of targets. Overall, 768 eligible OOS girls were enrolled against the target of 662, and majority of them were above the age of 10 years (IDinsight, 2018).

As a result of these outcomes, CIFF paid UBS their initial investment of $277,000 along with a 52 percent rate of return that accounted for $144,000. A third of that $144,000 i.e., app. $46,000 was given to EG as an incentive (UBSOF, 2021). The remaining returns received by UBSOF, (i.e app. $ 98,000) will be reinvested in other development programmes (UBSOF, 2021). See section 6.b to understand payment metrics. The total cost of the project, including implementation, evaluation and other operating and management costs, reached one million USD (Saldinger, 2018). The outcome funder CIFF paid the cost of implementation with returns as well as the cost of evaluation which is estimated to be $300,000 (Datla, 2019). It is noteworthy that the cost of evaluation is higher than the service providers cost for the implementation of the project. There is no concrete evidence available on the remunerations of the project manager/ intermediaries Instiglio, since they were working in partnership with multiple stakeholders of the DIB.

7. POST-IMPLEMENTATION IMPACT

Investigating the impact of the EGDIB beyond the life-span of the programme, this section of the paper evaluates the post-implementation impact of the EGDIB in context to its beneficiaries, the service provider and the broader education sector development eco-system. This part also takes into account the impact of covid-19 pandemic, which had put the schools and learning on stand still for a significant duration, on the results produced by the DIB. After the completion of the DIB, EG stated that the organisation has made a commitment to stay in the control group villages to evaluate changes over time (Saldinger, 2018). In its standard model, EG caters to a targeted geographies for 6 to 9 years with a target to enrol 90% out of school girls and to build community capacity to sustain the practice through mindset shift (Saldinger, 2018).

7.A ON BENEFICIARIES CHILDREN

The results achieved through the DIB provided a framework for the EG and other stakeholders in determining “what works” (interview A). The learning of the programme (curriculums, supplement materials, pedagogy etc.) was then to be scaled to the control villages and then to the other regions and states where EG was working (ILSS, 2019). After the implementation was over the community volunteers continued their visit to the schools as per the new structures adapted during the programme (interview B). A sense of enthusiasm was also observed in many teachers as the learning improvements were clearly noticeable (interview E). Students from the cohorts that were part of the EGDIB, became evidently more responsive and attentive of their studies compared to other classes in the schools and it continued well until the pandemic that resulted in the prologue school closures (interview H). At individual level, many teachers observed increased enthusiasm in the beneficiary students to perform better in their studies since they sensed that their learning is crucial and weighed by many stakeholders in their surroundings, including their parents, teachers, Team Balika, etc.

While EG was working towards expanding their new performance management systems and other learning initiatives to the control villages and beyond, the covid-19 pandemic hit the world. The DIB program in 2015 was already an intervention that was attributed to a pre-covid learning crisis. In India, even before the pandemic, more than half of children were suffering from Learning Poverty i.e. inability to read or write a simple text by the age of 10 (World Bank, 2019). As per the World Bank (2020) report, in April 2020, more than 1.6 billion children and youth were out of school due to closure mandated in 180 countries across the globe. While decades of interventions and efforts by governments and NGOs on the ground were starting to yield results, the prolonged school closures due to the pandemic have undone the progress achieved by organisations like Educate Girls (Sinha, 2021).

Considering that the DIB was implemented in the one of the most recessive regions (that have high female illiteracy rates, high poverty etc.) of the country with a high concentration of out of school girls and learning poverty, the learning outcomes achieved through the DIB can be estimated to be annulled. Adding to it, the digital divide for the beneficiaries of EGDIB was exposed through the interviews conducted by the teacher and community volunteers. While school closures led to learning loss, contingency measures of delivering learning through digital mediums were unfeasible in the villages that were targeted in the DIB. “I have students coming to my class from more than 5 different small villages nearby, since smartphones are not an option with everyone, how can we deliver learning during the lockdown?" (interview D). "The practicalities of digital-teaching are different in our villages" (interview G). "Not even a quarter of my students have access to a smartphone, whom shall we send material to?" (interview J). According to the ASER report, despite the sharp surge in households with smartphones, more than 44% of households of children enroled in rural government schools in Rajasthan (the state where the DIB was implemented) did not have smartphones. In Rajasthan, during covid only 17% of children who did not have smartphones in their households received any material for learning through an alternate medium like personal visits by parents or teachers (ASER, 2020). Even among households with smartphones, girls do not always have access to it (A; C).

As discussed in the section 6.b, the outcome funder CIFF, was primarily focused and motivated on delivering learning outcomes. Their measure of successful intervention was translated into 80% of the DIBs outcomes based on the learning targets. The targeted grades for EGDIB were from grade 3 to 5; however, to translate any learning into a gain for life (to see the impact of these improved learning in the prosperity of those children) there was still a long road ahead (interview A). "For many children, who have been out of touch with their study for a long time now, we have to start all our teaching interventions from scratch, especially in English, Science, and Math" (interview B). Another severe threat for children, especially girls, covered in the DIB is child-marriage. According to the UNICEF (2020) report, school closure increases the risk of child marriage by 25%. It is more challenging for children to remain in school as they grow and most of the drop-outs in girls happen after grade 7 (interview C). "Leaning can be taken care of once things resume, I am more worried about girls who are above 12, many of whom were engaged, if not married off during the pandemic. It is very likely that they will discontinue their education now" (interview B). Although EG has rolled-out targeted programmes in villages to combat the learning crises and to compensate for school closure, the turnout in those programmes have been lower than the enthusiasm that we recorded in the pre-covid time (B; C). "During pandemic, we have more control and acceptance in the community when it comes to the education of younger girls, parents of adolescent girls are very cautious and at times reluctant" (interview C).

Considering the current scenario with the school closure and the accessibilities issues that teachers and Team Balika face, it is hard to estimate the status of learning and enrolments that were achieved through EGDIB; however, as a result of the pandemic, a mind-shift of some communities regarding their perception on the value of education may result in a brighter scenario. One of the teachers highlighted, "I sense that some of the parents will be more determined for their children's education than pre-covid times" (interview F). According to him, as some of the parents have seen the worst of poverty and struggles during the pandemic, they now see education as their tool to break this cycle of poverty. "It is just a matter of time, if they manage to navigate the crises, their future can be brighter" (interview F).

7.B ON EDUCATE GIRLS

As mentioned in the previous section, the impact EGDIB created on the learning of the children are in jeopardy due to covid-19 pandemic. Yet, the post-implementation impact of the DIB has been transformative on Educate Girls as an organisation (interview A). "The DIB has alternated the DNA of our organisation" (interview A). For EG the DIB has worked as a great 'Research and Development (R&D) tool' to realise 'what works' and how results can be achieved in a faster manner (interview A). "We figured out how to marry each dollar with a unit of impact. We learned to do rapid course corrections and to use data in decision making. But most importantly, we learned to decentralise our decision-making" (interview A). During the course of DIB, it was in the last year that EG realised that the management needs to provide greater autonomy to their front-line workers in order to achieve the outcomes and that resulted in the over-achievement without any heterogeneity in results (interview A). They enabled the on-ground team with data dash-boards and outcome-based performance management systems (OPMS), based on which the on-ground staff was able to prioritise their visits to the households where the intervention was most needed (Agapitova and Navarrete Moreno, 2017). "Our Team Balika were reading dashboards and were insisting on making it more frequent so that they can design their own best plan" (interview A). Educate Girls is a reasonably large-scale organisation operating in more than 20000 villages in three states of India (EducateGirls). Often, with the large scale organisations, 'decision making' is a top-down process which is primarily centralised. However, the success of EG's interventions depends upon the motivation and performance of the on-ground staff and community volunteers. Thus, in case of EG the decentralised and bottom-up decision making provides greater autonomy and better results (interview A). The performance and success of decisions made by the bottom-line is constantly evaluated and monitored through OPMS (interview A). While the organisation has shown great enthusiasm in adopting OPMS, dashboards and monitoring & evaluation methods through EGDIB, this paper in the discussion section (8c) will highlight the diverse perspectives on using these tools in delivering social welfare outcomes.

The DIB also made the organisation more data-driven and they continued their partnership with the evaluator of the DIB, IDinsight, to generate a predictive analytics model (IDinsight, 2021). In 2019, EG participated in The Audacious Project (TAP, 2020) to pitch a predictive analytics model that helped them come up with a hypothesis that in India 5% of villages have 40% of the out-of-school (OOS) girls (TAP, 2020). The pitch resulted in EG being chosen as one of the 8 recipients of the second year of the Audacious Project Grant. Including this grant EG has now secured an overall flexible funding of around $100 million over the next 5 years (A; Financial Times, 2020). Under the Audacious Project grant, the target for EG is to scale to 35,000 villages across northern India to enrol 1.6 million OOS girls into schools, retention of 1.4 million girls, improvement of learning outcomes of 1 million children (both boys and girls), development of 100,000 girls with life skills training and improvement of governance and infrastructure of 40,00 schools through government partnerships (IDinsight, 2021).

Like the DIB funding, most of the funding that EG received through The Audacious Project is unrestricted i.e. flexible funding (interview A). Flexible funding here implies to the funding that is directed to achieving certain outcomes rather than following prescribed activities or inputs as per the funders criteria. Thus, the receiving organisation has autonomy for utilising the funds to meet their targets. Often development organisations receive funds under the restrictive funding in which the donor/funder prescribes the activities and inputs. "In past, I have walked away from aid money because it is bureaucracy laden. DIB taught us that micro-management at ground level interventions do not work but aid money is very-restrictive this way. One of the aid donors said to me that every time your field person travels under the project, you need prior approval from us" (interview A). Considering that EG has more than 1700 staff and 13000 community volunteers (EducateGirls), this argument against the restrictive aid funding weighs as it may delay decision making and execution at field. "Micro reporting is rather expensive and time-consuming; it brings down your efficiency. This is one of the reasons why non-profits at times underperform despite their best intentions and DIB opened the door for flexible funding for us" (interview A).

Since EG was able to secure significant flexible funding after the DIB, they could respond to the covid crises in villages as per the need of the hour. EG implemented a community-based learning programme, Camp Vidya, in their villages to ensure children stay connected to learning (EducateGirls). However, the priorities of the organisation also shifted to the immediate needs of the communities. Providing ration and safety kits, sanitation for girls etc. are the priorities to ensure that the future scope for improvement still remains open (interview A). "All of us did a lot of hard work during the programme to improve the learning, but currently we need to focus on preventing hunger, child-marriages and child-labour" (interview C). The focus of EG on survival of the families (nutrition, daily needs, medical etc.) and prevention of child marriage is an inevitable support that needs to be provided in this situation. “Now that we have significant unrestricted funding, my children are still getting served during the pandemic. I can sustainably go back and serve because I was able to raise the right resources” (interview A).

7.C ON THE ECOSYSTEM

Although the long-term impacts of EGDIB’s are not clear yet, it managed to create enthusiasm in the third sector service providers, funders and impact investors working in the development sector to test this model. The investor of the EGDIB, UBSOF, mentioned that if they would do another DIB, they would aim at doing it at a much bigger scale with an initial funding of more than a million at least (Saldinger, 2016). Using this pilot’s reference, in 2018, a four-year DIB Quality Education India (QEI) was launched to improve the numeracy and literacy skills of 200,000 children in multiple states of India (Ecorys, 2019). QEI DIB is much bigger than its predecessor EGIDB both in terms of scale and funding. While UBSOF remain the primary investor for this DIB as well, there are multiple outcome funders for QEI DIB including organisations from both India and the UK (Ecorys UK, 2019). Section 6.a mentioned the event in 2015 when DFID withdrew its traditional grants from India resulting in EG ‘s pivot to the DIB route to test its outcome-based funding model. It is noteworthy that although they are not playing the role of the investor or the outcome funder, DFID is providing a Technical Assistance Grant of $1.5 Million for QEI DIB (GO Lab, 2020). This indicates the UK government’s inclination for shifting to PbR models over conventional fundings even for their international welfare projects.

Similar to EGDIB, the design phase for QEI DIB also lasted for more than 2 years and it is much more complex since it involves more than 20 stakeholders as part of the working group (Ecorys UK, 2019). QEI DIB is spread across 4 states of India and includes 4 service providers, each delivering a different intervention (Brookings, 2020). The outcome funding for this DIB is currently at $ 11 million, although the working group is aiming to expand it during the course of implementation (QEI, 2021).

Although government relationships at local levels was one of the criteria for selection of service providers of QEI DIB, one of the four service providers, Gyanshala, faced significant challenges to have access to government schools to collect baseline data in the state of Gujrat (Ecorys, 2019). The event appears rather ironical as one on the main rationale for bringing the second and much larger DIB, underpinned by the learning of EGDIB, was to create stronger foundation for SIBs in future in which government would play the role of the outcome funder (GO Lab, 2020). Section 6b(interview I) touched upon the EG’s considerations and augments about keeping the government in faith during the selection of RCT trails evaluation highlighted that EG gives a lot of emphasis on their alignment with government functioning. However, as in case with EGDIB, any official comments or remarks from the Central or State governments over the implementation of the DIB/SIBs in the education sector are largely missing. Other than government relationships, other criteria for the selection of service providers for QIEDIB included their track records, ability to scale, in house monitoring and evaluation capacities, service costs, and focus on primary education (Ecorys, 2019). The enthusiasm amongst service providers for the impact bonds model, that provides them with flexible fundings, can be noted from the open application process of QEI DIB which received more than 70 applications (Ecorys, 2019). However only 3 out of those 70 organisations could find a spot “at the table” while one more was added in the second year of the program (Brookings, 2020; Edmiston and Nicholls, 2017).

While the whole scientific implementation structure and flexible funding mechanism have worked for EG during the DIB, they also put emphasis on the importance of government’s participation as outcomes funders. “Who decides the outcomes matters” (interview A). Just focusing on the children who are already enrolled in the schools in a way “incentivises the whole system for leaving the neediest child behind who is not even enrolled” (interview A). Government has more leverage over prioritising the most vulnerable section compared to private investors who often only target what is achievable in the given scenarios. Section 6.a discussed how EG faced challenges with investors to also include the enrolment metrics in the DIB. Unlike EGDIB, QEI DIB only involves learning outcomes. Enrolments are overlooked by the private investors as the required cost and time is higher compared to learning improvements (interview A). The issue and interventions can be addressed with deep-empathy where a government body is choosing the outcomes and not a private charity, whose motivation for funding the impact bond may differ. Community Reinvestment Act in the United States and Corporate Social Responsibility mandates in India are a few driving factors that influence the private investors and philanthropic outcome funders to participate in such mechanisms under obligations (Albertson et al., 2018). "The motivation in such cases is not necessarily to do good, but to be seen to do good" (Albertson et al., 2018, p. 26).

Despite the advocacy by service providers and academics for the engagement of governments in the ecosystem to decide more inclusive outcomes, there is currently no official announcement by any Indian government body to engage in SIBs in the education sector of India. However, recently The Palladium Group, who was the intermediary for a health sector DIB in India, has announced that it will be involved in creating India's first SIB in the health sector and it will have technical support from UNDP (Palladium, 2021). There is limited information available for this proposed SIB in the state of Maharashtra in which a local municipal cooperation (PCMC) would play the role of the outcome funder (Economic Times, 2020). Considering the length and complex design process involved with impact bonds, one will have to wait for more than a few months or even years to collect more factual information around it.

8. DISCUSSION

8.A FOR BENEFICIARIES: THE TIME-BOUND NATURE OF IMPACT BONDS IS NOT IDEAL

The post-implementation impact of the intervention on the children shows that once the DIB was over and the pandemic crisis hit the rural villages, all the success achieved with the learning as part of the EGDIB was annulled on the beneficiary front. The other noteworthy aspect is that periodic crises are inevitable in rural settings where drought, floods, etc. have been known to have devastating effects on local communities (Jejeebhoy, 2021). Impact Bonds only focus on the outcomes at the end of the program but follow-up beyond the life-span of the impact bond has no scope in any of impact bonds so far (Fraser, 2016). However, if the service provider chooses to exit from the spatial settings of the intervention, then the outcomes are likely to dissipate with time, especially with intervention like girl education and child marriages. Both humanitarian crises and natural disasters often result in a spike in social issues that impact bonds target. For example, a rise in child marriage is observed in emergencies across the globe from, Ebola outbreak in Liberia to conflicts in Yemen and South Sudan, from floods and disasters to communal tensions in India (Jejeebhoy, 2021).

If DIBs are considered as an absolute intervention that is siloed, then a short time-bound nature is not suitable to solve the deep-rooted multifaceted social problems that they target. A deadline/timeline-based nature of these bonds may pivot inaccurate results when issues that require consistent long-term interventions are targeted to be solved in a given timeframe. As of today, the average duration of an SIB contract is just above 4 years (Brookings, 2021), which may not be an ideal duration to solve long-persisting issues related to inequality, poverty and patriarchy. The 3 blocks covered in the EGDIB were already receiving the intervention program since 2010 and will continue until 95% enrolments are achieved (interview A). However, not every service provider is able to sustain these often-specialized interventions without having a secured dedicated funding in hand (McHugh, 2017). If interventions of social welfare are not followed by sustainable funding after the impact bond is implemented, they might end up transferring resources away from the local authorities, causing structural harm to the beneficiary communities (Morley, 2019). This particular aspect of SIBs can be attributed to investors' motive of "maximising the returns and minimising the risk" (Dowling, 2016). By limiting the duration of an SIB, investors aim to limit the risk involved with funding high risk i.e., more complex interventions. For service providers there is little scope for negotiations around this decision (interview A). Although the nature of intervention is considered, the decision around the duration of the contract is often subjected to negotiations between the investor and outcome funder.

The financialisation of welfare through products like impact bonds make it susceptible to rule of the financial market. The investors did calculations and assessment of the investment in EGDIB by using the Internal Rate of Returns methods (IRR) (UBSOF). IRR is a typical investment calculation that is mostly used by the venture capitalist and mainstream investors who aim to exit from the investment based on their targeted returns and risk involved. While impact bonds aim to achieve social returns beyond financial returns, they still follow the mainstream financial methods. Thus, this approach makes impact bond a finance-oriented intervention rather than a welfare-oriented intervention and eventually behave in a way where wealth accumulation becomes a significant factor. Moreover, if secondary market trading of impact bonds is allowed in future to sustain the flow of funds for the targeted interventions (once one investor chooses to exit or liquidate their investment), then impact bonds will become even more vulnerable to becoming another speculative asset class (Dowling, 2016).

The duration of EGDIB was less than the average duration of an impact bond as it was a new subset that included greater risk for the investor. In such high-risk scenarios, the investors choose to exit early so that in case of failure, the funds are not blocked for a prolonged time. However, interventions like education take far more years to yield actual results for beneficiaries. "Education is at least a 10-year business" (interview A). Multiplication effects would be massive if an entire generation of children, especially girls, are provided with a quality education. If the organisation is stable and is able to sustain the intervention beyond the life-span of the impact bond by raising the right resources, it becomes a worthy tool for R&D. But if none of the participants of the working group is committed to follow-up on the intervention's target population, then with time the impacts may cease. Impact bonds alone cannot provide the solution to the bigger problems, but they can boost the efficiency and resources if service providers can use the learning from it. In such cases, entrepreneurial capability and motivations of the social entrepreneurs play a crucial part (Maier and Meyer, 2017). In case of EG, they were able to secure future funding based on DIBs as the founder was keen on expanding their learnings from the DIB. EG continued their partnerships with both IDinsight, the evaluator and Instiglio, the intermediary beyond the life span of DIB (interview A).

8.B FOR SERVICE PROVIDERS: A GATEWAY OF FLEXIBLE FUNDING

For last-mile service providers like EG, flexible funding seems to be a more efficient tool to deliver results over a typical grant or international donor's money. For Educate Girls, the "Nature of Capital" matters more than the "Source of Capital" (interview A). With a restrictive international aid money, there is often approval required for even some of the small day-to-day on-ground operations that makes the entire decision-making process very centralized (interview A). A typical international aid or grant is a bureaucracy laden process that often demotes the efficiency of service providers. International Aid agencies have a willingness to engage in obfuscation, "carefully hedge diplomatic language in an art form in aid agencies" (Easterly, 2002. p.231). Explaining the dysfunctionality of aid money through decades of empirical evidence, Easterly (2002) argues that bureaucracies lack and neglect the feedback from their "customers" i.e. the beneficiaries and local agencies and they do not have any consequences as well if their customers are dissatisfied. Moreover, obligations under legislations, like the Anti-Terrorism Clarification Act (ATCA) in the one of the top foreign aid providers United States, puts the risk on the recipient to be subjected to jurisdictions (Oakford, 2019). In such cases, hesitations around receiving foreign aid become pronounced for NGOs and other social enterprises that are working in the areas that are most in need but are affected by conflicts.

Contrary to aid/grant's money, DIBs open doors for flexible capital. With DIBs, the focus of the investors is on seeing evidence and outcomes, thus service providers can have more autonomy over fund utilisation as per the mission, purpose and priorities. For these reasons, service providers prefer funding through impact bonds over international aids as it helps them achieve better results with ground-level autonomy. EGDIB had private philanthropies as investors and outcome players. In case of an SIB, these transactions will likely take place between a private investor and government (as outcome funders). In that case there will be a much-discussed moral argument around private investors profiting from social interventions by utilising public funds. Whether an added cost in forms of 'returns' to justify investors' risk is an apt approach by the government for performing crucial social welfare is valid or not, remains a debatable question. However, for service providers, flexible funding grants help them be more productive and mission-aligned and the argument about who funds such grants becomes secondary. "Interest of the child weighs more, we need to be beneficiary-centric and choose what is best for the children we serve" (interview A). Every impact bond has a customised framework to achieve the outcomes based on the pre-agreed metrics. If the framework is designed to keep the beneficiaries at the centre-stage and not the investor, then the 'moral argument' of private investors making money over social welfare becomes secondary (interview A).

During the implementation of the EGDIB, when the mid-project data evaluation pointed towards learning lacks in certain areas, EG promptly decided to publish and distribute supplementing material of around 15 kgs in each treatment school to aid teachers (Center for Universal Education at Brookings, 2018). Such prompt actions that consume funds are a difficult task if restrictive funding is granted. The schools where EG operates are highly under-resourced where procuring basic materials like chalks, pens, textbooks, etc. requires lot of administrative work (interview G). In times of pandemic crises, EG distributed non-academic material that was not a direct aid to improve learning but was necessary to ensure survival of the beneficiary population. They were able to do so because they sustained their flexible funding channels by utilising the learnings from the DIB.

However, such funding structures are unpinned by outcome- based performance management system (OPMS) (Lowe 2016). Where an organisation would monitor the performance of the staff and managers through the outcome/targets that are set internally in the organisation. Lowe (2016) suggests that cautions are needed when outcome-based performance management (OPMS) systems are in play. In OPMS, decision-making is driven by outcomes but ignores the impact of those outcomes (Lowe, 2016). For example, In case of EG's ground staff interventions, this may lead to the staff focusing more on achieving higher number of visits each day over maintaining deep ties with a relatively small number of households. Such practices can posit future threats to the quality of performance. Thus, even though flexible funding brings the promises of autonomy and efficiency, cautions are required to maintain the balance of quantity and impacts of the outcomes.

8.C FOR THE ECOSYSTEM: A NEXUS OF COMPLEXITIES AND COST

Impact bonds are often driven by the idea of fostering innovations (Leventhal 2012; Warner, 2013); however, the undue stress to innovate also results in the greater complexity in design and evaluation (Fraser, 2016). While the lifespan of the actual implementation of the EGDIB was 3 years, it took almost the same time to model it. As emphasized in section 6b, negotiations on deciding the target outcomes and how to evaluate them, were the most challenging and time-consuming activities during the design of the bond. Despite having philanthropic organisation on both sides, as an investor and as an outcome funder, it was an intense process to create a model which aligned with the participating institution's ideology and interests. While the outcome funder was only concerned with learnings outcomes, it was EG's stress on enrolment to make the DIB aligned to their organisation's mission. In the case of a SIB, the government, which is accountable to people, has decision-making power to select the outcomes to a greater extent. In case of DIBs, it is a private funder who decides the outcome which can be presumed as an added complexity that may further increase time required to complete the necessary negotiations. In DIBs, the service provider needs to be extra cautious to remain true to their organisational commitments (interview A). Despite their wilful negotiations, EG were able to include the enrolment outcome weighted only at 20% of the total outcome payments. The enrolments are qualitative interventions that require door-to-door surveys, community mobilisation, etc. and are more cost intensive. In contrast, the learning interventions could easily reach a larger population and the investor seemed to prioritise quantity over the quality of the intervention. Further complexities were noticed during the selection of evaluation methods, where service providers wanted to maintain their already established relationship with government and were hesitant that RCTs may lead to future disruptions with governments. However, the arguments from investors for the need of rigorous evaluations to calculate the causal relation of the interventions to the outcomes seemed equally justifiable. “It is not a question of who has better intent but rather who has stronger rational” (interview A).

The increased complexities of these transactions generally also lead to increased cost (Fraser et al., 2016; Tan et al, 2019). Impact bonds are often criticised for having high transaction cost compared to a conventional contract. Even the SIBs in the developing countries have been subjected to this criticism despite having administrative data in place. DIBs are even more susceptible to such criticism as they are implemented in geographies that often lack reliable administrative data. In such cases, the cost of evaluations increases further. In the case of EGDIB, the RCTs helped establish the causal effect of the interventions but the overall cost of evaluation turned out to be higher than the implementation cost. This was not a major concerning issue for the outcome funder as they deemed it as a high value R&D transaction which required a budget of below one million, but provided them with evidences of what works (Center for Universal Education at Brookings, 2018).

On the one hand, with high-value SIBs implemented in the developed countries, such high-cost of evaluations cannot justify the implementation of SIB model where the same cost can otherwise be utilised in further scaling the interventions. On the other hand, the absence of rigorous evaluation methods raises concerns amongst its critics who dismiss that the impact bonds provide better outcomes than alternate forms of funding (Jackson, 2013). “The available empirical evidence from the UK is comprised of largely qualitative evaluations with no rigorous attempt to test outcomes against a counterfactual control or comparator group or to demonstrate attribution so that interventions are paid-out based on observed qualitative outcomes control or comparator group” (Tan et al, p.5). Moreover, regardless of outcomes, the cost of intermediaries and evaluations are fixed and they are paid partially from public funds in case of an SIB.

There is also an argument that highlights that the cost calculations of impact bonds transactions often ignore the cost of the unpaid-volunteer work (Dean, 2015). As with the case of EGDIB, at the heart of the programme, the main driver of interventions in the villages were the Team Balika volunteers, who were not paid for any of the services they provided. “The labelling of community and volunteering activities as social value outcomes or as added value in service delivery contributes to both de-professionalisation (that legitimises lower wages) and the invisibilisation of work (which justifies non-remuneration)” (Dowling, 2016, p. 301). The motivations of Team Balika for their services were purely from the intentions of doing social-good and empathy for the younger generation in their villages, however, the ultimate gain of their benevolent gesture only reached to the investor’s hand. It is noteworthy that the investor UBSOF reinvested the return made through DIB into other development projects (UBSOF, 2021). However, most Team Balika volunteers come from economically disadvantaged families and their efforts are leveraged in the programme without any financial compensation. This is particularly concerning for countries like the USA, where some private investors have made unjustified high returns in SIBs like in Utah School Readiness (Maier & Meyer, 2017). Apart from corrupting the cost-structure of such models, such practices might also lead to economic disparities by denying the due compensations to the bottom-line workforce and accumulating wealth for investors. Under the much discussed legal, financial and design complexities of these transactions, such underlying complexities often go unnoticed.

9. CONCLUSION

This paper sought to evaluate the impact of the world's first completed DIB in the education sector, Educate Girls DIB, by presenting and analysing its implementation and post-completion scenarios. The paper explores the question, "What is the impact of development impact bonds (DIBs) on its various actors?". The research concluded that EGDIB evidently contributed to the service provider Educate Girls' missions to combat learning-poverty in the region in three ways; i) it helped open the doors for flexible fundings, ii) it transformed the workings of service provider organisation through data-oriented methods and OPMS, and enabled autonomy for ground staff, iii) it transferred the financial burden and risk associated with the programme from the service provide to an external stakeholder (investor). I also acknowledge that these findings cannot be generalised based on the single case study of Educate Girls DIB. There is a need for future research to understand the entrepreneurial characteristics and externalities (like government support, communal stability, etc.) that can factor subjective outcomes for each organisation experimenting through these tools.

On the other hand, the direct impact on beneficiaries were striking at the end of the programme but could not last post-completion of the DIB. Thus, the time-bound nature of these contracts cannot guarantee its benefits on beneficiaries in the long-term, even when targeted results are achieved as per the pre-determined criterias. And if service-provider or any other stakeholder fail to sustain the intervention beyond the lifespan of the contract, then impact bonds may as well just end up transferring resources and wealth through financialisation. EGDIB's impact on its beneficiaries' learning dropped down to pre-intervention levels due to the covid-19 crises. However, EGDIBs contribution for the service provider and the overall ecosystem increased resources for the local communities that catered to some of the contingencies beyond the scope of the interventions like ration kits and medical supplies during the pandemic.

In the overall eco-system, DIB's cost and complexity create barriers in its scale, participating organisations and selection of intervention. But as an R&D tool DIBs can provide evidence of 'what works' and create future road-maps for interventions. Thus, in a silo a DIB might not be the ultimate solution to the development problem it is targeting, but may lead to designing the appropriate solution as per the context. The research presents that while some characteristics of the process and design of this DIB are typical to the nature of impact bonds, mainly the complexities and innovation of finance, an all-private party transaction can lead to its own complex challenges arounds outcome negotiations, evaluations and costs. Thus, they must be designed keeping the interest of the beneficiaries at the centre rather than that of the investor. If DIBs' utility as a R&D tool can be established through future research then DIBs can also present a less expensive alternative for costly SIBs that have not proven their efficacy yet on those grounds. Having said that, the ethical structure of such interventions requires some serious consideration when it comes to utilising unpaid work of the community volunteers that incentivises the investor.

DIBs are appropriate for organizations and funders who have resources and will to experiment with the PbR contract in challenging socio-political settings. But they might not be a suitable solution for everything and for everyone. DIBs have their limitations and challenges as a financial product and may not address social issues that are difficult to quantify. Moreover, they can also have their spatial limitations where institutional conditions can affect them and vice-versa. As Albertson et al. (2018) argue it is not the question of whether such models are appropriate or not, it is rather a question of "under what circumstance" (p. 116).

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APPENDICES

Appendix A. Semi-structured interview questions

For Team Balika	• What are your motivations behind joining EG as a volunteer? • Were you aware about the workings of the DIB? • If yes, what difference did you notice in your workings during the programme? • Are you still working in the same framework? • Has the scenario changed during and after the programme? • Can you provide current insights from the villages you work in? • What are your current challenges? How do you address them?
For Teachers	• Were you aware about the workings of the DIB? • If yes, what difference did you notice in your workings during the programme? • Did you get any direct help in your teaching through the programme? • If yes, are you still getting the same support? • What impact did the programme create for your school? • What is the current scenario in your school? • What are your current challenges? How do you address them?
For Safeena Husain	• What were your key challenges before, during and after the DIB? • Any commentary on the duration/timeline of the DIB? • What are the impacts and learnings from the DIB now that it's over? • Any commentary on the government's role during and after the DIB? • What are your thoughts on the following DIB, QIE? • What are your predictions and expectations from impact bonds in the education sector of India?

Appendix B. Data source: Instiglio, 2015

Payment Scenarios for EGDIB						
% of expected outcomes	Payment to EG from UBSOF	Payment to UBSOF by CIFF	Return in Principle	Return shared by UBSOF with EG	ROI	IRR
71%	$ 2,77,000	$ 2,62,143	nil	nil		
86%	$ 2,77,000	$ 3,14,571	$ 37,571	$ 12,211	13%	4%
100%	$ 2,77,000	$ 3,67,000	$ 90,000	$ 29,250	32%	10%
114%	$ 2,77,000	$ 4,19,429	$ 1,42,429	$ 46,289	51%	15%
129%	$ 2,77,000	$ 4,22,000	$ 1,45,000	$ 47,125	52%	15%
143%	$ 2,77,000	$ 4,22,000	$ 1,45,000	$ 47,125	52%	15%

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CONTACT

www.ucl.ac.uk/bartlett/igp www.seriouslydifferent.org igp@ucl.ac.uk

@instituteforglobalprosperity @glo_pro @glo_pro

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