DEBT FOR NATURE SWAP

A Green Finance Tool for Dealing with Overseas Sovereign Debt

A Commissioned Report for GFC Finance and Biodiversity Research Group

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Executive Summary

As the world's largest bilateral creditor nation, China may be considering strategies and plans for debt reorganization for some of its most important, and most debt stressed, BRI country partners. The world is experiencing the worst sovereign debt crisis in a generation, and China is in a key role to consider various solutions to address this crisis for some of its most important partners.

The authors of this paper have been asked by the Green Finance Committee to write about global experiences and best practice with the innovative form of debt restructuring called debt for nature swaps. As the report lays out, it is one of various forms of debt restructuring, all with their specific advantages and challenges for both China as the creditor country and the debtor country. Debt for nature swaps in particular can provide debtor countries with relevant levels of debt reorganization and relief, and at the same time provide for new and additional sources of funding for environment, climate or similar benefits in the debtor country.

The report particularly focuses on how debt for nature swaps are applied both conceptually and provides an analysis of the broad international experience in the application of debt for nature swaps by both large and small creditor countries (e.g., Germany, France, US) for debtor countries all around the world.

The report concludes with the following recommendations should China's banks and government officials consider the application of debt for nature swap as one strategy to deal with the evolving sovereign debt crisis. These recommendations are described in greater detail in Section 9 of this report.

1) Consider debt for nature swaps as part of the overall strategy for managing sovereign debt. As China's banks and key government agencies and officials evaluate and consider options for its most indebted Belt and Road partner countries, China may want to consider use of a debt for nature swap as a valuable tool in the overall debt restructuring toolkit.

2) Learn from past experience and new partners. As part of this evaluative process, China's banks and government officials can establish a dialog or exchange with expert organizations and like-minded governments that have been pioneers in developing debt for nature swaps and other sovereign debt restructuring innovations.

3) Pilot the application and scale to other countries. If China chooses to evaluate and carry out a debt for nature swap, China may wish to work with Lao PDR or another close BRI partner country on a pilot debt for nature swap project, as described in section 8.

4) Establish a clear legal and governance framework that establishes the ambitions, conditions, and implementation frameworks for debt swaps. China has the luxury of learning from, and literally adopting directly, the policies and practices of the 13 creditor countries that have been utilizing debt for nature swaps since the 1990s.

5) Engage potential BRI partner countries early. Some of China's debtor country partners, in particular those within the BRI and that are also carrying considerable debt, have identified themselves as potential partners with China on a debt for nature swap.

6) Tell the story well. By working internationally and utilizing global events such as CBD COP15, China will be able to gain considerable positive public attention and support for the benefits derived from debt for nature swaps.

7) Seek public and private investment for broader application. Over time, and based on the success of the first pilot debt for nature swap projects, China may succeed in attracting private finance through market incentives tied to conservation practices funded by debt swap proceeds.

Contents

1. Introduction

The continued negative impact of COVID-19 on global economic activities has led to an unprecedented increase in sovereign debt by dozens of small and medium-sized developing countries. In addition to COVID impacts, the growing debt situation is exacerbated by recent growth of inflationary pressure on many economies, and the supply chain and other impacts of Russia's invasion of Ukraine. As a result, by August 2022 nine nations[1] had already defaulted of parts of their current debt obligations, and dozens more are close to insolvency and default.

The default risk is also growing due to the lack of an effective international debt treatment framework. Neither the Debt Service Suspension Initiative (DSSI) or the G20 Common Framework delivered sufficient debt reduction, and once the DSSI expired in December 2021, countries that had been given temporary delays on their debt service payments are now facing increased budgetary pressure as their payment obligations resume.

With lack of effective multilateral approaches, the global debt situation has become unsustainable for many countries. While multilateral options should continue be explored, it is paramount that bilateral debt reorganization start to take place in a much faster and more organized way.

As creditor countries consider options for bilateral debt reorganization and reduction for their most stressed debtor country partners, an important and innovative part of the debt toolbox is the use of debt swaps for specific development purposes, such as nature, climate, health, and other issues related to the sustainable development goals (SDGs). Particularly debt for nature swaps have seen broad global application since the 1980s and are until today applied by countries around the globe. These debt reduction instruments provide debt relief to the debtor country of some part of the outstanding debt in exchange for environmental restoration and conservation (or alternatively for other social and development needs).

With China's exposure as the largest bilateral creditor nation in many of the most nature-rich countries, the application of debt for nature swaps can provide a promising avenue for both China and the debtor countries to generate a triple-win solution: reduce debt default risk, provide support for building a global ecological civilization by protecting nature, and providing better opportunities for social development through creation of sustainable jobs. At the same time, through the application of debt for nature swaps, China has an opportunity to strengthen political, people-to-people, and economic relationships with the debtor countries, while underpinning a global leadership role for a global governance system aligned with ecological civilization ambitions.

To analyze debt for nature swap application potentials, this paper briefly explores China's position as a major global creditor, and then goes into detail on debt for nature swaps as a potential solution for consideration by Chinese government officials and Chinese banks. The

[1] The nine countries include Argentina, Belarus, Belize, Ecuador, Lebanon, Russia, Sri Lanka, Suriname, and Zambia.

paper presents an overview of what a debt for nature swap is (relative to other debt reorganization tools), then offers an in-depth look at four examples of debt for nature swap programs in other creditor countries. The paper also looks at a potential scenario for a pilot debt swap in Laos, as one of the countries that has considered applying debt for nature swaps, potentially also with China.

As a non-public paper for the Green Finance Committee of the China Society for Finance and Banking and, through that entity, for individual members of China's banks and relevant government ministries, it is hoped that this paper serves to interest Chinese banking and government officials in the concept of debt for nature swaps, and the benefits that this debt instrument may provide to China and its BRI partner countries. With various opportunities emerging to strengthen collaboration and global governance, China may also consider taking advantage of its role as Host of the Convention on Biodiversity (CBD) COP15, to be held in December of this year and consider announcing formation of a debt for nature swap program, and perhaps its first pilot debt for nature swap with an important BRI country.

2. Overview and Outlook for Chinese Overseas Sovereign Debt

China's overseas lending has different components and involves several types of players. On the one hand, as part of China's foreign development aid, official creditors, including China International Development Cooperation Agency (CIDCA) and China Eximbank, had provided RMB11.3 billion (about USD1.72 billion) zero-interest loans and RMB131.1 billion (about USD20 billion) concessional loans between 2013 to 2018, mainly to least-developed countries, low- and middle-income countries in Asia and Africa[2]. These loans are usually based on intergovernmental agreements and used for social infrastructure projects in host countries.

On the other hand, commercial loans from policy banks, development financial institutions, state-owned and private commercial banks have found their way to support infrastructure projects in many countries, especially in the Belt and Road Initiative (BRI) countries. The total amount of loans on commercial terms are more difficult to track and official data on terms of these loans are not publicly disclosed.

Several databases have provided estimates of the current scale of China's overseas sovereign lending, such as the World Bank International Debt Statistics (IDS), China's Overseas Development Finance Database, and the Chinese Loans to Africa Database at Boston University Global Development Policy Center. Currently available sources give an idea of recent trends of China's exposure to sovereign debts in low- and middle-income countries:

- From 2016 to 2020, total outstanding public external debt owed to China's official creditors (including all public institutions in which the government share is 50% or

[2] http://www.xinhuanet.com/2021-01/10/c_1126965418.htm

above) in DSSI-eligible countries[3] has increased by about 45%, reaching USUSD110 billion by the end of 2020.[4]

- China's exposure to the DSSI countries was larger than the combined debt of all other official bilateral creditors and is only surpassed by the World Bank.[5]
- By 2020, China was the biggest single creditor in 17 of the DSSI eligible countries, including Tonga (55% of all public external debt), Djibouti (55%), Lao PDR (52%), Cambodia (44%), Republic of Congo (42%), and the Kyrgyz Republic (40%).
- It is estimated that 26% of the total debt service paid by the 68 DSSI countries in 2022 would go to China (compared to 17% to bondholders, and 9% to the World Bank-IDA).
- As debt statistics depend on reporting by debtor countries, there is a systematic underreporting of public debts and repayment obligations in developing countries, especially in high-risk, low-income countries with weak capacity[6].
- China has scaled back overseas lending over the past 24 months, e.g., the Chinese policy banks did not extend loans to Africa in 2020.

The potential risk of non-payment for sovereign debt from many countries is increasing with the continued adverse impact of COVID-19 on global economic activities, the growth of inflationary pressure on many economies, and the supply chain and other impacts of the Russian war on Ukraine. The default risk is also growing due to the lack of effective international debt treatment framework. Since the end of 2019, eight countries – Argentina, Belarus Belize, Ecuador, Lebanon, Russia, Sri Lanka, Suriname, and Zambia – have defaulted on their sovereign debt. Although default risk is global and can affect many creditor countries, the risk to China is particularly acute.

As the DSSI expired in December 2021, countries that enjoyed temporary delays on their debt service payments will face additional burden in 2022 as their payment obligations resume. Among IMF's Poverty Reduction and Growth Trust (PRGT) countries, 8 countries are in debt distress, 30 are at high risk, 24 are at moderate risk, and 7 are at low risk of debt distress[7]. The situation might worsen depending on the level of unreported "hidden debt" in these countries.

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[3] The World Bank data covers 68 out of 73 eligible countries to the Debt Service Suspension Initiative (DSSI), which provided a suspension of debt service payments from the poorest countries to temporarily ease the financing constraints for these countries and free up scarce money that they can instead use to mitigate the human and economic impact of the COVID-19 crisis. Country list can be found here https://www.worldbank.org/en/topic/debt/brief/covid-19-debt-service-suspension-initiative

[4] https://greenfdc.org/brief-chinas-role-in-public-external-debt-in-dssi-countries-and-the-belt-and-road-initiative-bri-in-2020/

[5] https://greenfdc.org/brief-chinas-role-in-public-external-debt-in-dssi-countries-and-the-belt-and-road-initiative-bri-in-2020/

[6] https://blogs.worldbank.org/developmenttalk/systematic-underreporting-public-debt-statistics-50-years-evidence-and-recent

[7] https://www.imf.org/external/Pubs/ft/dsa/DSAlist.pdf

Economic experts are already warning of another 'lost decade' of development. For example, the 2021 report[8] of the UN Secretary General on the SDGs warns of the "immense financial in debt distress and dramatic decreases in foreign direct investment and trade" brought on by the global pandemic. Among the first casualties of defaults will be the domestic capacity in most debtor countries to meet the Paris, Kunming, and SDG targets. A second casualty will be underutilized economic growth potential risking a negative impact on trade and investment with China. Moreover, if Chinese debt service represents a significant proportion of overall debt payments, there is a risk that countries and others might look—unfairly or not—to blame China for the climate and nature agendas being delayed or derailed.

For China, while many Chinese loans are on commercial terms and are not recognized as official lending, default by debtor countries on Chinese-issued loans would mostly be borne by state-owned commercial banks and enterprises and may eventually pass on to the government. In order to avoid loan default losses and related internal economic impacts, China banks and authorities may want to give early and comprehensive consideration of debt restructuring options including debt for nature swaps to avoid large-scale financial losses in China, while at the same time support economic and social development in debtor countries.

3. Risks and Benefits of Debt Restructuring Instruments

China may benefit greatly through the use of debt restructuring models and instruments, including debt for nature swaps, as a means to mitigate or lower their sovereign debt risk. Additionally, China, like all creditor countries, faces a compounded global risk that includes rapidly-escalating debtor country insolvency due to Covid-related borrowing, the need to take actions to address climate change, and the need to reverse global loss of biodiversity.

This "triple threat" has combined to push various creditor governments to consider a range of innovations to "green" their sovereign debt – in effect to provide some level of debt relief and at the same time realize certain climate and biodiversity benefits. One well-tested and effective tool that has evolved over the last three decades is debt for nature swaps (also taking the form of debt for climate swaps). These instruments, if applied strategically, can support debtor countries to restructure and/or reduce their debt burdens and, at the same time, create new financing to protect their biodiversity and reduce greenhouse gas emissions.

This section presents information about five common but different debt restructuring instruments, including debt for nature swaps, each of which comes with unique benefits for creditors and debtors. The following table compares the benefits of five instruments. These five instruments are:

1. **Debt for Nature Swap:** Some current debt is reduced or exchanged ("swapped"), providing some level of debt reduction and some additional funding to protect nature. (Debt for nature swaps, the subject of this paper, are described in detail in the next

[8] https://unstats.un.org/sdgs/report/2021/

sections.)

2. **Nature-based Performance Securities:** Some current debt is reduced or restructured with new securities issued that have a combination of more favorable loan terms and certain metrics for intended ecological ("green") outcomes.
3. **Debt for Resources Swap:** Some current debt is reduced or swapped to give the creditor country access to natural resources in the debtor country, such as a forest, mine, or a gas-field.
4. **Debt for Equity Swap:** Some current debt is reduced or swapped to give the creditor country or bank some level of ownership (equity) of physical assets, such as infrastructure.
5. **Debt forgiveness:** Part or all outstanding debt is simply forgiven, with no additional requirements for use of the funds saved from lower debt service obligations.

These five instruments are presented in detail in **Table 1** below. As the table demonstrates, some of the green debt arrangements – and especially debt for nature swaps – will provide China with multiple benefits. In brief, these benefits can include:

- **Reduced Sovereign Debt Repayment Risk**: The greatest and most obvious benefit of a debt for nature swap is the reduction or restructuring of debt for an indebted country facing insolvency, where China as creditor may have to absorb non-payment of debt obligations.
- **Advancement of Ecological Civilization and a green BRI:** A debt for nature swap that provides measurable environmental outcomes in China's Belt and Road partner countries would be contributing directly to China's advancement toward its national mandate to become an Ecological Civilization and its determination to green the Belt and Road Initiative.
- **Preferential Carbon Market Access and Financing**: China could benefit from a green debt arrangement linked to Paris COP Articles 6.2 and 6.4 in which carbon credits linked to Nature-based Climate Solutions could be paid in lieu of debt serving payments, possibly providing relatively cheaper credits compared to those generated within China.
- **Marine Protection**: The recent Belize debt for nature swap (described in section 5, below) underscores the benefits to China of innovative financing for marine and ocean stewardship. A direct benefit to China from similar swaps within its region would include greater marine ecosystem service access, including climate resilience through better protected mangrove forests and barrier reefs.
- **Land Restoration**: Debt for nature swap financing to support land and ecological restoration, including degraded land restoration, and also sustainable sourcing and sustainable food systems would increase China's efforts to restore and protect ecological land and agricultural land, leading to longer-term food security.
- **Reduced Risk of Environmental or Health Harm**: If China opted to complement its recent announcement to discontinue new international finance of coal-fired plants with

debt relief linked phase-out, direct benefits could – depending on the location of the debtor country – include reduced long-range transport of certain air pollutants such as mercury, N0x, and S0x, sand (particularly in Northern China), or water impairments affecting freshwater hydrology and quality.

- **Long-term Economic Stability**: The potential of many affected countries to further invest in building infrastructure and accelerating trade with China is significantly more limited due to high debt levels. Sovereign debt risks are evaluated high, making export credit insurances more expensive or not available. Through debt restructuring that reduces short-term and long-term debt burden as is the case with debt for nature swaps, host country economies have more space to invest and grow.
- **Global Reputational Benefits**: In keeping with China's leadership in supporting multilateral action, debt for nature swaps that provide additional fiscal space to debtor countries to meet their respective climate and biodiversity targets would enhance China's reputation. Similarly, given concerns of debt linked to BRI financing, action towards debt relief would enhance China's green BRI reputation.

Table 1 – Benefits and Advantages of Five Debt Restructuring Instruments

		Debt for Resources Swap	Debt for Equity Swap	Debt for Nature Swap	Nature-based Performance Securities	Debt Forgiveness
Benefits for Debtor Countries	Lowers debt service cost	+	+	+	0	+
	Reduces debt level	+	+	+	0	+
	Presents no moral hazard*	+	+	+	0	-
	Provides stimulus for extra employment	0	0	+	0	0
	Benefits economic development	0	0	+	potentially	0
	Supports locally owned investments	-	-	+	potentially	0
	Increases local tax revenues	0	0	+	0	potentially
	Provides green development benefits	0	0	+	potentially	0
	Reduces pressure to use resources and grow economy to repay debt	0	0	+	-	+
	Relatively easy to implement	0	0	-	-	+
	Potential health benefits (e.g., due to reduced air pollution)	0	0	+	potentially	0
Benefits for creditor country	Reduces sovereign debt risk	+	+	+	+	+
	Investment or economic benefits	+	+	potentially	+	0
	Preferential access to carbon markets	0	0	+	potentially	0
	Advancement of ecological civilization philosophy	0	0	+	potentially	0

	Long-term economic stability and relationships	-	-	+	+	+
	Protects nature or climate	0	0	+	potentially	0

Notes to Table 1, above:
"+": benefits expected
"0": no direct benefits or disadvantages
"-": likely having disadvantages

* -- A moral hazard can be understood as the hazard that the debtor country would expect future debt relief at no cost to the host country. Accordingly, to overcome moral hazard, debt restructuring should avoid being "cost-free" for the debtor country.

4. Description of Debt for Nature Swap Instruments

Debt for nature swaps have been successfully in use since the 1980s when the first debt for nature swaps were designed to address the global debt crisis and, at the same time, reduce degradation of forests and other natural resources that were being increasingly consumed by highly indebted countries to pay their debt obligations. As such, debt for nature swaps provide the dual benefits of debt restructuring and nature protection: 1) restructuring, reducing, or buying down part of a developing country's debt obligations; and 2) allowing debt payments in local currency as opposed to hard currency, paid into an in-country fund or for in-country projects to be used for protection of the environment.

Table 2 – Countries with most debt treated under debt for nature swaps by 2003

Debtor Country	Face value of debt treated (USD million)	Debtor Country Region
El Salvador	659.5	Latin America & Caribbean
Poland	588	Europe & Central Asia
Peru	580.6	Latin America & Caribbean
Jordan	496.4	Middle East & North Africa
Jamaica	405.4	Latin America & Caribbean
Colombia	322.8	Latin America & Caribbean
Chile	186	Latin America & Caribbean
Bolivia	93.3	Latin America & Caribbean
Honduras	68	Latin America & Caribbean
Ecuador	66	Latin America & Caribbean

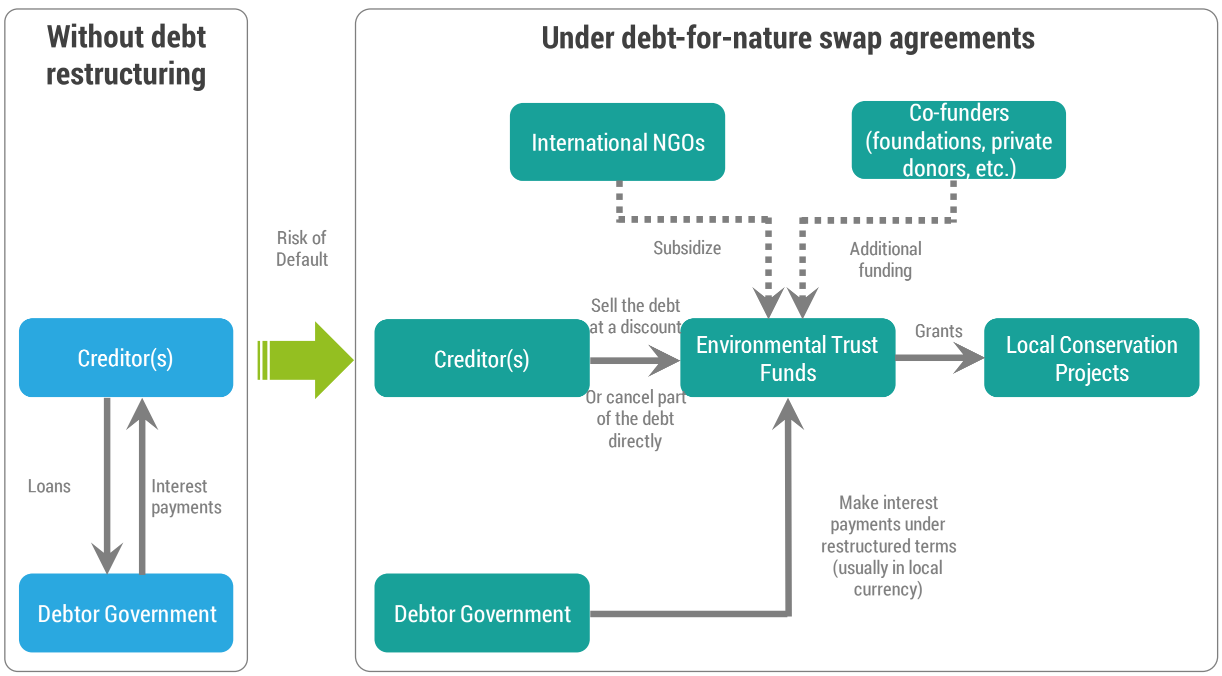
Source: OECD 2007

Since the first US-Bolivia debt for nature swap in 1987, 13 creditor countries have structured debt for nature swaps with 39 debtor countries. The 13 creditor countries are: Canada, Belgium, Finland, France, Germany, Holland, Italy, Norway, Spain, Sweden, Switzerland, the UK, and the US. Three of these countries (France, Germany, and the US) were the most active in granting debt swaps over the last 30 years. **Table 2** above provides an overview of 10 of the 39 debtor countries and the amounts of their respective reduced debt.

Each of the 13 creditor countries that has established a debt for nature swap program has a unique set of laws, policies, and procedures, based on each country's strategic motivations for providing debt relief to their debtor allies. For example, the US debt for nature swap program originated to provide debt relief and tropical forest protection, first in Latin America and subsequently for all tropical forest countries worldwide. France's development contract (C2D) program offers debt swap agreements to African heavily indebted poor countries (HIPC) with which they have had long term strategic interests.

Creditor countries' debt for nature swap programs often identify the types of debt that are allowed for reductions, such as non-concessional debt or debt tied to advancing agricultural or other strategic interests of the creditor country. Additionally, each country's debt for nature swap programs have taken different forms and often use different names. However, in general, all these programs are generically referred to as "debt for nature swap" programs and many of them are structured like the swap shown in **Figure 1**, below.

Figure 1 – A General Illustration of a Debt for Nature Swap



Source: Yue and Nedopil, 2021[9]
Note: Note: This graph aims to provide an illustrative concept of debt for nature swaps. It does not cover all types and variations.

As noted above, in general practice, the use of the term "debt swap" has evolved to include all forms of debt for nature swaps. In addition to debt swaps providing funding to protect nature, debt swaps have also been used in many countries to fund other social needs including health and education. Newer forms of debt swaps currently being explored include debt for climate swaps and debt swaps to support restoration of degraded land.

[9] https://greenfdc.org/wp-content/uploads/2021/01/Yue-2021_Debt for nature-swaps-BRI-1.pdf

Although most countries' debt for nature swap instruments are constructed in a form like the graphic shown in **Figure 1** above, each country has developed models and instruments that reflect that country's politics, economics, and strategic interests. For example, some of the many forms of these debt for nature swap programs include:

- **Bilateral Debt Restructuring Agreements:** The creditor country cancels the original debt agreement and creates a new debt agreement typically with a lower amount of debt and/or more favorable payment terms. In return, the debtor country is obligated to deposit funds in local currency into a fund, usually based on the value of the savings in payments from the former debt to the new debt, for use as grants for in-country conservation projects.
- **Bilateral Debt Relief and Development Contracts:** Typically executed as a short-term contract, the debtor country is still obligated to service most or all its debt, but with each payment the creditor government transfers an equal amount back to the country in the form of a grant to support programs such as education reform, provision of health benefits, and protection of parks and natural areas.
- **Commercial Debt Buy-Back:** A third-party organization purchases discounted commercial debt on the open market and either reduces or replaces this debt with new debt but at more favorable terms. The difference in payment amounts between the former debt and new debt is then paid by the debtor country in local currency for conservation projects.
- **Sovereign Debt Buy-Back:** The debtor country is allowed by creditor country to purchase a portion of its current debt at a discounted amount, resulting in overall lower debt. The debtor country is also obligated to pay a portion of the discounted amount for use as grants for in-country conservation projects.
- **Third-party Subsidized Debt Swap:** A third party, typically a conservation NGO, agrees to pay a portion of the cost of buying down a debtor country's debt. As with the other mechanisms, the debtor country is obligated to pay local currency into an environmental fund or to an independent in-country NGO to support local conservation projects.

5. International Examples of Debt for Nature Swap Programs

As noted in an earlier section, 13 creditor countries have established policies and programs that have facilitated debt for nature swaps. These include small and large economies with wide-ranging states of economic development: Canada, Belgium, Finland, France, Germany, Holland, Italy, Norway, Spain, Sweden, Switzerland, the UK, and the US.

For example, Spain's GDP per capita at the time of the debt for nature swap was lower than USD15.000 (current USD), while the total GDP of Holland at the time of the DNS was USD450 billion.

This section provides detail on four sample debt for nature swap programs. Three of these are bilateral debt swap programs: the United States TFCCA program; Germany's debt swap program; and France's C2D program. The fourth is a recent example of a commercial debt for nature swap (Belize blue bond).

United States – Tropical Forest and Coral Conservation Act (TFCCA)

The United States' debt for nature swap programs (EAI and TFCA, described below) provide an interesting and flexible model for how debt for nature swaps can be structured and carried out. The US program is similar to other debt for nature swap programs that have been in effect in a number of European countries since the 1990s but, as described below, also provides a certain amount of flexibility in the types of allowed swaps, depending on the circumstances in the debtor countries.

In the late 1980s, in response to the debt crisis in Latin American countries, the United States created its first debt for nature swap program called the Enterprise for the Americas Initiative (EAI). Under EAI, in the early to mid-1990s the United States restructured, and in one case sold at discount, debt equivalent to over USD1 billion owed by Latin American countries.

These transactions were authorized by Congress as part of the EAI enabling legislation and were supported by Congressional budget appropriations. Congress subsequently broadened the scope of EAI debt transactions to include both environment and children's health. In its life, the EAI program generated USD177 million in local currency for environmental, natural resource, health protection, and child development projects within Latin American debtor countries.

The model for debt for nature transactions, originated and developed under the EAI, then became the basis for the Tropical Forest Conservation Act (TFCA)[10]. Enacted by the US Congress in 1998, TFCA replaced the EAI program and expanded its scope to include all countries around the world with tropical forests. Under TFCA, debt can be restructured in eligible countries and funds generated from the transactions are used to support programs to conserve tropical forests within the debtor country.

Since its inception, the TFCA program restructured loan agreements in 14 countries (20 transactions) and generated over USD339.4 million for tropical forest conservation. Many of these are long term agreements that continue to pay out benefits for 20 years or longer.

The TFCA legislation was reauthorized and renamed in 2019 as the Tropical Forest and Coral Reef Conservation Act (TFCCA)[11]. The updated debt for nature swap program provides support for tropical forests and also coral reefs and coastal mangrove forests. (For the remainder of this section, the term "TFCA" is used to generically refer to both TFCA and the newer TFCCA programs.)

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[10] Public Law 105-214; 22 U.S.C. 2431

[11] Public Law No: 115-440; https://www.congress.gov/bill/115th-congress/senate-bill/1023/actions

The TFCA program is administered by the US Treasury department, with participation by the US State Department and the US Agency for International Development (USAID). TFCA (like the EAI program before it) receives budget appropriations from Congress and authorizes two primary forms of debt for nature swaps:

1. Three-party *commercial* debt swaps.
2. *Bilateral* debt reductions and swaps.

The earliest swaps carried out under EAI were three-party commercial swaps. In these swaps, a conservation group such as TNC uses its funds to purchase a commercial loan in hard currency at a discounted rate, and then renegotiates the loan with the debtor country. The result of these swaps was reduced or more favorable loan terms for the debtor country, in exchange for payments in local currency by the country for in-country conservation projects. At one point in time, USAID was authorized to provide grants to the NGOs to help support the cost of debt purchase, but this practice did not last, and most commercial debt swaps are funded by the NGO donor.

Because of the high amounts of commercial loans to debtor countries during the debt crisis of the 1980s, for a brief period of years there were 49 of these commercial three-party swaps executed with 15 countries. However, the value of many of these transactions was small and the net amount of these transactions resulted in considerably less debt reduction as compared to bilateral debt swaps, and also less funding available for conservation. According to one government source, commercial swaps leveraged around USD167 million in local currency for conservation purposes as compared to more than USD339 million generated through a smaller number of bilateral agreements.

Under TFCA, the predominant form of debt for nature swaps has been bilateral swaps. As noted, the US TFCA program has built in some flexibility with which bilateral swaps can be negotiated, depending on the circumstances in the debtor countries. The three types of bilateral debt for nature swaps allowed under TFCA are:

- *Bilateral Debt Restructuring Agreements*: A straightforward bilateral debt restructuring between the US and a debtor country.
- *Sovereign Debt Buy-Backs*: A bilateral debt reduction agreement where the debtor country is allowed to buy down the value of its most expensive debt.
- *Third-party Subsidized Debt Swap*s: A bilateral debt reduction in which a third-party entity (in most cases a conservation NGO) uses its own funding to buy down some of the existing US debt, resulting in additional funding available for local conservation in the debtor country.

Under all three of these forms, the existing debt agreement is canceled and a new one is created, and the resulting savings in reduced debt payments are deposited in local currency in a Tropical Forest Fund or other form of conservation trust fund for support of conservation programs in the debtor country. Depending on the type of swap, legally binding documents are executed between the two countries and, if a third party is involved, between the US and the third-party NGO, governing the terms of the swap and the uses of the funds.

Under the third-party subsidized debt for nature swap arrangement, four NGOs (TNC, WWF, Conservation International, and Indonesia-based Kehati) contributed a total of USD22.5 million to 12 bilateral debt swap agreements using their own private funding. Their participation in these debt swaps enabled more debt to be reduced and generated more funds for conservation.

With both EAI and TFCA, there are strict eligibility requirements for debtor countries to be allowed to participate, including: a democratically elected government; agreement with US on certain conditions related to terrorism, drug control, and human rights; and certain economic and investment agreements and structures.

Under both EAI and TFCA, only certain kinds of US loans are eligible for participation in a bilateral debt reduction or restructuring agreement. These loans include: USAID Foreign Assistance Loans; Commodity Credit Corporation (CCC) loans for developing countries to import US agricultural products; US Export Import (ExIm) loans for foreign importers of US goods and services; and "Food for Peace" (P.L. 480) agriculture loans.

TFCA also specifies eligible conservation projects that can be funded through bilateral debt swaps. These include park and PA establishment and maintenance, capacity building of park and other natural resource staff, support for communities in and around tropical forests, development of sustainable management practices, and research.

Germany – Debt for Nature and Debt for Health Programs

Germany formally launched its Debt for Nature Swap program at the 1992 Rio Earth Summit. The program was set up as a debt forgiveness program where debtor country's debt could be reduced, and the net savings to the debtor country would be converted fully or partially into payments in local currency for in-country environmental protection and conservation projects. The German government launched the program with a 50 million German Mark appropriation.

In the years between 1994 and 2014, Germany executed 23 debt for nature swaps in 12 debtor countries, for a total of USD314 million of reduced dept and a net USD121 million provided for conservation projects in the debtor countries.

The German government over time has expanded its debt for nature swap program to a wider range of debt swaps for social issues in developing countries, including health, education, and poverty reduction. In recent years, the most swaps have been debt for health swaps (6), carried out with the Global Fund. In recent years the German parliament has increased the annual appropriation to €150 million (about USD 140 million).

Although called an appropriation, each year's funding is a legislated "allowable limit" on ODA reflows that can be reduced. Each debt swap allows outright reduction of the debtor country's debt and a corresponding decrease in Germany's revenue from debt payments. As this is effectively a reduction in revenue, each year's allowable amount must be approved by the German parliament.

The government restricts debt swaps to only ODA debt. It further restricts the pool of eligible countries based upon a number of factors including limiting to low- and middle-income countries, whether the country is deemed to have a debt problem including use of HIPC parameters and benchmarks for high and unsustainable indebtedness, and/or whether a multilateral agreement is in place. These rules and benchmarks limit the number of countries that could qualify for a debt for nature swap to 24 countries in 2022.

Germany's debt swap program is managed for the most part by the German Ministry for Economic Cooperation and Development (BMZ). BMZ is responsible for formulating all swap details and agreements and then bringing proposed swaps to the Finance Ministry and to the Parliament Budget Committee for review and approval. This process is somewhat cumbersome and can take two or more years.

Once approved, BMZ oversees drafting the of final swap agreements and governance in the debtor country. The German development bank KfW is also involved in the implementation of the uses of debt swap proceeds when debt swaps are bilateral and do not include an international implementor. The governance of the implementation of swap proceeds varies by swap agreement and country. In some cases, Germany has tried to set up two levels of oversight involving a high-level two country oversight committee and a lower-level in-country implementation committee including local NGOs in one case. In other cases, Germany works with one major implementing body like the Global Fund, which receives and allocates the funds.

France – Debt Reduction-Development Contract (C2D) Agreements

The French government's C2D program, described below, offers China a very different – but also successful and leveraged – model for providing debt relief and associated social and environmental co-benefits.

In 1996, the French government established a debt reduction and reorganization program for highly indebted poor countries (HIPC nations) called Le Contrat de Désendettement et de Développement (C2D)[12]. Called in English the Debt Reduction-Development Contract, C2D is a set of finance and development policies designed to help HIPC countries restructure their debt and at the same time pay for programs or projects in the country to finance poverty reduction and environmental protection.

The French government does not refer to their C2D program as a "debt for nature swap" per se. But the net result of lower debt obligations and funds made available for environmental protection is the same. C2D contracts are essentially bilateral aid grants that have as one of their central aims the 100 percent reduction of France's concessional loans with HIPC debtor

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[12] "Doctrine d'emploi des C2D" (Doctrine on the use of C2D)

countries. C2D contracts are allowed for French ODA loans to debtor countries for economic development.

Under C2D, after the French government has worked with a HIPC nation to reduce the worst of its debt burden, the debtor country is allowed to enter into an actual contract with the French government to further restructure some of its debt. Under a C2D contract, the country is still obligated to service 100 percent of its debt, but with each payment the French government transfers an equal amount of funding back to the country to support programs such as education reform, provision of health benefits, and protection of parks and natural areas.

Since creation of the C2D mechanism in 1999, there have been 18 country-specific C2D contracts issued, 5 of which are still current. The estimated total value of all C2D contracts is €5.4 billion over 20 years.

The C2D mechanism and funds are managed by the French Central Bank, which creates accounts to which the debtor countries make regular debt obligation payments. The payments are allowed in local currency. Once the Central Bank receives the payments, it transfers an equivalent amount back to the debtor country for either non-earmarked budget use or in earmarked budget funds for specific project support.

C2D contracts are primarily administered by the French Development Agency (AfD) which is responsible for clarifying appropriate uses of the funds and for monitoring project results. The underlying policy for the C2D program is defined by the Director General of the Treasury and Director General of Global Affairs, Culture, Education, and International Development. Other government agencies participate in C2D contracts in varying levels including the French Embassy, the French Foreign Affairs Ministry, the French Finance Ministry, and the debtor country's Finance Ministry and other ministries that will have a role in use of the C2D funds.

The C2D contracts have several conditions that must be met by the debtor country to participate. One is the mandated use of a C2D Steering Committee that includes representatives from AfD, the debtor country, and local NGOs that can supervise and monitor uses of the C2D funds. The contracts are generally structured over short time periods or phases, typically three years, but the programs are carried out using repeated contract renewals over longer periods of 20 years or more. Each new transfer payment from France to the debtor country must meet certain performance metrics based on the proposed use of the funds. The Steering Committee and participating NGOs carry out evaluations for each phase.

In addition to requirement for a steering committee, C2D contracts have additional requirements including integration with and spending adhering to each country's Poverty Reduction Strategy Paper (PRSP), in four focus areas: health, education, infrastructure, and natural resource management (including environmental protection).

The first C2D contracts were set up as direct project payments or short-term sinking funds, mainly for education reforms and health care. In more recent years, C2D contracts and payments have been allowed for protected area management and other environmental protection uses. In recent years, the French government and the associated debtor governments have allowed the Central Bank payments to go to a permanent endowment such as an independent conservation trust fund.

The debtor countries receive significant benefits as a result of converting some of their debt to C2D contracts. Each agreement involves a long-term debt cancellation, but instead of an outright elimination of debt – which would reflect poorly on a given debtor country and cause its debt rating to drop – the country continues to service its debt, in local currency, and then receives payments back from France to be used for specific budget items that it otherwise would not have had funded.

Commercial Debt Repurchase (Buy Down) – the Belize Debt for Nature Swap and Blue Bond

A recent commercial debt restructuring carried out for Belize also provides a relevant model of a debt for nature swaps. In this example, Belize was allowed to refinance a USD553 million Eurobond (the country's entire stock of external commercial debt, equal to 30 percent of GDP) with new bond issues totaling USD364 million. Most of the net USD189 million savings in debt will be used by Belize over the next 20 years to fund protection of the country's extensive coral and coastal marine resources.

The debt for nature swap was arranged and supported by the international NGO The Nature Conservancy (TNC)[13]. In this arrangement, TNC created a subsidiary company – the Belize Blue Investment Company (BBIC) – which served as the core financial structure for the project. BBIC first arranged a USD364 million loan to Belize to enable Belize to repurchase the USD553 million Eurobond at a 45% discount, effectively reducing their commercial debt by USD189 million.

BBIC worked with Credit Suisse for the financing for this loan by issuing USD364 million in Aa2 rated bonds (which they called "blue bonds"). Credit Suisse was able to issue these blue bonds with a favorable bond rating and below-market terms, which were attractive to their global pool of institutional investors (the bond was oversubscribed and quickly purchased by a range of Aa2-scale investors such as asset managers, insurance companies and pension funds).

While Belize at the time had an S&P rating of "Selective Default", Credit Suisse was able to secure the Aa2 bond rating and favorable terms because of the involvement of the US government's International Development Finance Corporation (DFC), which issued political risk insurance, and also Munich RE, which provided parametric insurance coverage to protect Belize from payment delays or default due to natural disasters (hurricanes).

The bond's below-market terms were transferred to the BBIC loan to Belize, which had a low interest rate, a 10-year grace period during which no principal is paid, and a long maturity of 19 years.

[13] https://www.nature.org/content/dam/tnc/nature/en/documents/TNC-Belize-Debt-Conversion-Case-Study.pdf

In return for the financing that allowed it to buy down and restructure its commercial debt, Belize agreed to use the nearly USD200 million in net savings for protection of its marine resources, in particular its extensive coral reefs. In addition to increased annual spending on conservation for 20 years, and the creation of a new conservation trust fund to provide future revenue, Belize agreed to expand its protected area network encompassing barrier islands, coral reef systems, mangrove forests and sea grass beds to the global target of 30 percent by 2026.

This example shows how commercial debt can be restructured through risk insurance provided by a third party (either a stable government agency or corporate entity) and focus on green development that attracts global investor attention and interest. Additionally, this example also shows that debt for nature swaps can work on large scales, with the debt reduction (and swap) reaching almost USD200 million, or about 10% of the GDP of Belize.

A swap like this could be useful in countries with high levels of expensive and commercial debt that are interested in refinancing that debt with low-cost new debt. For example, there are two relevant opportunities to scale the Belize debt for nature swap for other countries.

One way this might work is by applying the "Debt for Development" swap model introduced by the Swiss government back in 1992. In this model, the creditor country government could create and finance a fund that would then purchase loans of banks within the creditor country (probably at face value and no discount), with the condition that the debtor country repurposes their cancelled debt payments into a conservation or other development activity. In effect, the creditor country is providing ODA funding to buy down their loans and the debtor country uses the loan payment savings for a program considered by the creditor to be a development priority.

Another iteration of how this might work for other creditor countries, which is closer to the Belize model above, might utilize both the bank itself and a credit enhancement agency. For example, in a case where the debtor country has a debt distress situation, a bank from the creditor country could offer to refinance some or even all of its outstanding (and expensive) debt with new, lower-cost debt. The low rate and better terms of the new debt could be enabled through credit guarantees provided by a credit and insurance agency (e.g., China Export and Credit Insurance Corporation (Sinosure)). As with the previous examples, some or all of the next savings from the new financing would be used by the debtor country for conservation programs.

6. Lessons Learned from International Practice

Debt for nature swap programs have been in existence since the late 1980s. As such, there are many well tested and developed programs across 13 creditor countries, and they offer a wealth of innovative policies, models, and instruments from which to examine and perhaps use. This can allow interested countries to set up a debt for nature swap program based on previous experiences rather having to re-invent the wheel.

For example, through various years of experience facing challenges and set-backs, various lessons can be learned, including good features of some programs that are worth replicating, and other features which are weaknesses or shortfalls that should be avoided. The following table provides some learnings based on experienced challenges.

CHALLENGE	LESSON
1) In practice, some debt for nature swaps have been small and not sufficient for large debt reduction.	Debt for nature swaps are one tool of the toolbox for debt reduction and need to be tailored to the debtor country. In some countries, DNS have significant debt reduction potential (e.g., Belize the DNS was about 11% of GDP). In other countries debt for nature swap have a lesser effect of debt reduction but are created by the creditor country to provide some debt relief and also a conservation or other development benefit of strategic interest to both countries and a contribution to the relations of the two countries.
2) Debt swaps are perceived to be reducing economic development potential, but this is an incorrect view.	Debt for nature swap programs have proven to provide considerable value through the amount of new revenue generated for conservation (or other social needs), which can be quite large relative to a debtor country's budget and its current level of environmental funding. In many swaps, this new funding has provided new jobs or other social benefits.
3) In practice, debt for nature swap programs have often been inflexible and slow.	Debt restructuring is a complex matter in any form independent of the application of debt for nature swaps. Across the spectrum of the various debt swap programs, there are some programs that are more flexible and adaptive to changing situations, and others less so. For example, the US TFCA program is more flexible than other programs in that it provides for multiple forms of debt swap instruments, allowing configuration based on debtor country circumstances. The French C2D program is fairly rigid in that it only applies to HIPC countries, is only applied after most other HIPC remedies are applied, and is only utilized in three-year repayment contracts (as described in section 5 above).
4) Most debt for nature swaps programs require a cost by the creditor country.	As described in section 5 above, some country debt for nature swap programs require an annual or regular budget appropriation, and others require some level of approval by the government for allowable debt reduction. In either case, the budgetary consideration is important, but the way some countries make these budget decisions causes problems and delays in management of the programs that could be avoided. For example, in the US, in some years politics or economic factors result in no appropriation, which results in no swaps in those years. In Germany, the required decision by a Parliament budget committee causes delays of several months or longer.
5) Some debt for nature swap programs have requirements and parameters that overly limit the possible participation and benefits for the indebted countries.	Most current debt for nature swap programs set limits on the allowable debt available to restructure, the allowable debtor countries that can participate, or other limiting factors. This often reduces the number of countries and/or the size of the swap. While all creditor countries that allow debt for nature swaps want to have some rules on the countries or types of debt allowed, it is a common criticism of some of the current programs that these rules are too narrow and rule

	out too many countries that could participate or too many types of loads that could be renegotiated in a swap.
6) The successful debt for nature swap programs have examples of well-functioning governance systems for oversight of the swap implementation.	Many of the successful debt for nature swap programs have succeeded in setting up good governance systems in the debtor countries for managing the debt swap proceeds and ensuring the funds are correctly and efficiently applied. For example, the US TFCA use of multiple swap agreements, a local NGO or trust fund, and a governance body that includes both countries as well as NGO participants has proven to be quite successful.

7. Common Elements from International Practice

For countries interested in further examining how to utilize debt for nature swaps as part of managing their sovereign debt, there is considerable experience, knowledge, policies, and models from which to draw. Looking across the 13 creditor countries that have established debt for nature swap programs, there are certain common elements, criteria, and components that can be readily applied to the design and development of a new debt for nature program.

The following are some of the common elements drawn from other creditor country programs:

1) Enabling legislation or law. China may want to launch a debt for nature swap program by first grounding it in existing or, if needed, new enabling legislation. Typical enabling law authorizes (or mandates) the use of debt for nature swaps and sets forth in writing some of the core elements of the debt swap mechanism. This law can identify the lead government agency and any other involved government agencies. The law can specify the actual form or forms the debt swap can take, whether any budget appropriation is needed, the specific types of sovereign loans or bonds that can be converted in swaps, and even the approved uses of the swap funding in the debtor country. Sample enabling laws are available for review (and use) from many of the current debt for nature swap program governments.

2) Involved government agencies and banks. The Chinese government will also want to determine the lead governing agency that will oversee the debt for nature swap program and management of the funds. Typically, in other programs, this is the creditor country's Ministry of Finance, Treasury department, or Central Bank. Additionally, China's government will want to identify any additional government agencies or non-governmental entities and clarify their respective roles and responsibilities to support implementation of the DNS. Based on practice on the other 13 creditor countries, the participating government agencies might include China's Ministry of Foreign Affairs or the China International Development Cooperating Agency.

3) Setting eligibility criteria. Once the core law and governance is set, a good next step that is common across all creditor country debt for nature swaps is to establish key eligibility criteria for debtor countries, to determine which countries may participate in the new debt for nature swap program.

A) Criteria and considerations for selection of the debtor country:

- High level of debt; risk of debt payment delays or insolvency
- High value biodiversity; high likelihood of ecological outcomes
- Additional potential for climate change mitigation or adaptation
- Debtor country government's willingness to accept debt for nature swaps
- Sound government; stable domestic political environment; rule of law (lack of corruption)
- Possible in-country NGO or trust fund to support fund transfer and oversee projects

B) Additional eligibility considerations for the Chinese government:

- Contribution to Chinese foreign policy objectives (e.g., supporting BRI countries and projects)
- Contribution to geopolitical strategies and international collaboration (economic, environment)
- Type of sovereign loan or bond suitable and available for restructuring
- Availability of internal financing, if needed

4) Form and structure of approved debt swap instruments. Depending on the debt structure in the debtor country, China can draw upon many debt swap models and forms, based on common practice across the other creditor countries that allow debt swaps. China may restrict its program to one form or may want to have multiple forms available (for example, under French C2D, all debt for nature swaps take one form using a C2D contract, but under US TFCCA, debt swaps can take three distinct forms, as covered in section 5 above).

5) Type of Allowed Debt. China may want to restrict debt swaps to certain kinds of sovereign debt, including determination of the loans or bonds that are allowed to be restructured, and other forms of debt that do not qualify.

6) Third-party involvement. China may opt to have debt swaps carried out as a pure bilateral arrangement between China and its debtor countries, or it may allow participation of third parties such as global or in-country NGOs. These roles can include taking part in the swap by sharing the cost of buying down a loan, or by serving as the in-country fund or project manager.

7) Implementation Agreements and Governance. Once a debt for nature swap is approved, China will want to develop any debt swap agreements documents that are needed between the two countries, and with any third party. Establishment of an in-country oversight agency is important for managing implementation and for overseeing the executed swaps and subsequent use of the funds. As with the other categories above, there are many sample agreements and governance models for review and possible adoption and use in a new debt for nature swap program.

8) Debt swap period. China will also want to determine the terms of any new debt for nature swap agreement and also termination dates.

9) Approved debtor country fund uses and oversight. When setting up the debt swap program (before its implementation), China may want to make high-level decisions about the categories of appropriate uses of the funds generated by the swap in each debtor country. These can be broad categories, such as protected area management or conservation staff capacity building, that directs the funds to approved categories but gives the recipient country some latitude to determine the specific uses. Once each swap is approved, China can work with each debtor country to create implementation plans and governance, determine exact uses of the funding, set targets for specific project outcomes and establish tracking and reporting requirements to allow it to see and record results.

For creditor countries like China that wish to evaluate the potential application and benefits of debt for nature swaps, a pilot debt swap together with an important debtor country can be a promising test strategy.

8. Possible Application of Chinese Debt for Nature Swaps - the Case of Laos

The global academic and NGO communities, as well as various national governments, have been evaluating the application of debt for nature swaps in the wake of COVID-19 including evaluations of a possible inclusion of Chinese debt. In their analysis, various groups have evaluated how China could apply a pilot debt for nature swap in Laos PDR. This research has been further substantiated by the UNDP in Laos PDR in collaboration with the local government.[14]

Beginning in early 2021, the Lao PDR government, with the encouragement and support of UNDP Lao, began the process of exploring a potential debt for nature swap as one of the country's options for reducing its debt burden and associated fiscal challenges.

A cross-ministry Debt for Nature *Technical Working Group* (TWG) has been formed, comprised of: Ministry of Finance (MOF), Ministry of Planning and Investment (MPI), Ministry of Agriculture and Forestry (MAF), Ministry of Natural Resources and Environment (MONRE); and the Lao-China Committee Office. The TWG has formally convened twice, first in December 2021 and again in July 2022.

Although there is increasing interest within Laos regarding debt for nature restructuring, the TWG has not yet finalized the design. This is in part due to a need for close engagement with ministers and decision-makers in the design process, and in part due to the challenges of designing a debt for nature transaction in advance of a structured dialogue with creditors.

[14] https://www.undp.org/laopdr/publications/unlocking-fiscal-space-biodiversity-and-climate-financing-lao-pdr-debt-nature-opportunity and supporting analysis, UNDP Lao PDR

Although a debt for nature proposal would ultimately be presented from Lao PDR to its creditors (rather than the reverse), there is currently a window of opportunity for China's banks and government to support their neighbor's development of a proposal and guide the structure and design in a way that can maximize benefits for both sides.

This section thus a detailed illustration of a potential debt for nature swap with Lao PDR to illustrate the benefits, challenges, potential models, and eventual steps China could need to embark on to apply debt for nature swaps.

1) Why Laos?

Of all the countries for which China is a creditor, and with which China could find value in structuring a debt for nature swap, Laos stands out for a range of economic and ecological reasons.

Laos is one of the most debt-burdened economies in the aftermath of Covid-19, with USD14.5 billion in debt in 2021 and 88 percent of its GDP financed by debt. It is estimated that China holds over half of Laos's public external debt.[15] Laos' debt repayment obligation was estimated to be approximately USD1.25 billion annually (in 2021), representing more than half of the country's annual revenue.

Laos' debt burden may be considerably greater, as was notably summarized in a 2021 paper by the Lao PDR Ministry of Finance and the National Institute for Economic Research (NIER)[16], quoted here:

> *"Public sector debt increased to 72 per cent of GDP in 2020, from 67.3 per cent in 2019 [and increased again to 88 percent of GDP in 2021]. This, however, significantly understates Lao PDR's current debt burden, given the financial health of SOEs, possible accumulation of arrears, the ongoing exchange rate depreciation, and other possible actual and contingent liabilities. In parallel, external debt service obligations increased to around USUSD1.1 billion a year. The poor financial health of large SOEs such as EDL, Lao Airlines, Agricultural Promotion Bank and Lao Development Bank represent a further financial burden. Debt accumulated through investments in the power sector accounts for almost half of the public debt stock. Credit rating downgrades by Fitch and Moody's and TRIS, a growing fiscal imbalance, and limited domestic financing led to higher external borrowing costs."*

Laos is in grave danger of defaulting on its debt. Moody's, Fitch, and the Thai Rating and Information Service (TRIS) all reduced Laos to a very low (default-level) debt rating. The lowered rating not only decreases Laos' access to capital markets, but also sharply raises the

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15 https://www.voanews.com/a/laos-faces-debt-crisis-after-borrowing-billions-from-china-/6641633.html
16 https://rtm.org.la/wp-content/uploads/2021/11/Eng-13th-HL-RTM-Handbook-14-11-2021.pdf; https://rtm.org.la/2021-high-level-round-table-meeting/; and https://www.worldbank.org/en/news/feature/2021/08/20/lao-pdr-economic-update-august-2021-a-path-to-recovery

costs of servicing any new loans. As the lowered rating has excluded access to traditional banks and financial institutions, Laos has been forced to secure capital from private investors. For example, a recent small offering of USD340 million in short term bonds was at the very high annualized yield of 20 percent.[17]

Laos' economy is also in sharp decline, due in part to its debt burden, but also due to the effects of inflation, a more-than 50 percent drop in the value of Lao Kip (LAK) against both USD and RMB, very high prices of fuel and food, and the residual impacts of Covid on reduced tourism and other short-term economic impacts.

In terms of ecology, Laos is one of the most important global biodiversity ecoregions and home to some of the world's biologically richest and most endangered species[18]. China has been cooperating with Laos on biodiversity conservation for decades, including establishing cross-border joint conservation areas and various cooperation under the Lancang-Mekong Cooperation framework. A potential debt swap could utilize established cooperation channels and support nature conservation of interest to both countries.

2) Risks, potential motivations, and benefits of a Laos debt for nature swap for China

The current debt and fiscal crisis in Laos may pose substantial risks to China:

- Immediate Financial Risk: The current debt and economic situation in Laos presents the immediate risk that Laos may default on its existing debt obligations with China.
- Future Opportunity Cost, in BRI Countries and Others: Chinese-invested projects in Laos that are under construction or operation might experience delays or interruption in the occasion of debt distress or default, especially large infrastructure projects funded or guaranteed by Laos government. This would incur extra uncertainty and costs to Chinese overseas investments and may result in direct losses to Chinese companies and banks.
- Economic, Geopolitical, and Reputational Risk: The deteriorating debt situation in Laos, if unresolved, may irreparably harm one of China's closely-related BRI partner countries, with which China shares considerable economic and environmental interests.

In direct response to these risks, China may benefit from enhanced debt restructuring with Lao PDR that includes a debt for nature swap, to provide Laos with a combination of debt relief and specific green benefits.[19] The potential benefits to China of a debt for nature swap with Laos are considerable:

17 https://laotiantimes.com/2022/06/13/the-bank-of-laos-pdr-to-issue-5-trillion-in-saving-bonds/
18 https://www.worldbank.org/en/country/lao/publication/lao-biodiversity-a-priority-for-resilient-green-growth
19 https://asiatimes.com/2022/07/why-china-cant-let-laos-default/; and
https://onlinelibrary.wiley.com/doi/full/10.1002/app5.318

- China will benefit through enabling Laos not to default on its debt payments to China thereby improving the security of its investments in Laos.
- A debt for nature swap that involves a conversion to green debt (green loans or green bonds) provides the additional ESG benefit to China's banks and government. Green bonds can help to spread risk, as these bonds are disaggregated across multiple investors and traded on the secondary market (as opposed to a traditional bank loan between one lender and Laos).
- China will also benefit from a debt for nature swap in a BRI country such as Laos that provides both debt relief and environmental results that contribute directly to China's national goals for the Green Belt and Road Initiative and for China as an Ecological Civilization.

In recent years China has made considerable efforts to improve the environmental credentials of its Green Belt and Road Initiative, including that BRI infrastructure projects do not impact adversely on environments of countries where projects are developed, and that those infrastructure assets do not become 'stranded' by subsequent physical or economic changes, particularly climate-related risks.

In parallel, China has demonstrated a strong commitment to leadership in the field of green finance, including as host of the 2016 G20 processes, through domestic initiatives and regulations, and as the dominant issuer of green bonds in global capital markets. The two major Chinese banks for financing BRI projects, China Development Bank and China Export-Import Bank, actively promote the "Green BRI" vision, and their own green finance credentials.

In 2021, China's "*Green development guidelines for overseas investment and cooperation*" were issued jointly by the Ministry of Commerce (MOFCOM) and the Ministry of Ecology and Environment (MEE), encouraging Chinese businesses to integrate green development throughout the overseas investment process. They send a clear signal to the state-owned enterprises for which MOFCOM's policies have regulatory oversight, including key BRI actors such as China Development Bank, China Export-Import Bank, and Sinosure, China's export credit insurance agency, that the environmental credentials of the BRI are important to the State leadership.[20]

At the CBD COP15 summit in October 2021, President Xi Jinping touted China's concept of "ecological civilization", which envisions the mainstreaming of biodiversity across decision-making and increasing financial, technological, and capacity-building support to developing countries.

3) Potential benefits to Laos of a debt for nature swap:

20 https://www.undp.org/laopdr/publications/unlocking-fiscal-space-biodiversity-and-climate-financing-lao-pdr-debt-nature-opportunity

In addition to the benefits to China's banks and government, Lao PDR would benefit in several ways from a China debt for nature swap:

- The most immediate benefit through the restructuring or reduction of debt with China, and reduction of its payment burden.
- There is an additional benefit that a reduction in debt may help improve their debt rating.
- A debt for nature swap provides the additional benefit of a new source of financing for Laos protected areas or other conservation program.
- If the debt for nature swap is set up as a border protected area initiative, China and Laos would both benefit from funding of important border park in northern Laos and southwestern China.

4) Scenarios for a potential China-Laos debt swap

The models and processes for China to restructure Laos' debt could take various forms, including as part of broader restructuring, or as a stand-alone agreement. These restructuring options include full or partial cancellation of principal, deferral of payments, swapping concessional for commercial debt, reducing interest or principal terms, currency swaps, converting debt to equity, and re-purchase of debt by either the creditor government or third parties such as impact investors or NGOs.

The critical element of a debt for nature swap is that some or all the proceeds (the debt payment savings) are re-allocated inside Laos (in LAK) to projects that benefit the environment. By adding specific environmental benefits to the debt agreement, the restructured debt may be more attractive to public or private investors that seek ESG benefits in their portfolio.

In simple terms, there are several types of Chinese loans or bonds in use in Laos, each with varying terms, and all of which have the potential to be utilized in a China-Laos debt for nature swap.

- China loans that are made with commercial lending terms.
- Infrastructure loans for big projects from multiple sources including China banks, made in both concessional and commercial terms (made by China ExIm Bank, China Development Bank, state owned commercial banks, and perhaps also AIIB).
- Commercial loans from private banks.
- Some lending to Laos state-owned enterprises (SOEs).

In consideration of the many forms of debt restructuring that might apply, and the different types of debt that China has with Lao PDR, there are several debt for nature swap scenarios that are worth consideration by the Chinese government and banks. The following are four examples of how these debt for nature swaps might work:

- **Bilateral swap,** involving a reduction of China commercial-scale bonds or loans, either re-negotiated or replaced with more concessional loans with lower costs to Laos, and with the differential in payments made available for in-country support of conservation projects. For example, the simple reduction of interest by one or two percentage points could result in USD millions saved annually that can be re-allocated in Laos for management of protected areas and other conservation programs. Likewise, the reduction or replacement of a loan principal to a smaller amount would yield USD millions in reduced annual loan payments that would be converted to payments for park and other conservation programs.

- **Extended bilateral swap**, similar to the above scenario, but where China allows replacement of current commercial loans with lower-cost "green debt conversion bonds" that also include climate-positive or nature-positive results embedded in their structure. These green conversion bonds could be issued by the Government of Lao PDR, or a state-owned entity, in a private placement on China's interbank market, and subsequently could be traded publicly on the secondary exchange market. This is similar to the Brady Bonds model that has been applied previously in other countries but modified for an environmental benefit. An additional bank or credit agency (such as China's Sinosure, perhaps the World Bank's MIGA, or another insurer) may be necessary to provide risk or credit insurance to purchasers of new debt. In this scenario, high-risk commercial loans could be replaced with new green bonds that are lower cost to the debtor country, more secure and tradeable, and hold additional ESG value for China.

- **Two-party or three-party purchase of commercial debt,** and replacement with new debt at a lower cost. A third-party NGO could secure capital for buying the discounted debt, and exchange this for newly issued sovereign debt on more favorable terms. This has been demonstrated recently in the Belize blue bond example describe in section 6. As above, an additional bank or credit agency (such as China's Sinosure or perhaps the World Bank, IMF, or an MDB) may be necessary to provide risk or credit insurance to purchasers of new debt. As with other swap models, the differential in loan payments would be made available for grants for conservation projects.

- **Negotiated concession agreements,** in Laos for development of new infrastructure or access to resources, such as a mine site, a forest plantation, a hydropower project, or a railway project. Any concession agreement that includes negotiated debt between Laos and China could be renegotiated and restructured under a debt for nature swap instrument that provides funding for direct biodiversity protection benefits or that provides financing for a green transition of the infrastructure project.

5) Laos' biodiversity needs, and potential uses for use of debt swap funds

Laos is considered to have globally-important biodiversity including extensive forests, important habitat for endangered species, and critical water and wetland resources. A recent report described Laos' biodiversity as follows:

Laos has some of the highest forest coverage among countries of the Southeast Asia region, with forest ecosystem services supporting key economic sectors including energy, agriculture, and tourism. Natural capital is a major source of wealth for the country and is crucial to the Lao economy, providing goods and services that are essential to reduce poverty, secure livelihoods, and support sustainable growth.

The significance of Lao PDR's biodiversity assets is well recognized, with a network of National Protected Areas (NPAs) established across four ecologically diverse regions: the Northern Highlands; the Annamites Range; the Indo-Chinese karst landscapes; and the Mekong plain.

Investments in biodiversity conservation in these regions can support local jobs and revenue, including through nature-based tourism and non-timber forest products. The Lao Government recognizes the importance of these assets and benefits, but under the country's current debt and fiscal crisis, budget allocations have precipitously declined. For example, budget allocations to the Lao Forest Protection Fund have decreased significantly from over $700,000 USD in 2017 to around $170,000 USD in 2021.[21]

The environmental impact of this decreased funding is three-fold. First, a decline in ecosystem services and asset values, paired with reduced production in sectors such as tourism, agriculture and energy, risks substantial negative impacts on local communities and livelihoods as well as the overall economy. Second, Laos' protected area network is under threat due to underfunding and a decrease in adequate management and protection. And third, and perhaps most critically, to continue making debt service payments, Laos is under pressure to generate cash flow from extractive industries such as mining and commercial forestry that will generate even greater impacts on high-biodiversity forests.

Debt for nature swaps were first conceptualized in the late 1980s to address this exact situation: providing the debtor country with immediate debt relief and, at the same time, using the savings from debt payments to help conserve and protect local forests and other ecological assets that were under increasing threat to support debt re-payment. China is in a pivotal position to help Laos with this exact same situation today.

In all debt for nature swap models, some or all debt reduction revenues are allocated back into the debtor country using local currency, either as direct payments by the government or through a third-party conservation trust fund or NGO. In any of the examples of a China-Laos debt swap, the revenue generated can be used for any number of conservation activities, such as:

- **Joint China-Laos border park management.** The swap proceeds might be used to support a pair of protected areas on the border with part of Xishuangbanna National

[21] https://www.undp.org/laopdr/publications/unlocking-fiscal-space-biodiversity-and-climate-financing-lao-pdr-debt-nature-opportunity

Nature Reserve in China's Yunnan Province and Nam Ha National Protected Area in northern Laos. According to sources, the China side of this border park is established and important in China, and thus enjoys some funding and protection. Because of Laos' dire economic situation, the Laos border park needs new funding. If the first pilot China-Laos debt for nature swap was targeted for this shared border park, this could be a visible and powerful statement – in particular if announced at the CBD COP15 – of collaboration between the two countries and a strong signal by China of its desire to support biodiversity protection both internally and in BRI countries.

- **Regional or national park network support.** Funding from a debt for nature swap could more broadly provide sustained funding for the Lao PDR's system of national parks and protected areas (NPAs). This funding can be applied to covering management costs, equipment, patrolling, research, park infrastructure, and engagement with local communities. Funding could be for one or a few targeted parks, or if the funding is great enough, spread out for use across the entire national protected area network.
- **Water quality and watershed management.** Many countries utilize debt swap proceeds to support tree planting, bring about needed land use changes, control pollution, and support other activities to protect watersheds and improve water quality. This could be particularly beneficial in reducing erosion and siltation in hydropower catchments.
- **Forest or other ecological restoration.** Debt swap funds are often used to support many types of ecological restoration, including forest regeneration, mine or other degraded land restoration, and agricultural land rehabilitation.

6) Challenges for China and Lao PDR

Although there is clear interest in high levels of the Laos government for a debt for nature swap, and growing interest within China's government about the debt for nature swap concept, several challenges need to be addressed for both China and for Laos. Some of the most immediate challenges are:

- **Insufficient experience and understanding of debt for nature swaps of both governments:** The Chinese government and Chinese banks need more tangible information and background to fully understand the concept of debt for nature swaps, and the value that debt swaps can bring in a broader set of strategies to reduce or restructure the debt burden of Laos or any other of China's highly indebted BRI partner countries.
- **Lack of institutional set-up, supporting laws, and regulations in China:** China's government and banks can learn much about how debt for nature swaps have worked for other creditor countries that have used debt swaps, and do not need to re-invent entire processes and models from scratch. However, China will need to make key decisions about the debtor countries, the types of swap mechanisms, and the types of loans it might include for debt swaps, and also make decisions about the appropriate oversight agencies and banks.

- **Other support from international and third-party entities is needed:** As this is a new concept for the Laos government, additional analysis and technical support is required to develop and inform decision-making. UNDP has provided this kind of support in several countries including Lao PDR and can continue to play this supporting role, but it is not empowered to hold specific discussions with creditors.
- **A pilot project may offer the best path forward:** For both the Government of Lao PDR and China, there is not yet a defined set of steps to follow or process in which to discuss and create a debt for nature swap. A Lao-China debt for nature swap offers both countries clear and considerable benefits but the pathway to such a swap is not yet clear. Thus, China and Lao may want to consider a pilot debt for nature swap project through which lessons can be learned and a model developed that is suitable for the China context.

9. Recommendations for China's Government and Banks

Based on the analysis of the relevance of debt restructuring, the advantages of debt for nature swaps, and the lessons learned from more than 30 years of debt for nature swap application, the following recommendations can be considered by China's ministries, regulators, and financial institutions responsible for and engaged in overseas lending and conservation efforts.

1) Consider debt for nature swaps as part of the overall strategy for managing sovereign debt. As China's banks and key government agencies and officials evaluate and consider options for its most indebted Belt and Road partner countries, China may want to consider use of a debt for nature swap as a valuable tool in the overall debt restructuring toolkit. As described in this report, debt for nature swaps are one of a number of debt restructuring and management tools, but have the advantage of providing some level of debtor country debt relief while at the same time providing strategically important ecological, social, and economic benefits.

2) Learn from past experience and new partners. As part of this evaluative process, China's banks and government officials can establish a dialog or exchange with expert organizations and like-minded governments that have been pioneers in developing debt for nature swaps and other sovereign debt restructuring innovations. For example, government organizations such as UNDP, France's AfD, Germany's BMZ, and others can provide valuable lessons and sample policies and programs to use. Trusted international NGOs and academic institutions engaged and experienced with Chinese development such as Paulson Institute, Green Finance & Development Center at Fudan University, and the Global Development Policy Center at Boston University can provide vital background information.

3) Pilot the application and scale to other countries. If China chooses to evaluate and carry out a debt for nature swap, China may wish to work with Lao PDR or another close BRI partner country on a pilot debt for nature swap project, as described in section 8 above. A pilot debt swap can serve as a proof-of-concept for both countries, can provide important co-benefits to both countries, and can help clarify the needed laws, policies and program elements needed to make future debt swaps work with more countries in the future. Once the lessons learned from the pilot scheme have been integrated, scaling of debt for natures swaps can be successful with countries that are also carrying considerable debt, many of which have identified themselves as potential partners with China on a debt for nature swap.

4) Establish a clear legal and governance framework that establishes the ambitions, conditions, and implementation frameworks for debt swaps. China has the luxury of learning from, and literally adopting directly, the policies and practices of the 13 creditor countries that have been utilizing debt for nature swaps since the 1990s. To address the challenge of long-term commitments in debt for nature swaps, international practice shows that a legal framework should be established with a designated governance system including a specific policy-making agency in charge of the design, implementation, and supervision of debt swaps. In China, for example, this could be in the Ministry of Finance (MOF) and supported by the Ministry of Ecology and Environment (MEE), the Ministry of Commerce (MOFCOM), and the China Banking and Insurance Regulatory Commission (CBIRC) to address sovereign and commercial financial as well as biodiversity protection issues.

5) Engage potential BRI partner countries early. Some of China's debtor country partners, in particular those within the BRI and that are also carrying considerable debt, have identified themselves as potential partners with China on a debt for nature swap. International experience has shown that early engagement and analysis by creditor countries with their debtor country partners can lead to quicker and more successful application of debt for nature swaps with those countries.

6) Tell the story well. By working internationally and utilizing global events such as CBD COP15, China will be able to gain considerable positive public attention and support for the benefits derived from debt for nature swaps. The positive goodwill generated through debt for nature swaps, and their combined debt relief and green results, can contribute directly to China's ambition and progress in becoming an ecological civilization.

7) Seek public and private investment for broader application. Initial financing for the first debt for nature swaps may likely come from Chinese domestic sources. Over time, and based on the success of the first pilot debt for nature swap projects, China may succeed in attracting private finance through market incentives tied to conservation practices funded by debt swap proceeds. For example, forest or other natural land protection may enable creation and sale of carbon offset credits.[22] Projects that fund ecotourism opportunities may attract additional private investment.

[22] Steele and Patel, "Tackling the Triple Crisis. Using Debt Swaps to Address Debt, Climate and Nature Loss Post-COVID-19."

About the Paulson Institute

The Paulson Institute is a non-partisan, independent “think and do tank” dedicated to fostering a US-China relationship that serves to maintain global order in a rapidly evolving world. Our focus on US-China is dictated by the reality that it is the most consequential bilateral relationship in the world. We often operate at the intersection of economics, financial markets, environmental protection, and policy advocacy, in part by promoting balanced and sustainable economic growth. Founded in 2011 by former Treasury Secretary Henry M. Paulson, Jr., the Institute is based in Chicago with offices in Washington and Beijing.

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The Green Finance & Development Center (GFDC) at FISF, Fudan University is a leading independent think tank providing research, advisory services, and capacity building for financial institutions and regulators for green and sustainable finance in China and internationally. The GFDC works at the intersection of finance, policy and industry to accelerate the development and use of green and sustainable finance instruments to address the climate and biodiversity crisis, as well as contribute to better social development opportunities.

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