

Conservation Trust Investment Survey

FOR CALENDAR YEAR 2018

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Photo contributed by Lorenzo Rosenzweig, Fondo Mexicano para la Conservación de la Naturaleza

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Introduction

Conservation Trust Funds (CTFs) are private, legally independent institutions that provide sustainable financing for biodiversity conservation. The core business of CTFs is to mobilize resources from diverse sources – including international donors, national governments and the private sector – and to direct them, primarily through grants, to a diverse range of environmental programs and projects through non-governmental organizations (NGOs), community based-organizations and governmental agencies (such as national parks agencies)¹. The significant majority of the CTFs in this study are managed as private organizations, independent of government.

This CTIS study is designed to provide information that can assist established CTFs in analyzing their investment strategies, and to create a foundation upon which new or nascent CTFs can learn from the experience of others.

The main objective of this study is to report on the performance and present the investment strategies and approaches implemented by participating CTFs. A secondary objective is to serve as an educational vehicle to promote discussion about investment management approaches and concepts.

This year's report is in a streamlined format to allow time and resources to focus on an analysis of 13 years of accumulated data. This multi-year analysis will be released later in 2020, in concert with a 10-Year Review of CTFs being published by the CFA.

¹Practice Standards for Conservation Trust Funds, 2020 Update, Forthcoming

Background

- Conservation Trust Funds participating in this study manage endowments, sinking funds and revolving funds.
- Most of the CTFs are established as private foundations or trusts; many are established as Non-Governmental Organizations (NGOs) or have been incorporated as not-for-profit Limited Liability Corporations (LLCs) governed by charity or trust law.
- The CTFs are generally established in the country where they operate and are managed by a board of directors with members from both the public and private sectors. In some cases, the CTFs have been incorporated in third-party countries due to legal or financial constraints or administrative necessity; this is frequently also the case for regional CTFs supporting conservation work in multiple countries.
- The CTFs range from highly focused organizations that manage a single fund that supports one protected area or species, to sizeable nonprofit organizations that manage and invest numerous funds on behalf of varied conservation objectives.

Participant Demographics

- 34 CTFs participated in this year's study
 - 30 participated in Part 1 (organizational and strategic data)
 - 27 provided returns and financial data
- In aggregate, the participating CTFs manage over \$723M USD in investable assets. The average CTF has \$27.8M USD in investments.
- The individual endowments and sinking funds range from just over \$1M USD to over \$97M USD, with an average of \$16M USD.
- 15 CTFs manage a single endowment or sinking fund; 13 manage two or more funds
- In total, the CTFs are managing 45 funds. 31 are endowments, 12 are sinking funds, and two were reported as combined data.
- Participants range from 3 to 26 years of operation, averaging 14 years.



Photo contributed by Ahmad Baihaqi, Yayasan KEHATI

Participant Demographics

Graph 1: Participants by Total Assets



Graph 2: Participants by Region



Demographics by Region

Table 1: Demographics by Region

Region	Number of Participants	Average Age	Average Assets (USD)
Africa	7	11	\$32.2M
Asia-Pacific	5	15	\$8.6M
Europe/E. Europe	3	6	\$29M
Latin America / Caribbean	11	18	\$33.5M

Results and Analysis



Photo contributed by Seychelles Islands Foundation

- Nominal returns are the basic after-fee returns, not adjusted for inflation. Real returns are those that have been adjusted for inflation.
- Currency, location of investments, inflation, and other risk factors will affect expected and actual returns.
- Appendix 5 presents a framework for comparing a CTF's results to the presented data, given that diversity of participants and low sample sizes make it hard to construct meaningful peer groups.

Nominal Organizational Rates of Return



- Organizational returns are the weighted average returns for all funds managed by a CTF. Each CTF counts as one, no matter how many individual endowments or sinking funds they manage.
- External benchmarks are provided for context.
- The "60/40 Equity/FI" benchmark is 60% the MSCI World index and 40% the Barclays Capital Aggregate Bond Index.
- While most organizational returns were negative, the mean and median returns exceeded several benchmarks. This is likely because the CTF portfolios tend to skew on average towards fixed income, which is a buffer in down markets (but fails to capture upside in up markets).

Graph 3: Nominal Organizational Returns

Organizational Returns Summary Tables

Median Organizational Return (Nominal)-3.44%Mean Organizational Return (Nominal)-2.71%

Table 2: Average Organizational Returns by Size

Size (USD) n=26	Avg. Org. Returns
0-10M	-2.4%
10-20M	-2.7%
20-50M	-3.9%
50M+	-0.6%

Table 3: Average Organizational Returns by Region

Region n=26	Avg. Org. Returns
Africa	-2.1%
Asia-Pacific	-5.1%
Europe/ Western Asia	-2.9%
LAC	-1.9%

Endowment and Sinking Fund Performance

Table 4: Endowment vs. Sinking Funds, Nominal Returns Over Time

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	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Endowments	-0.8%	-2.3%	5.3%	5.3%	8.6%	7.4%	-2.5%	-3.3%
Sinking Funds	3.9%	4.7%	7.1%	6.2%	6.7%	5.4%	2.6%	4.6%



Photo contributed by Pete Oxford, Protected Areas Trust Guyana

Comparative Returns



Graph 4: Nominal Endowment and Sinking Fund Returns

Measuring Performance

- To evaluate returns, CTFs use targets (measuring against an absolute expected return) and/or benchmarks (measuring relative performance against other portfolios, usually reported as an index)
- The reporting CTFs manage a total of 45 funds: 31 endowments, 12 sinking funds and 2 reported as combined data
 - 29 measure performance using targets
 - 31 measure performance using benchmarks
 - Note that some funds use both and are therefore counted twice

Targets

- The average nominal target return in 2018 was 6.7%
- 23 funds provided both targets and actuals for 2018
 - 9% met or exceeded their target
 - 91% did not meet the target return

- While some CTFs maintain the same target year after year, others change the target from one year to the next. Reasons for a change might include:
 - Different spending (income) requirements
 - Anticipating trends in market conditions
 - Different asset allocation changes the portfolio's risk profile and therefore the expected returns

	2017 to 2018 n=19	2018 to 2019 n=16
% of CTFs that INCREASED the target returns	10.5%	37.5%
% of CTFs that DECREASED the target returns	36.8%	12.5%
% of CTFs reporting NO CHANGE in target returns	52.6%	50%

Table 5: Changes to Target Returns

Benchmarks

- Typically, benchmarks are selected to align with a particular segment of the portfolio
- Following are some of the most common (non-domestic) benchmarks CTFs used in 2018:

Equity Total Return

- MSCI World
- S&P 500
- MSCI All Countries World Index (ACWI)
- MSCI Europe, Australasia and Far East (EAFE)
- MSCI Emerging Markets
- MSCI EMU
- MSCI Europe
- MSCI Japan
- MSCI Pacific ex Japan
- MSCI World Small Cap Index
- MSCI World Minimum Volatility Index
- Russell 1000
- Russell 2500
- Russell 3000

Fixed Income

- BAML Global High Yield Constrained Index
- Barclays Capital US Aggregate Bond Index
- Barclays Multiverse
- Barclays 1-3 Year Credit Index
- Citigroup World Government Bond Index
- J P Morgan Emerging Markets Bond Index Global (EMBIG) Diversified
- J P Morgan Global Government Bond Index

Alternative Strategies

- Hedge Fund Research Indices (HFRI)
- National Association of Real Estate Investment Trusts (NAREIT) Index
- Wilshire REIT

In addition to those listed above, it is also common for a CTF to measure performance as a target return added to one of the following (e.g. T-Bill + 3.75%):

- Inflation
- Treasury bonds
- London Inter-Bank Offer Rate (LIBOR)

Returns by Region

Table 6: Average Nominal Endowment and Sinking Fund Returns by Type and Region

Region	Endowment (Avg Return)	Sample Size	Sinking Fund (Avg Return)	Sample Size
Africa	-2.0%	11		
Asia/Pacific	-7.7%	4		
Latin America/ Caribbean	-1.3%	13	4.4%	8
Overall*	-2.5%	31	2.6%	12

*Overall returns and sample size include Europe/Western Asia and Asia-Pacific Funds, which are not reported separately due to low sample size.



Photo contributed by Seychelles Islands Foundation

Real Returns



Graph 5: Comparison of 2018 Nominal and Real Endowment and Sinking Fund Returns

Real Returns, continued

Table 7: Average 2018 Nominal Versus Real Fund Returns by Primary Currency

Primary Currency	Average Nominal Returns	Average Rate of Inflation	Average Real Returns
Domestic (n=7)	7.0%	3.6%	3.4%
Euro (n=10)	-3.0%	1.8%	-4.8%
Mix (n=7)	-0.3%	2.4%	-2.7%
USD (n=17)	-3.0%	2.0%	-5.0%
USD + others (n=4)	-4.6%	2.0%	-6.6%
Overall (n=46)*	-1.2%	2.2%	-3.3%

*Includes those with sample sizes too small to report separately.

Table 8: Average Real Returns Over Time

	2013	2014	2015	2016	2017	2018	Six Year Average
Overall	2.2%	3.2%	-3.0%	2.9%	5.6%	-3.3%	1.3%
Endowments	2.8%	4.1%	-3.7%	2.9%	5.9%	-3.9%	1.4%
Sinking Funds	-0.5%	1.8%	-1.1%	3.0%	4.0%	-0.1%	1.2%

Multi-Year Returns

Table 9: Three- and Five-Year Average Nominal Fund Returns, Through 2018

	Three-Year Average Return	Five-Year Average Return
Overall Average (n=25)	5.0%	3.9%
Sinking Fund Average (n=5)	5.0%	4.1%
Endowment Average (n=20)	4.9%	3.8%



Graph 6: Changes in the Average Three-Year Nominal Returns

Multi-Year Returns, cont.



Graph 7: Changes in the Average Five-Year Nominal Returns

Investment Policies

90% of CTFs indicated that they have an investment policy This year's survey asked CTFs to provide the primary investment objective for their endowments and sinking funds.

Examples of Endowment Objectives

- "Capital preservation"
- "Ensure the operation of the fund for financing conservation"
- "Ensure a steady growth of wealth"
- "Exist in perpetuity so as to enhance financial sustainability for sustainable conservation"
- "Generate sufficient investment performance to enable it to fulfill its environmental mission, while preserving in real terms (after inflation) and in the long term, the value of the capital it has received, converted into the Reference Currency. The same investment policy shall be used for all contributions to the capital of the Foundation."
- "Generate performance of ___% after fees, over rolling three to five year periods"
- "Maintain the real value of the fund in the long-term (greater than 10 years) and maximize the annual cash flow to contribute to operating costs and channel funding to programmatic activities (field programs"

Examples of Sinking Fund Objectives

- "Maintain the real value of the fund and obtain additional funds for grants for conservation activities"
- "Achieve a __% annual return"
- "Absolute return (generating income in both rising and falling markets); avoid losses; maintain purchasing power after fees; achieve return on top of the abovementioned, within risk parameters; sufficient liquidity; ESG aspects"
- "Match the required [cash] flow"



Photo contributed by T. Kastritis, Prespa Ohrid Nature Trust

Diversification - Currency



Graph 8: Primary Currencies of Funds

Diversification – Asset Allocation

Table 10: Average Asset Allocation of Funds

Asset Class	Overall Average (n=45)	Endowment Average (n=31)	Sinking Fund Average (n=12)
Equities	33.2%	42.6%	8.9%
Alternatives	6.3%	7.5%	3.8%
Cash	19.2%	14.0%	35.8%
Fixed Income	40%	34.1%	51.5%
Other	1.3%	1.8%	0%



Photo contributed by Ahmad Baihaqi, Yayasan KEHATI

Diversification – Asset Allocation



Graph 9: Average Fund Asset Allocation over Time, 2008-2018

Diversification – Investment Location



Europe/Western Asia does not have enough responses to break out separately. Note that for each region, the total investment allocation also includes the "Investments in Own Country" allocation for that region, e.g. Latin America/Caribbean investments would equal 53.2% (49.8% "Investments in Own Country" plus "3.4% Investments in LAC").

Graph 10: Location of Investments

Investment Management Service Providers



Graph 11: Staffing Models for Investment Functions

Investment Management Service Providers, cont.



Graph 12: Location of Investments

Donor Restrictions and other constraints

Of the 28 CTFs that answered the question, 18 indicated that donors had imposed some restrictions or requirements in the investment policy. Examples include:

- Donor approval of the investment policy
- Requirement of a globally diversified portfolio
- Specific geographies, markets or currencies; may be a requirement for off-shore investment
- Specific asset allocation
- Specific risk restrictions, or specifications of acceptable risk ratings on investment vehicles
- Specific approved investment professionals, or required qualifications for investment professionals
- Must not invest in industries/markets that threaten the environment; other ethical investing criteria
- Conflicts of interest involving businesses owned or controlled by Board members
- Prohibitions on specific types of investments

Donor Restrictions and other constraints, cont.

25 of 28 CTFs indicated that their investment policies prohibits certain investments. These prohibitions can be due to risk management strategies, Environmental, Social and Governance (ESG) investment strategies, reflection of organizational values, or other reasons. Examples of prohibited investments follow on the next page.

As well, some investment policies specify minimum bond ratings and allowable maturities; allowable currencies and/or number of currencies.



Photo contributed by Zdenka Piskulich, Asociación Costa Rica por Siempre

Examples of prohibited investments

- Industries or investments that damage the environment
- Industries such as gambling, alcoholic beverages, tobacco, arms and military products, and pornography
- Specific asset types or strategies:
 - Individual (non-managed) commodities and futures contracts
 - Private investments
 - Illiquid investments (e.g. partnerships with no exit)
 - Options
 - Venture Capital
 - Derivatives
 - Short sales and margin investing
 - Leveraged investments
 - Securities where the issuer has filed for bankruptcy
 - Precious metals
 - Commodities
 - Equipment leasing
 - Currency speculation other than normal hedging of a larger portfolio

Photo contributed by Pete Oxford, Protected Areas Trust Guyana

- Mutual funds with an investment philosophy of market timing or chart reading
- Emerging markets
- Hedge funds
- Any investments considered speculative by an experienced investor

Resource Mobilization

- While Conservation Trust Funds frequently start out spending endowment income and sinking fund resources, usually the ultimate goal is that the organization will serve as a catalyst to attract other resources to support the conservation objectives.
- 24 CTFs reported that they raised funds from sources other than investment income. Of these, the most common sources of revenue were national governments, multilateral donors, international NGOs, bilateral donors, private sector donors, and foundations
- Of these, 10 CTFs used all or a portion of the newly raised funds to add to their capital base (either as endowments or sinking funds).
 Only two CTFs reported adding investment income to their capital base for 2018 (this is likely a function of low or negative returns, on average).

Conclusions



Photo contributed by Carl Bruessow, Mulanje Mountain Conservation Trust

With negative returns across most indices, 2018 was a challenging year for investors.

Overall, the Conservation Trust Funds' nominal returns slightly outperformed the relative benchmarks, while still falling short of their own target returns. The CTFs tend, on average, to allocate heavily to fixed income, which generally delivers steady returns even when equity prices drop, and therefore protects the portfolio from losses when equity markets fall. However, that same steadiness means that the portfolio growth is constrained when markets are positive. Despite the risk of losses, equity generally delivers growth over time (see analysis on following slide).

As noted on Table 8, the average real return over a six-year period (2013-2018) has been about 1.3% (1.4% for endowments, 1.2% for sinking funds, and 1.3% overall). Of the 11 CTFs that provided target spending rates, the average spending target was 3%. Given the average real returns over time, especially for endowments, if CTFs are indeed spending 3% of their returns on average each year, they are not preserving the value of their capital in real terms.

Conclusions, cont.

Several years ago we introduced a hypothetical benchmark portfolio of 60% equity (MSCI World Index) and 40% fixed income (BCABI). The average CTF portfolio, in 2018, was the inverse of this benchmark (60% fixed income and cash; 40% equity and alternatives). To explore the impact of equity on returns, we looked at \$1M invested at the start of 2012 in our hypothetical portfolio versus earning the average CTF returns. The \$1M invested in the CTF's average returns would be worth \$1.4M at the end of 2018. By contrast, the same million invested in our hypothetical benchmark would be worth \$1.6M at the end of 2018, a difference of 17% percent (absent any spending in either case).



This suggests that even though the CTFs' preference for fixed income protects them from losses in down markets, this protection comes at the cost of upside gains in strong equity markets. Each CTF has its own risk profile and risk tolerance, and need for income versus growth. Nonetheless, as in past years, while we are not recommending a specific portfolio, we conclude that on average the CTFs may want to consider increasing their equity allocation, especially in their endowments. In an analysis later this year, we will dig more deeply into CTFs' multi-year returns and analyze which strategies have indeed proved most resilient over time.

Upcoming Publications in 2020

- The CTIS project is working on a multi-year analysis of CTIS data going back to 2006. The purpose of the study will be to identify trends and successful strategies in CTF investment management, and to provide a basis for further discussion
- The CFA is working on a 10-Year Review of CTFs. The consulting team of Wolfs Company and Aligning Visions is working in partnership with an expert Task Force, under the umbrella of the Environmental Funds Working Group.
- The same team has been working on an Update to the Practice Standards for Conservation Trust Funds, incorporating input and feedback from CTFs, donors, and other stakeholders and including new topic areas.

Appendix 1: Methodology

SURVEY FORMAT, ORIGINATION. This report is designed to gather and present investment information from privately directed CTFs that manage endowments, sinking funds or revolving funds with the mandate to provide long-term financing for conservation and sustainable development. Creation of the CTIS drew on the experience of the National Association of College and University Business Officers (NACUBO) annual survey of the performance of US college and university endowments.

DATA COLLECTION. The survey for the calendar year ending December 31, 2018 was administered in two parts and emailed to all participating CTFs. Part 1, covering investment strategy and policy, was made available in MS Word as well as in an online (web-based) format. Part 2, covering investment returns, portfolio allocation and fees, was made available in MS Excel. The questionnaires were available in English, Spanish and French. The CTFs were encouraged, where practicable, to ask their external investment management professional to complete Part 2 of the survey. The CTIS Project Manager distributed the surveys directly to CTFs as well as through the Latin American and Caribbean Network of Environmental Funds (RedLAC) Secretariat, the Consortium of African Funds for the Environment (CAFÉ) Secretariat, and the Asia-Pacific CTF Network (APNET) Secretariat. In total, direct requests for participation were sent to 68 organizations.

DATA INCLUSION. A total of 34 organizations completed all or part of the survey. Thirty (30) completed Part 1, Strategic Management and 27 completed Part 2, Financial Data. Responses to some questions have been removed at the discretion of the authors, where a response was incomplete or, in the authors' judgment, the response did not make sense in the context of the question asked.

Methodology, cont.

CONFIDENTIALITY. The CTIS project is committed to maintaining the confidentiality of each participating CTF's data submissions in the published report. All financial data are reported anonymously and we have taken steps to ensure that data cannot be tied to specific funds in the published study.

FISCAL YEAR. All data and reporting are based on the calendar year 2018 ending December 31st unless otherwise noted.

RETURNS. All performance data (returns) are reported net of management fees and expenses. All returns are reported to the CTIS in the currency in which the CTF measures the fund's performance; when a portfolio contains returns in multiple currencies, the authors have converted to US dollars to report the weighted average return for the portfolio.

STATISTICAL VARIANTS. Survey participants were encouraged to answer as many of the questions as possible; however, not all respondents completed all questions. Therefore, the data tables in this report do not necessarily reflect a response from every participant. We indicate the number of respondents for a given table or graph with "n=" wherever possible.

Methodology, cont.

ACCURACY. The data and conclusions in this report rely on information that is self-reported by the staff of Conservation Trust Funds and, where applicable, by the external investment management professionals hired by the CTFs and duly authorized to report financial data to the CTIS project on behalf of the participating CTFs. The authors have not independently verified the accuracy of the data submitted by the participants.

The Glossary (Appendix 3) has been developed to improve accuracy by ensuring that all participants are using the same terminology; it accompanies the CTIS questionnaire as a reference.

AVERAGE RETURNS. Following procedures used in the Commonfund-NACUBO study, average return values provided in this report are calculated as equal-weighted averages, meaning that each reporting CTF has an equal influence on the outcome of the average calculation, regardless of the size of the investments. This allows each individual CTF to compare its returns to those of other CTFs participating in this study. Organizational returns are based on the weighted average of returns for all funds reported by an institution. Fund returns reflect the returns reported by the CTF for a specific fund. Three- and five-year averages are calculated as compound returns.

COMPARISONS OF CTFS. A high number of variables combined with a relatively low overall sample size means that it is difficult to create relevant peer-to-peer comparisons. CTFs may identify their peers based on currencies, asset allocation, country of registration, asset size, location of investments or other factors. There is no meaningful way to normalize data across all CTFs – a multidimensional comparison is needed. The authors have developed a suggested framework for CTFs to compare their investment performance to that of peers, on multiple dimensions (Appendix 5).

Appendix 2: Participants

Table 11: List of Participating CTFs

Africa

Banc d'Arguin, and Coastal and Marine Biodiversity Trust Fund (Mauritania)

Eastern Arc Mountains Conservation Endowment Fund (Tanzania)

Fondation pour les Aires Protégées et la Biodiversité de Madagascar

Fondation pour les Parcs et Réserves de Côte d'Ivoire

Fondation Tany Meva (Madagascar)

Fondation pour le Trinnational de la Sangha (Cameroon)

Fundação para a Conservação da Biodiversidade (Mozambique)

Fondation des Savanes Ouest-Africaines (Bénin)

Fondation BioGuinee (Guinea Bissau)

Participants, cont.

Asia/Pacific

Arannayk Foundation (Bangladesh

Micronesia Conservation Trust

Sovi Basin Conservation Trust (Fiji)

Tree Kangaroo Conservation Program (Papua New Guinea)

Yayasan Keanekaragaman Hayati Indonesia (Indonesian Biodiversity Foundation)

Europe/Eastern Europe

Blue Action Fund (Global Marine)

Caucasus Nature Fund (Armenia, Azerbaijan, Georgia)

Prespa Ohrid Nature Trust (Albania, Greece, Macedonia)

Participants, cont.

Latin America/Caribbean

Asociación Costa Rica por Siempre	Fundación para la Conservatión del Bosque Chiquitano (Bolivia)
Caribbean Biodiversity Fund	Fundación para el Desarrollo del Sistema Nacional de Áreas Protegidas (Bolivia)
Fondo Acción (Colombia)	Fundo Brasileiro par a Biodiversidade
Fondo de Conservación de Bosques Tropicales (Paraguay)	Mesoamerican Reef Fund (Mexico, Belize, Guatemala, Honduras and El Salvador)
Fondo de la Inciativa para las Américas El Salvador	Protected Areas Conservation Trust (Belize)
Fondo de Inversión Ambiental Sostenible (Ecuador)	Protected Areas Trust (Guyana)
Fondo para el Manejo de Áreas Protegidas y Vida Silvestre (Honduras)	Saint Lucia National Conservation Fund
Fondo Marena (Dominican Republic)	Suriname Conservation Foundation
Fondo Mexicano para la Conservación de la Naturaleza	

Appendix 3: Glossary

CONSERVATION TRUST FUND (CTF) – CTFs are private, legally independent institutions that provide sustainable grant funding for biodiversity conservation. They often finance part of the long-term management costs of a country's protected area (PA) system as well as conservation and sustainable development initiatives outside PAs. CTFs raise and invest funds to make grants to non-governmental organizations (NGOs), community based-organizations (CBOs) and governmental agencies (such as national protected areas agencies). CTFs are financing institutions rather than institutions that implement biodiversity conservation. Within one CTF there may be one or more than one fund.

FINANCIAL ADVISOR – A Financial Advisor is a licensed sales agent or broker with a securities firm.

ENDOWMENT FUND – a sum of money that is intended to exist in perpetuity or preserve its capital over a long-term timeframe; an endowment's capital is invested with a long-term horizon and normally only the resulting investment income is spent, in order to finance particular grants and activities.

SINKING FUND – a pool of monies that will spend down its capital within a designated period of time (e.g. 10, 20, 30 years). The entire principal and investment income is disbursed over a fairly long period (typically ten to 20 years) until it is completely spent and thus sinks to zero.

INVESTMENT MANAGEMENT CONSULTANT – A fee-based advisor operating under a non-discretionary arrangement who can provide guidance on portfolio theory, asset allocation, manager search and selection, investment policy and performance measurement. The role of the Investment Management Consultant is to provide independent advice, and the consultant's primary responsibility is to his/her client. Investment Management Consultants can help to review the performance of Investment Managers relative to the investment goals of the client, and may give the client advice on which investment managers to hire and fire.

Glossary, cont.

INVESTMENT MANAGER – Specialists in managing a portfolio or investments in a specific type of asset, such as medium quality corporate bonds; large-cap value equities, or emerging market governments' debt. Mutual fund managers, portfolio managers and hedge fund managers are examples of this. Investment Managers act with their own discretion to buy and sell investments or hire other asset managers within the parameters specified by the investment guidelines.

NOMINAL RETURNS – The face value or reported return; this is typically the percentage change in the value of a portfolio or asset over a specific time period. For purposes of the CTIS, reported nominal returns are net of fees.

REAL RETURNS – Nominal returns, adjusted for the effects of inflation. Real returns are calculated with the formula (1+%) inflation) + (1+%) inflation), minus 1.

Appendix 4: Inflation

Table 12: Select Inflation Rates

Country	2018 Inflation Rate
Bangladesh	5.6%
Belize	0.3%
Benin	0.8%
Bolivia	2.3%
Brazil	3.7%
Cameroon	1.1%
Colombia	3.2%
Costa Rica	2.2%
Cote d'Ivoire	0.4%

Country	2018 Inflation Rate
Ecuador	-0.2%
El Salvador	1.0%
Euro	1.8%
Federated States of Micronesia	1.5%
Guinea Bissau	1.4%
Guyana	1.3%
Honduras	4.3%
Indonesia	3.2%
Madagascar	7.3%

Country	2018 Inflation Rate
Malawi	9.2%
Mauritania	3.1%
Mexico	4.9%
Mozambique	3.9%
Paraguay	4.0%
Suriname	6.9%
Tanzania	3.5%
United Kingdom	2.5%
United States	2.4%

Appendix 5: Comparison Framework

The CTFs participating in this study are diverse – it is hard to find any two that share many characteristics, much less enough to construct a meaningful peer group of similar CTFs. Currencies, use of domestic vs global portfolios, and other factors create significant variability among respondents. Making comparisons requires a degree of sleuthing. We report the return data on multiple dimensions, and we encourage readers to use multiple data points to compare their CTF to others.

The following triangulation steps may be helpful in benchmarking your CTF to others:

- 1. Your CTF's overall organizational return is a weighted average of all returns reported for all of your funds. Compare it to the range of returns in Graph 3. Are you near the middle? High? Low? How do your returns compare to external benchmarks?
- 2. Use Table 2 to see how you compare to CTFs of a similar size
- 3. Use Table 3 to see how you compare to CTFs in the same region
- 4. Look specifically at returns by fund type (endowment and sinking fund) in Graph 4 and Table 4. Are your returns within the interquartile range?
- 5. Using Table 6, compare how your endowment and/or sinking fund returns compare to others in the same region
- 6. Calculate your real return ((1+%nominal return) ÷ (1+%inflation), minus 1)
- 7. Use Table 7 to compare your nominal and real returns to those investing in the same currency.
- 8. Compare your CTF's last several years of returns to the trends in Tables 8 and 9 and Graphs 6 and 7. A select list of inflation data, as reported by the International Monetary Fund, is included in Appendix 4.