

DECEMBER 2022

## Monitoring and Evaluating Adaptation Investments

### Opportunities for the Private Sector

Carina Isbell | Kristal Jones | Andreea C. Nowak | Todd S. Rosenstock

Global temperatures are projected to reach 1.5°C above pre-industrial levels within the next two decades (IPCC, 2022). Considering Africa's economic dependence on agriculture and agriculture's vulnerability to climate change and variability, bolstering resilience is paramount. Adaptation will cost an estimated US\$160-340 billion per year by 2030 (UNEP, 2022), with SSA requiring significantly higher climate action budgets compared to global averages. Public finance support for adaptation in the region is reflected in unconditional commitments outlined in Nationally Determined Contributions (NDCs); however, these figures are expected to cover only 20% of the total adaptation funding needed by 2030. Mobilizing private capital is essential for scaling climate action and reducing risks faced by agricultural producers and other agri-food supply chain actors in the region (Goldstein et al., 2019).

The private sector accounts for approximately 51% of global climate finance flows (CPI, 2021). The potential for increasing overall adaptation funding ambition is high, given the corporate sustainability pledges that have sprouted over the past decade. However, two key challenges limit deeper engagements of private sector investors in adaptation finance. One, inadequate monitoring and evaluation (M&E) tools prevent private actors to fully understand the risks, benefits, and effectiveness of adaptation. Two, the lack of a clear and consistent way to prioritize and report adaptation spending make it difficult to assess the true extent of private adaptation investments in the agriculture sector.

This brief explores the importance and need for adaptation metrics in the context of private sector investments. It builds the case for private sector-led M&E and highlights gaps in current approaches. Finally, we highlight entry points for strengthening M&E of adaptation investments, by identifying synergies across select reporting systems relevant for adaptation.

#### Key messages

- There is an urgent need for private sector finance for adaptation, yet there is a lack of adequate tools to ramp up investments.
- Monitoring and evaluation (M&E) can help to track adaptation benefits and build the case for increased finance.
- M&E information can also strengthen accountability and transparency, build supply chain resilience, and meet demands from climate-conscious supply chain actors.
- Alignment between adaptation indicators and impact investing reporting systems provides an important starting point for enhancing M&E of adaptation investments.



## M&E of Adaptation Investments Is Good for Business

To de-risk the agriculture sector, investors need timely and adequate information on the type, extent and magnitude of the risks, on available solutions to manage risks, as well as on performance of solutions in relation to the risks. Much of this information can be obtained by establishing structured and on-going M&E processes that are embedded within the investors' business models. Such processes can help ensure that private sector actors<sup>1</sup> investing in adaptation activities adequately account for the risks and benefits of their effort. Identifying clear and measurable indicators of activities, outputs, and outcomes can provide an evidence base to increase transparency in investment strategies, implementation, and efficacy.

**Monitoring** is the continuous process used to collect data and analyze progress toward achieving the desired results. This includes gathering data on activities, outputs, and outcomes to track investment implementation and improve the delivery of results.

**Evaluation** refers to the process of collecting investment performance data related to the desired outcomes and impacts, analysing changes in key outcomes, and assessing differences in impacts over space, time, and for different groups or individuals.

Private sector investment in adaptation is voluntary. However, Articles 9, 10, and 11 of the Paris Agreement underscore the obligation of high-income countries to support the resiliency of low-to-middle-income countries through climate-smart financing in adaptation and mitigation. Furthermore, Article 6 outlines the need to

---

<sup>1</sup> The private sector encompasses a wide range of actors from individual consumers and producers to multilateral development banks. In this brief, the term 'private sector actors' specifically

facilitate participation by market sectors and for robust accounting and transparency measures to support climate resiliency. M&E is central to meeting these goals.

Information on the performance of adaptation investments can help businesses grow and thrive in various ways. Below we summarize four pathways through which this might be achieved.

### ***Building Accountability and Transparency***

Historically, the greenhouse gas emissions associated with private sector activities have contributed significantly to the current climate crisis (Folke et al., 2019). As such, many argue that the private sector has a social and environmental responsibility to contribute to climate change-related goals, including adaptation. However, to increase private-sector participation in climate adaptation, this social responsibility must align with the financial responsibility that many private entities like financial institutions have to their shareholders and customers to reduce risks to their business.

There are, however, opportunities for the private sector to ensure their social and economic responsibilities are met by fully disclosing their actions and how they impact climate resiliency. Transparency in the type and impacts of climate change adaptation investments is especially essential for consumers and shareholders to fully understand the companies and institutions they support (World Bank Group, 2021). By performing audits and adopting existing frameworks for monitoring key impact indicators, private actors can work towards internal and external accountability and provide their shareholders and customers with evidence that their initiatives contribute to the greater good.

Information on performance of adaptation investments can also reassure consumers, shareholders, and investors that funds are spent as intended (IFC, 2019). When the public doubts

refers to financial entities, such as corporations, private companies, commercial banks, institutional and impact investors, and development banks.

companies' transparency, it can leave businesses open to criticism. Such criticisms have been voiced in the carbon trading market, for example, where perceived over-reliance of some companies on carbon 'offsets' have attracted public scrutiny (Ceres, 2022). In response to these transparency concerns on the climate change mitigation side, third-party monitoring, verification, and reporting standards on the supply side of carbon markets have become the benchmark of legitimacy for many firms.

Similar standards are starting to emerge on the demand side of mitigation, with guidance for investors and the private sector on how to make legitimate mitigation claims (Ceres, 2022; VCMI, 2022). Increasing accountability and transparency will likely benefit many private actors who already invest in adaptation activities but do not yet report on their efforts (CPI, 2021). By implementing transparent M&E, companies can build trust with their investors, shareholders, and customers and meaningfully highlight their efforts.

### ***Building Supply Chain Resilience***

Private-sector investment in climate change adaptation can ensure the long-term social, economic, and environmental viability of individual firms, their supply chains, and their sectors. Nature's economic value to the global economy is estimated at US\$44 trillion annually (World Economic Forum, 2020). As such, climate change will cost companies dearly if they fail to reduce their business' exposure to climate change risks. For example, food companies will potentially lose USD\$415 billion in revenue from risks associated with water scarcity (Ceres & WWF, 2020). Climate change adaptation, therefore, needs to be integrated into risk management and resilience plans. These should explicitly identify and monitor climate change impacts on supply chains to ensure that initiatives do not create more harm than good, by increasing supply chain risks of maladaptation.

### ***Understanding and Tracking Benefits***

Data on financial benefits (or returns) of climate adaptation projects are lagging, partly because of the lack of systematic reporting. However,

emerging markets in Africa, Asia, and Latin America represent both an area of vulnerability and opportunity. For instance, recent evidence shows that impact investing in agriculture averaged net annual returns of around 10% (GIIN, 2020). Similar results regarding public and private investments in climate change adaptation activities have been observed in the context of dryland agriculture, with a rate-of-return of 5:1 (GCA, 2019). Trends in agriculture will also likely make investments in climate-smart agriculture more lucrative. For example, improving the efficiency of cold storage to reduce food loss, especially in meat and dairy, decreases the emissions intensity of animal supply chains and increases the total volume of saleable products (IFC, 2017). This suggests that climate-smart investments in many emerging areas within food systems can buffer against losses by enhancing supply chain resilience and supporting firms' long-term bottom line.

### ***Meeting Expectations of Supply Chain Actors***

In recent years, reviews of global market trends have found that consumers are willing to pay more for goods and services with environmental and social claims related to climate change. The increased value placed on climate change claims is especially true for Millennials. Aged roughly 25 to 40, Millennials drive consumer demand and are twice as likely to make a purchase because of a brand's environmental and social impact (Morgan Stanley, 2017). Similarly, the Global Impact Investment Network (GIIN) estimates that the size of the global impact investing market—which includes large numbers of investors and consumers who consider climate change mitigation and adaptation in their decision-making—is currently worth USD\$1.164 trillion (Hand et al., 2022). Evidence also shows that increasingly savvy consumers and investors demand social and environmental responsibility commitments and verifiable actions (Morgan Stanley's Institute for Sustainable Investing, 2017). To satisfy this growing consumer and investors base, the private sector is expected to provide evidence of investment pathways to impact.

## M&E in Practice: Challenges and Opportunities

Corporate sustainability pledges have been on the rise over the past decade. Many of these pledges link directly to the Sustainable Development Goals (SDGs) and support climate change adaptation by building resilience in food systems and related sectors, i.e., water, energy, and infrastructure. Common sustainability-focused M&E frameworks have enabled significant strides in ensuring accountability and impact for sustainable investments among private-sector actors.

For example, the Global Reporting Initiative (GRI) provides common indicators and reporting practices that have led to greater standardization and transparency in sustainability reporting. In many cases, there are 'win-wins' to private sector activities that improve both the long-term bottom line and support sustainable development. The GRI framework has helped to standardize how companies can make those decisions and report on impacts.

Similar guidelines and standards do not yet exist for private sector actors to frame and report contributions to climate change adaptation. However, initiatives like the GRI provide an outline from which adaptation-specific M&E frameworks can be developed. Several promising tools, frameworks, and metrics are being used to track financing related to climate change and more general sustainable development, which can help guide the creation and adoption of climate adaptation frameworks more specifically.

The most popular of these include the 231 SDG Indicators, which the UN General Assembly adopted in 2017, and the Global Impact Investing Network's (GIIN) IRIS+ Core Catalogue of metrics. The Carbon Disclosure Project (CDP, 2021) encourages companies and cities to include adaptation metrics as part of their supply chain decisions, yet definitions and guidance on how to measure adaptation and resilience in impacts remains a work in progress.



Despite the lack of a universal framework and the ambiguity in measuring impacts, similarities across metrics can guide M&E and reporting of climate adaptation investments. Table 1 shows linkages between commonly used agriculture adaptation indicators (FAO, 2017) and existing reporting systems currently used by impact investors (IRIS+, SDGs).

While many indicators do not align perfectly in terms of language, many similarities exist; many adaptation goals strongly align with general sustainable development indicators. This alignment can make for an easier entrance for companies already familiar with reporting frameworks such as IRIS+ or the SDGs, as they are building on their existing experience. This familiarity allows private-sector actors to translate and enhance their investments to contribute to climate adaptation financing goals.



**Table 1. Adaptation indicators and metrics align with existing reporting frameworks**

Adaptation Category	Indicator	Metric (example)	Reporting framework	
			IRIS+	SDGs
Natural resources and ecosystems	Availability of and access to quality water resources for agriculture	Level of water stress; the proportion of bodies of water with good ambient water quality	Yes	Yes
	Availability of and access to quality agricultural land and forests	Percentage of degraded land over the total land area	Yes	Yes
	Status of ecosystems and their functioning	Forest area proportion	No	Yes
	Status of the diversity of genetic resources in agriculture	Number of plant and animal genetic resources in conservation facilities	Yes	Yes
Agricultural production systems	Agricultural production and productivity	Proportion of agricultural land under irrigation	Yes	Yes
	Sustainable management of agricultural production systems	Proportion of agricultural land under sustainable production	Yes	Yes
	Impact of extreme weather and climate events on agricultural production and livelihoods	Annual crop losses, annual damage to agricultural assets	No	No
	Projected impact of climate change on crops, livestock, fisheries, aquaculture, and forestry	Projected water availability in 2050	No	No
Socioeconomics	Food security and nutrition (vulnerability)	Prevalence of undernourishment, percentage of adults who are underweight	Yes	Yes
	Access to basic services	Rural access to an improved water source	Yes	Yes
	Access to credit, insurance, and social protection in rural areas	Number of active community-level institutions	Yes	Yes
	Agricultural value addition, income, and livelihood diversification	Percentage of rural labor force employed in agriculture	Yes	Yes
Institutions and policy making	Institutional and technical support services	Proportion of agricultural population exposed to climate change awareness programs	Yes	No
	Institutional capacity and stakeholder awareness	Level of involvement of community-based organizations in implementing climate change adaptation actions	No	Yes
	Mainstreaming of climate change adaptation priorities in agricultural policies, and vice versa	Level of climate change impacts and scenarios in agricultural sectors for adaptation planning	No	Yes
	Financing for adaptation and risk management	Proportion of development funds allocated to climate change adaptation	Partial	No

Source: Authors. Adaptation indicators based on FAO (2017). IRIS + refers to the impact measurement and management system of the Global Impact Investing Network (GIIN, 2020). SDGs refer to the SDG indicators framework. Yes=adaptation indicator is covered by the reporting framework; No= no match between adaptation indicator and the reporting framework



Although still in their early stages of development, partnerships and collaborations are emerging globally. They seek to establish or harmonize adaptation frameworks that can be used across industries and sectors. One such group is the Adaptation & Resilience Investors Collaborative, led by the Climate Policy Initiative (CPI). The Collaborative has committed to adopting common principles for tracking finance for adaptation and promoting standardization of M&E for adaptation investments. Other investment organizations, such as the Coalition for Climate Resilient Investment (CCRI) and GARI, have also established similar networks (GARI, 2022). GARI convened more than 400 private investors worldwide to discuss approaches to adaptation investment.

These efforts suggest an increasing interest in adaptation financing and M&E, which can help accelerate the substantial investment capital needed for climate change adaptation. Examples exist that demonstrate the positive, mutually beneficial impact the private sector has when engaging in the M&E of adaptation investments (see Case Study 1 and 2).

### **Case study 1. The Cocoa and Forest Initiative (CFI): A public-private partnership building resiliency in the cocoa supply chain, Ghana**

As climate variability increasingly impacts the cocoa sector, rural producers have expanded their production area to maintain their livelihoods, driving deforestation across parts of West Africa. A public-private partnership in Ghana and Ivory Coast, the Cocoa and Forest Initiative (CFI) takes a landscape-scale and multistakeholder approach to address both climate change mitigation and adaptation.

CFI requires private-sector actors to commit to zero deforestation and invest in verifiable adaptation activities like the promotion of agroforestry for shade-grown cocoa. Government investment in traceability tools, including direct engagement with producers and satellite technology to monitor deforestation, provides the framework within which the private sector invests. Funds purchase materials and build growers' capacity to implement agroforestry practices, including mixing cocoa trees with fruit and timber trees.

By providing tree seedlings and the technical assistance needed to expand agroforestry practices, CFI is improving farmers' resiliency to climate change by diversifying food production and livelihood opportunities. Such measures also improve soil health and decrease the need for external inputs. Private-sector actors benefit by decreasing the risk of insufficient raw materials in their supply chains and by marketing responsible cocoa production, for which there is growing consumer demand.

*Source: CFI (2021)*



## Case Study 2. Incentivizing the private sector: The Adaptation Benefit Mechanism

To attract both public and private sector funding to adaptation initiatives that can fulfil the relevant Paris Agreement objectives, the African Development Bank launched the Adaptation Benefit Mechanism (ABM) in 2019, which will be piloted until 2030.

The ABM is a unique non-market approach that aims to provide a direct pathway for impact investors, corporations, and philanthropic institutions to invest in registered projects with certified adaptation benefits, reducing investment risk. These investments usually centre around strengthening supply chains and increasing yield and productivity – goals that all align with adaptation financing needs and can indirectly contribute to private-sector targets and long-term returns.

The ABM aims to create Certified Adaptation Benefits, generated through adaptation projects that receive local investment, that are then verified and certified by the ADB process, and purchased by public and private actors committed to investing in climate change adaptation. Proposed pilot projects include investing in food storage technology for smallholders in the potato value chain in Kenya and expanding the CFI methodology to expand agroforestry in cocoa production systems in the Ivory Coast.

*Source: African Development Bank (2022)*



---

# THE WAY FORWARD

Investments in climate change adaptation are increasingly necessary to safeguard social, economic, and environmental well-being, yet global goals for total investments are consistently not fulfilled. With the public sector already stretched thin, the private sector is uniquely positioned to help fill the adaptation funding gap and contribute towards meeting the goals set out in the Paris Agreement. With an expanded understanding of current and future impact pathways for climate change adaptation activities and adequate M&E frameworks in place to collect and report evidence of impacts, the private sector can be further incentivized to expand and maximize investments that generate climate change adaptation benefits.

Science can contribute to the definition of what 'counts' as climate change adaptation and the operationalization of indicators of adaptation and resilience. Doing so can build the evidence base for effective adaptation impact pathways. Given the complexity of both climate change and adaptation actions, scientists should continue to generate and refine data on climate hazards and risks. Moreover, they must clearly communicate the conditions needed for adaptation and document and evaluate the types of activities and outputs that build resilience to specific climate risks and in specific social and environmental contexts.

---

## FURTHER READING

- African Development Bank Group. 2022. Adaptation Benefit Mechanism: <https://www.afdb.org>
- Belianska, A., Bohme, N., Cai, K. et al. 2022. Climate Change and Select Financial Instruments: An Overview of Opportunities and Challenges for Sub-Saharan Africa. IMF Staff Climate Note 2022/009, International Monetary Fund, Washington, DC.
- Ceres. 2022. Evaluating the Use of Carbon Credits: Critical questions for financial institutions when engaging with companies. <https://www.ceres.org>
- Ceres & World Water Fund (WWF). 2020. Ceres/WWF AgWater Challenge Progress Report. <https://www.ceres.org>
- Cocoa & Forests Initiative (CFI). 2022. Annual Report, Ghana 2021.
- Climate Disclosure Project (CDP). 2021. Accelerating the Rate of Change: CDP Strategy 2021-2025. <https://cdn.cdp.net>
- Climate Policy Initiative (CPI). 2021. Global Landscape of Climate Finance 2021. <https://www.climatepolicyinitiative.org>
- Goldstein, A., Turner, W. R., Gladstone, J. et al. 2019. The private sector's climate change risk and adaptation blind spots. *Nature Climate Change*, 9(1), 18-25.
- Global Commission on Adaptation (GCA). 2019. Adapt Now: A Global Call for Leadership on Climate Resilience. <https://gca.org>
- Global Impact Investing Network (GIIN). 2020. Understanding Impact Performance: Agriculture Investments. <https://thegiin.org/assets>
- FAO. 2017. Tracking Adaptation in Agricultural Sectors. Rome. <https://www.fao.org/3/i8145en/i8145EN.pdf>



- Folke, C., Österblom, H., Jouffray, J. B. et al. 2019. Transnational corporations and the challenge of biosphere stewardship. *Nature ecology & evolution*, 3(10), 1396-1403.
- Hand, D., Ringel, B., Danel, A. .2022. Sizing the Impact Investing Market: 2022. The Global Impact Investing Network (GIIN). New York.
- IPCC. 2022. Climate Change 2022: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change.
- International Finance Corporation (IFC). 2017. Creating Markets for Climate Business: An IFC Climate Investment Opportunities Report. Washington, DC. <https://www.ifc.org>
- IFC. 2019. Operating principles for impact management. Washington, D.C. <https://www.impactprinciples.org>
- International Monetary Fund (IMF). 2020. Chapter 2: Adapting to Climate Change in Sub-Saharan Africa. Sub-Saharan Africa Regional Economic Outlook: COVID-19: An Unprecedented Threat to Development. April. Washington, DC.
- Morgan Stanley Institute for Sustainable Investing. 2017. Sustainable Signals: New Data from the Individual Investor. <https://www.morganstanley.com>
- Quinney M, Bonilla-Findji O, Jarvis A. 2016. CSA Programming and Indicator Tool: 3 Steps for increasing programming effectiveness and outcome tracking of CSA interventions. CCAFS Tool Beta version. Copenhagen, Denmark: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS).
- United Nations Environment Programme (UNEP). 2022. Adaptation Gap Report 2022: Too Little, Too Slow – Climate adaptation failure puts world at risk. Nairobi. <https://www.unep.org/adaptation-gap-report-2022>
- VCMI. 2022. Provisional Claims Code of Practice. Voluntary Carbon Market Integrity (VCMI) Initiative. <https://vcmintegrity.org>.
- World Bank & Global Facility for Disaster Reduction and Recovery (GFDRR). 2021. Enabling Private Investment in Climate Adaptation & Resilience: Current Status, Barriers to Investment, and Blueprint for Action. <https://openknowledge.worldbank.org>
- World Bank Group. 2021. Enabling private investment in climate adaptation & resilience. Washington, D.C. <https://openknowledge.worldbank.org>
- World Economic Forum. 2020. Nature Risk Rising: Why the Crisis Engulfing Nature Matters for Business and the Economy. New Nature Economy Report I.

## About the authors

**Carin Isbell** (carina.isbell@uvm.edu) is Research Associate at University of Vermont. **Kristal Jones** is Principal Researcher at JG Research and Evaluation. **Andreea Nowak** (a.nowak@cgiar.org) is Research Team Lead for Climate Action at The Alliance of Bioversity and CIAT. **Todd S. Rosenstock** (t.rosenstock@cgiar.org) is Principal Scientist at The Alliance of Bioversity and CIAT.

**Lindsay Hartley-Backhouse** from Scriptoria Solutions edited the brief.

Photo credits: S Neno (CIAT), K.DeSousa (Bioversity International), E Smith Dumont (World Agroforestry).

Accelerating Impacts of CGIAR Climate Research for Africa (AICCRA) is a project that helps deliver a climate-smart African future driven by science and innovation in agriculture. It is led by the Alliance of Bioversity International and CIAT and supported by a grant from the International Development Association (IDA) of the World Bank. Explore our work at [aiccra.cgiar.org](http://aiccra.cgiar.org)