

-RESEARCH ARTICLE-

A SYSTEMATIC REVIEW OF THE EFFECTIVENESS OF IMPACT INVESTING IN LARGE-SCALE AGRICULTURE

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—Abstract—

Divergent perspectives regarding the efficacy of impact investing in extensive agricultural endeavours introduce complexity to investment dynamics within the sector, impeding capital mobilization. Through a systematic examination of extant literature, this study scrutinizes the methodologies, evidence, and outcomes of pertinent research to furnish insights into the advantages, hurdles, and optimal strategies associated with impact investment in large-scale agriculture. It meticulously evaluates and amalgamates conflicting viewpoints to address the core research inquiry. The investigation reveals that extensive agricultural ventures yield favourable financial and societal outcomes in locales characterized by robust and transparent

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land governance frameworks. However, concerning environmental ramifications, such endeavours tend to inflict more harm than benefit. To optimize value generation, the study advocates for proactive engagement among policymakers and investors to ensure the enforcement of social welfare objectives and land tenure rights, particularly safeguarding the interests of smallholder farmers. Moreover, it proposes the redirection of increased financial resources and the dissemination of sustainable agricultural knowledge to enhance ecological stewardship among farming communities.

Keywords: Impact Investing, Sustainable Agriculture, Large Scale Investing, Small Scale Investing, Green Finance.

INTRODUCTION AND BACKGROUND

Impact investing, as defined by the Global Impact Investors Network (GIIN), denotes an investment strategy consciously aimed at generating positive and quantifiable social and environmental effects alongside financial gains. This definition delineates its fundamental attributes, including the deliberate pursuit of impact and financial returns, the augmentation of societal outcomes beyond baseline projections, and the assessment of both impact and financial performance (Briaud, 2020). Central to this concept is the notion that the enduring worth of investments encompasses multifaceted dimensions and should be appraised holistically.

Originating from principles rooted in sustainable investing practices dating back to the 17th century (Watts & Scales, 2020), impact investing gained formal recognition in the 1970s with the inception of the first socially responsible mutual fund by Pax World (Guterman, 2020). Initially characterized by negative screening methodologies during investment selection, sustainable investing gradually evolved to integrate positive screening criteria such as environmental, social, and governance (ESG) considerations, culminating in the advent of impact investing (Guterman, 2020).

Despite its conceptualization, impact investing remained nascent primarily due to misconceptions surrounding the presumed trade-off between impact and financial returns, alongside a dearth of impact measurement tools. However, the past decade witnessed a surge in industry growth, with its market value reaching US\$1.164 trillion (Hand, Ringel, & Danel, 2022), propelled by heightened awareness, stakeholder pressures, investment avenues, measurement frameworks, and empirical evidence showcasing the composite value proposition of impact investing.

To efficiently mobilize capital toward high-impact ventures, the impact investing ecosystem necessitates robust collaboration and interdependence among its stakeholders (Gillam, 2010). A salient domain for high-impact investment is the farmland sector, serving as a multi-dimensional vehicle addressing a spectrum of Sustainable Development Goals (SDGs), pivotal for impact assessment and

classification. Moreover, the farmland sector boasts historically attractive returns averaging 11.01% from 1992 to 2020, surpassing the performance of the Standard and Poor's (S&P) 500 index (Athwal, 2021), and exhibiting favourable correlations with traditional assets, fostering portfolio diversification benefits. Consequently, the escalating interest in directing impact capital toward the farmland sector has engendered significant attention and elicited diverse sentiments across various stakeholder cohorts.

There exists a consensus regarding the pivotal role of smallholder agriculture within the ambit of impact investing. Watts & Scales (2020) contend that the sector is characterized as both 'needy but needed'. Smallholder farmers are ensnared by social and environmental challenges, necessitating substantial investment to unleash their productivity potential; concurrently, they serve as conduits for positive societal impact (Department for International Development, 2015; Escobar et al., 2009; Godfray et al., 2010; Koonin, 2006; Watts & Scales, 2020).

Nevertheless, the discourse becomes contentious concerning large-scale farmland investment. Academically, studies by Borrás Jr & Franco (2010), De Schutter (2011) and Schoneveld (2014), posit that large-scale farmland investment engenders more adverse social and environmental consequences than benefits, manifesting in local smallholder displacement, water appropriation, ecological degradation, and food insecurity, among other issues. Additionally, Robertson & Pinstrip-Andersen (2010) argue that large-scale farmland investment embodies a form of neo-colonialism. Conversely, research by Ali, Deininger, & Harris (2016) and Khadjavi, Sipangule, & Thiele (2017) unveil positive repercussions on smallholder farmers stemming from proximity and engagement with Large-Scale Investments (LSIs).

From a policy standpoint, numerous African nations, such as Sudan and Zambia, aspiring to alleviate poverty and foster inclusive prosperity, exhibit a proclivity towards endorsing large-scale farmland investment. They envisage it as a vehicle for job creation, augmenting farmland sector productivity, and facilitating infrastructural development (Cotula et al., 2009). From the perspective of capital providers, impact investors in the farmland sector espouse the triple bottom line ethos of prioritizing people, planet, and profit; nonetheless, the abstractness of their investments' impact to external observers stems from a dearth of quantitative metrics (Kish & Fairbairn, 2018).

These divergent perspectives introduce complexities into the realm of large-scale farmland investment, posing challenges for both the provision and solicitation of impact capital. Consequently, this study endeavours to amalgamate disparate datasets and elucidate the reasons behind these inconsistencies, aiming to reconcile the discord. It seeks to methodically scrutinize existing literature to assess the efficacy of impact investments in fostering sustainable agricultural practices, bolstering food security, empowering local communities, and advancing broader socio-environmental objectives. Through a systematic

review, the study appraises the evidence, methodologies, and outcomes of pertinent research to furnish insights into the potential advantages, obstacles, and optimal strategies associated with large-scale agricultural impact investing. Such insights are imperative for informing judicious allocation of impact capital and formulation of land policies.

The subsequent sections of the paper are structured as follows: the second section delves into pertinent literature, the third section delineates the methodological approach employed, the fourth section presents the study's findings, and the concluding section summarizes key findings and offers recommendations for policy formulation and capital allocation.

LITERATURE REVIEW

An overview of impact investment in the farmland sector

A surge in investment activity within the farmland sector has been observed in the financial community. [Ifft & Kuethe \(2011\)](#) attribute this surge to the sector's robust financial performance, propelled by elevated commodity prices and farm income levels. Comparing the Return on Investment (ROI) of farm real estate with that of the S&P 500, which mirrors the performance of the US stock market, the authors discern a consistent outperformance of the farmland sector over the period spanning from 1991 to 2007. Furthermore, [Athwal \(2021\)](#) findings for the period from 1992 to 2020 suggest that this trend persists, with expectations of escalating rates of return continuing to draw increased capital towards farmland investments. Notably, the sector's commendable financial performance has attracted diverse investor profiles, including finance-first institutions prioritizing returns and seeking above-market yields, alongside impact-first institutions prioritizing impact while also emphasizing capital preservation and potentially imposing a minimum return threshold.

[Watts & Scales \(2020\)](#) adopt a qualitative approach to investigate the evolving dynamics of impact investing within the agricultural domain, focusing on the cultural political economy of agricultural development in Sub-Saharan Africa during the period from 2015 to 2016. They acknowledge the significant role played by robust returns in enticing impact investors toward the farmland sector, attributing this growth to both moral and pragmatic motivations. The influx of new impact-driven actors, such as private equity funds and institutional investors, view this investment approach as a sustainable means for societal betterment, offering the potential for substantial social returns. Given that the agricultural sector serves as a primary source of livelihood for many of the most disadvantaged individuals residing in rural areas and engaged in agricultural activities, it emerges as an appealing arena for poverty alleviation initiatives and rural development efforts ([Adriaans & Khan, 2020](#); [Clever, 2015](#))

[Clever \(2015\)](#) attributes early developmental strides in regions such as China, Japan, the United States, Korea, Taiwan, and Western Europe to substantial growth in agricultural

productivity. The author contends that a 1% annual increase in agricultural growth translates to a 2.7% elevation in the income of the lowest-earning populace in developing nations.

Impact investing within the farmland sector also emerges as a potent mechanism for fostering sustainable agricultural practices (Bass et al., 2020). Through prioritizing the allocation of capital towards sustainable agricultural practices, impact investors steer farmers away from unfavorable agricultural activities, thereby mitigating climate change, preserving biodiversity, fostering nutritious food production, and enhancing crop yields (Bass et al., 2020). Additionally, Cotula et al. (2009) argue that impact investors are drawn to the environmental benefits associated with biofuel production, which serves as a profitable land use, a source of export revenue, and a cleaner energy source. However, the author underscores that the expansion of biofuel production poses challenges to food supply due to its competition for land use.

Academic discourse concerning the efficacy of impact investing within the farmland sector frequently delineates its analysis based on the magnitude of agricultural operations, typically organized as follows:

Smallholder Agriculture

Investment in smallholder agriculture is esteemed as an impactful strategy by investors for several compelling rationales. Smallholder farmers represent a demographic among the most marginalized globally. As elucidated by Bass et al. (2020), approximately two-thirds of impoverished working adults derive their livelihood from agricultural pursuits, with over 90% of individual farmers falling within the smallholder category, predominantly residing in rural regions of underdeveloped nations. Paradoxically, despite their substantial contribution to the global food supply, smallholder farmers endure heightened levels of food insecurity, rendering them among the most undernourished populations worldwide (Bass et al., 2020). Asserted by Godfray et al. (2010) and corroborated by the World Bank Group (2023), smallholder agriculture assumes a pivotal role in safeguarding food requirements for the burgeoning global populace, whose expansion is poised to exacerbate pressure on food provisioning systems, potentially exacerbating hunger.

As posited by Bosc et al. (2013), FAO (2023), Rockström & Falkenmark (2015) and World Bank Group (2023), poverty alleviation and hunger eradication can be advanced through enhancements in productivity within smallholder agriculture. Elevated productivity serves to offset resource constraints while fostering profitability, augmenting income levels, and fortifying food security among farmers (Bosc et al., 2013). Concomitantly, deficient productivity per farmer constrains the diversity and quality of food outputs. Moreover, subdued productivity translates to diminished profitability from agricultural endeavours, culminating in reduced income levels and the inability to afford a nutritionally balanced diet.

Bass et al. (2020) employ various assessment frameworks, including the United Nations Sustainable Development Goals, the Impact Reporting and Investment Standards (IRIS) Catalog of Metrics, and the United Nations Principles on Responsible Investing, to evaluate the impact of 402 agricultural investments made between 1998 and 2019. Their analysis unveils the efficacy of impact investing in enhancing productivity within smallholder agriculture by facilitating access to quality inputs, advanced farming techniques, improved storage facilities, and enhanced market linkages. Furthermore, they ascertain that the adoption of sustainable farming practices can bolster agricultural yields, thereby engendering heightened profitability and augmenting rural incomes for smallholder farmers. This finding resonates with the research of Kydd & Dorward (2004) and Fan, Zhang, & Zhang (2004), whose investigations delineate how substantial investments in rural agriculture during the Green Revolution in Asia led to notable enhancements in agricultural productivity and concurrent poverty reduction.

Despite the notable positive impacts associated with investments in smallholder agriculture on disadvantaged populations and environmental sustainability, Hoffmann (2011) observes that a disproportionate share of investment within the sector gravitates toward large-scale agricultural endeavours.

Large-Scale Agriculture

An examination of extant scholarly works highlights the disparity in perspectives concerning the efficacy of impact investing in extensive agricultural ventures.

Among the advocates for investment in extensive agricultural endeavours is the United Kingdom DFID, now incorporated into the Foreign, Commonwealth & Development Office (FCDO). Alongside other development institutions, the DFID has long regarded agriculture as a potent instrument for poverty reduction, hunger mitigation, and economic advancement. In its 2015 Conceptual Framework on Agriculture, the DFID introduced a dual strategy aimed at fostering sustained economic growth and facilitating self-sustained emergence from poverty. The institution posited that this strategy necessitated achieving an optimal equilibrium between the expansion of commercial agriculture and the growth of non-agricultural manufacturing and service sectors. Furthermore, it contended that fostering growth in commercial agriculture held greater potential for impactful poverty alleviation as it presented the most direct pathway.

This strategic approach is underpinned by a framework delineated by Dorward (2009), who advocates that maintaining existing livelihoods serves as a viable strategy during periods of stress and upheaval, while transitioning livelihoods necessitates both amplifying current activities and venturing into new endeavours through investment.

The World Bank underscores the pivotal role agriculture plays in advancing economic growth and addressing poverty alleviation objectives. According to the institution,

agriculture significantly contributes to the economic output of agriculture-dependent economies, averaging nearly 30% of GDP, and engages approximately 60% of their workforce (World Bank Group, 2023). Additionally, the FAO asserts that agriculture generates value beyond what is captured by traditional GDP metrics, encompassing ecosystem services such as carbon sequestration, biodiversity preservation, and watershed management (FAO, 2023). Given its significance in providing livelihoods and ensuring food security, agriculture is expected to sustainably support the anticipated global population of around 10 billion by 2050 (World Bank Group, 2023). Moreover, the integration of smallholder farmers into large-scale value chains is anticipated to enhance their prospects through increased crop yields resulting from the adoption of fertilizers, improved agricultural techniques, and trade liberalization (Watts & Scales, 2020).

In response to these imperatives, governments of targeted nations, keen on augmenting food production and agricultural export revenues for economic gains, actively pursue investment agreements to bridge gaps in economic, environmental, and social domains (FAO, 2012). However, the World Bank raises concerns regarding the adverse impacts associated with agriculture, citing its significant water consumption, which exacerbates competition with other sectors and contributes to water scarcity and depletion of underground aquifers (World Bank, 2007). Additionally, the bank highlights agriculture's substantial contribution to greenhouse gas emissions (World Bank Group, 2023). Moreover, inconsistent global trade policies, pricing mechanisms, and subsidy frameworks incur substantial economic and social costs, impeding positive impacts in vulnerable nations (Department for International Development, 2016; World Bank, 2007). For instance, the taxation of exporting farmers in developing countries and heavy subsidies provided to farmers in developed nations skew commodity prices, reduce production in developing countries, and foster income inequality. Recent studies by Damania et al. (2023) and the World Bank corroborate the persistence of these challenges, which hinder growth and poverty alleviation efforts in developing nations.

Schoneveld (2014) synthesizes findings from various studies on the management of large-scale agriculture in Sub-Saharan Africa, revealing that inadequate land and investment laws exacerbate environmental and social risks such as land dispossession, poor labour conditions, and environmental degradation. This aligns with De Schutter (2011) assertion that the displacement of smallholder farmers carries significant opportunity costs often underestimated. Investing in large-scale agriculture, Schoneveld argues, can lead to less effective poverty reduction, as it displaces local communities to non-productive lands and forces them into competition with large-scale farmers for resources and markets, ultimately harming their livelihoods. The author highlights additional adverse impacts including corruption in land deals, eviction, loss of land rights, weak enforcement of social and environmental standards, lack of community consultation, inadequate project viability screening, and absence of dispute resolution mechanisms, all negatively affecting local communities.

In contrast, agricultural impact investors claim to prioritize social and environmental benefits over economic returns (Kish & Fairbairn, 2018). Interviews with mainstream large-scale agriculture investors in Zambia by Makunike & Kirsten (2018) portray their work as having positive impacts, including employment creation, market chain improvement, credit access facilitation, provision of education, healthcare, housing, and community infrastructure development such as roads. However, local communities near large-scale farms express dissatisfaction, arguing that seasonal employment does not compensate for lost production due to displacement (De Schutter, 2011; Makunike & Kirsten, 2018). Impact investors defend their actions, citing a lack of quantitative measures to substantiate their impact to external observers (Kish & Fairbairn, 2018).

The literature concerning the effectiveness of impact investing in large-scale agriculture exhibits a discordant landscape, necessitating a thorough examination of the prevailing themes and a synthesis of findings to offer comprehensive, unbiased recommendations to both impact investors and policy decision-makers.

METHODOLOGY

The methodology employed in this paper draws inspiration from the framework proposed by Talan & Sharma (2019). In line with their approach, a single database was utilized to ensure consistency in the selection of articles. Additionally, the study adopted an inductive research paradigm, aiming to derive general propositions from observations of phenomena, as outlined by Majeed (2019). Consequently, the paper followed a structured process outlined below to fulfil its objectives:

- Reviewing literature pertaining to the efficacy of impact investing in extensive agricultural endeavours.
- Developing a classification framework for the analysed papers.
- Conducting a thematic analysis of the reviewed literature.
- Identifying gaps and suggesting avenues for further research.
- This paper employs a methodology guided by the principles of the Preferred

Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) to fulfil its research objectives. PRISMA was selected due to its widespread recognition as a standard approach for conducting systematic literature reviews. It offers a structured framework delineating the essential components necessary for synthesizing data and analysing emerging themes from the reviewed literature. Furthermore, the PRISMA procedure delineates the rationale behind the review, specifies the databases utilized for study identification, and elucidates the results and implications of the review (Page et al., 2021).

Additionally, elements from the Reporting Standards for Systematic Evidence Syntheses (ROSES) were incorporated to refine the research objective and narrow the research scope

employed in the study, thereby enhancing the literature identification process. These elements align with the Problem, Intervention, Context, and Outcome (PICO) protocol. The iteration of the PICO mnemonic outlined in [Lockwood, Munn, & Porritt \(2015\)](#), which pertains to the Problem, Intervention, and Context, was deemed more applicable to this paper, given the necessity to review and thematically analyse relevant studies. This method is particularly well-suited to the social sciences, offering an appropriate level of detail along with a foundational methodology, thereby providing clear methodological guidance for conducting a systematic literature review ([Jafri et al., 2024](#)). [Table 1](#) illustrates the PICO protocol utilized to delineate the scope of the study, wherein the problem is defined as the inconsistencies observed within agricultural impact investing, which carry implications for capital allocation. The intervention entails conducting a systematic review of pertinent literature to address these inconsistencies, while the context encompasses the agricultural impact investing landscape.

Table 1: PICO Protocol.

| Element | Definition |
|--------------|---|
| Problem | The inconsistent literature within agricultural impact investing has implications for how capital is allocated toward these investments |
| Intervention | To systematically analyse and integrate relevant articles to help resolve the inconsistencies within the agricultural landscape |
| Context | The agricultural impact investing landscape |

Adapted from [Jafri et al. \(2024\)](#)

Search Strategy

An electronic search of peer-reviewed scholarly articles was conducted via the Scopus database, chosen for its extensive coverage across multidisciplinary articles and journal types ([Mongeon & Paul-Hus, 2016](#)). The search aimed to align with the study's objectives, utilizing keywords such as "social impact investment," "environmental impact investment," "impact investing," "agriculture," "small-scale agriculture," and "commercial agriculture." Employing elements of the ROSES protocol helped refine the scope of potential keywords to ensure alignment with the study's aims. Additionally, Boolean operators were utilized to enhance the efficiency of search terms, yielding a focused and relevant set of results.

The selected scholarly articles were restricted to the timeframe of 2007 to 2022, encompassing the period following the conceptualization and evolution of related concepts within the emerging discipline of impact investing. This timeframe coincided with the increased attention towards sustainability and agriculture post-global financial crisis ([Ndiaye, 2019](#)), offering ample academic interest for the study. Both theoretical and empirical literature were incorporated to provide the necessary theoretical framework and empirical evidence essential for conducting a systematic literature review of the agricultural impact investing landscape.

Articles were exclusively included if they were written in English, given the language proficiency of the authors. RefWorks served as an automation tool for article evaluation and duplicate detection, leveraging its online citation management system to import citations from various databases including Web of Science, Scopus, and Google Scholar (Butros & Taylor, 2011).

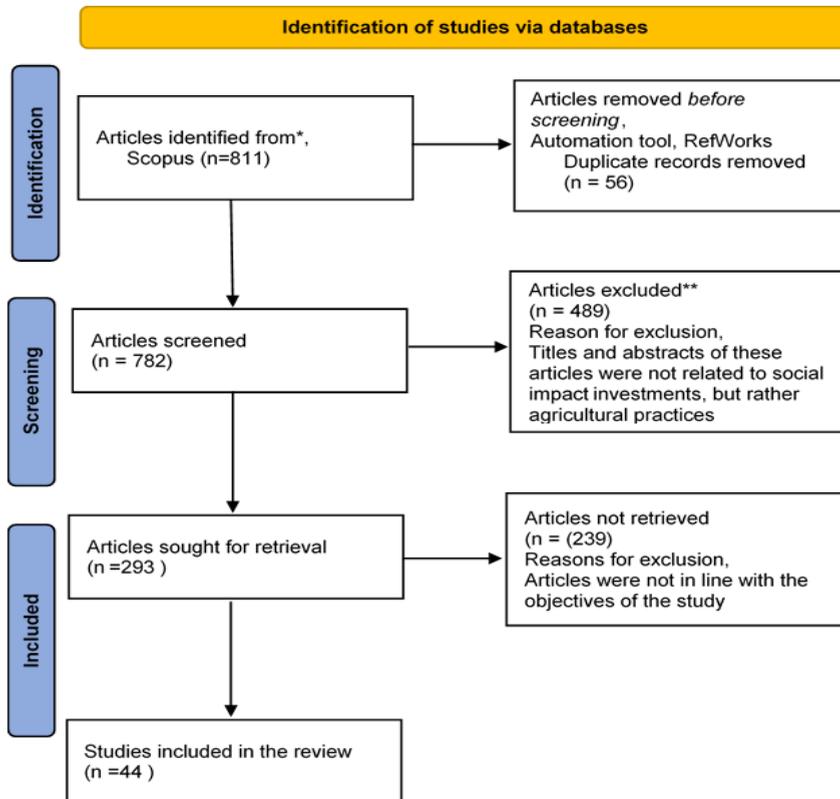


Figure 1: Flow Diagram depicting the Reporting Items for the Systematic Review
Source: Adapted from the Preferred Reporting Items for Systematic Reviews (PRISMA) statement (PRISMA, n.d.).

The Scopus search initially yielded 811 results using the specified keywords "Impact investing," "agriculture," and "Social impact investing." RefWorks identified and removed 56 duplicate articles from the sample. Subsequent screening based on relevance to the paper's subject matter resulted in the exclusion of 489 articles during title screening. A second screening phase, focusing on abstracts and full texts of the remaining articles, was conducted in alignment with the paper's objectives, leading to the exclusion of 293 articles. Ultimately, 54 articles were deemed eligible for inclusion in the review. Figure 1 illustrates a flow diagram outlining the process of article identification, screening, and selection.

Eligibility Criteria

To be included in the sample, articles needed to meet the following criteria: (1) be either empirical or theoretical papers; (2) be written in English; (3) contain the search terms in the title, abstract, or keywords; (4) examine the effectiveness of impact investing in commercial agriculture; and (5) be published between 2007 and 2022.

Classification Scheme

The paper's classification scheme, adapted from [Jabbour \(2013\)](#), is delineated in [Table 2](#). Initially, articles were categorized based on their topical focus and coded using an alphabetical method (A to D). The selected topics included large-scale impact investments, small-scale impact investments, and sustainable agricultural practices, aligning with the study's objectives. The second classification pertained to the methodologies employed in the articles, categorized as either empirical or theoretical (A to B). This classification facilitated an analysis of the diversity among the selected articles, enhancing the study's comprehension of the subject matter.

Table 2: Classification Scheme of Articles.

| Category | Theme | Code | Significance |
|----------|-------------|------|------------------------------------|
| 1 | Topicality | A | Small-scale impact investments |
| | | B | Large-scale impact investments |
| | | C | Sustainable agricultural practices |
| | | D | Commercialization |
| 2 | Methodology | A | Empirical studies |
| | | B | Review paper |
| 3 | Geography | A | Developed markets |
| | | B | Emerging markets |
| | | C | Frontier markets |

Source: Adapted from [Talan & Sharma \(2019\)](#)

The third classification revolved around the geographic location of the study. Articles were categorized as pertaining to developed, emerging, or frontier markets (A to C). While sustainable investments predominantly occur in developed markets due to the conducive regulatory environment compared to emerging and frontier markets ([Claringbould et al., 2019](#)), the study aimed to explore this phenomenon within the context of agricultural impact investments, enriching the analysis of the subject matter.

Analysis Strategy

The paper employed a thematic analysis method to assess the articles included in the sample. This approach was considered suitable considering the study's objectives and

was supported by the systematic review methodology utilized to achieve these objectives. Thematic analysis involves extracting, classifying, and organizing findings into emergent themes (Lockwood et al., 2015).

Quality Appraisal and Risk of Bias

The Critical Skills Assessment Programme (CASP) was employed to evaluate the quality of articles selected for inclusion in the sample and to mitigate against potential bias. CASP is a widely used tool in health and social sciences, particularly in qualitative studies and systematic literature reviews. Its adoption was preferred due to its suitability for assessing the quality of qualitative research, as endorsed by the Cochrane Qualitative and Implementation Methods Group (Long, French, & Brooks, 2020). This method involved utilizing the CASP checklist specifically designed for systematic literature reviews. Each paper underwent a review process against the items listed in the checklist, which address three overarching issues pertinent to appraising a systematic literature review: the study's results, the nature of these results, and their local applicability.

Limitations

The study is constrained by the size of the selected article sample. The study's research strategy, with its defined narrow scope, might have influenced the selection of articles and consequently, the paper's findings. However, the paper aimed to adhere to a comprehensive and rigorous process in selecting articles for the systematic literature review to align with the study's objectives.

FINDINGS AND DISCUSSION

Descriptive Analysis

Table 3 presents the descriptive analysis followed by the interpretation of the results. The study's codes correspond to the classification scheme outlined in section 3.1, encompassing topicality, geographical focus, and methodology.

Table 3: Descriptive Analysis of Articles.

| Code | Topicality | Geographic Focus | Methodology |
|-------|------------|------------------|-------------|
| A | 13 | 6 | 30 |
| B | 9 | 22 | 14 |
| C | 10 | 16 | N/A |
| D | 12 | N/A | N/A |
| Total | 44 | 44 | 44 |

Source: Author's Own

Topicality

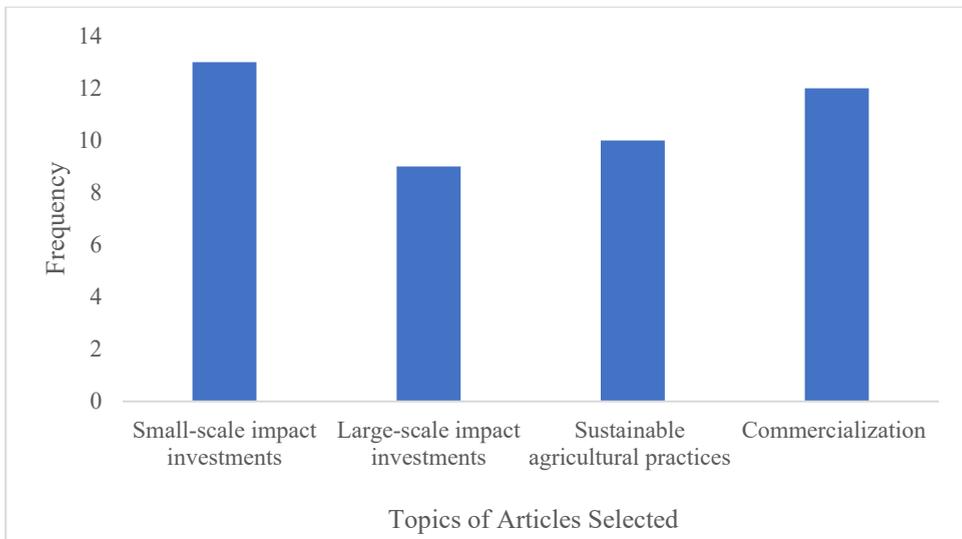


Figure 2: Topicality.

Source: Author's Own

The selected articles encompass a diverse range of topics and perspectives, as illustrated in [Figure 2](#). Agricultural impact investments are increasingly perceived as forms of ecological capital often associated with ethical capitalism. While terms such as social finance or green finance are commonly used in reference to these investments, terminological ambiguities persist within the emerging field of impact investments ([van Veelen, 2021](#)). Notably, the discussions predominantly revolve around regenerative food systems, sustainable agriculture, and biofuel production within the sampled studies ([Renzaho, Kamara, & Toole, 2017](#); [Stephens, 2021](#); [Watts & Scales, 2020](#)).

Historically, FDI have flowed into the agricultural sector, with financial inflows characterized as foreign aid, grants, or concessionary loans, aligning more closely with the "impact-first" approach within the spectrum of impact investments ([Dhahri & Omri, 2020](#); [Stephens, 2021](#)). These impact-first investors are willing to accept concessionary rates of financial return in exchange for significant social or ecological benefits, with agricultural returns being relatively easier to quantify compared to other impact investments ([Stephens, 2021](#)). High-impact crops such as sugarcane, soy, rice, and sorghum are utilized to address the UN's SDGs, particularly in areas such as energy security, food nutrition, climate change mitigation, and poverty alleviation through increased economic activity. Recent attention has also been directed towards funding biofuel production, driven by the necessity for cleaner and more sustainable energy sources, with a notable segment of studies in the sample set focusing on biofuels and ethanol production ([Dhahri & Omri, 2020](#)). Additionally, studies examining maritime investments, referred to as "blue economies," and rural development, such as those

conducted by [Lindsay et al. \(2020\)](#) and [Mirera et al. \(2020\)](#), provide insights into the potential impacts of fishing activities and seaweed farming on rural development.

Large-scale and small-scale impact investments emerge as prominent themes within the sample set, albeit with some degree of overlap between these categories. Studies exploring large-scale and commercialization dynamics present varied perspectives. While some highlight how commercial agriculture can provide rural communities with access to new crops, inputs, and agricultural technologies ([Papaioannou & de Haas, 2017](#)), others express concerns about the potential consequences, including small-scale farmers losing access to land and water essential for crop cultivation.

Geographic Focus

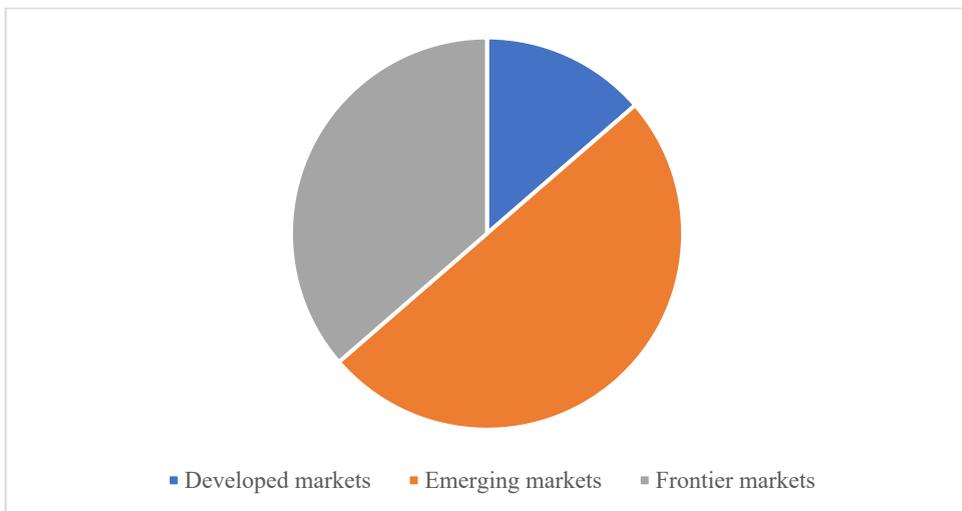


Figure 3: Geographic Focus.

Source: Author's Own

The majority of studies within the sample set originate from emerging or frontier markets. Within emerging markets, research is primarily focused on sugar, ethanol, and biofuel production. Brazil stands out as a key player in biofuel production, followed by the European Union, United States, and Japan. However, the utilization of farming crops for clean energy production has contributed to a consistent rise in food prices since 2000 ([Renzaho et al., 2017](#)). A significant portion of the sample comprises studies investigating agricultural impact investments in Africa, with the continent being recognized as the next frontier for large-scale biofuel production. Global studies encompassing multiple regions are also present in the sample. Notable countries attracting impact investments in the region include Kenya, Nigeria, and South Africa. Studies like that of [Ndiaye \(2019\)](#) observe that the global land rush following the 2008 financial crisis has spurred increased investments in the region, driven by investors seeking alternative markets for financial returns and strategies to ensure food security.

Methodology

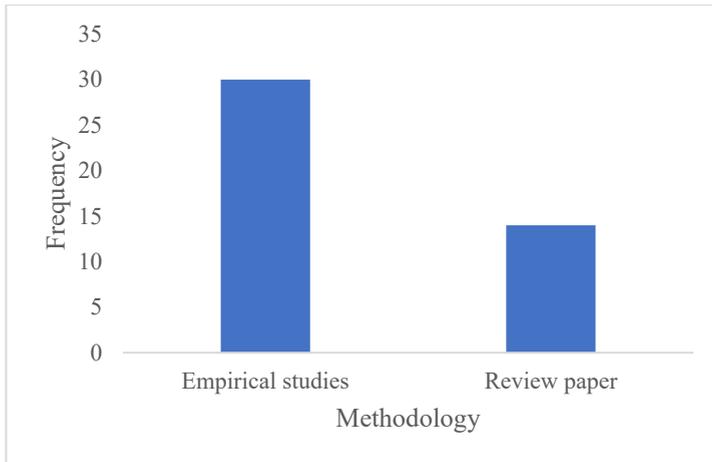


Figure 4: Methodology.

Source: Author's Own

The literature predominantly consists of qualitative studies and literature reviews. [Watts & Scales \(2020\)](#) and [Stephens \(2021\)](#) contextualize social finance and impact investing in agriculture, emphasizing sustainable practices and identifying untapped markets for development. However, they highlight a scarcity of data for quantitative analyses. [Munasinghe \(2011\)](#) proposes the "sustainomics" framework to address climate change through sustainability principles. Various studies present contrasting views on large-scale agricultural investments ([Richardson, 2010](#); [Schoneveld, 2017](#); [Sparovek et al., 2007](#)). Quantitative approaches, like those by [Herrero et al. \(2014\)](#) and [Papaioannou & de Haas \(2017\)](#), utilize land-use and econometric models to assess the impacts of commercialization and sustainable practices. [Dhahri & Omri \(2020\)](#) examine the effects of foreign aid on achieving UN Sustainable Development Goals, while [Williams et al. \(2020\)](#) conduct cost-benefit analyses on small-scale farms adopting sustainability. [Buele, Zúñiga, & Tobar \(2021\)](#) employ Social Return on Investment (SROI) to quantify societal benefits in a university's sustainable food system program.

Findings

An exhaustive examination of the literature unveils several overarching themes, constituting the foundational structure for the study's findings.

Geography and Agricultural Policy

The geographic distribution of impact investing in agriculture exhibits considerable disparities, as articulated by [Watts & Scales \(2020\)](#). Sub-Saharan Africa stands out for its substantial agricultural potential, with vast arable land and a labour-intensive

population, offering significant prospects for positive social impact. However, the predominance of smallholder farmers in the region renders it less attractive to investors due to perceived high risk, stemming from deficient financial ecosystems, limited agricultural expertise, and suboptimal capital allocation decisions.

The dual imperative of impact investing, coupled with specific investment criteria such as access to ample water and land, favourable agroecological conditions, and efficient transport networks, directs funds towards countries deemed more advantageous, primarily those with established large-scale agricultural systems. In Sub-Saharan Africa, investment focus is concentrated in select countries like Kenya, Nigeria, and South Africa, with additional preference given to farms situated near urban centres and transportation hubs. Conversely, countries such as Burundi, Congo, Somalia, and Zimbabwe are side-lined due to elevated investment risk, exacerbating the marginalization of rural communities, particularly the most vulnerable.

Similarly, the allocation of funds in green finance does not always align with areas where they could have the most significant climate impact, but rather depends on external factors such as the environmental sustainability and governance framework of the economy, as argued by [van Veelen \(2021\)](#).

[Zaehring et al. \(2021\)](#) highlight a significant influx of large-scale agricultural investments in the Mount Kenya region. Interviews with local smallholder farmers reveal tensions arising from water scarcity and agrochemical use, leading to conflicts between smallholders and large-scale farmers. Despite these challenges, smallholder farmers express a preference for retaining large-scale investments due to the associated economic benefits, including job creation, market opportunities, enhanced security, and infrastructure development.

In Mozambique, [Zaehring et al. \(2018\)](#) reveals adverse effects of large-scale agricultural investments on land use. Typically, these investments encroach upon small-scale cropland, displacing local farmers. Consequently, displaced farmers resort to forest clearing for new croplands, exacerbating deforestation. Additionally, some investments directly lead to forest clearance. Similarly, Zaehring notes large-scale agricultural projects in Madagascar encroaching upon communal pastoral and grassland areas.

Large-scale agricultural activities in the Mount Kenya region have not led to the displacement of smallholder farmers. This outcome is attributed to the land tenure rights of Kenyan smallholder farmers, which are governed by a freehold system. Under this system, land acquisition occurs through a willing seller–willing buyer basis, preserving the rights of existing landholders ([Zaehring et al., 2018](#)). Additionally, the authors note that large-scale agricultural investments are constrained to former colonial farms of equivalent size, further limiting their impact on smallholder farmers.

In Southeast Asia, smallholder farmers express concerns over land rights, citing a lack of clarity regarding their land entitlements and the absence of official title deeds (Zhan, Mirza, & Speller, 2016). This uncertainty poses a risk of displacement for smallholder farmers, leading to adverse social consequences. The opaque nature of land acquisition motives exacerbates apprehension and resentment within local communities (Zhan et al., 2016). Nevertheless, despite these challenges, large-scale agriculture is noted to have a positive economic impact, generating market opportunities and bolstering rural incomes and food security.

Conversely, literature on impact investing in the agricultural sector in developed countries primarily examines the supply side of investment capital and underlying motivations. Private investors from developed nations acquire substantial land parcels in frontier markets inaccessible to smaller firms, directing agricultural output back to their home countries (Zaehring et al., 2018). Consequently, the intended positive impact on recipient nations is not always realized. Government-backed investments, motivated by food security imperatives, are prevalent, with Gulf countries and China strategically investing in large-scale agriculture to secure agricultural commodities for national interests.

Stakeholder Groups

Kish & Fairbairn (2018) highlight ethical complexities between impact and mainstream investors in agriculture. Both leverage narratives of positive impact – mainstream investors for economic gains, and impact investors for value creation. This overlap can blur distinctions, potentially leading to criticism of mainstream investors for not prioritizing social and environmental outcomes.

Kish & Fairbairn (2018) assert that impact investors struggle to convey their projects' positive impact due to the lack of quantitative measurement systems, rendering impact abstract to outsiders. The impact investing field lacks a universally agreed measurement framework and suffers from inconsistent terminology. Impact investors span a spectrum from finance-first to impact-first, with finance-first approaches potentially overlooking the neediest groups, like smallholder farmers, in favour of those better positioned to absorb investment capital, such as large-scale farmers.

Agyekumhene et al. (2022) underscore DFIs as principal impact investors across African nations. These entities, employing risk mitigation strategies, typically refrain from direct investments in smallholder farmers. However, their investees, integral to the value chain, heavily rely on inputs from smallholder farmers. The motivations driving DFIs' investments parallel those of recipient governments, aiming to foster local employment opportunities and bolster the economic growth of recipient nations. Large-scale agricultural investments are perceived as pivotal for job creation in low-income

countries, positively impacting economic development (Meyer et al., 2007; Zaehringer et al., 2021). Moreover, they are deemed crucial for enhancing food security and alleviating poverty (Dhahri & Omri, 2020), particularly in rural areas (Meyer et al., 2007). Nevertheless, agricultural policies and governmental financial support in developing nations lag behind those of developed counterparts such as the United States and the European Union (Meyer et al., 2007). Developing economies typically extend financial aid to the agricultural sector via subsidies, contrasting with developing countries where agricultural exports face heavy taxation to augment government revenue, as highlighted by the World Bank (2007) and Damania et al. (2023).

Agricultural Practices

Investment in sustainable agricultural practices emerges as a crucial strategy in combating climate change impacts on farmers. Challenges such as erratic weather patterns and rising temperatures pose threats to crop quality and financial stability. Practices like organic farming and crop rotation offer avenues to mitigate carbon emissions and conserve energy, serving as a carbon sink. While large-scale farmers possess considerable potential to advance sustainable agriculture (Li et al., 2020), they are often associated with unsustainable environmental practices. Tittonell et al. (2020) argue that technical constraints and resource limitations hinder large-scale adoption of sustainable agricultural practices among farmers. Despotović, Rodić, & Caracciolo (2019) observe a tendency among large-scale farmers towards intensive agricultural methods prioritizing productivity over sustainability, largely due to a lack of awareness about environmentally friendly alternatives. Nonetheless, Li et al. (2020) note that large-scale farmers are more inclined to embrace sustainable production technologies when they perceive both environmental and economic benefits and face social pressures from entities like governmental bodies, employees, and family members.

The integration of sustainable agricultural methods appears more viable among small-scale farms (Tittonell et al., 2020). Nonetheless, transitioning to sustainable practices imposes financial constraints on these farmers. The availability of funding, loan conditions, and repayment periods significantly influence the adoption of sustainable techniques and the economic viability of farming operations. Investment in small to medium-scale farms remains limited, and existing funding mechanisms do not adequately support the social innovations proposed by impact investments, particularly in regenerative food systems (Stephens, 2021).

Watts & Scales (2020) also argue that small-scale farms have largely been overlooked by private impact equity funds and other financial institutions. Even when these entities do extend loans to small to medium-scale farmers, they typically offer standardized loan packages tailored to larger enterprises (Stephens, 2021). Scaling up small farms could enhance their access to funding and bolster efforts towards sustainable development and

climate change mitigation on a broader scale. However, this scenario presents a paradox, as the lack of funding, coupled with a limited understanding of the nature of impact-driven investments and their metrics, poses challenges to the scaling endeavours of these investments.

Additionally, [Ren et al. \(2019\)](#) observe that larger farm sizes, as opposed to fragmented land associated with smallholder farming, enhance production efficiency by reducing average fixed inputs per hectare. [Lu et al. \(2018\)](#) support this notion, suggesting that a one-unit increase in farm size correlates with an 8% decrease in average production costs. This cost management strategy leads to heightened profitability for large-scale farmers. Moreover, [Ren et al. \(2019\)](#) contend that large-scale agriculture fosters labour productivity, facilitated by farmer training and the adoption of advanced agricultural technologies. Increased mechanization further boosts output. These factors collectively contribute to enhanced income and living standards for farmers and rural communities, aligning with the objectives of impact investment.

In contrast to the findings of [Ren et al. \(2019\)](#) and [Tittonell et al. \(2020\)](#), posit that larger-scale farms utilize fewer environmentally detrimental inputs, such as fertilizers, in comparison to small-scale farms. Small-scale farmers, lacking fixed capital and machinery, tend to rely heavily on chemical fertilizers to boost yields ([Ren et al., 2019](#)). Conversely, large-scale farmers possess more fixed capital, enhancing fertilizer efficiency and consequently reducing fertilizer usage, thus mitigating environmental pollution risks. Nonetheless, large-scale sustainable agricultural investments, such as biofuel production, may still yield negative spill over effects, including soil quality decline, water pollution, and biodiversity loss, stemming from fertilizer usage inherent in large-scale bio-energy production ([Gopalakrishnan et al., 2009](#); [Renzaho et al., 2017](#)).

DISCUSSION

A comprehensive literature review on the efficacy of impact investing in large-scale agriculture underscores the pivotal role of large-scale farming in low-income countries, addressing the needs of the most vulnerable populations aligned with SDG objectives. Large-scale agriculture, consonant with impact investing aims, endeavours to alleviate poverty, ensure food security, and foster sustainable economic development. This impetus often propels investments from DFIs into large-scale agricultural ventures, shaping land policies in recipient nations geared towards economic growth, export earnings, and food sufficiency. The literature underscores the socioeconomic benefits of large-scale agriculture, particularly in regions where smallholder farmers retain land rights, avoid displacement, and where transparency and stakeholder consultation prevail in land acquisition processes. Effective institutional oversight further enhances the value proposition of these impact investments, emphasizing a triple bottom line approach.

However, large-scale agriculture falls short in environmental stewardship. Research indicates that large-scale farmers prioritize productivity over sustainability, either resisting eco-friendly practices or lacking the means to adopt them. This underscores the necessity for policies promoting sustainable farming methods and increased support for education and funding directed towards sustainable agricultural technologies.

The integration of sustainable agricultural practices appears to thrive more in small-scale farms, yet this imposes financial limitations on farmers already grappling with competition from larger agricultural operations. Scholarly discourse underscores the pivotal role of scaling these small farms in facilitating widespread adoption of sustainable practices. Targeted impact investments tailored to support this scaling process are imperative, with patient capital from social financiers offering the most viable avenue due to its flexible repayment terms.

Moreover, the absence of a universally accepted impact measurement framework complicates the evaluation of impact within large-scale agriculture, rendering it abstract and impeding capital inflows. Consequently, industry stakeholders such as the GIIN are urged to advocate for the universal adoption of established impact measurement frameworks.

Nevertheless, the study encountered certain limitations. Firstly, the scope of the study was constrained by the number of articles included, potentially affecting the generalizability of its conclusions. Secondly, the study acknowledged instances where there might have been a risk of bias in the selected articles. To address this concern, the articles were assessed using the CASP checklist. [Kish & Fairbairn \(2018\)](#) suggest that ethical complexities within stakeholder groups associated with impact investing could influence the outcomes reported in the reviewed papers ([Meyer et al., 2007](#); [Stephens, 2021](#); [Zaehring et al., 2021](#)). It is conceivable that advocates of impact investing, such as GIIN and other DFIs, may exhibit a bias towards funding and reporting favourable outcomes to promote the broader acceptance of impact investing principles, given its relatively nascent stage. Nonetheless, it's crucial to acknowledge that these articles were sourced from reputable sources and accredited journals, ensuring the integrity and reliability of their findings.

Furthermore, the study incorporated divergent perspectives from the sample to enhance its comprehensiveness. These investigations offered additional understanding regarding the potentially exploitative aspects of impact investing. Some findings suggested that agricultural impact investments did not necessarily benefit the local communities where they were situated but rather yielded returns primarily for investors in developed markets ([Ndiaye, 2019](#)). The juxtaposition of these outcomes underscores the complexity inherent in the agricultural impact investing domain.

CONCLUSION

This paper aimed to synthesize existing literature to reconcile the divergent perspectives regarding the efficacy of commercialization within the realm of agricultural impact investments. The objective was to critically evaluate key themes and integrate findings from various studies in this domain, offering impartial recommendations to impact investors and policymakers. A systematic literature review indicated that large-scale agricultural investments align with investors' financial objectives. However, the discourse on impact investing in large-scale agriculture has been marked by conflicting opinions, complicating investment landscapes and impeding capital flow. While large-scale agriculture presents enticing investment opportunities with potential for capital preservation, satisfactory returns, and portfolio diversification, it also serves as a vital catalyst for economic growth, food security, and income generation, particularly for marginalized populations. Transparent land policies, clear frameworks for land deals, and robust monitoring mechanisms are essential for its sustainable implementation. Nonetheless, large-scale agriculture carries environmental risks due to the productivity-driven approach of farmers, who may resist adopting sustainable practices or lack the necessary resources and expertise to do so effectively. Despite its contributions, the study faced limitations, including a restricted sample size that may limit the generalizability of its conclusions. Quality assessment was conducted using the CASP checklist, and efforts were made to mitigate bias by incorporating diverse viewpoints and relying on credible sources to uphold the validity of the findings. To enhance value creation and environmental alignment, we propose the following actions. Firstly, establish a unified theoretical framework to standardize impact investing definitions and terminology, addressing current hindrances to sustainable investment literature. Secondly, integrate societal and environmental variables into financial models to enhance the understanding of agricultural impact investment returns. Lastly, conduct quantitative research to furnish evidence for informed capital allocation decisions.

There exists a necessity to educate farmers on sustainable agricultural practices. Evidence indicates that while most farmers acknowledge the environmental issues arising from their agricultural methods, they lack awareness of sustainable alternatives that maintain productivity. We propose an increase in funding directed towards sustainable agricultural technologies and financial solutions tailored to the needs of smallholder farmers to facilitate scalability and foster widespread adoption of sustainable agricultural practices. Additionally, we advocate for policies that incentivize the adoption of sustainable agriculture practices. Collaboration between scholars and impact practitioners is recommended to enhance understanding of impact investments in the agricultural sector. Furthermore, consultation with affected communities, including local communities and smallholder farmers, and transparency in land deals and acquisition processes is advised.

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