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Impact investing : Strategic innovation towards sustainable development goals

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Abstract

Impact investing is an emergent area playing a key role in attainment of Sustainable Development Goals (SDGs) through financial innovation, thereby connecting economic, social and environmental impact. The present study has adopted a qualitative approach based on document analysis in order to examine how financial instruments or strategies support SDGs. The cases of ReNew Power, Samunnati, and Bharat Financial Inclusion Ltd, were adopted for the present study due to their active involvement in impact investing and their commitment to SDGs. The results showcase the multidimensional understanding of how the use of different financial instruments and strategies of impact investing facilitate the attainment of SDGs in developing economies like India.

Subject Classification: *91B76, 91G15, 91D10, 00AO6.*

Keywords: *Impact investing, Innovation, Financial strategies, Sustainable development goals.*

Introduction

In the recent years, there has been a prominent traction towards impact investing, making it a revolutionary concept in order to synchronise financial yields with quantifiable social as well as environmental outcomes. The strategy of impact investing is substantially pertinent in aligning

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businesses operations in line of Sustainability Development Goals by directing capital towards projects focusing on critical global challenges like climate change, financial inclusion, and sustainable agriculture [1]. The dual objective of impact investing, apart from financial sustainability and profit maximization, encompasses fostering progressive societal change [2]. The term 'impact investing' refers to those investments which generate economic returns while quantifying the social and environmental impact. It is derived from the Stakeholder Theory [3] which states that the interest of multiple stakeholders need to be considered, ranging from investors to communities to environmental entities. Impact investing further roots itself in the Institutional theory whereby it is advocated that regulatory bodies, financial institutions, and global markets play an instrumental role in determining the patterns of investment [4]. Impact investing has further been reinforced with the introduction of Environmental, Social, and Governance (ESG) investing, thus encouraging long-term sustainability in financial decision-making [5].

Review of Literature

Innovative Financial Instruments and SDG Alignment

Innovation in financial instruments is necessary to attain the annual funding gap of $2.5 trillion so that SDGs can be achieved by developing economies [6]. Such innovation is fostered by the conceptualisation of *(i) Green Bonds* which are Fixed-income securities designed for funding climate-friendly projects [7] *(ii) Social Impact Bonds (SIBs)* that use Pay-for-success models for social programmes funded by private investors and receive returns based on performance outcomes [8] and *(iii) Microfinance & Blended Finance* which combine public and private capital to drive financial inclusion and economic development [9]. Green bonds have popularised the need for innovative financial instruments for financing climate action projects due to their outcome based performance. The green bond market has witnessed substantial growth in the recent years which accumulated to more than $10 billion [10]. Green bonds are fundamentally aligned with SDG 7 (Affordable and Clean Energy) and SDG 13 (Climate Action) which is rendered by the channelization of funds in solar and wind energy projects. However, several challenges hinder the widespread usage of green bonds based on high issuance costs, low awareness among investors, and inconsistencies in regulations [11] which can be mitigated with strong policy interventions in the form of tax incentives and credit enhancement mechanisms, thus accelerating green bond financing [12]. Agricultural green bonds have facilitated climate-smart agriculture (CSA) which and can also provide support to small farmers. Such innovations in financial instruments facilitate the augmentation of food security while promoting sustainable irrigation, and lessening of post-harvest losses, thereby contributing to SDG 2 (Zero Hunger) and SDG 12 (Responsible Consumption & Production) outright. But CSA investments suffer from the limitations of credit risks, want of financial literacy, and variability in climate [13]. Moreover, digital financial solutions, blockchain-based supply chain management, and public-private partnerships can enhance the efficiency of agricultural green bonds. Microfinance institutions (MFIs) have the potential to enhance financial inclusion and poverty alleviation in India by way of contributing to SDG 1 (No Poverty), SDG 5 (Gender Equality), and SDG 8 (Decent Work and Economic Growth), provisioning credit to unbanked populations [14]. Fintech-driven microfinance models could improve credit accessibility and loan recovery mechanisms [15].

Global Landscape of Impact Investing

In the global scenario, impact investing has created ripples in the developed economies with unique strategies redefining the regional scenarios [1] while India follows an approach different from the likes of other nations with already developed ecosystems for sustainable finance and ESG-investment mechanisms [5]. The US market has witnessed substantial channelizing of capital into social enterprises that are impact driven, from insurance companies, pension funds and venture capitalists [16]. The Social-Impact Bond (SIB) innovated in UK was focused on lowering recidivism rate among prisoners which turned out to be a global model for outcome based social financing [8]. China has strongly integrated green finance with the national development policies [12] with a more centralised approach backed by state enterprises and government supported financial institutions [10]. China makes the most of green bonds at a global level, supported by state banks in furthering the investments in renewable energy and sustainable infrastructure [17]. Europe has been amongst the front runners to embed sustainability principles within their financial regulations [18]. With the establishment of EU Green Bond Standard, due to transparency and governance mechanisms in action, investors have renewed their confidence in green instruments of finance [4]. Although India has taken the course of impact investing in its stride, however the impact investing framework is still in its developing stage with promising growth trajectory [19]. Markets reflect the rise in issuance of green bonds, however, they are still flooded with constraints of investor awareness and governance mechanisms [10]. The adoption of a bottom-up approach by India utilizes venture philanthropy, micro finance and blended finance which streamlines impact investing with financial inclusion and alleviation of poverty more significantly than the developed economies [20].

Impact Investment Landscape of India

The impact investment market is gaining momentum in India and the accelerating pace has made it prominent among the developing economies. India has witnessed more than 10.8 billion dollars investment in impact-led enterprises during the period 2010-2019 which influenced almost 500 million people across various sectors [19]. India is a hotspot for impact investing as the socio-economic background is nested in inequality, environmental concerns and rising demographic dividend. The impact investing scenario in India is outlined by the corpus of financial instruments and investment mechanisms which includes mainly green bonds, microfinance, blended finance and venture philanthropy amongst others. The financial instruments offer the leverage of funding climate-friendly projects utilising solar and wind energy while facilitating financial inclusion and women empowerment. Public and altruistic funds are used to de-risk investments for garnering private capital concentrating on high impact social entities, particularly in educational and healthcare sectors [16]. As a means to mobilization and channelization of funds, financial instruments also aid the scaling of impact capital to projects aligned with SDG. Likewise, India has also been witnessing the contribution of financial instruments for devising sustainable and inclusive solutions as the Indian green bond market has mobilised capital for quite a few projects on renewable energy [21]. SEBI has also refined operational guidelines for green bonds, thereby warranting transparency and accountability in climate finance [22]. Several organisations have empowered the rural women populace through microfinance by supporting entrepreneurial undertakings [23]. Blended finance innovation have afforded the benefits of concessional and private capital for small farmers and agribusinesses.

Indian government has taken a proactive step to promote and facilitate the impact investment ecosystem with the launch of Social Stock Exchange (SSE) in 2022, thereby making provisions for social enterprises to garner funds through publicly traded securities. The aim behind this initiative is to drive mainstream investments towards mission-oriented enterprises [22]. Further, the initiative of Priority Sector Lending (PSL) formulated by Reserve Bank of India (RBI) channelized resource allocation towards critical sectors for sustainable development. However, there exists problems of governance, complications of measuring the impact while balancing financial sustainability at the optimum level with reasonable social returns which can be secured with a holistic approach built on novel financing models, integrated partnership between public and private, and a strong framework to facilitate assessment of impact [18]. Over the years, impact investing has been making headways in serving as the new tool for achieving sustainable economic growth enabled by financial instruments like green bonds, microfinance and climate finance [24, 25]. Despite the potential of financial instruments to facilitate SDGs, it is not devoid of constraints. There is no standardized framework for impact investing which results into inconsistent policies [20] and dearth of knowledge about opportunities of impact investment amongst institutional and retail investors [24]. The investor participation is limited in green bonds and social impact bonds due to low trading volumes in secondary market [10]. Strengthening impact investing in India is driven by numerous processes. AI-driven investment analytics and blockchain-based smart contracts boost clarity in SDG financing while combining public grants with private investment can de-risk impact projects and attract institutional capital. Further expansion of carbon trading frameworks can incentivize green investments and provide additional revenue streams for impact investors.

Methodology

The present study has adopted a qualitative approach based on document analysis in order to examine how financial instruments or strategies support SDGs. It makes a structured examination of the flows of finance, commitments to sustainability, and outcomes reported thereby, which allows for a better understanding of the contribution of impact investments towards sustainable economic growth, and in the process disclose the best practices and challenges within the Indian context. The cases of ReNew Power, Samunnati Agro Finance, and Bharat Financial Inclusion Limited (BFIL), were deemed appropriate for the present study due to their active involvement in impact investing and their commitment to SDGs quantifiable across all three pillars of Triple Bottom Line framework. The study is entirely based on secondary data collected from

Annual Reports, ESG disclosures and Sustainability Reports obtained from the selected companies.

Case of ReNew Power – Driving Clean Energy through Impact Investing

ReNew Power is one of the leading renewable energy companies in India which focuses on the construction and operation of utility-scale wind and solar energy projects. Its business model is centered on generation of clean energy in large scale using Power Purchase Agreements (PPA) which enables consistency in revenue streams complying with the decarbonisation goal envisioned by India. It also utilises AI-based tools for predicting generation of optimal energy and management of assets. It leverages a variety of financial instruments namely (i) green bonds that are used in international markets to raise funds particularly for climate friendly renewable projects, (ii) foreign direct investment in the form of equity from global impact investors and sovereign wealth funds, and (iii) ESG-linked credit facilities tied to its metrics of environmental performance by leveraging loan terms for achievement of sustainability targets.

The integration of Energy Efficiency and Renewable Energy Adoption in their operation, enabled the minimization of carbon footprint. This financial strategy has aided the scaling of ReNew's projects, thereby contributing extensively to SDG 7, 12 and 13 by means of carbon emissions reduction and stimulating adoption of renewable energy. Through their Corporate Social Responsibility (CSR) interventions and partnerships for access to energy, education and skill development, women empowerment, water conservation and community development, they have impacted over 1.4 million lives and successfully aligned with SDG 2, 4, 5, 6, 7, 8, 9, 10 and 13. Looking ahead, ReNew illustrates its long term vision of sustainability through its targeted plan to achieve a 20 GW renewable energy portfolio by 2028-29 and its commitment to net-zero emissions by 2040. It projects its evolving approach to impact investing by growing in the carbon markets and digitalization, thus ensuring continued alignment with SDG-related targets.

Case of Samunnati – Transforming Agriculture through Financial Inclusion

Samunnati Financial Intermediation & Service Private Limited, acts as a specialized enabler of agri-value chain by bringing together smallholder farmers, Farmer Producer Organizations (FPO) and agribusinesses to a common platform. It devises customized solutions, both financial and non-financial for encouraging sustainable practices in agriculture and market access. It makes use of financial instruments like (i) value chain financing which offers solutions on working capital and trade finance relating to agri-value chains, (ii) impact investment in the form of equity and debt finance receipts from impact investors striving for inclusive agriculture development, and (iii) blended finance which comprises of concessional capital with commercial investments thereby providing de-risk credit access to FPOs and agri-enterprises.

The agricultural green bond financing and investment in climate smart agriculture strategy able to showcase environmental, social and economic impact for the society. These strategy directly contributes towards SDG 1 by ensuring access to timely credit, quality inputs, and sustainable farming practices for the smallholder farmers, SDG 2 because it approaches aggregating the demand for input, the FPO can buy in bulk at lesser price, and SDG 8 as it demands collective ordering and purchasing. It is also connected with SDG 5 as it brings employment opportunity for women in allied activities; SDG 6 because FPOs work as a platform to facilitate access to Government services, like Public Distribution System, MNREGA, Scholarships and Pensions, etc.; SDG 7 as ensures judicial usage of quality inputs through adoption of sustainable agriculture; SDG 9 because it develops quality, reliable, sustainable and resilient infrastructure for climate smart agriculture; SDG 10 as it paves the way for bulk harvesting and sustainable farming, focuses on women borrowers; and SDG 13 as CSA practices reduces GHG emission, reduction of soil erosion, accelerating farm productivity, and strengthening resilience to climate change. Samunnati plans to expand its products on climate smart finance namely, agri-receivable finance and cultivation loans to garner green assets worth Rs. 10 billion, thereby underpinning the scalability of impact investing in agriculture and making pathways in attainment of SDGs.

Case of Bharat Financial Inclusion Ltd (BFIL) – Microfinance as a Tool for Socio-Economic Development

BFIL is one of the leading institutions of microfinance which has modelled its impact investment practices around financial inclusion, by emphasis on group lending approach in order to empower economically weaker sections, especially the women. Its business model strategizes on financial inclusion by disseminating small or microloans for income generating activities resulting in fostering women entrepreneurship through Self-Help Groups. It uses financial instruments such as (i) microfinance for offering collateral free loans to women in joint liability groups, (ii) digital lending which appropriates mobile and biometric platforms for efficient disbursement and recovery of loans, and (iii) SHG-based lending which facilitates credit access in group lending framework enriched by training and capacity building.

Discussion

Following topics showcase the multidimensional understanding of how the use of different financial instruments and strategies of impact investing facilitate the attainment of SDGs in India.

Diverse Financial Instruments for Distinct Impact: ReNew utilized green bonds and sustainability-linked loans for funding infrastructure on renewable energy which demonstrates the capability of financial instruments in capitalization of climate-friendly investments. The use of blended finance in the form of guarantees, customized loans and impact-linked capital by Samunnati has strengthened their holding in the agricultural value chains and the smallholder farmers in particular. Through microfinance and digital lending products BFIL has promoted financial inclusivity targeting socio-economic SDGs. The application of diverse and unique financial instruments custom-made for the operational systems of three enterprises reflects that financial design can be adapted for attaining targeted SDG outcomes.

Alignment with Multiple SDGs: The efforts undertaken by each company can be mapped with multiple SDGs either directly or indirectly, thereby illustrating that properly designed financial measures can penetrate economic, environmental as well as social dimensions. ReNew Power lines up with SDG 7, 12 and 13 directly while addressing SDG 4, 5, 6, 8, 9, and 10 indirectly. Samunnati is significantly associated with SDG 1, 2, 5 and 13 through agri-finance and farmer collectives while supporting SDG 6, 7, 8, 9 and 10 indirectly. BFIL supports SDG 1, 5 and 8 through its initiatives of digital finance tools while indirectly contributing to SDG 2, 4, 9, 10 and 13.

Innovation and Technology as Enablers: The role of technology is critical in delivery as well as monitoring of impact which highlights the need of digital transformation in financial innovation in order to achieve scalability and transparency for impact measurement. ReNew Power optimizes production of energy considering the environmental efficiency by the integration of AI and IoT. While Samunnati powers data-driven credit assessment by connecting stakeholders in the agricultural chain through digital platforms, BFIL has significantly improved access to credit for rural women by greater outreach and reducing transaction costs.

***Scaling and Replication Potential**:* Although the financial strategies used by the companies are tailored to its unique sector, it can grow in scale and adapted and applied in other context facilitated by a conducive regulatory environment and cultivated innovation. The model of green bonds used by ReNew Power could inform other market-utilities while the value chain based finance and de-risk mechanism adopted by Samunnati could be replicated for agriculture in different regions. Also, the practices of digital microfinance by BFIL could easily be applied for inclusivity in marginalized regions.

Challenges: Despite the positives highlighted, challenges remain due to lack of standardization of ESG and SDG metrics which complicates the measurement of long term impact. The impending uncertainties in policy and regulatory devices in the context of green finance and agricultural credit often hinders scaling efforts. Moreover, autonomy is limited owing to the dependence on capital market, thus introducing volatility. These need to be addressed with a holistic approach on the part of the stakeholders including government, beneficiaries and private capacitors.

These cases reinforce the fact that financial innovation or strategies can leverage sustainable development if aligned with SDG in a customized fashion. This forms a blueprint for impact investing in emerging economies like India.

Implications

In order to scale such models of sustainable finance, policies must be worked out to incentivize investments aligned with SDGs by way of tax benefits, concessional funding and clear regulations. Investment can be directed to marginalized sectors by fortifying the platforms of blended finance. Uniformity in standards of SDG Reporting framework is required to provide transparency and comparability. Accessibility to social capital markets will facilitate wider participation, especially by the MSMEs and hence, easy securitization. Moreover, commercializing the innovative finance models calls for enhanced technical support and capacity building for measuring impact along with formalized structuring of product and compliance protocols. This will ultimately attract greater participation by private sector and lead to inclusive, equitable and resilient growth and development in developing economies like India.

Conclusion

Impact investing is emerging as a ground-breaking and innovative financial approach for attainment of the Sustainable Development Goals in India. The cases included in the present study elucidate unique models of impact investing complementing each other across renewable energy, agriculture, and financial inclusion which illustrate the use of financial instruments and capital mobilization by making use of risk mitigation strategies. The case studies of ReNew, Samunnati, and BFIL illustrate real-world examples of structuring action-oriented financial strategies to accrue benefits which are tangible in social genre, economic terms as well as environmental aspects while aligning with the SDGs. This offers practical insights into the strategic integration of financial architecture with SDG agenda. Valuable information from secondary data sources have contributed to the study but it may lack the granularity of primary data usage. Empirical validation through primary data and longitudinal studies of the impact created would further enrich the understanding of effectiveness and sustainability of financial instruments. Cross sectional comparative studies across different regions or sectors can provide extensive insights into scalability and replicability.

References

[1] J. X. Zhan and A. U. Santos-Paulino, "Investing in the Sustainable Development Goals: Mobilization, channeling, and impact," *J. Int. Bus. Policy*, vol. 4, no. 1, pp. 166 (2021).

[2] T. E. Newmark and M. A. Pena, *Impact Investing for a Sustainable Planet: Insights from EcoEnterprises Fund*. Taylor & Francis (2023).

[3] R. E. Freeman, J. S. Harrison, A. C. Wicks, B. L. Parmar, and S. De Colle, *Stakeholder Theory: The State of the Art*. Cambridge University Press (2010).

[4] P. Matos, "ESG and responsible institutional investing around the world: A critical review," (2020).

[5] M. I. Khan and A. Iqbal, "Integrating ESG with corporate investment decision-making," in *The Emerald Handbook of Ethical Finance and Corporate Social Responsibility: A Framework for Sustainable Development*. Emerald Publishing Limited, pp. 329–350 (2024).

[6] S. Barua, “Financing sustainable development goals: A review of challenges and mitigation strategies,” *Bus. Strategy Develop.*, vol. 3, no. 3, pp. 277–293 (2020).

[7] E. Agliardi and R. Agliardi, “Financing environmentally-sustainable projects with green bonds,” *Environ. Develop. Econ.*, vol. 24, no. 6, pp. 608–623 (2019).

[8] R. Carè and R. De Lisa, “Social impact bonds for a sustainable welfare state: the role of enabling factors,” *Sustainability*, vol. 11, no. 10, pp. 2884 (2019).

[9] I. Ostojić, P. Petrović, and V. Kelić, “Blended finance as a sustainable development support mechanism,” (2024).

[10] E. S. Sartzetakis, “Green bonds as an instrument to finance low carbon transition,” *Econ. Change Restruct.*, vol. 54, no. 3, pp. 755–779 (2021).

[11] S. K. Park, “Investors as regulators: green bonds and the governance challenges of the sustainable finance revolution,” *Stan. J. Int’l L.*, vol. 54, pp. 1 (2018).

[12] Y. Zhang and M. Umair, “Examining the interconnectedness of green finance: an analysis of dynamic spillover effects among green bonds, renewable energy, and carbon markets,” *Environ. Sci. Pollut. Res.*, vol. 30, no. 31, pp. 77605–77621 (2023).

[13] N. Palmer, “Making climate finance work in agriculture,” World Bank Discussion Paper (2016). [Online]. Available: https://openknowledge.worldbank.org/bitstream/handle/10986/25366/ACS19080-REVISEDOUO-9-Making-Climate-Finance-Work-in-Agriculture-Final Version. pdf .

[14] C. Anitha and D. R. Reddy, “Evolution and emerging role of MFIs in Indian microfinance sector,” *Sumedha J. Manage.*, vol. 6, no. 4, pp. 87–105 (2017).

[15] Y. Alhassan, U. Nwagbara, and L. C. Bellamy, “The Impact of FinTech Integration on the Accessibility and Sustainability of Microfinance Institutions: A Case Study Approach,” *In Microfinance, Financial Innovation, and Sustainable Entrepreneurship in Economics*. IGI Global Scientific Publishing, pp. 183–212 (2025).

[16] S. Takkar and C. Gupta, “Analysis of Impact Investment for Sustainable Development in India,” in *Sustainable Development in Industry*

and Society 5.0: Governance, Management, and Financial Implications. IGI Global, pp. 1–25 (2024).

[17] L. Xu and Y. A. Solangi, "Evaluating the impact of green bonds on renewable energy investment to promote sustainable development in China," *J. Renew. Sustain. Energy*, vol. 15, no. 5 (2023).

[18] M. E. Warner, "Private finance for public goods: social impact bonds," *J. Econ. Policy Reform*, vol. 16, no. 4, pp. 303–319 (2013).

[19] P. Sharma, "Retrospect and Prospects of Impact Investing in India," *Pacific Bus. Rev. Int.*, vol. 12, no. 7 (2020).

[20] F. Azmat, A. Jain, and F. Michaux, "Strengthening impact integrity in investment decision-making for sustainable development," *Sustain. Accounting, Manage. Policy J.*, vol. 13, no. 1, pp. 55–87 (2022).

[21] U. S. Bhutta, A. Tariq, M. Farrukh, A. Raza, and M. K. Iqbal, "Green bonds for sustainable development: Review of literature on development and impact of green bonds," *Technol. Forecast. Soc. Change*, vol. 175, pp. 121378 (2022).

[22] Securities Exchange Board of India, *Annual Report 2022–23* (2023). [Online]. Available: https://www.sebi.gov.in/reports-and-statistics/publications/aug-2023/annual-report-2022-23_74990.html.

[23] KPMG IMPACT, *The Time Has Come: The KPMG Survey of Sustainability Reporting 2020* (2020). [Online]. Available: https://assets.kpmg.com/content/dam/kpmg/be/pdf/2020/12/The_Time_Has_Come_KPMG_Survey_of_Sustainability_Reporting_2020.pdf.

[24] A. Kohli, R. Wadhwa, and G. C. Tripathi, "Sustainable finance from foreign actors into renewable energy and economic growth: An Indian perspective," *J. Stat. Manage. Syst.*, vol. 26, no. 5, pp. 1015–1028 (2023).

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