DEBT-FOR-CLIMATE-SWAPS TO SUPPORT EGYPT'S CLIMATE FINANCE NEEDS FOR ADAPTATION AND RESILIENCE

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ABSTRACT

While developing countries have made commitments in their Nationally Determined Contributions(NDCs) that need financing, many of them experience continuously unsustainable levels of debt. As the debt problems grow further, these countries face significant financial needs and thus, are unable to allocate enough resources to fund their NDCsespecially for adaptation and resilience. To this end, the case for additional finance for climate action in developing countries is apparent given the dangers posed by climate change, which further emphasizes the gaps in current financing instruments.Egypt is extremely vulnerable to the dire impacts of climate change which are related mainly to agriculture, water resources, human health, and the coastal zone (more specifically, the Nile Delta). Egypt was one ofthe first Arab countries to join the cooperative global efforts to confront climate change sincetheratification of the United Nations Framework Convention on Climate Change (UNFCCC) in 1994and culminating in its hosting of COP27 in Sharm El Sheikh in November 2022. Egypt'supdated NDC and its national climate change strategy indicate that the country's financing needs for climate change adaptation and effective implementation of climate-resilient development plans are much higher than the current and future levels of available resources.Egypt would therefore need to explore new and innovative sources of climate financing. This paper attempts to consider the use of debt reduction for climate finance; more specifically, Debt-for-Climate Swaps (DCS)as a viableinstrument in the broader context of sources of climate finance for Egypt. The paper outlines the main features of the study needed to determine the feasibility of using DCS for climate adaptation. Furthermore, the paper presents a roadmap for the potential implementation of the DCS in Egypt and the conditions for its effective and successful implementation.

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Keywords:climate change, debt-for-climate swaps, climate finance, adaptation and resilience, debt relief, Egypt's vulnerability to climate change

INTRODUCTION

Egypt has high vulnerability to the adverse impacts of climate change. Given that, it has indicated its willingness and determination to pursue adaptation and resilience actions to address such dire impacts that would undermine the country's pursuit to achieve the Sustainable Development Goals (SDGs) and sustainable development in general. Some of these actions include: Egypt'sfirst National Strategy for Climate Change Adaptation and Disaster Risk Reduction in 2011, as well as a Low Emission Development Strategy (LEDS) in 2018, which was prepared to be in line with the Sustainable Development Strategy (SDS) - Egypt Vision 2030. With regard to Egypt's NDCs:it submitted its first NDC in 2015 and issued an updated version in 2022. In addition, in 2022, Egypt preparedits first comprehensive National Climate Change Strategy (NCCS) to 2050. The NCCS supports Egypt to pursue its Vision 2030 (SDS 2030) and enable the country toachieve its strategic goal of adopting a low emission resilient sustainable economic growth path. However, for Egypt, andother developing countries, climate finance is needed to address climate change and effectively implementall climate-resilient development plans and policies.

This paper will examine the landscape of climate finance from a global and national perspective. Subsequently, the paper will discuss the need for exploring alternative sources of climate finance for Egypt, namely, using debt-for-climate swaps (DCS) for adaptation and resilience.

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1) **Climate Finance: Synergies with Sustainable Development:** Climate finance can be defined as the public, private and alternative sources of financing at the local, national or international level in support of climate change mitigation and adaptation actions(TNC, 2022c). Climate finance not only provides financing in support of climate change mitigation and adaptation actions, but it can also support the delivery of multiple development outcomes such as water, food security, and so forth. Goal 13 of the SDGscalls for urgent action to combat climate change and its impacts and is closely linked to all the other 16 SDGs (United Nations, n.d.).For countries to transition to a low-carbon and climate-resilient economies, extensive changes will be required across all economic sectors which would subsequently impact all the SDGs. Furthermore, climate change itself will have substantial negative impacts on developmentand thus, climate finance is needed not only to support actions aimed at reducing risks from climate change, but also for the SDGs to be realized(Egypt Today, 2022). As such, climate action and sustainable development are strongly interlinked as evident in the NDCs which compriseclimate actions that spread across all SDGs (Iacobut¸2022).Egypt, along with other developing countries, will have to alignclimate finance with finance for sustainable development as a means of delivering on the SDGs other than on climate action.

2) Global Climate Finance:Landscape and Challenges

Overall

Global climate finance has faced several challenges related primarily to the mobilization of the US$100 billion commitment by developed countries in 2009 which is not aligned with the ambitions of the international community as expressed in the Paris Agreement. Furthermore,

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global climate finance has been flowing slowly and financial resources for key actions are not available in many developing countriesespecially those that are vulnerable and already facing the consequences of climate change.

The issue of climate finance has been discussed in various COPs and will also remain a contentious topic for further debate and discussion well into the future. This is mainly due to the presence of the following challenges:

1. COP27 was held in choppy waters as developed countries are grappling with high inflation while developing countries are facing increased (and unsustainable in many cases) debt burden in the aftermath of the global pandemic and in the shadows of the Ukrainian conflict.
2. The annual commitment of US$100 billion which was to be mobilized by developed countries in 2020 to support climate action in developing countries has not materialized to-date.
3. Whileglobal debt is mounting due to the pandemic and the Ukraine conflict, developing countries are faced with an added complication of increased barriers to access climate and concessional financing which is hindering the achievement of the global climate change commitments including the Paris Agreement targets.
4. There has been a growing global consensus that the climate crisis is reaching a tipping point with many regionsexperiencingrising temperatures at an unprecedented level and climate-related disasters (e.g., floods, storms, droughts, and wildfires) have been striking many countries and regions with increased frequency.
5. Most of the global climate finance has been in the form of loans targeting mitigation action (as explainedfurther in this paper) whereas developing countries have demanded more grants

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and concessional financing rather than loans which contributed to unsustainable debt levels in many countries. Also, developing countries have been pushing for more adaptation finance to build resilience and prepare themselves better to adapt and protect their national economies and people's livelihoods from the potential impacts of climate change.

Given such reasons, there is an urgent need for the international community -and more specifically, developed countries- to intensify the process of mobilization of funds needed for developing countries to reverse and address the climate crisis as well as achieve the SDGs through an inclusive green recovery.

Aggregate Trends in Climate Finance: Figure 1 below indicates that the total flow of climate finance from developed to developing countries reached US$83.3 billion in 2020 which has missed the target of US$100 billion by almost 17% or US$16.7 billion. This shortfall took place despite of the increase in total flow of climate finance of 4% from 2019 to 2020. Figure 1 also indicates that public climate finance from both bilateral and multilateral sources accounted for the majority of the total as it increased by 80% between 2013 and 2020(from US$38 billion to US$68.3 billion). Within public climate finance, multilateral public climate finance attributable to developed countries grew by 138% between 2013 and 2020, while bilateral public climate finance grew by 40% over the same period.Additionally, mobilized private climate financeincreased by approximately 30% over the period 2016-2020.

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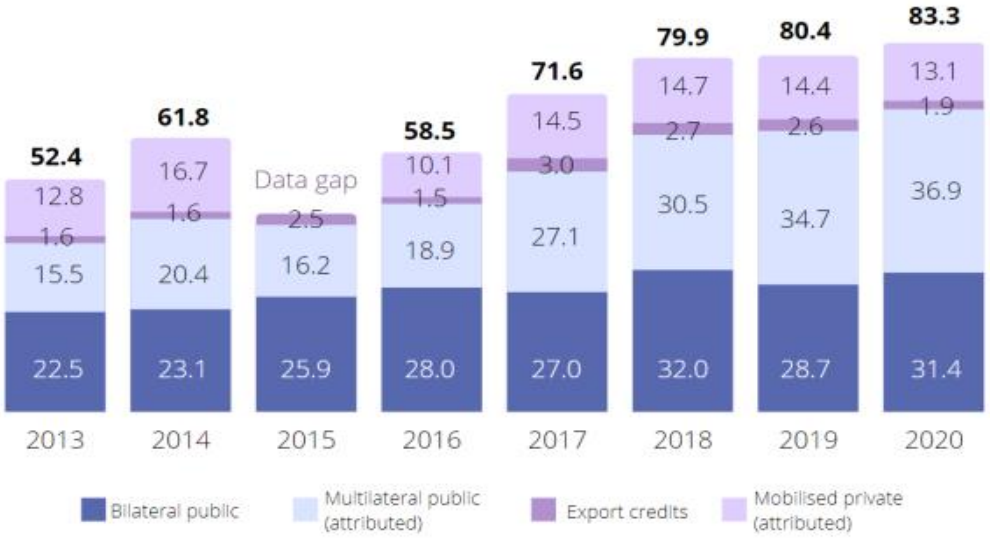
Fig (1): Climate finance provided and mobilized, 2013-2020
(US$ billion)



Note: The sum of components may not add up to totals due to rounding. The gap in time series in 2015 for mobilised private finance results from the implementation of enhanced measurement methods. As a result, grand totals in 2016-20 and in 2013-14 are not directly comparable.
Source: Based on Biennial Reports to the UNFCCC, OECD DAC and Export Credit Group statistics, complementary reporting to the OECD.

Source: OECD (2022)

Climate Finance: Mitigation vs. Adaptation

Figure 2, below, indicates that the flow of mitigation and adaptation finance from developed to developing countries has increased in absolute terms over the period 2016-2020. However, between 2019 and 2020, while adaptation finance rose by US$8.3 billion (that is, 41%), mitigation finance dropped by US$2.8 billion representing a 5% decrease despite representing the majority (i.e., 58%) of total climate finance mobilized in that year.

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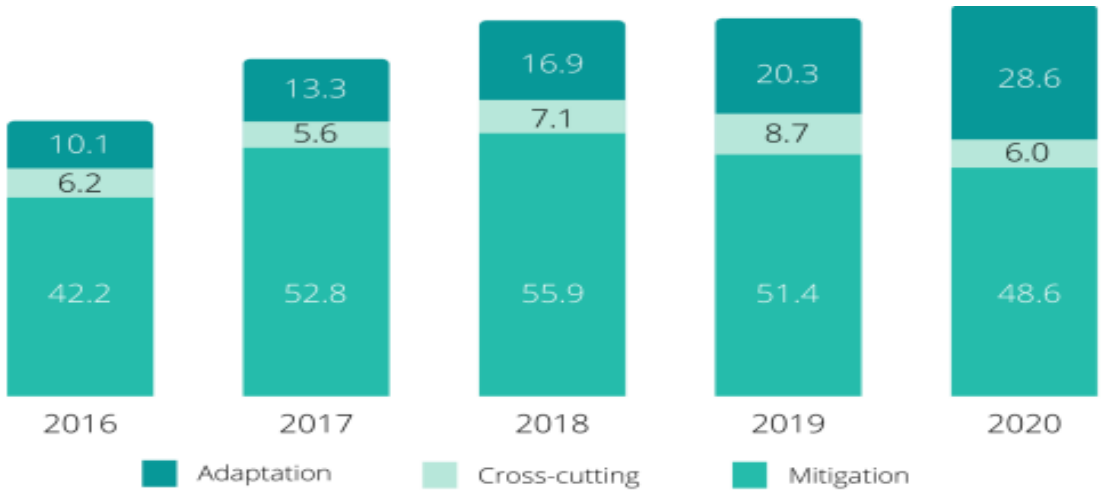
Fig (2): Global Climate Finance Provided & Mobilized by Theme, 2016 – 2020 (US$ billion)



Note: "Cross-cutting" relates to projects with both mitigation and adaptation benefits or to climate finance that was not yet allocated to mitigation and/or adaptation at the point of reporting, e.g., capacity-building grants.

Source: OECD (2022)

Climate Finance: Loans vs. Grants: As Figure 3, below, indicates, the bulk of public climate finance to developing countries during the period 2016 to 2020, was in the form of loans. In 2020, loans (including both concessional and non-concessional loans) reached US$48.6 billion or 71% whereas grants reached US$17.9 billion or 26%. Between 2016 and 2020 the annual level of grants increased by US$5.6 billion representing a 46% growth rate and the volume of public loans by US$15.3 billion also representing 46% growth rate.

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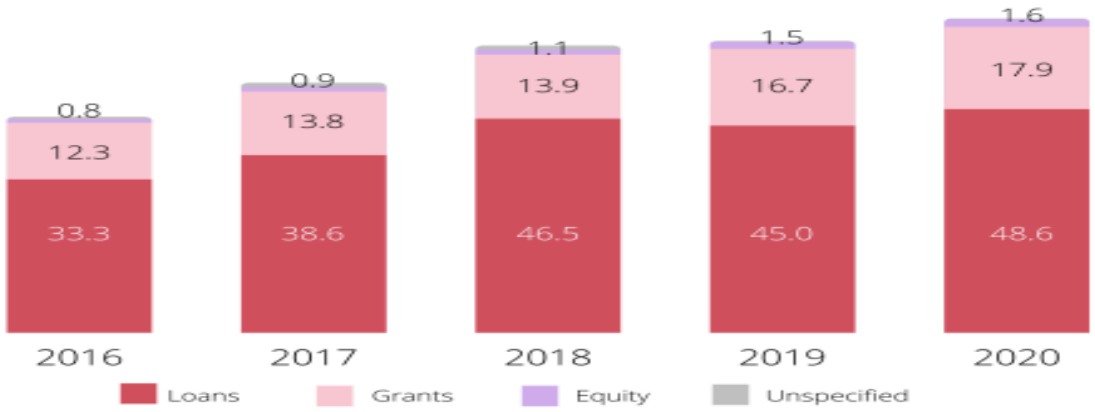
The important takeaway from Figure 3 is that the bulk of public climate finance mobilized for developing countries is in the form of loans representing over 70% of the total whereas grants represent a small portion of the 30%. This has serious implications for developing countries especially those thathave high level of unsustainable debt levels and are most vulnerable to climate change impacts.

Fig (3): Instrument split of public climate finance in 2016-2020
(US$ billion)



Source: OECD (2022)

Adaptation Finance in Developing Countries

Adaptation as a Strategic Priority for Developing Countries: There is worldwide recognition that developing countries will be bearing the brunt of the devastating impacts of climate change even though they are not responsible for causing it. Given that, the international community can support developing countries, especially those that are highly indebted and most vulnerable to climate change, to adapt and be more resilient. This can be done by providing financial support to developing countries and developing their institutional capacity. In fact, it would be in the

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interest of the international community to ensure that climate change does not jeopardize development and stability in developing countries. Furthermore, investing in climate resilience can be financially efficient for development partners because up-front investment in protection can be less expensive than humanitarian relief and reconstruction in the aftermath of a climate-related disaster (Georgieva, 2022).

Within this context, adaptation finance in recent years has emerged as a strategic priority for developing countries despite recognizing the opportunities of adopting mitigation and low-emission development pathways in these countries. In fact, while climate finance supports developing countries to deliver on the SDGs in general, adaptation finance is more closely linked to the performance of the domestic economy and to the attainment of several SDGs and not just SDG #13 related to climate. Given such reasoning, this paper focuses on climate adaptation and resilience as a strategic priority for developing countries (specifically Egypt), and the issue of climate finance to address such strategic priority.

Adaptation Costs in Developing Countrie: Figure4, below, presents the estimated adaptation costs in developing countries and the associated financing gap in 2019. In 2019, the funding gap for adaptation costs in developing countries was around US$50 billion given that the total adaptation costs were estimated at US$70 billion whereas the available finance for the same year was only US$20 billion (UNEP, 2021). It is even estimated that the adaptation costs in developing countries will be in the range of US$160–340 billion annually by 2030 (UNEP, 2022).

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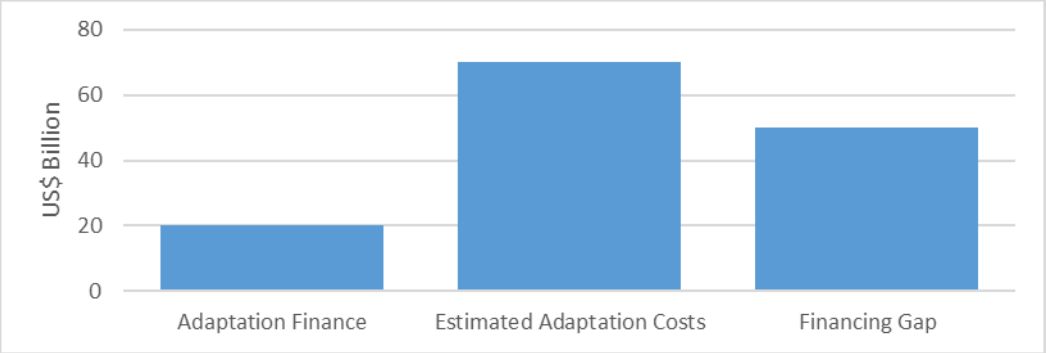
Fig (4): Estimated Adaptation Costs & Financing Gap in Developing Countries in 2019 (US$ billion)



Source: OECD (2022) for Adaptation Finance;UNEP (2021) for Estimated Adaptation Costs

Within this context, the scale and the focus of the global climate finance currently available present a challenge to developing countries, especially those with unsustainable debts and high vulnerability to the dire impacts of climate change. Not only is there a gap in global adaptation finance that is expected to grow even wider, but also the bulk of the available finance is in the form of loans which represents a challenge for developing countries. Furthermore, developing countries are yet faced with increased barriers and limited access to climate and concessional financing especially with an increased debt burden in the aftermath of the global pandemic and in the shadows of the Ukrainian conflict.

Climate Vulnerability & Debt Sustainability in Developing Countries: This section will explore the relationship between climate vulnerability and debt sustainability in Egypt and selected developing countries.

A preliminary analysis is presented hereby of 30 developing countries that have been identified as beingeither highly indebted, in debt distress or at high risk of being in debt distress

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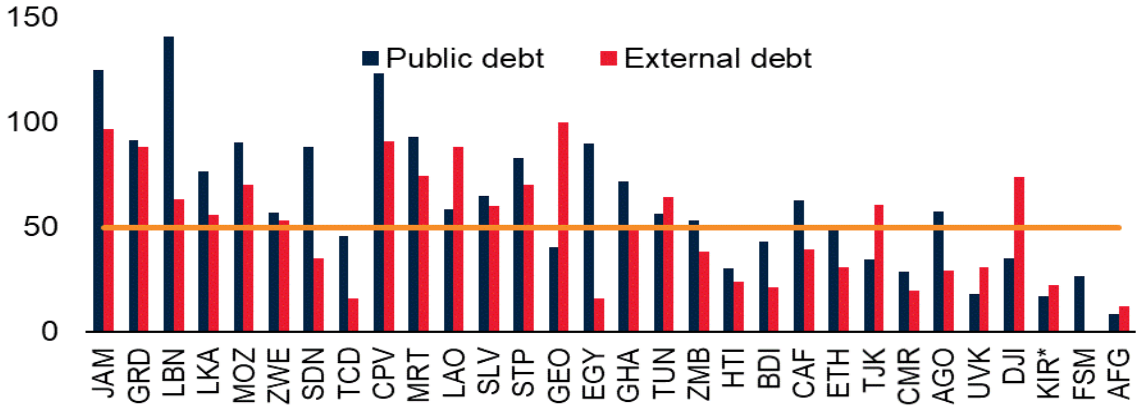
(although not all of them are currently highlyindebted). Figure5, below, shows the levels of public and external debt between 2014 and 2016 as a percent of Gross Domestic Product (GDP) for these countries whereby total external debt across all these countries averaged about US$480 billion over the period 2014-2016.

Figure (5): Public and external debt in countries at high risk of debt distress, 2014-2016 (average; percent of GDP)



Source:WDI (2018).

The climate vulnerability of these countries is assessed based on the DARA study carried out by the climate vulnerable forum (http://www.thecvf.org/), which covered 184 countries in its assessment of the direct impacts of climate change as well as on the impacts of fossil fuels through air pollution and environmental disasters. Vulnerability to climate impacts is reported in five categories of increasing intensity: low, moderate, high, severe and acute and estimated as made in economic terms of losses relative to GDP in 2010 and 2030.

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Table 1 and Figure 6, both below, present the vulnerability information for the 30 indebted countries as well as overall impacts of climate changes across all countries in the world. Table 1 also reports the cost of the Nationally Determined Contributions (NDC) program (where available) and the countries' eligibility for Heavily Indebted Poor Countries (HIPC-IMF, 2016).

Table(1): Climate Vulnerability, HIPC Eligibility & NDC Information for Highly Indebted Countries

Country	Dara Vulnerability 2010	Dara Vulnerability 2030	ND Gain Index 2016	$PPP GDP/cap 2016	HIPC Eligibiliy
Afghanistan	SEVERE	SEVERE	0.60	1,944	Yes
Angola	SEVERE	ACUTE	0.53	6,441	No
Armenia	MODERATE	MODERATE	0.41	8,833	No
Burundi	SEVERE	ACUTE	0.58	778	Yes
Cambodia	SEVERE	ACUTE	0.51	3,737	No
Cameroon	SEVERE	ACUTE	0.48	3,609	Yes
Cape Verde	HIGH	SEVERE	NA	6,541	No
Central African Republic	ACUTE	ACUTE	0.58	693	Yes
Chad	SEVERE	ACUTE	0.65	2,026	Yes
Djibouti	HIGH	SEVERE	0.50	3,540	No
Egypt	LOW	LOW	0.43	11,134	No
El Salvador	SEVERE	ACUTE	0.45	7,726	No
Ethiopia	SEVERE	HIGH	0.57	1,734	Yes
Georgia	MODERATE	HIGH	0.41	10,005	No
Ghana	HIGH	ACUTE	0.47	4,295	Yes
Grenada	SEVERE	ACUTE	0.39	14,200	No
Haiti	ACUTE	ACUTE	0.56	1,784	Yes
Jamaica	ACUTE	ACUTE	0.43	8,821	No
Kiribati	SEVERE	ACUTE	NA	2,109	No
Kosovo			NA	10,193	No
Laos	HIGH	ACUTE	0.54	6,550	No
Lebanon	LOW	MODERATE	0.41	14,309	No
Mauritania	SEVERE	ACUTE	0.56	3,853	Yes
Micronesia	SEVERE	ACUTE	0.64	3,509	No
Mozambique	ACUTE	ACUTE	0.54	1,216	Yes
Pakistan	HIGH	ACUTE	0.51	5,238	No
Papua New Guinea	SEVERE	ACUTE	0.57	4,117	No
Sao Tome and Principe	ACUTE	ACUTE	0.48	3,239	Yes
Sri Lanka	MODERATE	SEVERE	0.48	12,343	No
Sudan/South Sudan	HIGH	ACUTE	0.62	4,730	Yes
Tajikistan	HIGH	HIGH	0.44	2,979	No
Tunisia	LOW	MODERATE	0.39	11,606	No
Uganda	HIGH	SEVERE	0.58	1,819	Yes
Zambia	SEVERE	ACUTE	0.54	3,939	Yes
Zimbabwe	HIGH	SEVERE	0.54	2,027	No

Source: Dara (2012, updated); IMF (2016); WDI (2018).

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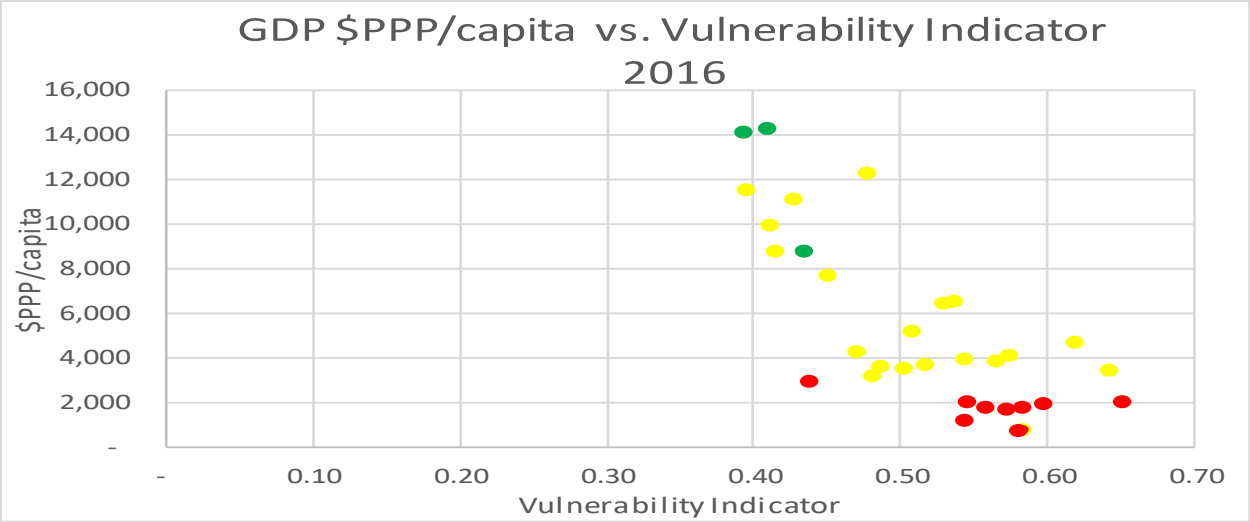
Fig(6): Climate Vulnerability & GDP per capita by Income Group for Highly Indebted Countries in 2016



Note: Red dots are low-income countries; yellow dots are lower-middle income countries; and green dots are upper middle-income countries.

Source: University of Notre DameGlobal Adaptation Initiative (ND-GAIN)<https://gain.nd.edu/our-work/country-index/download-data/>; and WDI (2018).

Table 1also shows that the indebted countries form a particularly vulnerable group across the global map. Nearly half of these countries are in the most vulnerable category (i.e., acute, 47%) and over a third are in the next category (i.e., severe, 35%), making 82% of the sample highly vulnerable to climate change. Average damages as a percentage of GDP in 2030 are estimated at close to 8%, compared to a global figure of 2.1%. There are several countries facing costs by 2030 in the absence of adaptation programs of over 10%.

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In terms of mitigation, the contribution of the selected countries is small. Targets for reductions in GHGs to 2030 for 23 of the 30 countries that supply such targets in their NDCs amount to about 510MtCO_{2e} relative to business as usual (BAU). Estimates of total emissions reductions across all NDCs was 7,300MtCO_{2e}(Danish Energy Agency, 2015), making their share about 7% of the total.

A cost estimate of the proposed NDC program to 2030 is only available for 18 of the 30 countries (does not include the cost estimate in Egypt's updated NDC of 2022). It amounts to US$436 billion over the next 12 years, while the figure for all countries that have reported a cost is US$5,279 billion. The 18 indebted countries whose NDCs are costed have an outstanding external debt of approximately US$288 billion. Any proposed debt swap operation could not be expected to cancel that amount but it could make a valuable contribution in selected countries that meet the other criteria needed for such a program to be successful.

The Case of Egypt

a. ***Egypt's Vulnerability to Climate Change:*** In order to study Egypt's vulnerability to climate change, this section will utilize the University of Notre DameGlobal Adaptation Initiative (ND-GAIN) Country Index developed by in2022. The ND-GAIN Country Index summarizes a country's vulnerability to climate change and other global challenges in combination with its readiness to improve resilience. It aims to help governments, businesses and communities better prioritize investments for a more efficient response to the immediate global challenges ahead.

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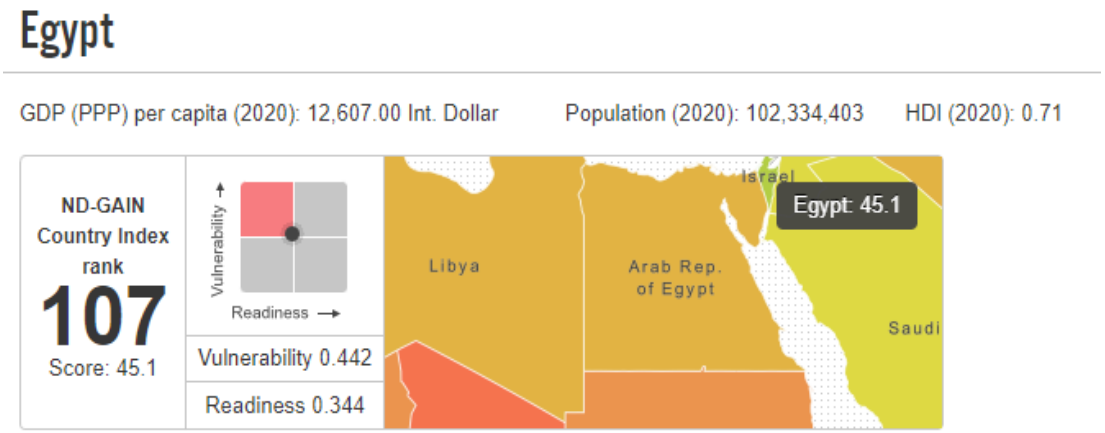
Figure7shows the high vulnerability score and low readiness score of Egypt which places it in the upper-left quadrant of the ND-GAIN Matrix. It has both a great need for investment and innovations to improve readiness and a great urgency for action. According to the ND-GAIN Country Index, Egypt is ranked the 107th most vulnerable country and the 129th most ready country.

Fig (7): Egypt's Climate Vulnerability Profile in 2020



Source: ND Gain website <https://gain.nd.edu/our-work/country-index/download-data/> Vulnerability

As regards Egypt's vulnerability, Figure8, below, shows the declining trend for Egypt's high climate vulnerability over the period 1995 to 2020.However, the period of 2018 to 2020 indicates an increasing trend in vulnerability.

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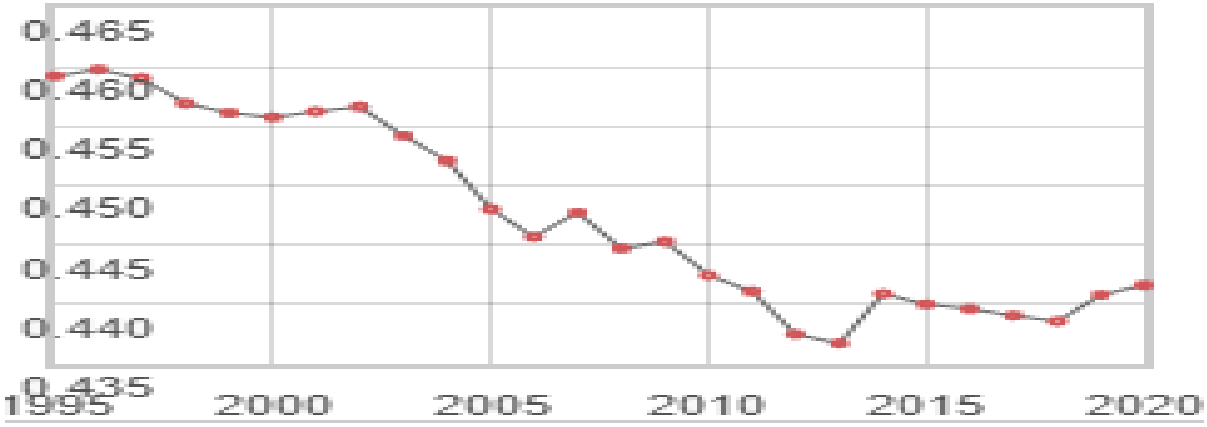
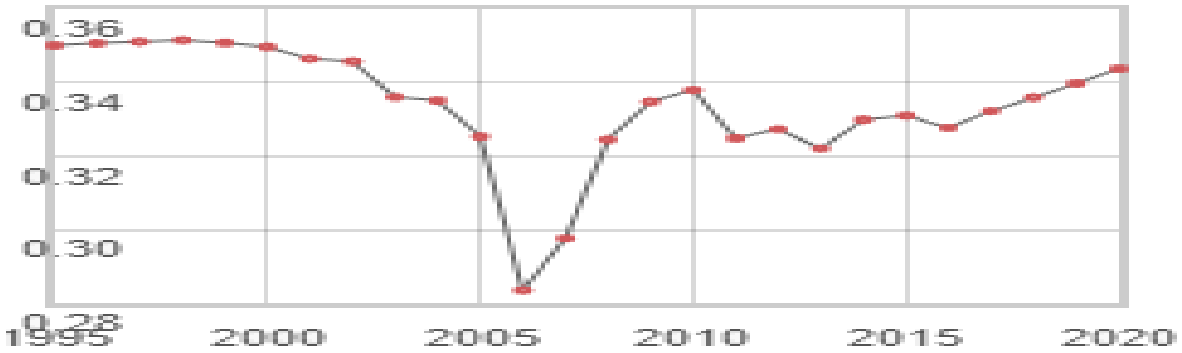
Fig (8): Egypt's Climate Vulnerability Score 1995 -2020



Source: ND Gain website <https://gain.nd.edu/our-work/country-index/download-data/> Readiness

Readiness measures a country's ability to leverage investments and convert them to adaptation actions. ND-GAIN measures overall readiness by considering three components: economic readiness, governance readiness, and social readiness.Figure 9, below, indicates that while Egypt's overall readiness to climate change is low, it has been improving since 2016.

Fig (9): Egypt's Readiness to Climate Change 1995 - 2020



Source: ND Gain website <https://gain.nd.edu/our-work/country-index/download-data/>

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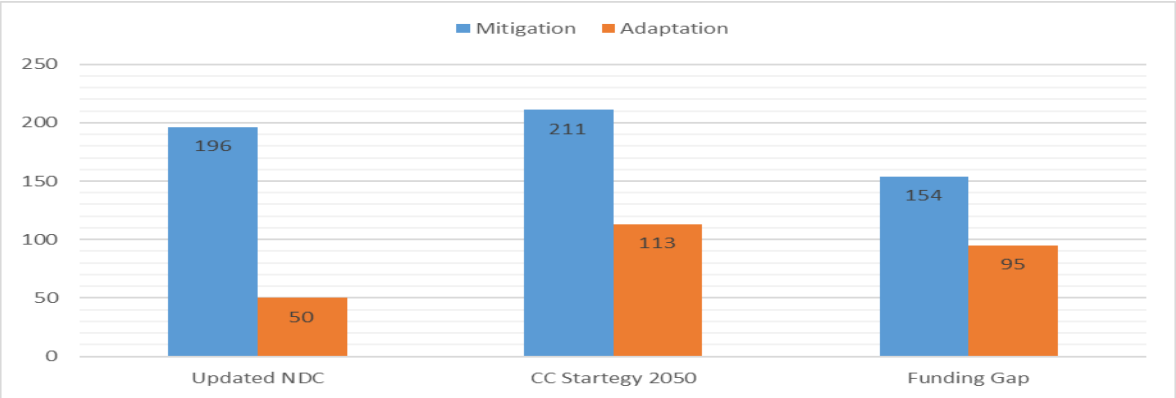
b. ***Egypt's Climate Finance Needs:*** According to Egypt's updated NDC (2020), US$246 billion is needed to implement the identified actions up to 2030; that is, US$196 billion for mitigation actions, whereas US$50 billion is needed for adaptation actions. However, Egypt's National Climate Change Strategy 2050 (NCCS) indicates that for mitigation programs, around US$211 billion is needed until2050 whereby about US$58 billion is already allocated, leaving a funding gap of around US$154 billion.With regard to adaptation actions, around US$113 billion is needed for adaptation programs until2050 with a funding gap of around US$95 billion according to Egypt's NCCS 2050.Overall, there is a funding gap for Egypt's climate change needs of around US$250 billion until2030 and beyond. Figure 10, below,depicts Egypt's funding needs and the resulting gap for both mitigation and adaptation actions up to 2030.

Fig (10): Estimated Mitigation & Adaptation Costs & Funding Gap to 2030 in Egypt (US$ billions)



Source: Egypt First Updated NDC, 2022; Egypt NCCS, 2022

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As such, this funding gap for Egypt's mitigation and adaptation actions, as identified in its updated NDC of 2022, represents only part of the challenges facing the country. Other challenges are related to Egypt's debt profile vis-a-vis its limited fiscal space coupled with the limited access and increased barriers to access climate and concessional financing in general. This situation has been exacerbated more recently with the global price shocks due to the pandemic and the Ukrainian conflict, as there was an increase in Egypt's debt levels, like many developing countries. This situation is further intensified by the fact that the bulk of climate finance in Egypt is provided in the form of debt instruments (in the form of loans) and much less in grants and concessional financing. Since 2017, the two main climate change projects in Egypt are financed through loans: the US$1 billion Green Climate Fund-European Bank for Reconstruction & Development (GCF-EBRD) Renewable Energy Financing Framework (2017), and the World Bank US$200 million Greater Cairo Air Pollution Management and Climate Change Project (2020).

Within this context, climate change projects in Egypt contribute to the country's overall public expenditure on debt repayment and thus, increase Egypt's debt levels. As mentioned previously,given its limited fiscal space coupled with itslimited access and increased barriers to access climate and concessional financing, Egypt would need to explore new and innovative sources of climate financing. Egypt should consider utilizing partial debt relief in the form of debt swaps or DCSas a potential instrument for climate finance.

Debt Swaps:

- **Evolution:** In general, a debt swap is defined as the total or partial cancellation of a country's external debt in exchange for the debtor government's commitment to mobilizing domestic

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resources (i.e., local currency, bonds, privatized public assets) for an agreed purpose (OECD, 2007; Fuller, 2018).

The first debt-for-equity swap (commercial debt) occurred in Chile in 1985. However, in 1991, the Paris Club introduced provisions for debtswaps in the form of a debt conversion clause for development. Most members of the Paris Club have made swap conversions: Canada and the United States of America (USA) were the pioneers with a focus on nature-based transactions. European countries including Germany, France, Spain, Italy, Norway and Switzerland have used this instrument more intermittently and often with the objective of increasing their Official Development Assistance (ODA).

- **Benefits and Shortcomings:** In general,debt swaps can be an effective financial instrument providing win-win results for both: the debtor and creditor countries alike. For the debtor country, debt swaps can have the following benefits:

1. ***External debt reduction*:** the debtor country's total external debt obligation is reduced and it is therefore able to utilize the savings in its development activities. Furthermore, the debt swap can lead to a reduction in the debtor country's budget deficit and can contribute positively to its Balance of Payments (BoP). Furthermore, the government will be able to direct the additional domestic expenditures towards green growth activities including adaptation and climate-resilient investments.Over time, thiswill likely boost economic transformation and future economic growth of the debtor countries and crowd in complementary grants and investments, which in turn facilitate the repayment of outstanding debt stocks.

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2. ***Building capacity***: implementing a debt swap within a robust institutional framework supports capacitybuilding in managing public expenditure in accordance with international best practices.
3. ***Foreign exchange savings***: this is realized as the debtor country frees up the equivalent of the debt swap in local currency instead of the hard currency that would have been committed otherwise as debt service. Furthermore, if the proceeds of the debt swap in local currency is invested in export-oriented investments, then it can lead to an increase in the foreign exchange earnings. Similarly, if the investments are directed towards mitigation projects such as renewable energy projects for electricity generation to replace fossil-fuel plants, then it could lead to foreign exchange savings if the fuels are imported, or an increase in the foreign exchange earnings if the fuels are exported.
4. ***Opportunity for debt relief***: this is especially the case for countries that are not eligible for support under the Heavily Indebted Poor Countries (HIPC) and the Multilateral Debt Relief Initiative (MDRI) programs. As of 2019, only 36 countries have been declared eligible and 30 have received debt relief under HIPC and MDRI programs. This still leaves many developing countries with significant debt problems which are not included in those programs. Moreover, some of the countries in the list are getting increasingly indebted as a result of loans from outside the Paris Club.
5. ***Investment Promotion:*** debt swaps can be structured in a manner that incentivizes privatization or promotes investments in general. This has direct relevance to climate change projects when such investments lead to higher net aggregate flows from creditor countries to climate resilient projects. For example, in Argentina, debt-equity swaps were permitted

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provided that the proceeds in local currency were invested in export-oriented investments and an equal amount of newforeign money was brought into the country.Other countries used debt-equity swaps asan incentive to encourage privatization or to facilitate the return of flight capital (Moye,2001).

6. ***Improve sovereign ratings***: this materializes only in the case of large amounts of debt relief agreements. In such case, the debtor country can benefit from the decrease of debt and the high risksof default associated with it, which in turn improves the country's sovereign ratings.
7. ***Socioeconomic benefits:*** in addition to the above benefits, other benefits include job creation, advancing local community development, promoting women's empowerment, bridging inequality gaps, and so forth.
8. ***Debt swaps are also considered*** beneficialfor bilateral creditors, donors and development partners, given they the debt swaps can:
9. ***Create an opportunity to recover unpaid*** debtin non-concessional debts when a debt swap, whose repayment is unlikely, allows the creditor to avoid a build-up of arrears and thus, the creditor is able to recover at least part of a debt in its original currency. So, the rationale is simple:when creditors do not expect to recover the full nominal value of debts, they may be willing to forgive parts of them.
10. ***Boost a creditor's*** ODA figures as creditors can add the nominal value of a non-concessional debt to their ODA figure and thus, help creditors achieve the goal of contributing 0.7% of GDP to ODA without paying out any additional funds.

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11. ***Increase creditors/donors'*** country visibilityin a given sector especially as the international community is pushing for the implementation of the Paris agreement and net zero goals.
12. ***Generate greater leverage by creditors*** in deciding the use of swap proceeds and the sectors that should be targeted for interventions.
13. ***Provides a unique opportunity*** to display friendship and solidarity in supporting developing countries and demonstrate their commitment to strengthening development cooperation to accelerate the achievement of the SDGs and Paris Agreement commitmentsespecially countries with which they have cultural and economic ties.

While debt swaps can be used as an important and effective financial instrument providing win-win results for debtor countries, a debtor country might opt not to engage in debt swap agreements given the following shortcomings:

- **Country's credit rating:** a debt swap agreement could result in the downgrade of a country's credit rating. Such a rating is relevant to the country's public and private sector financing. However, in the longer-term, the country's rating could improve due to a lower debt burden by virtue of the partial debt relief (IIED, 2021).
- **Economic distortions**: debt swaps can distort more favorable debt treatment operations (that is, debt relief and restructuring). Because a debt swap is a long-term commitment, it is sensitive to macroeconomic and political instability. The deterioration of the fiscal situation in a debt swap can undermine the capacity of the debtor country to meet its obligations under the swap.

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- **Mismanagement of revenues**: there is a risk that the revenues generated by the debt swap will be mismanaged and the objectives will not be met fully, although it is worth considering the alternative of taking no action because of lack of funds.
- **Legitimacy:** in some cases, the debt that is being swapped has been of doubtful legitimacy and the process of swapping it seeks to cover up that aspect. For example, in 2004, Norway proposed to Ecuador to swap a publicly guaranteed commercial debt for the sale of boats. However, the pressure exerted by Norwegian and Ecuadorian civil society organizations succeeded in stopping this process, alleging on one side, the low annulment percentage of the operation. This was primarily due to the fact thatthese were commercial debts that only served the Norwegian interests, and thus, were illegitimate and should be annulled. Shortly after, in October of 2006, Norway decided to annul the same debt to Ecuador recognizing that it refers to an irresponsible loan aiming to save the shipbuilding industry -which was in crisis-and not Ecuador's development (Ruiz, 2007).
- **Risk of budget deficit**: despite the financial advantage from a foreignexchange perspective given that repayments are made in local currency, debt swaps could create challenges for the debtor country due to the presence of substantial internal debt. In such case, the external debt is transformed to a domestic one and thusexacerbates the internal debt.A similar challenge emerges if the debt swap is a front-loaded swap operation, where the creditor consolidates a block of future debt service payments into a single operation. While thiswill yield a saving in foreign exchange and has the advantage of making more resources available for the designated projects up-front, the debtor will need to find the counterpart funds immediately or within a short time frame. If debt swaps are poorly structured, they may destroy rather than

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create fiscal space for the recipient government (in the first years of the swap, or even over its full duration). As such, these debt swaps would force the government to spend money that is not yet saved from the cancellation of debt service. This implies the government will, at least temporarily, face an increase in the budget deficit. To address this issue, funds will have to be raised in the domestic market, or other items of expenditure must be reduced.

- **Risk of inflation**: some countries may experience inflation due to the injection of excessive amounts of local currency into the national economy from the proceeds of the debt swap transaction. This is one of the main reasonsfor suspending debt swap programs in Latin America.To avoidthe risk of adverse inflation, debtor governments can place a ceiling on the amount of local currency paid (Moye, 2001).

Actions to Address Weaknesses and Strengthen Impacts of Debt Swaps: As means of avoiding the weaknesses of the debt swap operation while strengthening its positive features, the following points are to be considered:

- To better manage the budgetary/fiscal impact of the debt swapas the internal debt increases, payments need to be made over time (for example, thecase of the Egyptian-Swiss debt swap) and not as a lumpsum payment as was the case of the Egyptian-Italiandebt swap (Kamel, 2005).
- A thorough analysis of the debt portfolio is needed to assess the amount of debt potentially eligible to be swapped and the possible revenues from the swap.
- Preparation, negotiation, and implementationof a debt swap is a complex, difficult, and lengthy process. Preparatory activities can take between two to four years. Full and lasting government support is crucial; in particular, the Ministry of International Cooperation (that

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leads the discussions with creditors in Egypt for example) has to be convinced of the benefits of the mechanism.

- Credible fiscal capacity to service the debt swap should be demonstrated, as the debtor country will commit itself to allocating a stable share of its budget to finance environment policies and projects. This commitment should be included in the Budget Law for each year over the period of the debt swap or in the debt-conversion treaty with the creditor.
- Best results are achieved when the debt swap is realized within the framework of negotiations with Paris Club creditors. The discussion is easier if the agreement between the debtor country and the Paris Club contains an explicit clause which allows creditors to undertake, on a bilateral and voluntary basis, individual debt swaps with the debtor country. As means of avoiding a downgrade in the debtor country's credit rating, the discussions, negotiations and agreement on the debt swap transaction are to be conducted directly between the debtor and the creditor countries. Subsequently, the creditor or/creditor country would notify the Paris Club once a debt swap agreement has been reached with the debtor country. Alternatively, the debtor country may seek an agreement with the Paris Club to allow creditor country/creditor to undertake, on a bilateral and voluntary basis, individual debt swaps with the debtor country. As an additional measure to avoid a downgrade in the debtor country's credit rating, the entity leading the discussions with the creditors (that is, the Ministry of International Cooperation in the case of Egypt), needs to engage in extensive and serious discussions with the major credit rating agencies about the prospects of maintaining the same rating by implementing the debt swap transaction.

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- The debt swap should not be proposed if the overall macroeconomic situation in the country is improving and the external debt level is sustainable by International Monetary Fund (IMF) criteria.
- The expenditure program associated with the debt swap transactionshould be realistic, narrowly focused on a few priorities and should demonstrate a solid pipeline of attractive projects. The program should be based on transparent and robust criteria.

Types: The following presents the three main types of debt swaps: (a) bilateral; (b) third-party / trilateral swaps; and (c) multilateral/multi-creditor:

a. **Bilateral swaps:** the creditor government cancels debt owed by the debtor government in exchange for the debtor setting aside an agreed amount of counterpart funds in local currency for an agreed purpose. This mechanism has been used to convert both ODA debt and publicly guaranteed export credits (commercial loans). Bilateral swaps may be conducted on a creditor-by-creditor basis or through a multilateral swap facility, which establishes a standardized framework for swapping the bilateral debts of multiple creditors into one expenditure program. Points to be negotiated between the parties are: the discount relative to the present face value of theoriginal debt, the exchange rate at which local currency counterpart payments are made, a schedule of payment for the counterpart funds (a one-time transfer or installments as repayments are due), and the mode of payment (e.g. cash, government bonds or in-kind contributions). A bilateral-DNS is called a subsidized debt swap when a Non-Governmental Organization (NGO), usually from the same country as the creditor, complements the swap transaction with additional financial resources to reinforce the debt-reduction commitment from the creditor government.

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b. **Third-party swaps:**thesefollow a similar pattern to bilateral swaps but involve the participation of another organization, typically an NGO, which purchases debt at a discount from face value from a creditor and negotiates separately with the debtor government the cancellation of the debt in exchange for project funding. Debt swaps facilitated by conservation NGOs such as Conservation International, the Nature Conservancy (TNC)and the World WildlifeFund have largely been under a three-party swap format. Some initiatives such as the United States Tropical Forest Conservation Project are provisioned for both bilateral and third-party swaps.
c. **Multilateral or multi-creditor:** several governments perform the operation jointly and the swapped funds are deposited in a single counterpart fund. The most representative case studies are those of the Eco-Fund, created between Poland and a group of creditors of the Paris Club, and to Debt2Health managed by the Global Fund.

Debt Swaps in Egypt: Past & Future: Egypt has had extensive experience in the use of debt reduction for development financing. Egypt has benefitted from several bilateral debt swaps in the 1990s and 2000s. The debt swaps included creditors from Germany, Italy, Switzerland, and France. The projects, financed in local currency from the proceeds of the partial cancelation of debts, included development projects in the areas of poverty reduction through financing public works programs, improving water and sanitation infrastructure in low-income areas, improving basic education, environmental protection, and so forth(Kamel, 2005).

Based on such experience and the lessons learned from the use of debt swaps in financing development, Egypt needs to consider the use of debt swaps or more specifically, DCS, as an important instrument for climate finance and an alternative/innovative method of financing for

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climate adaptation beyond existing bilateral and multilateral sources.Such swaps have the potential to serve as an innovative instrument for mobilizing financing to tackle several challenges for countries with insufficient climate finance and debt unsustainability.

DCS for Adaptation and Resilience: In recent years, there has been an increased political interest in the use of debt reduction for climate finance. The objective is to help mobilize resources for supporting indebted/heavily indebted developing countries to strengthen their climate resilience, develop a low-carbon development path consistent with the SDGs and to translate their NDCs into climate actions. In fact, failure of the developed countries to mobilize and deliver their commitment of US$100 billion a year by 2020 has been primarily responsible for this recent increase in interest and momentum. While the topic of debt swaps or DCS was discussed at COP15 in Copenhagen in 2009, it was not included in the Copenhagen Accord as a viable instrument for climate financing.

DCS have been suggested as an instrument of climate finance which is based on the concept of debt-for-nature-swaps (DNS) implemented since the late 1980s. A DNS (also referred to as a Debt-for-Environment Swap or DFES) is a negotiated agreement between a creditor and a debtor in exchange for conservation activities in the debtor country. DNS is predicated on the assumption that debt can be acquired at a discount and operate against the backdrop of creditors' expectation of not recovering the full nominal value of their claims (OECD, 2007).

DCS can be defined as the conversion of debt into commitment by the debtor country to fund climate mitigation and adaptation actions. Such swaps have the potential to serve as an innovative instrument for mobilizing financing to tackle several challenges for countries with insufficient climate finance and debt unsustainability.

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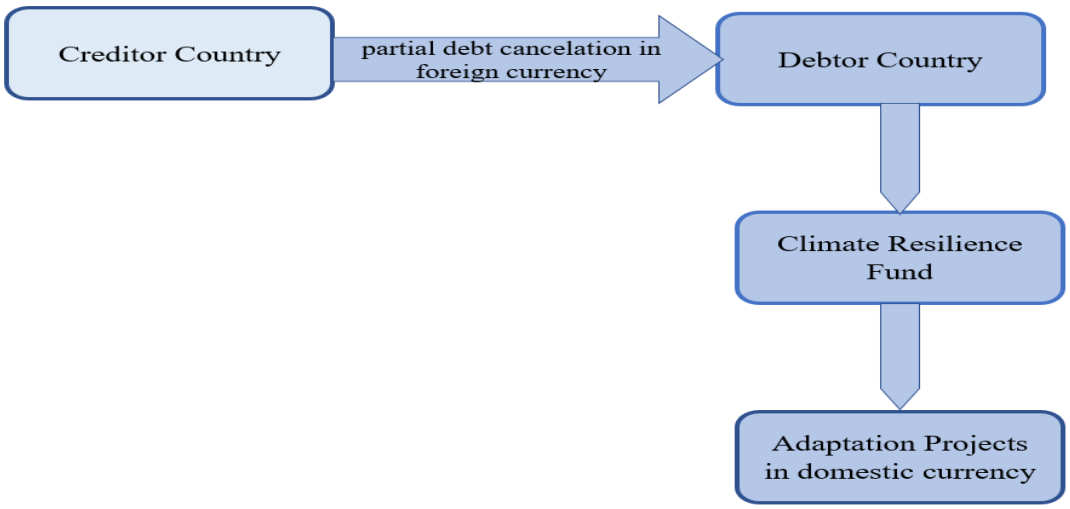
With regard to Egypt and most African countries, mitigation finance through a DCS would make a very small contribution to the global climate target and would not have much impact on their growth and macroeconomic management. Adaptation finance, on the other hand, is more closely linked to the performance of the domestic economy and to the attainment of several SDGs in addition to SDG#13 pertaining to Climate Action.For this reason, the focus of any DCS for Egypt and other developing countries should essentially be on mobilizing finance for adaptation to climate change as means of addressing the challenges of promoting climate resilience and growth.The potential approach for debt for climate swaps is displayed in Figure 11, below.

Fig (11): A Typical DCS Transaction for Climate Adaptation



Source: Author

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It is worth mentioning, however, that a multilateral debt for the DCS initiative has been proposed instead of the standard bilateral debt approach (Mitchell, 2015).As such, several creditors would agree to reduce the debt owed by a debtor country to different multilateral institutions. To this end, the creditors would use part of their international climate finance and transfer it to the multilateral institutions which subsequently reduces the debt from the debtor country towards this institution.In turn, the debtor country would need to commit to providing annually a pre-defined amount of local currency (that is, the volume equivalent of annual multilateral concessional debt service obligations) to a local trust fund, which could use this to finance mitigation and adaptation activities.With that said, the subsequent discussion in this paper is focused on bilateral debts which are the conventional or standard approach for the DCS.

Country Experience in Using Debt-Swaps for Sustainability/Climate Change

Since 2015, TNC has carried out three DCS transactions pertaining to sustainability and climate change in the Seychelles (2015), Belize (2021), and more recently in Barbados (2022). TNC has partnered with the three countries within its “Blue Bonds for Ocean Conservation" strategy which is an ambitious plan to drastically scale up ocean conservation around the world.This strategy is an innovative approach to work with governments on refinancing a portion of their sovereign debt, securing long-term sustainable financing for large-scale protection and management of valuable natural resources that lives and livelihoods rely on (TNC, 2022a)

For the Seychelles, the deal included grants and loan from TNC to buy back US$21.6 million of public bilateral debt at 6.5% discount to fund climate change adaptation, sustainable fisheries, and marine conservation projects(Damanaki,2018).

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In partnership with TNC, Belize,in 2021, completed a US$364 million debt conversion for marine conservation. Not only did this debt conversion reduce the country's debt by 12% of the GDP, but it also created long-term sustainable financing for conservation, and locked in commitment to protect 30% of Belize's ocean. This transaction is considered the world's largest debt refinancing for ocean conservation to-date.(TNC, n.d.).

More recently, in 2022, a new structure was introduced in Barbados with a US$50 million guarantee from TNC alongside a US$100 million guarantee from the Inter-American Development Bank which enabled the country to complete a US$150 million debt conversion. This transaction will facilitate the expansion of the country's marine protected areas from virtually zero to approximately 30% and improve management for all marine waters within its jurisdiction. It is envisaged that this project will make approximately US$50 million available to support environmental and sustainable development actions in Barbados over the next 15 years, making both the country and the livelihoods of its people more resilient in the face of climate change (TNC, 2022b).

Proposed Roadmap

First: Feasibility of DCS Use in Egypt: Prior to pursuing the path of the DCS, its potential for use should be investigated thoroughly. Egypt and/or developing countries should explore if there is real potential for the utilization of DCS for adaptation financegiven that there are identified areas where further information is required. There are also several questions that need to be addressed to determine the potential for considering DCS as a viable tool for climate financing. These areas and questions include the following:

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1. **Framing**: the DCS, as a potential instrument, has two main pillars: climate change and debt relief. The challenge is to investigate ways to link those two pillars together. It is necessary that Egypt frames climate change within the reforms needed to generate growth. As such, it is crucial to explore whether any actions associated with debt relief are consistent with, and could support, the framework for achieving macroeconomic growth and stability in Egypt. It is also crucial to investigate if Egypt is in the process of undergoing any debt rescheduling and if it has a current program for debt management in place. In this regard, there is a need to undertake a detailed review of total and external public debt in Egypt. The following questions would need to be addressed:

- How much bilateral and other debt could be bought back in a DCS? Is there credible fiscal capacity to service the debt swap, as the debtor country will commit itself to allocating a stable share of its budget to finance adaptation projects?
- Which parties could be interested in making such an acquisition?
- What are the pros and cons of different ways of structuring the debt relief and what instruments are best suited to manage the funds? Is there a role for a Multilateral Development Bank (MDB) such as the World Bank to be involved through a loan to buy back existing bilateral debt and replace it with a World Bank loan on better terms and longer maturity? Other recommended structures include the creation of a Climate Resilience Fund (CRF) into which external partly written off debts would be placed.
- What potential is there for the DCS to leverage additional funds for climate finance?
- What impact would the debt relief have on the medium-term macroeconomic outlook for the countries?

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2. **Emphasis on climate adaptation and resilience as a factor for ensuring macroeconomic growth and stability**: as that Egypt is highly vulnerable to the dire impacts of climate change and given the important role that adaptation and resilience measures play in the macroeconomic growth and stability of any country, adaptation should be the focus of this DCS effort in Egypt. What evidence is there that more effective adaptation to climate change could reduce the constraints that climate impacts are having on economic growth in the countries concerned?
3. **Added value of the DCS instrument:**analysis is needed to better articulate the value-added of DCS vis-a-vis the available range of instruments, and its better integration with the climate policy pieces. For example, by bringing finance to the table, it is quite plausible that the DCS provide leverage in providing a deeper analysis of the adaptation measures in Egypt's updated NDCs.
4. **Viability of the instrument**: in general, the potential for DCS in terms of the number of countries that would be willing and able to make use of it was probably limited as was the scale of the instrument. It probably had a niche role, which would be determined by many local factors. If the instrument were to be accepted by the government of Egypt, the proposal must speak the language of the Ministry of Finance of being relevant to creating growth and jobs, as well as being relevant to the Ministry of Environment.
5. **Potential debtor countries**: considering the discussion, it is highly recommended that only African countries whose growth trajectory is threatened by climate change impacts are the ones that would participate in the DCS. As such, several African countries may be explored as

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they have high debt and high vulnerability to climate change impacts. It is also important to take account for the capacity of the target countries to deliver on the reforms / activities.

6. **Context, circumstances and reality of the country**:for creditors and debtors, a two-pronged approach is important. The creditors would write off part of ODAcommitments in return for national actions that promote climate resilience and through that macroeconomic stability. Creditors also want some credit for this in the climate agreement sphere. The debtors receive some debt relief that helps them from a macroeconomic/external point of view and release funds to address key climate concerns. The question is whether such benefit combinations existed, giving macro-stability, and addressing challenges in climate change investment in a way that both parties find acceptable.

The output of the feasibility study is a report should provide an assessment of the overall potential for DCS as an instrument for climate adaptation finance in Egypt and in any other developing country.

Second: Setting-up the DCS

Once the feasibility of using DCS in Egypt has been determined, the actions needed for executing the DCS transaction are establishing the following:

1. **Bi-National Committee:** A bi-national committee is to be established to negotiate the sectors that will receive the swapped funds and the modalities of implementation. The committee is usually formed by both countries' ministries of finance. It is recommended that Egypt would include other relevant ministries such as Planning, Agriculture, Water Resources, Electricity &Energy, and Environmentaccording to the scope of the climate swap.

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2. **Technical Committee:** An important action for the set-up of a DCS transaction is to form a technical committee. This committee would comprise technical experts from the two parties: the creditor country and Egypt (and any other selected debtor country). The main responsibility of the technical committee is to decide on the allocation of funds as well as all monitoring and evaluation tasks of the swap transaction. In this regard, it is crucial that Egypt, and any other African country participating in the DCS Initiative, to show that there is a strong governance system in place by implementing a monitoring and reporting system with clear indicators to document progress.
3. **Climate Adaptation and Resilience Fund (CARF):** The CARF is to be established essentially to act as a fiduciary fund in which the debtor country deposits the swapped sum in local currency. However, it is crucial to leverage finance from other sources especially grant funding. To this end, additional funds from Egypt's Global Environment Facility (GEF) allocation, Global Climate Fund (GCF), or other global funds would need to be sought and added to the CRF envelope as grant funding. The CRF is to be managed either by a financial institution or an independent national body. In either case, the CRF has to be placed under the supervision of the technical committee with all the necessary guarantees in place in terms of governance and that it is managed with the highest degree of transparency. However, to prevent liquidity problems, it is recommended that Egypt pays the swapped amounts in local currency into the CRF.

Prerequisites for Successful Implementation of DCS

1.Fiscal capacity is a key determinant of how debt swaps are implemented (World Bank, 2018b). As with any debt swap, a DCS involves contractual obligations and the debtor needs to

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demonstrate credible fiscal capacity to fulfill them. This requires legal, institutional and political guarantees that the appropriate allocations will be included in the future state budgets and used for agreed purposes. Unless they are offering unconditional debt cancellation (which is typically rare), creditors also need to be convinced that the debtor will consistently implement socioeconomic reforms and strengthen the fiscal position of the public sector.

2. DCS (or any debt swap operation) should ideally be embedded in the debtor's overall strategy for debt reduction (Moye, 2001).
3. Creditorsneed to have the confidence and assurances that funding is channeled as per the agreement. For that, not only do debtor countries needto have strong governance systemsbut be willing also to implement monitoring and reporting systems with clear indicators to track and document progress.
4. Debtor countries need toensure alignment with national strategies and plans (e.g., NDCs, climate change strategies, etc.) and that the DCS transaction isimplemented with links to several climate and nature outcomes.
5. Strong country ownership and drivenness is needed by debtor countries to assume a major role in directing the proceeds. This is crucial to dismiss any perceived state sovereignty issues.

Conclusions & Recommendations: The needfor climate action in developing countries is apparent given the dangers posed by climate change, and the gaps in current financing instruments.Developing countrieshave made commitments in their NDCs that need financingdespite many of them experiencinggrowing unsustainable levels of debt. The finance needs for climate adaptation and mitigation in these countries are much higher than the current levels of available resources.This is particularly the case in the more vulnerable developing

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countries, such as Egypt,and particularly for adaptation and resilience needs. In fact, Egypt'sfinancing needs for climate change adaptation and effective implementation of climate-resilient development plans are much higher than the current and future levels of available as indicated in itsupdated NDC and its national climate change strategy. Given that, the countryneeds additional finance for climate action and to strengthen the impacts of climate-resilient development plans and policies on the ground. Egypt would therefore need to explore new and innovative sources of climate financing; more specifically, the use of debt reduction for climate finance.In fact, there is a current appetite for Egypt to explore the potential use of debt relief as an additional source for climate finance especially in adaptation and resilience. This is not only supported by its experience in debt swaps in the 1990s and 2000s, but also the fact that the country has made commitments in its NDC that need financing beyond its available financial resources and the prevailing external debt. In this regard, DCS is recommended as an important and viable instrument in the broader context of sources of climate finance.

This paper presented a recommendedRoadmap for Egypt to consider the use of DCS. A necessary first step in the roadmap is to determine the feasibility and validity for the use of DCS in the country. In this regard, the paperis presented the main elementsof a feasibility study comprising a set of questions and information needs to be addressed in a comprehensive manner. The paper also presented a proposed institutional and governance structure for the implementation of a DCS operation once its feasibility has been established. Finally, the paper discussed some of the important preconditions for the successful implementation of the DCS in debtor countries in general.

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In conclusion, DCS can be an effective financial instrument providing win-win results for debtor and creditor countries alike. There is a case for the potential implementation of DCS in Egypt. However, the design of such a scheme needs to ensure that the funds are used to support programs that are effective from a climate as well as a development and economic point of view in support of the SDGs.More importantly, there is specially a role for the private sector in attaining the NDCs that could be encouraged through this window. However, Egypt, and debtor countries in general, should consider the DCS instrument as a complement and not a substitute for debt relief. Furthermore, DCS can only represent a small portion of global climate change financing relative to its implementation difficulty. As such, the instrument will not be a game changer for global climate finance and will not provide a stable source of finance for climate change adaptation.

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مبادلة الديون للعمل المناخي بهدف دعم متطلبات التمويل للتكيف والتصدي المناخي في مصر

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المستخلص

في الوقت الذي قطعت البلدان النامية التزامات في مساهماتها المحددة وطنياً (NDCs) التي تحتاج إلى تمويل، فإن العديد منها يعاني من مستويات ديون لا يمكن تحملها باستمرار. مع نمو مشاكل الديون بشكل أكبر، تواجه هذه البلدان احتياجات مالية كبيرة وبالتالي فهي غير قادرة على تخصيص موارد كافية لتمويل المساهمات المحددة وطنيًا خاصةً للتكيف والقدرة على الصمود. وتحقيقا لهذه الغاية، فإن قضية التمويل الإضافي للعمل المناخي في البلدان النامية واضحة بالنظر إلى

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المخاطر التي يشكلها تغير المناخ، مما يؤكد بشكل أكبر على الفجوات في أدوات التمويل الحالية. تعتبر مصر شديدة التأثر بالآثار الوخيمة لتغير المناخ والتي ترتبط بشكل أساسي بالزراعة والموارد المائية وصحة الإنسان والمنطقة الساحلية (وبشكل أكثر تحديدًا، دلتا النيل). كانت مصر من أوائل الدول العربية التي انضمت إلى الجهود التعاونية العالمية لمواجهة تغير المناخ منذ التصديق على اتفاقية الأمم المتحدة الإطارية بشأن تغير المناخ (UNFCCC) في عام ١٩٩٤ وبلغت ذروتها باستضافتها COP27 في شرم الشيخ في نوفمبر ٢٠٢٢. تشير المساهمات المحددة وطنيًا في مصر واستراتيجيتها الوطنية لتغير المناخ إلى أن احتياجات البلاد التمويلية للتكيف مع تغير المناخ والتنفيذ الفعال لخطط التنمية المقاومة للمناخ أعلى بكثير من المستويات الحالية والمستقبلية للموارد المتاحة. لذلك ستحتاج مصر إلى استكشاف مصادر جديدة ومبتكرة لتمويل المناخ. تحاول هذه الورقة النظر في استخدام تخفيض الديون لتمويل المناخ؛ وبشكل أكثر تحديدًا، مقايضات الديون مقابل المناخ (DCS) كأداة قابلة للتطبيق في السياق الأوسع لمصادر تمويل المناخ لمصر. تحدد الورقة السمات الرئيسية للدراسة اللازمة لتحديد جدوى استخدام DCS للتكيف مع المناخ. علاوة على ذلك، تقدم الورقة خارطة طريق للتنفيذ المحتمل لنظام DCS في مصر وشروط التنفيذ الفعال والناجح له.

الكلمات المفتاحية: تغير المناخ، مقايضات الديون بالمناخ، تمويل المناخ، التكيف والمرونة، تخفيف عبء الديون، تعرض مصر لتغير المناخ.