

Diaspora Finance: A Pathway to Strengthening Climate Resilience in Sub-Saharan Africa

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Abstract

As climate change accelerates, the costs of adaptation are rising sharply. This escalation comes at a time when financial inflows to developing countries – such as official development assistance and foreign direct investment – are declining. Meanwhile, the global political climate is becoming unfavourable to sustained climate financing commitments. In this context, the role of remittances in supporting climate adaptation and mitigation in developing countries has attracted growing interest. This paper broadens the lens to examine diaspora finance more holistically, encompassing not only remittances but also diaspora investments and knowledge transfer. It explores the potential of these various diaspora finance channels to contribute to climate action in sub-Saharan Africa and concludes by highlighting diaspora finance as a crucial source of new private funding to supplement existing climate finance.

Keywords: climate change, diaspora finance, remittances, resilience, sustainable development

Introduction

The surging financial costs of climate change adaptation are a significant global policy concern. As climate change impacts, especially extreme weather events such as irregular precipitation, flooding, and droughts, increase in frequency and intensity, the adaptation costs for communities affected by these events continue to soar. A recent study emphasises the significance and urgency of climate change financing, suggesting that the cost of climate change rose to USD 2.8 trillion between 2009 and 2019 (Newman & Noy, 2023). The report estimated that USD 143 billion per year of the costs of extreme events are attributable to climate change, with the majority (63%) due to human loss of life (p. 1). Accordingly, attention to climate financing is increasing, however, analysts observe that even the growing commitments are insufficient to meet the vast needs (UNEP, 2024; Valdre & Barbarà, 2024). For instance, adaptation finance recorded a marked increase from USD 22 billion to USD 28 billion between 2021 and 2022; nonetheless, a significant adaptation financing gap persists between needs and flows (UNEP, 2024). Consequently, adaptation planning and implementation efforts continue to lag, implying that communities exposed to climate change impacts remain at risk.

Meanwhile, climate change-related misinformation and disinformation continue to fuel political inaction on climate change (Allan, 2017; Fischer, 2019; Nicolosi et al., 2025; Treen et al., 2020). Allan (2017) demonstrates how even basic data about the degrees of climate warming assume political meanings when they enter political debates. Similarly, Nicolosi (2025) observes a shift in climate change misinformation on social media, moving the conversation away from outright

denial of climate change to condemnation of climate change solutions. This new trend, described as the 'new denial', is a heated political debate that often calls up common far-right arguments, falsely accuses climate solutions of being ineffective and risky, and attacks climate solution supporters. Furthermore, the political landscape is increasingly becoming unfavourable to climate financing, driven partly by sluggish recovery from the global economic crisis of the COVID-19 pandemic, among other factors. For instance, the United States' (US) decision in early 2025 to revoke its International Climate Finance Plan and withdraw from the Paris Agreement under the UN Framework Convention on Climate Change delivered a significant setback to global climate finance efforts (White House, 2025). In early 2025 (February), the US also became the first country to pull back its USD 4 billion commitment and cancel its outstanding commitments to the Green Climate Fund (GCF) (Civillini, 2025). Beyond political impacts, climate finance is also impacted by domestic economic considerations. To illustrate, Canada scrapped its carbon tax, originally designed to financially incentivise a shift toward cleaner energy sources, in March 2025, on the back of growing concerns about the economic impact of new tariffs imposed by the US (Hilton, 2025). Altogether, these changes are expected to make achieving the newly established global climate finance goal of USD 1.3 trillion by 2035 considerably more difficult (Goldberg & McGlinchey, 2025). Contemporary global climate financing is thus intricate because, as developed countries weigh climate funding against competing domestic priorities, developing countries continue to face mounting challenges in financing climate change mitigation and adaptation, even as the effects of climate change intensify, and climate-related disasters increase in frequency. Consequently, climate finance was a major point of contention at the 2024 climate change conference, COP29, held in Baku, Azerbaijan. The COP 29 consensus on an annual commitment – USD 300 billion – was well below the UN-estimated requirement of USD 1 trillion (Dupraz-Dobias, 2025).

Subsequently, policymakers and stakeholders continue to actively explore innovative strategies and mechanisms to fund climate action and related development objectives included in the SDGs. Migrant remittances have been recently proposed as an alternative source of climate financing. While the extant literature has examined the potential for remittances to contribute to climate action and development, remittances constitute only a fraction of diaspora savings (Coulibaly, 2019; Gelb et al., 2021; Famoroti, 2018). Thus, broadening the scope of migrant-based resources to include diaspora finance channels, beyond remittances, can reveal new, underexplored options for mitigating climate change impacts and enhancing the adaptive capacity of climate-affected, vulnerable populations. This paper, therefore, seeks to provide a comprehensive overview of diaspora finance resources that can be harnessed to support climate adaptation and sustainable development.

Problem Statement

The escalating costs of climate change undermine a holistic development approach and have profound implications for key development indicators, including food security, health and well-being, and socioeconomic disparities, such as gender inequalities. This is because, as climate change-related costs mount, financial resources for significant aspects of development, such as health and education, are negatively affected (Annan-Aggrey & Arku, 2024; UN, 2023). As the limited resources available for development, especially in low and middle-income countries, are reassigned to cover climate-related costs, the UN notes that the achievement of several goals and objectives outlined in the global Sustainable Development Goals (SDGs) agenda is at risk due to other overlapping challenges like geopolitical crises (United Nations, 2024).

Additionally, communities most adversely affected by extreme weather events like cyclones, droughts, and floods are located in low-and middle-income countries (LMICs) with limited resources to cover adaptation costs and scale up climate adaptation efforts (Belianska et al., 2022). Consequently, vulnerable communities at risk remain under-prepared and overexposed as climate change impacts escalate, particularly in sub-Saharan Africa (SSA), where the majority of livelihoods are linked to nature-dependent agriculture practices (Sinore & Wang, 2025). In light of this growing challenge, in 2009, developed countries pledged to raise \$100 billion annually by 2020 to assist developing countries in covering the costs of adaptation and mitigation (UNFCCC, 2014). However, the actual disbursements have consistently fallen short of this target, averaging \$80 billion annually. Developing countries, especially in SSA, face persistent challenges in accessing funds through climate change financing mechanisms like the Green Climate Fund (GCF) due to the stringent access requirements and opaque project selection criteria (Fonta et al., 2018; Treichel et al., 2024). To illustrate, between 2016 and 2019, countries in SSA received less than USD 20 billion per year of climate funds (Belianska et al., 2022). Meanwhile, climate finance commitments have replaced Official Development Assistance (ODA) and other development financing previously available to low-income countries (Belianska et al., 2022).

Notwithstanding a meagre share of global climate finance and declining ODA, many SSA economies receive significant financial resources from migrants abroad in the form of remittances. In 2023, this region received remittance flows of USD 54 billion, which were 1.5 times higher than FDI, more stable, and comparable to ODA flows (which have been declining as a share of GDP) (Ratha et al., 2024) (Figure 1). Famoroti (2018) estimates that diaspora savings may constitute a significant proportion of gross national savings, up to 85% in the case of Ghana. Consequently, an emerging literature discusses the potential of remittances to provide significant support to developing countries in addressing climate change adaptation and mitigation costs (Maduekwe & Adesina, 2021; Musah-Surugu et al., 2017; Rustomjee, 2018; Salia & Bempong Nyantakyi, 2022). However, given that other forms of diaspora capital, such as human, social, and cultural capital, are relevant in promoting development in their countries of origin (IOM, 2022), a sole focus on remittances implies an incomplete accounting of migrants' actual and/or potential contribution to development in their countries of origin. A detailed assessment of diaspora transfers beyond remittances, including diaspora investment and knowledge transfers, is crucial for a more comprehensive understanding of the diaspora's potential to support sustainable development, particularly in building climate change-related resilience.

Research Questions

This paper seeks to achieve a three-fold objective, including:

- (i) Examine the spectrum of diaspora finance, including individual, collective, and philanthropic remittances, as well as diaspora investment in equity, loans, bonds, and knowledge transfer.
- (ii) Discuss the potential and limitations of these diaspora finance channels to support climate change adaptation and mitigation efforts.
- (iii) Examine and analyse the potential of diaspora finance to enhance the effectiveness of existing climate change mitigation and adaptation activities in SSA.

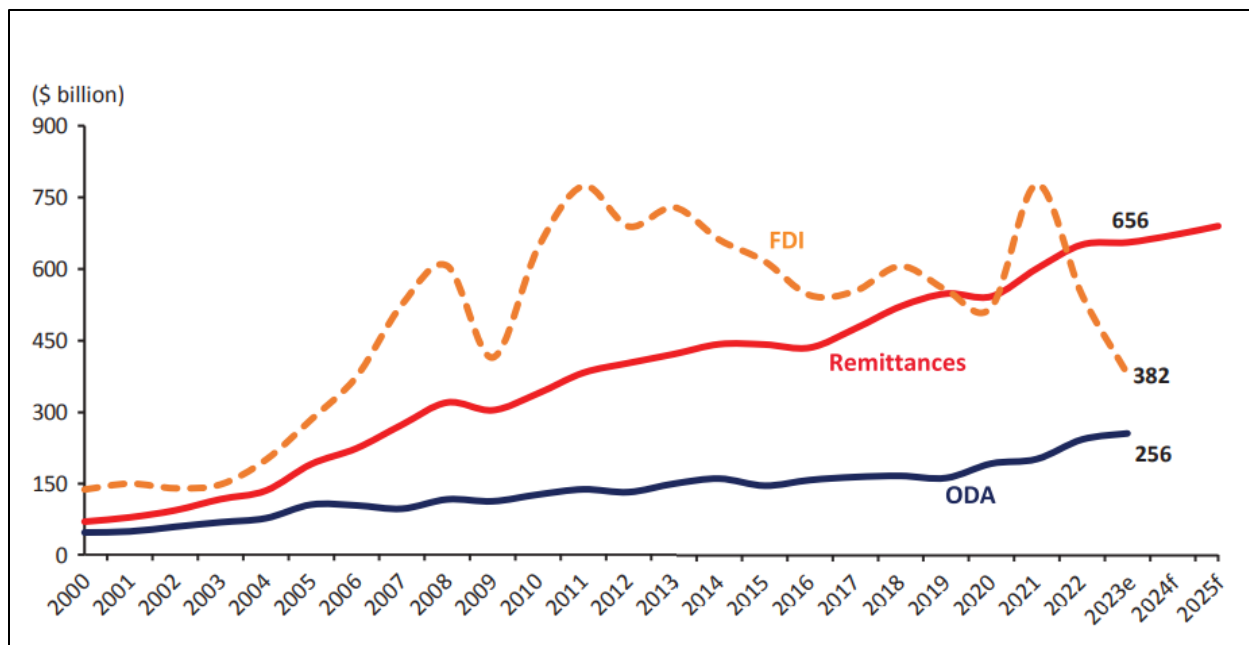


Figure 1: Remittances investment and official development assistance flows to low and middle-income countries (excluding China), 2000-2024. Source: Ratha et al., 2024

Note: FDI: Foreign Direct Investment; ODA: Official Development Assistance; f: forecast

Methodology

Research Paradigm

The paper draws from the migration and development theoretical underpinning, which acknowledges the complex interplay between migration and development (de Haas, 2012; Geiger & Pécoud, 2013; Skeldon, 2008). The theory balances the unidirectional schools of thought on the relationship between migration and development, to emphasise that the relationship between migration and development is not a straightforward positive supplier of remittances nor a negative extractor of skilled migrants resulting in brain drain. However, the nexus between the two is complicated, mediated, among others, by the political contexts in sending and receiving countries, as well as the agency of migrants and sending families (de Haas, 2012; De Haas, 2021). Nonetheless, acknowledging the positive and negative impacts of migration on development and vice versa can facilitate greater coherence between migration and development policies. For instance, while the highly educated professionals may migrate out, the money they send back home can be invested to improve conditions in the country of origin. Additionally, the skills migrants gain in destination areas could be put to good use if they returned, even for a short period (de Haas, 2012; Geiger & Pécoud, 2013; Naudé & Bezuidenhout, 2014; Skeldon, 2008). Moreover, as migrants keep in touch with their families back home, the ties they maintain can be leveraged to contribute to the development of their home country.

This paper builds on the migration-development debate, which integrates remittances, brain circulation and diaspora (Debass & Ardovino, 2009; Gelb et al., 2021; IOM, 2022; Rustomjee, 2018; Salia & Bempong; Nyantakyi, 2022; Skeldon, 2008). The conceptual framework for the paper aligns with the work of Gelb et al. (2021), which examines various forms of diaspora transfers to their country of origin, including remittances and diaspora investment options. The paper therefore unpacks the umbrella concept of development finance, which encompasses remittances

and diaspora investment, and contributes to broadening the discussion of diaspora contributions to development in the home country beyond remittances.

Following this framework, the paper discusses the opportunities and challenges of each diaspora finance option, using examples from the SSA context where applicable. The paper then examines the relevance of these diaspora transfers to climate change adaptation and mitigation efforts.

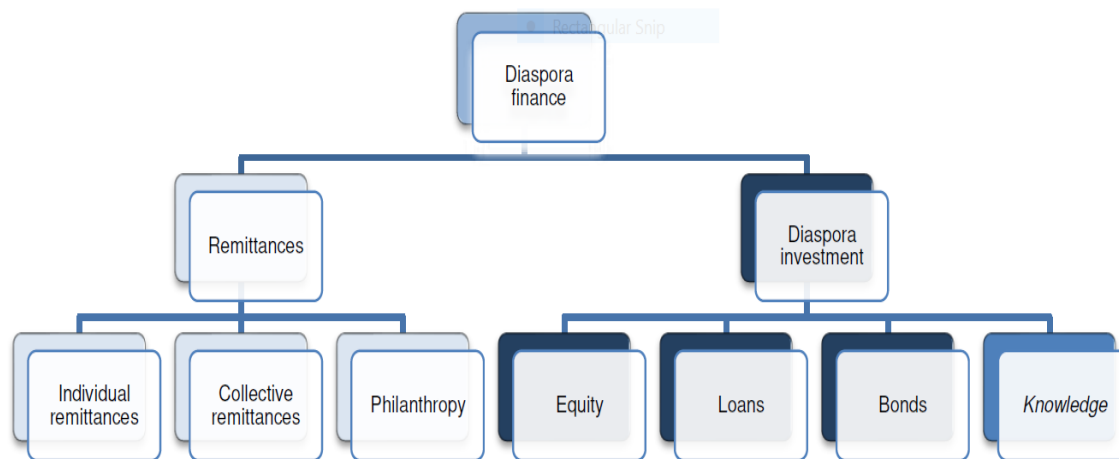


Figure 2: Types of diaspora finance mechanisms

Source: Gelb et al., 2021

Research Design

This study adopted a qualitative research design, employing a narrative literature review approach to examine and synthesise existing scholarly work on diaspora finance. A narrative review was selected because it allows for a flexible, interpretive analysis of the emerging literature on diaspora finance (Juntunen & Lehenkari, 2021; Rumrill & Fitzgerald, 2001).

The review drew on peer-reviewed journal articles, books, and relevant grey literature published between 2000 and 2025. Searches were conducted in major academic databases, including Scopus, Web of Science, JSTOR and Google Scholar. The following keywords and their related synonyms were used in varying combinations: [migration], [diaspora], [migrants], [remittances], [diaspora finance], [climate change], [climate finance]. Other sources were also identified using reference list screening.

The iterative selection process included publications in the English language that focused substantively on one or more forms of diaspora transfer. The selection also prioritised publications highlighting the relation between climate change and diaspora resources, especially with a focus on the SSA region. Opinion pieces and purely technical reports that did not have any academic grounding were not included in the analysis.

Data Analysis

The selected literature was reviewed using a thematic and interpretive synthesis, which followed a systematic and iterative process by which themes were inductively derived through repeated reading for data familiarisation. Attention was paid to recurring arguments and areas of consensus or

contestation (Alase, 2017; Braun & Clarke, 2019; Juntunen & Lehenkari, 2021). This approach facilitated a narrative account of the emerging themes in diaspora finance in SSA.

The flexibility of the narrative review approach employed in the study enabled engagement with diverse forms of evidence on diaspora finance and climate resilience in SSA. Nevertheless, the approach incorporates subjectivity based on scholarly judgement. Hence, this study does not claim exhaustiveness or replicable search procedures, as a systematic review might.

Findings

Beyond Remittances: Employing the Diaspora Finance Lens

Diaspora finance is an umbrella term encompassing remittances, diaspora investment, and knowledge transfers from the diaspora to countries of origin (Gelb et al., 2021). Examining diaspora transfers through the lens of diaspora finance acknowledges that diaspora support for sustainable development initiatives, including business and entrepreneurship, tourism, philanthropy, environmental sustainability, and building resilience to climate change, involves more than financial transfers via remittances (Gelb et al., 2021; Ketkar & Ratha, 2007). Beyond analysing the various forms of remittances, diaspora finance also encompasses diaspora investment initiatives and non-financial knowledge transfers. Analysing diaspora finance also facilitates a holistic appreciation of diaspora contributions, including through the transfer of knowledge and skills that complement remittances and diaspora investment (Gelb et al., 2021; IOM, 2022). For example, diaspora knowledge transfers support the development of key climate action frameworks, such as national adaptation plans and national climate change adaptation strategies in their countries of origin.

Recognising the individual components of the diaspora finance spectrum, as well as the relationships between the various transfer channels, is essential for a comprehensive understanding of diaspora contributions to sustainable development. The following sections, therefore, discuss the relationships between the two major blocks under diaspora finance: remittances and diaspora investment. Next, the various channels in the diaspora finance spectrum are examined in detail.

Differentiating Remittances from Diaspora Investment

While remittances and diaspora investments can be described simply as transfers originating from the diaspora, it is worthwhile examining the differences between these two sources of diaspora resources to better appreciate the broader scope of diaspora finance.

An important distinction between remittances and diaspora investment is the interpersonal nature of remittances, which mainly provides livelihood support for recipient families or facilitates philanthropy. Thus, familial and social ties are essential. Diaspora investments, on the other hand, involve economic units, such as business enterprises, government organisations, or non-governmental organisations in the country of origin (Gelb et al., 2021; Ketkar & Ratha, 2007). Hence, affective ties do not play a major role in diaspora investment. Consequently, the diaspora community that can participate in diaspora investments is broader. For example, descendants of migrants who may have no remaining social ties to the country of origin can still purchase bonds issued by that country. The opportunity diaspora investment presents for second and third-generation migrants and other successive generations who can trace their ancestry to the country of origin to participate in development makes it more inclusive, encompassing a larger group of diaspora.

Additionally, remittances are one-sided in nature; thus, as funds drawn from the sender record a reduction in their disposable income, the recipient records an increase in income. On the other hand, diaspora investments involve a two-way exchange, as funds transferred by the migrant attract a return on investment, accompanied by a corresponding value from the beneficiary business or government entity (Gelb et al., 2021). Moreover, whilst remittances, drawn from the disposable income of the migrant, provide an opportunity to tap into diaspora income flow, diaspora investments are sourced from migrant savings, providing an opportunity to tap into the accumulated wealth of diaspora members (Ketkar & Ratha, 2007). This signals that diaspora investment has an underutilised potential to yield more funds to support sustainable development and climate resilience in the Global South.

In summary, applying a diaspora finance lens to diaspora resources harnesses additional resources from migrants' disposable income and savings, while facilitating broader engagement with a larger diaspora population to support development in the country of origin.

Unpacking the Spectrum of Diaspora Finance

- *Remittances*
 - a. *Individual Remittances*

Remittances are typically cash or 'in kind' transfers like food or clothing transferred from a single migrant household in the country of residence to a single household in the country of origin, with the sending and receiving households usually connected via familial ties (Ramachandran & Crush, 2020; Vasconcelos et al., 2017). Though remittances received from individual migrants largely facilitate consumption smoothing among recipient households, they also have implications for development. Empirical evidence from various contexts suggests that remittances not only represent a stable source of additional income for recipient households, but they also tend to increase in times of crisis. Remittances represent a stable and sustainable source of financing that remains consistent for an extended period. This is because migrants with strong connections to their families in their countries of origin tend to remit regularly, making remittance flows stable and dependable. Accordingly, recipient households depend on remittances to increase food security, support and enhance economically sustainable livelihoods, and support long-term goals such as income accumulation (Bendandi & Pauw, 2016; Crush & Ramachandran, 2024; Owusu & Crush, 2024; Sithole et al., 2023; Thomas-Hope, 2023). Additionally, since remittances sent by individual migrants tend to increase during crises, they serve as an important source of emergency funding. To illustrate, following Hurricane Ivan in Granada, remittances increased by 15%, which was important in helping households recover from the disaster (Harvey & Savage, 2007). Similarly, Halliday (2006) observed a 40-60% increase in remittances in El Salvador in response to agricultural shocks such as livestock losses.

b. Collective Remittances

Beyond family-to-family transfers, remittances can also be collective when diaspora communities pool their funds for specific projects, such as schools or healthcare centres (Goldring, 2004). Collective remittances, typically managed by groups such as hometown associations, enable migrants to contribute to relevant social infrastructure projects in their hometowns or communities of origin. For example, Mazzucato & Kabki (2009) highlight collective remittances mobilised by Ghanaian migrants in Amsterdam to promote community-level development, including local health centres, classroom blocks, scholarship funds, and electrification poles in

several communities in the Ashanti region of Ghana. In some contexts, private remittances from the diaspora have been matched with public funds from the government to form transnational public-private partnerships (TPPs)(Armstrong, 2017; Bada, 2016; Burgess, 2012). Such arrangements enable migrant organisations, mainly hometown/community of origin associations (HTAs), to co-manage and co-finance development projects with the state, thus positioning migrants as partners in development.

TPPs involve intentional engagement between state institutions and diaspora groups, with the added benefits of promoting government accountability while increasing diaspora involvement in local development. Successful examples of collective remittances are common in Latin America, particularly in Mexico and other areas such as Armenia (Armstrong, 2017; Bada, 2016; Burgess, 2012; Galstyan & Ambrosini, 2023). Collective remittances thrive on the back of high-density migration and the formation of well-organised HTAs in destination countries. To illustrate, since 2002, an increasing share of Mexico's collective remittances has been channelled through a TPP arrangement known as the '3X1 program', which provides matching grants for funds sent by US-based HTAs to co-finance community projects (Burgess, 2012). Thus, for every peso invested by an HTA in a philanthropic project, the Mexican government provided matching funds of one peso each from the federal, state, and municipal governments. TPP arrangements enable migrant groups to demand higher governance standards, at least for joint projects with the government (Burgess, 2012). TPPs also flourish in the presence of decentralised state arrangements, which allow local governments more autonomy to partner with diaspora associations (Armstrong, 2017; Burgess, 2012). Projects typically funded under TPP arrangements include public works, such as street paving and drainage, as well as potable water and electricity. Additionally, social infrastructure projects, including schools, health clinics, and athletic facilities, are also supported.

c. Philanthropy

Diaspora members often make individual philanthropic donations targeted at specific projects or programs in their country of residence, with the expectation that these will yield some form of social good (Gelb et al., 2021). Philanthropy encompasses both small contributions to humanitarian projects and substantial donations from wealthy diaspora members. IOM (2022) contends that diaspora philanthropy is often conflated with diaspora charity; however, the primary purpose of diaspora philanthropy is not to address the ills of an issue back home, but to support root-cause changes related to that issue, both within the diaspora and back home (p. 12). For example, the Ethiopian Diaspora Trust Fund (EDTF), a non-profit organisation, coordinates with the Ethiopian government to raise funds among the Ethiopian diaspora for vital socio-economic projects in Ethiopia (IOM, 2022). Thus, EDTF involves the diaspora in development through focused projects that enhance social and economic development, addressing the needs of vulnerable groups, such as women, youth, and smallholder farmers.

The growing relevance of remittances to development is evident not only in the SSA region but also in other regions of the Global South. For instance, in 2023, remittances received in Latin America and the Caribbean increased by 8 per cent, reaching USD 155 billion (Ratha et al., 2024). Additionally, countries like Nicaragua, which recorded significant growth in remittances, 44.5 per cent in 2023 (Ratha et al., 2024), underscore the importance of remittances as a significant financial option for developing countries. Nonetheless, other channels of diaspora finance, discussed below, hold similar promise for development financing.

- *Diaspora investment*

Diaspora investments involve financial asset transactions that transfer financial resources from diasporas to private and public sector organisations and agencies (Gelb et al., 2021). Investments include equity, loans, bonds, or knowledge transfers (see Figure 2).

- a. Equity*

Equity investments may be either Diaspora Direct Investment (DDI) or Diaspora Portfolio Investment (DPI), depending on the level of control the investor has over the management of the enterprise. DPI arrangements can take the form of individual shares or diaspora mutual funds, in which the investor holds a small proportion of the equity and does not directly influence the activities of the beneficiary enterprise. In the case of individual shares, diaspora members purchase traded shares in individual businesses in the country of origin, while diaspora mutual funds are professionally managed pools of funds invested in diversified portfolios of listed equities. DPIs are, however, less common in lower-income and lower-middle-income countries because diaspora mutual funds thrive in broad equity markets among diaspora with relatively high levels of wealth.

For DDI mechanisms, the parent firm may be incorporated in the destination country or another foreign country, with a branch/subsidiary established in the country of origin. Alternatively, DDI may involve private equity and venture capital funds, where diaspora investors mobilise equity finance from their diaspora to invest in businesses in the country of origin (Gelb et al., 2021). Hybrid equity arrangements can also include non-diaspora funds, and investors are likely to be directly involved in managing the enterprises they fund, possibly in a mentorship role. For example, through a European Union grant implemented by IFAD, FADEV, a private equity company, offered the Malian diaspora the opportunity to finance microenterprises managed by their relatives back home. Under the same arrangement, Investisseurs et Partenaires (I&P), another private equity firm, supported a group of Malian diaspora investors in investing in and providing technical support to high-potential SMEs in Mali. Beyond stimulating investment in the agricultural sector, these two activities are expected to generate 90 stable jobs in Mali (Coulibaly & Barca, 2022).

Diaspora members participating in equity investments, such as DDI arrangements, have an ethnic/social capital advantage, as they have a better understanding of the local business environment in their country of origin. Thus, while diaspora investors possess the financial incentives of a typical foreign investor, their homeland advantage makes them better able to manage uncertainties such as political risks and economic shocks (Debass & Ardivino, 2009).

Aside from equity investments, other diaspora finance channels, such as loans, enable the diaspora to support enterprises in their country of origin without having a stake in ownership or control of the business.

- b. Loans*

Loan investments from the diaspora typically involve funds transferred to beneficiaries in the country of origin, with the expectation that they will be repaid in the future (Gelb et al., 2021). Diaspora members act as retail investors and collate funds using diaspora platforms for loans, which are then lent to social entrepreneurs and other small businesses in their countries of origin, using below-market or zero-interest rates. Funds raised from the diaspora can also be used to

provide physical capital equipment for businesses in their country of origin (Gelb et al., 2021). For instance, Ovamba, a FinTech Innovator in Cameroon, receives machinery and equipment requests from small and medium-sized enterprises (SMEs) in Africa. Ovamba then purchases the requested equipment with funds from diaspora finance marketing platforms and leases it to these SMEs. This arrangement reduces the risk for the diaspora lender and the African SME borrower by using lease payments to service the funders.

Loan investments can also be an avenue to attract significant foreign currency inflows into the country of origin. Diaspora members can be encouraged to make deposits into local bank accounts through special schemes that offer lower interest rates and flexible options for local or foreign currency deposits. For example, Non-Resident Indians (NRIs) have been incentivised to make deposits with the State Bank of India (SBI) by providing income tax exemptions for some account types (Gelb et al., 2021). The Indian diaspora can make transactions such as remittances through SBI's 190 international offices in 35 countries.

In addition to increasing foreign exchange deposits, loans can be used to encourage diaspora spending in the country of origin. Loan arrangements, such as remittance-linked housing loans, allow migrants to borrow from their country of origin while working abroad. For example, Sociedad Hipotecaria Federal (SHF), a Mexican agency, collaborates with the Inter-American Development Bank to create a mortgage program for Mexican immigrants in the USA and Canada to invest in new or used houses in Mexico (Saenz, 2007). The program collaborates with several government and private-sector agencies to address legal and logistical issues, including mortgage insurance and related services. Such housing finance schemes usually link loan repayments to remittances, allowing migrant workers to plan for their return and retirement, and remittance-receiving families back home to access housing credit (Gelb et al., 2021).

c. Bonds

Diaspora bonds are financial instruments in which a country issues foreign-currency debt to raise funds from its nationals living abroad (Salia & Bempong Nyantakyi, 2022). Terrazas (2010) also describes diaspora bonds as long-dated sovereign debt agreements marketed to diasporas. Typically, diaspora bonds have extended maturity periods that delay principal repayments, allowing projects to generate returns and cover capital costs over the payback period (Belianska et al., 2022). The primary motivation for governments to issue diaspora bonds is to obtain funding at lower interest rates, driven by the patriotic sentiment of diaspora members (Terrazas, 2010). The difference between the market interest rate on government debt and the interest rate the diaspora is willing to accept is referred to as the patriotic discount. When diaspora members accept below-market interest rates, they offer governments a form of charity, which governments can leverage to generate significant resources to support development. Though the patriotic discount can be likened to charity, Ketkar and Ratha (2007) argue that diaspora bonds are a more honourable way for governments to seek support from their diaspora members rather than simply asking for handouts. For example, in the 1980s, Israel sold bonds to its diaspora in the US at a fixed interest rate of 4%, with a maturity period of 10–15 years, although the market rate for 10-year bonds in the US at that time was 6.8%. Thus, the lower rates accepted by the diaspora afforded the Israeli government additional resources for development.

Diaspora bonds also present a win-win scenario for issuing governments and diaspora members, as the country receives crisis-resilient foreign-currency funding, and diaspora members have an opportunity to support development in their country of origin (Famoroti, 2018). From the issuer's

point of view, the principal motivation for diaspora bonds is a stable, cheap source of external finance, while patriotism is the primary motivation for diaspora members purchasing bonds. For example, in 1998, when international sanctions were imposed on India following its nuclear weapon testing, the country's debt was downgraded while its foreign exchange pressures increased. During this crisis period, the government raised funds for infrastructure development by issuing the Resurgent India Bonds, which raised USD 4.2 billion from non-resident Indians by the bond's maturity in 2003 (Gevorkyan, 2021; Ketkar & Ratha, 2007). This example demonstrates that the diaspora's patriotic sentiment makes them a reliable and valuable resource, especially during times of crisis.

Beyond their patriotic sentiments, diaspora bonds offer the advantage of allowing diaspora members to diversify their asset composition and invest in alternative assets outside their adopted host country. Since diaspora members typically have current or contingent liabilities in their country of origin, the prospect of issuing governments paying the accrued interest and principal in the local currency is attractive (Ketkar & Ratha, 2007). Moreover, the diaspora's familial and social ties in the country of origin and familiarity with the local economic context enable them to accept risks that other investors may be unwilling to take such as currency devaluation. Thus, diaspora members may be more willing to invest in post-conflict or resource-poor contexts when others perceive such investments as too risky (Terrazas, 2010). The patriotism and reliability of diaspora investors make diaspora bonds a viable source of development financing, particularly for climate change adaptation and mitigation efforts.

- *Knowledge Transfers*

Diaspora knowledge transfers provide an opportunity to leverage diaspora human capital in support of development in the country of origin. Knowledge transfers are largely non-financial transactions since they involve the transfer of knowledge, information, skills, and human capital. Nonetheless, they contribute significantly to investments in countries of origin and can have even more long-term significance than the financial support provided (Gelb et al., 2021). Knowledge transfers, such as mentoring support, enable investors to decide where and how to invest, and beneficiaries are better equipped to identify how to access and utilise the transferred funds. For instance, the Ugandan Diaspora in Agribusiness Network (UDAN) has served as a bridge between the diaspora and rural stakeholders in Uganda. Through the network, the diaspora is able to participate more meaningfully in the agricultural sector, and the financial and non-financial contributions of the diaspora to the agri-food sector are now more visible (FAO, 2022).

Similarly, the Connecting Diaspora for Development (C4D) project helped stimulate lasting connections between diaspora members in the Netherlands and institutions in their countries of origin (Kuschminder et al., 2022). The connections facilitated ongoing interactions with far-reaching impacts. For example, a diaspora member supported the staff of the human resources department of a new government ministry in Somaliland to improve their organisational structure. This knowledge exchange led to an enhanced human resource management system, thereby strengthening the capacity to manage economic assets, including funds transferred by the diaspora (Kuschminder et al., 2022). Likewise, a third-generation Filipino-American engineer and entrepreneur utilised his expertise in photovoltaic (solar cell) technology to build a solar electric power plant that pumped water, lit streets, and electrified remote health clinics in the Puerto Princesa province of the Philippines (Wescott & Brinkerhoff, 2006). Diaspora members stand out from other professionals offering knowledge transfers because they often do not have

to grapple with a language barrier, and they can more easily establish trust with institutions and individuals in the country of origin (IOM, 2023).

In summary, one critical element that distinguishes diaspora investment from other types of investment is the patriotic discount that diaspora members apply to their investments. The patriotic discount enables diaspora members to accept lower returns and higher risk than they would with other investments. Diaspora remitters and investors thus constitute a unique category of investors because they can exchange profits for the well-being and socioeconomic development of their countries of origin (Bendandi & Pauw, 2016). Even in the case of non-financial knowledge transfers, the sentimental and material links the diaspora have to their country of origin serve as the primary motivation for knowledge transfers (Siar, 2014). Nonetheless, personal gain in terms of status or power cannot be ruled out. Mazzucato & Kabki (2009) draw attention to the micropolitics involved in collective remittances by hometown associations. Armstrong (2017) highlights the political underpinnings of Mexico's remittance matching schemes. Similarly, Siar (2014) demonstrates that personal benefits are an important motivation for knowledge transfer, although altruistic motivations are the most common drivers of diaspora knowledge transfer. Thus, in addition to the primary motivation of giving back to their country of origin, the desire for greater influence is an essential factor that drives the diaspora to invest in their countries of origin.

Harnessing Diaspora Finance for Climate-Resilient Development

Exploring diaspora finance options to support climate change-related resilience building is urgent and important. This is because climate change exacerbates preexisting development challenges, such as food insecurity and poverty, prevalent in many climate-vulnerable contexts. Hence, it is imperative to enhance the adaptive capacity of vulnerable communities to manage the interactions between old pressures and new climate-induced challenges effectively. Improving adaptive capacity – that is, the ability of individuals and communities to anticipate, deal with, and respond to change while maintaining or improving their well-being however, requires significant financing (Levine et al., 2011). Historically, climate financing, specifically targeted at activities that reduce vulnerability and increase resilience, has been inadequate to meet the growing needs of vulnerable communities. Against the backdrop of insufficient climate finance and rising climate change-related costs, the next section explores the potential of diaspora finance to enhance the resilience of communities and individuals.

Recipients of remittances typically use them to meet basic needs, that is, to supplement household consumption (Maduekwe & Adesina, 2021; Mohapatra et al., 2012; Musah-Surugu et al., 2017). The consumption focus of remittances reflects the high poverty rates in developing countries where remittances are received. Thus, remittance recipients prioritise meeting their immediate basic needs before addressing broader, long-term needs, such as those related to climate change. Nevertheless, recent literature highlights the role of remittances in enhancing climate resilience. Yang & Choi (2007) suggest that remittances serve as insurance for households during rainfall shocks, helping to compensate for about 65% of income loss from such shocks in the Philippines. Similarly, Mohapatra et al. (2012) observe that remittances have a positive impact on households by preparing them for natural disasters and supporting them in coping with the aftermath of loss. Households receiving remittances in Ethiopia were less likely to dispose of their assets during droughts. In contrast, remittance-receiving households in Burkina Faso and Ghana were more

likely to have concrete houses rather than mud houses, making them better prepared for extreme weather events, such as floods. Moreover, remittances have contributed to strengthening the capacity of households to adapt to climate change impacts and become more resilient. For instance, Couharde & Generoso (2015) observe that remittances enabled households to fund long-term adaptation-related investments such as improving their health and education outcomes. Similarly, Musah-Surugu & Anuga (2023) note that some activities undertaken by remittance-receiving households, such as purchasing farm inputs like fertiliser and pesticides, and cultivating drought-resistant maize varieties, enhanced their adaptive capacity. The study further highlights how consumption-based activities, such as acquiring extra food to supplement family needs, contribute to enhancing adaptive capacity. The foregoing examples signal the potential of remittances to bolster climate resilience even when spent on so-called consumption needs. The contribution of remittances to enhancing climate change adaptation and building adaptive capacity is, therefore, worth harnessing.

One key objective of remittances is to improve the socio-economic well-being of families left behind in the country of origin (Ramachandran & Crush, 2020). While supporting development in their countries of origin, it is important that remittance-sending diaspora navigate the complex interplay between development aspirations and environmental concerns. One approach to promote sustainable development and mitigate climate change is by supporting cleaner forms of energy. The existing literature highlights examples of diaspora initiatives channelling remittances to support mitigation efforts. For example, a diaspora initiative in collaboration with Arnergy, a utility distribution company, enabled the Nigerian diaspora to invest in renewable energy solutions on behalf of households and businesses. These arrangements allowed diaspora members to direct their resources toward procuring battery-powered solar systems, a cleaner and more sustainable option than diesel-powered generators, which most households used to supplement their energy (Whitlock, 2021). Similarly, in Côte d'Ivoire, through a Diaspora Energy initiative by EDF, diaspora members used their remittances to purchase and install solar systems, such as solar home kits and solar pumps, for their families, mainly in rural areas (Makanza, 2021). The empirical evidence, therefore, suggests that for remittances to contribute to sustainable development efforts, such as climate change mitigation, they must be deliberately directed toward such efforts (Mills, 2023). Increased awareness among remittance-sending diaspora members and remittance-receiving households in countries of origin about the impacts of climate change and adaptation mechanisms can also improve the allocation of remittances to strengthen adaptive capacity.

Following the occurrence of climate change-induced extreme weather events, remittances play a key role in disaster response (Bettin et al., 2025; Bragg et al., 2018; Cabuay & Resosudarmo, 2025). While remittances typically increase during crises to support reactive responses to climate stresses, emerging literature suggests that using remittances to build anticipatory adaptive capacity can reduce the costs and impacts of climate change-related events in the long run (Nurse, 2019). Anticipatory, proactive responses, such as cultivating drought-resistant crop varieties, enhance preparedness and bolster food security, while improving the quality of building materials in anticipation of floods and strong winds to reduce the impact of climate events. Thus, pre-emptive action is far less costly financially and in terms of human suffering. Diaspora members can therefore be encouraged to channel remittances to support the building of anticipatory adaptive capacity and increasing readiness.

Beyond household-level remittances, collective remittances and diaspora philanthropy contribute to building the adaptive capacity of multiple households in a community. Given the increasing costs of climate change impacts, collective remittances offer an efficient pathway, as they benefit multiple individuals and households simultaneously. In particular, the benefits that collective remittances yield in promoting infrastructural development in communities of origin can be harnessed to promote the adaptive capacity of vulnerable communities (Beauchemin & Schoumaker, 2009; Chauvet et al., 2015; Mazzucato & Kabki, 2009). For instance, a communally shared water storage system can help an entire community build resilience against droughts. Thus, the initial impact of a drought may be reduced as the community water storage facility serves as a backup source of water till reserves run low. While collective remittances can contribute to building adaptive capacity, since most collective remittance arrangements are coordinated through HTAs, the support provided is based on diaspora attachment to specific ethnic communities. The criteria for selecting beneficiary communities for HTA-funded projects can therefore contribute to uneven development, as the origin community of the HTA may not be the most vulnerable to climate change. Moreover, HTA coordinated collective remittances result in migrant-sending communities that may already have a higher socioeconomic status gaining greater access to resources than poorer communities with few or no migrants. Thus, emerging collective remittance arrangements like Kwanda go beyond HTAs to mobilise diaspora resources via online 'villages' (Kwanda, 2025). Kwanda presents a hybrid philanthropy-collective remittance model, which enables diaspora to contribute towards sustainable development projects of their choice in various communities across Africa. By contributing to a specific village project, diaspora members earn voting rights that allow them to influence key funding decisions. Village members also receive real-time updates on the progress of projects they support. Not only does this revised collective philanthropy model mitigate the risk of skewed development in favour of migrant-sending communities, but it also holds more appeal for more recent groups of migrants, including second-generation migrants who are less inclined to organise via HTAs (IFAD-UNCCD, 2024).

In addition to harnessing the benefits of collective philanthropy, diaspora investment mechanisms present attractive options for diaspora members who are increasingly turning to individual or collective investments in private businesses (IFAD-UNCCD, 2024). Generally, diaspora investment via bonds, loans, and equity represents an underexploited source of development finance. There is limited evidence on the use of loans and equity in development financing, in general, and in climate change efforts, specifically (Asquith & Opoku-Owusu, 2020). Faal (2019) has argued that examples of such diaspora investments are limited in SSA due to the high level of informality in the region, and the operationalisation of the investment mechanisms requires a regulated environment. One of the few examples of equity employed to support climate change efforts is the Boosting Green Employment and Enterprise Opportunities in Ghana (GrEEEn) Project. To achieve the project's aim of creating green jobs and promoting a green and circular economy, the project, funded by an EU-led consortium, used crowdlending and donation-based crowdfunding to access funds from the diaspora and other local sources to provide capital for small enterprises and to fund local climate-resilient infrastructure (Asamoah Boateng, 2023). The project registered successes in raising funds to support the creation of over 23,000 jobs. Nonetheless, as a pioneering crowdfunding project in a new regulatory space in Ghana, the project encountered some teething challenges, such as working with two different institutions with regulatory jurisdiction (see Asamoah-Boateng, 2023, for some critical lessons).

Overall, limited information among the diaspora on green investment opportunities can, however, hinder diaspora members from taking advantage of other diaspora finance tools like bonds (IFAD-UNCCD, 2024). Additionally, the costs of diaspora bonds and the governance issues related/ linked to diaspora bond issuance hinder many countries in SSA from taking advantage of or participating in diaspora bonds. For example, since 2000, only five countries in SSA have successfully issued bonds (IFAD-UNCCD 2024; Faal, 2019). Thus, Faal (2019) highlights the inconsistency between the declared enthusiasm and general rhetoric about diaspora bonds and the actual reality in the marketplace in SSA, especially (p. 11).

With increasing awareness of climate change and a growing focus on climate action, many diaspora members now want their countries of origin to take decisive action to support vulnerable populations in adapting. This increasing concern for climate action makes diaspora bonds for climate action attractive, as people are more likely to invest (Bendandi & Pauw, 2016). Recent examples of diaspora bonds demonstrate diaspora commitment to supporting green projects and climate action overall. For instance, Ethiopia successfully issued a diaspora bond to finance the construction of the Grand Renaissance Dam, an essential source of clean energy for the country (Salia & Bempong Nyantakyi, 2022). In 2024, Ethiopia's Ministry of Foreign Affairs recorded that since the dam's inception in 2011, the Ethiopian community association in Dubai and the Northern Emirates had purchased bonds worth USD 550,000, demonstrating strong support for the project (Ethiopian News Agency, 2023). The diaspora bonds issued by Nigeria in 2017 raised USD 300 million to fund infrastructure projects, and Kenya also issued its first green bond in 2019 to fund renewable energy projects (Faal, 2019). While extensive climate-specific knowledge is not required to place bonds on the market, improved public finance management, procurement, and statistics to support greater transparency and accountability in debt management are essential (Belianska et al., 2022). It is also vital for governments to have a pipeline of adaptation and mitigation projects that fit into an overall national climate strategy. Including diaspora voices in decision-making related to climate change adaptation and incorporating their ideas on national adaptation plans and strategies to enhance climate change adaptation are examples of harnessing diaspora skills to support climate action. In particular, younger diaspora members' creativity and networking skills are assets that can be harnessed to support climate action and broader development (Gagnon & Khoudour, 2023).

Diaspora knowledge transfers can contribute to enhancing adaptive capacity by supporting the development of comprehensive National Adaptation Plans (NAPs) that facilitate preparedness and response to climate change impacts. NAPs are comprehensive, medium-and long-term strategies that outline how a nation will adapt to a changing climate and reduce its vulnerability to climate-related risks (UNDP, 2023). NAPs are also important because they provide countries with an opportunity to systematically assess their vulnerability to climate change, identify adaptation needs, and design effective strategies to build resilience (UNDP, 2023). The context-specific nature of NAPs makes diaspora knowledge transfer relevant, as diaspora experts are familiar with the local context; thus, they can provide expert advice tailored to the context. Effective NAPs include financing strategies and help countries integrate climate considerations into national policies and development plans, and prioritise adaptation efforts. Diaspora support can also contribute to nationally determined contributions, including increasing awareness and promoting innovative approaches to climate change among communities in countries of origin.

Conclusion

In the face of rising climate change costs, key national and international actors and stakeholders are seeking innovative approaches to finance climate change adaptation and mitigation. This paper highlights the growing flow of diaspora remittances to the developing countries, particularly in the SSA region. It further demonstrates that, beyond remittances, diaspora investments and knowledge transfers also have the potential to contribute to building adaptive capacity in vulnerable communities in SSA. By broadening the discussion to encompass the broader spectrum of diaspora finance, the paper demonstrates the underexploited potential of diaspora finance to promote climate resilience. Notably, diaspora investments offer opportunities for long-term, flexible, and locally informed financing that aligns with both development and climate goals. In addition to financial capital, the diaspora also possesses social and intellectual resources that can propel innovation and resilience-building in climate-vulnerable communities.

While this paper focuses on harnessing diaspora finance mechanisms to enhance climate resilience in the SSA, it also highlights the broader role the diaspora can play in promoting sustainable development in the region. Given the shifts in the global political landscape and the competing domestic priorities that developed countries, which traditionally served as development partners for SSA countries, face, it is essential that developing countries in SSA reimagine the diaspora as an emerging group of development partners. A revised engagement with the diaspora will require institutional reforms, such as the establishment of accountability frameworks. Additionally, policy reforms that assign the diaspora roles in policy-making and policy-shaping processes are crucial for encouraging and sustaining an era of strategic diaspora engagement in sustainable development in SSA.

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