

# Climate-Just Debt Swaps: A potential mechanism for Loss and Damage

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## **Abstract**

We propose a improved mechanism for funding climate mitigation and adaptation as well as the “Loss and Damage” process described in COP27. Specifically we provide an incentive for advanced economies to want to contribute large amounts and show how projects can be designed to benefit all parties, but especially developing nations. A method is described to address the third world debt crisis and ensure that developing countries have the resources they need to address climate change and the biodiversity crisis.

# 1 Introduction

“We are in the fight of our lives. And we are losing. Greenhouse gas emissions keep growing. Global temperatures keep rising. And our planet is fast approaching tipping points that will make climate chaos irreversible. We are on a highway to climate hell with our foot still on the accelerator.”

António Guterres, UN Secretary-General, 7th November 2022<sup>1</sup>

Possibly the greatest challenge facing environmental economics is the construction of a system capable of redirecting resources into addressing the climate and biodiversity crises. Leaders calling for coordinated international action have to contend with the reality of strong counter-forces: the freeloader problem, the difficulty of determining which countries should “pay the most” for solutions, an array of powerful special interest groups lobbying for continued governmental support for unsustainable practices, the challenge of maintaining political and popular will over such long timescales and no shortage of alternative projects all requiring urgent government action.

There is yet another crisis whose effects greatly amplify the difficulty caused by the first two: third world debt. Debt in the developing world is crippling infant economies and an insistence by the advanced economies that loans must

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<sup>1</sup> United Nations, 2022.

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be provided in hard currencies exacerbates the problem<sup>2</sup>. Third world debt is variously estimated to be between 4 and 12 trillion US Dollars, and an increasing proportion of this is either bad or doubtful. At the time of writing, seventy-three countries currently qualify for debt relief under the Debt Service Suspension Initiative (Jensen, 2021).

Very little climate action is taking place in the developing world. An acceptance that these countries contribute little to the causes of the problems combined with the existence of a host of pressing problems leads governments in these countries to adopt other priorities. No country with 80% percent of their population without electricity is likely to refuse an offer of a cheap coal power station, in the hope that at some point a better deal for a wind farm might turn up. Because of the power imbalance between the countries, this kind of bilateral deal tends to be exploitative.

As a result, the countries which have done the least to cause today's crises are precisely the countries which stand to lose the most. Developing countries are not able to spend sufficient amounts on adaptation and as a result are likely to be hit by a series of disasters from which they are not able to recover.

At the Sharm el-Sheikh Climate Change Conference (COP 27) this issue was recognised and countries agree to create a "Loss and Damage" fund to compensate "vulnerable countries hit hard by climate disasters" (Wyns, 2023). However, no agreement was reached on a mechanism for providing that funding.

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<sup>2</sup> Because the local currencies of most developing nations tend to devalue relative to the US Dollar, repayments become progressively harder over time, and the foreign debt of these countries represents an ever-increasing percentage of their GDP. See Appendix A.

Quite aside from the humanitarian, egalitarian and social justice issues, there are very real direct threats posed to advanced economies. For example, when, as is now inevitable, a particularly high storm surge brings sea water onto Bangladeshi farm land<sup>3</sup>, there could be as many as 100 million people displaced. What's more, this kind of disaster would be sudden, completely overwhelming any existing capacity for climate refugees (McAuliffe and Jayasuriya, 2016).

Tensions between countries will undoubtedly increase. How often this will lead to violent conflicts is impossible to predict, but it is clear that this is not a scenario that is compatible with thriving international trade. Even distant countries will be affected, and the most developed countries are precisely the ones which stand to see the biggest financial losses.

It is therefore vital that we find a way to address the triple crisis: climate change, biodiversity loss and third world debt.

This paper proposes a mechanism to provide large amounts of funding for "Loss and Damage," climate mitigation and climate adaptation. The aims are the following:

- to provide *developing nations* with net zero assets, employment, education and infrastructure
- that *contributing nations* benefit from providing funds
- *banks* are able to improve their balance sheets
- *multinationals* can grow their markets

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<sup>3</sup> 70% of the population of Bangladesh lives on land which is less than 5m above sea level.

Furthermore, the design goal is that each of these participants shown benefit more from using this mechanism than any bilateral arrangement they might otherwise make.

This is achieved by the following major changes to business-as-usual:

1. the use of a multilateral development bank (such as the World Bank) as a trusted intermediary
2. the empowerment of developing nations to decide on the projects they want from the suppliers they choose
3. the cancellation of existing bad and doubtful debt
4. the provision of new loans in local currencies with repayment terms better than those they replace
5. multinationals can only participate in projects if their country (or countries) have contributed funds<sup>4</sup>
6. conditions to require all projects to be net zero and with no net loss to nature
7. conditions limiting multinationals to taking profits only from construction (and not from operation)

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<sup>4</sup> In this paper, we use the term “multinational” very loosely, to refer to a company that is capable of operating at scale and across multiple countries. In addition, there has to be a beneficial relationship between this company and at least one contributing country. This is simplest when the company operates entirely within one country, which supplies all of the workers and to which all taxes are paid. In this case, all of the money contributed by the contributing country ends up in the hands of the company (and therefore returns to the economy of the contributing country). If the company actually pays tax in two or more countries, then the contributing requirement must be shared between those countries, in some way which is acceptable to the company and its “parent” countries.

8. conditions that a high percentage of the labour and supply chains come from the local country
9. conditions requiring multinationals to provide education facilities (schools and universities) until sufficient labour rates can be achieved

Projects which meet the conditions and restrictions of Climate-Just Debt Swaps (CJDS) will be called “CJDS-compliant.”

## 2 Climate-Just Debt Swaps

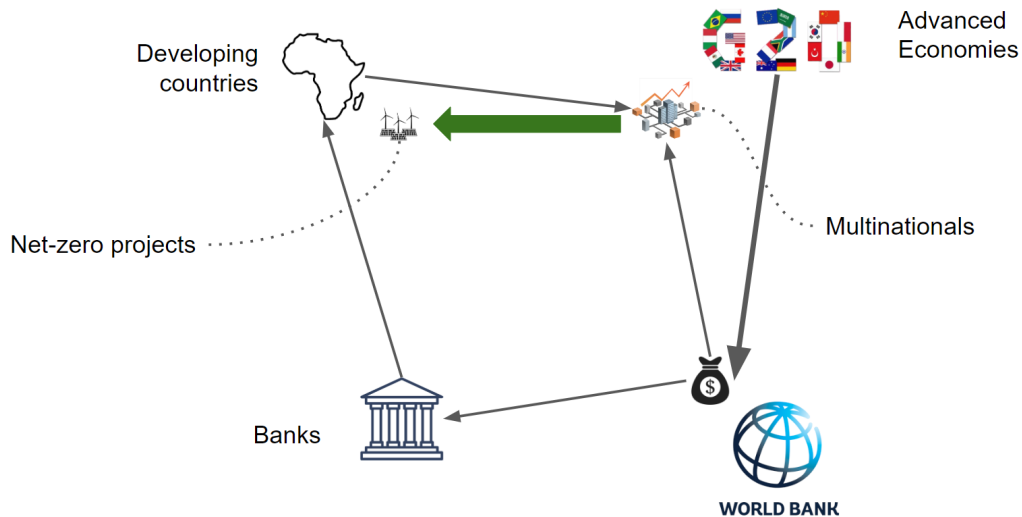


Figure 1: Climate-Just Debt Swaps. Funds equal to the cost of a project are committed to a multilateral development bank (the World Bank in this example). Half of this money is used to subsidise the direct purchase of the asset. The other half is used to restructure existing loans. Projects must be net-zero, no net loss to nature, and return all operational profits to the developing country.

1. Money is committed by a contributing nation into a CJDS fund managed by a multilateral development bank.
2. A developing nation “buys” a CJDS-compliant project of their choice (according to their own priorities) from a multinational of their choice. It can only do this if the country of the multinational providing the project has contributed (at least) as much as the project costs, in which case half of the cost is paid out of the CJDS fund.
3. A similarly-sized sum of money is also taken from the fund to pay for loan restructuring, as follows:

- The money is used to purchase bad or doubtful debt from its owner (which we will call a “bank”), assuming that such de-valued debt exists.
- That debt is then cancelled
- The bank is required to make a new loan to the developing nation, but in local currency
- The additional cost (to the bank) of the currency risk is borne by the CJDS fund.
- The payment schedule for this new loan is adjusted so that it is always lower than the payment schedule of the old (now cancelled) loan. The additional cost (to the bank) of this payment restructuring is also borne by the CJDS fund.
- If there is surplus money in the CJDS fund it is used to buy (and cancel) additional debt.
- If there is insufficient money in the CJDS fund to pay for the restructuring then the developing nation will have to bear some part of the purchase costs itself

### 3 Benefits

We will now look at each of the participants in detail to explore the impact on each of them.



### 3.1 Developing Nations

Climate-Just Debt Swaps clearly favour developing nations. They acquire a new asset, 50% of which is paid for directly with the other 50% coming from a new loan which has lower repayments than an old loan which it replaces. Because this new loan is in its own currency which is likely to inflate faster than the US Dollar, successive repayments get progressively easier and over a timescale of decades the debt “evaporates” away. This is the same mechanism which reduced the debt burden of Western European countries following the Marshall Plan.

In stark contrast with typical North-South contracts today, all projects are construction only. Once the asset is built, all ownership and operational profits accrues to the developing nation. In addition, 90% of the labour used should come from the developing country. If there are insufficient skilled workers in country, then the multinational is obligated to pay for education until sufficient staffing levels can be reached. Clearly this adds to the cost of the project, but that is something that can be planned for in advance.

Another factor that is likely to add to the project cost is the requirement that the project must be net zero in construction and operation. It may even be that some kinds of activity are very difficult to decarbonise, in which case the project will have to be replanned to include Direct Air Capture or some other real and tangible method of removing carbon dioxide from the atmosphere<sup>5</sup>.

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<sup>5</sup> Allen et al., 2020 categorises carbon offsets into five types, and it is type V which applies here: *removal* of carbon dioxide from either the atmosphere or the ocean *permanently*.

## 3.2 Advanced Economies

A condition for a multinational to participate in Climate-Just Debt Swaps is that its country has contributed sufficient funds. When this happens, all of the money from that country ends up in the hands of the multinational, which pays tax to it and which employs its workers. In contrast to traditional foreign aid therefore, the money returns (immediately) to the economy of the contributing country.

This is functionally equivalent to direct investment of the contributing country in one of its own industries - an activity which is often highly attractive to governments in general, as it provides companies with the opportunity to scale much faster than without the government investment.

In addition to the tax and employment benefits, there is also an opportunity for the contributing country to redirect business activities of its own companies into industries or areas which are more sustainable. This could provide a powerful incentive for companies to invest in new, clean technology, for example, or to move a workforce from oil and gas into geothermal.

## 3.3 Multinationals

These companies are typically already capable of contracting directly with developing nations but there are several problems with these bilateral deals. The principle problem being that the power typically lies with the multinational,

so the deal tends to highly skew benefits away from the developing nation, resulting in exploitative contracts.

But multinationals also require paying customers, and these are harder to find in parts of the world where the economies are smaller and the infrastructure less well developed.

By providing multinationals with payment upfront and in hard currencies, most of the currency risk is eliminated. And because the developing nation does not have to find the money itself, the size of the potential customer base can be greatly increased.

The restrictions placed on the multinational (having to restrict activity to construction only, take climate change and biodiversity loss into account and provide adequate training and education) would not be of their choosing, but the net result of each restriction is that the cost goes up. Each company will have to price its projects correctly to ensure that it meets all requirements, competes favourably in the market and still provides sufficient profit.

### **3.4 Banks**

Bad and doubtful debts are “holes” in banks’ balance sheets. The process of restructuring these debts increases bank value immediately. It is this added value which funds the other restructuring actions: requiring loans to be made in local currency and limiting repayments so that they never exceed the payment schedule of the cancelled debt.

Another positive effect on developing nations is that their default risk is reduced. Over time their debt burden will also shrink, further improving their credit rating. This makes them more attractive potential customers to the banks who can potentially offer them more loans (though these will also need to be made in local currency or else the benefit disappears).

It is true that the banks will typically have to buy local currency from the developing nation's central bank. Then, as it receives payments in that currency later in time it is bearing an additional currency risk. However, this risk can be priced. Indeed, the banks are perfectly skilled to assess that risk and price it accordingly.

## 4 Ramifications

This is a scheme which is designed to be attractive to all participants. If so, then a significant amount of money could be directed this way. That has several ramifications which we explore here.

This is likely to be the most attractive mechanism for countries to deliver foreign aid. If a government has made a commitment to spend a certain percentage of GDP on foreign aid, for example, then it is going to want to insist that those projects be net zero, so that it can get the advantages that Climate-Just Debt Swaps bring.

In particular, if the government has particular industries that it wants to grow (and which government does not) then here is a way to directly influence that growth. It may have a company which makes desalination plants, for example.

There would be considerable interest in becoming the first desalination supplier capable of meeting net zero and no net loss to nature requirements, and gaining access to an immediate global customer base.

Looking further ahead, it is possible to imagine developing nations become global centres of excellence for certain industries, as project after project is preferentially delivered in the global South in order to attract better terms.

This could easily provide the green growth that is so dearly needed in order for these countries to develop.

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## Appendix A Loans in Local Currencies

US Dollar loans to developing countries automatically become unpayable because of differences in inflation. Climate Justice demands that we stop making loans that end up crippling developing economies, and replace them with loans repayable in local currencies.

Imagine you live in a developing country and you need to take out a loan. Should you take out a loan in local currency or in US Dollars? Which is better? Does it matter?

Yes, it matters. In fact, depending on where you live, you could be risking bankruptcy if you get this wrong. Loans to developing countries must be in local currencies.

Let's say the loan you need is the equivalent of USD \$50. Or \$50m, or \$50bn – pick whichever is the more realistic unit to you. And let's assume that like 95% of the world's population you live in a country where the inflation rate is usually lower than that in the US.

In the graphs below we are assuming: – Local average inflation rate is 8% – US inflation rate is 2% – you are being offered an interest rate of 3%, fixed for the duration of the loan.

The bank is willing to lend to you, and presents the following graph showing your repayments and how they reduce the amount outstanding over time:

## View from the Bank

Amount outstanding, expressed in USD(2021)

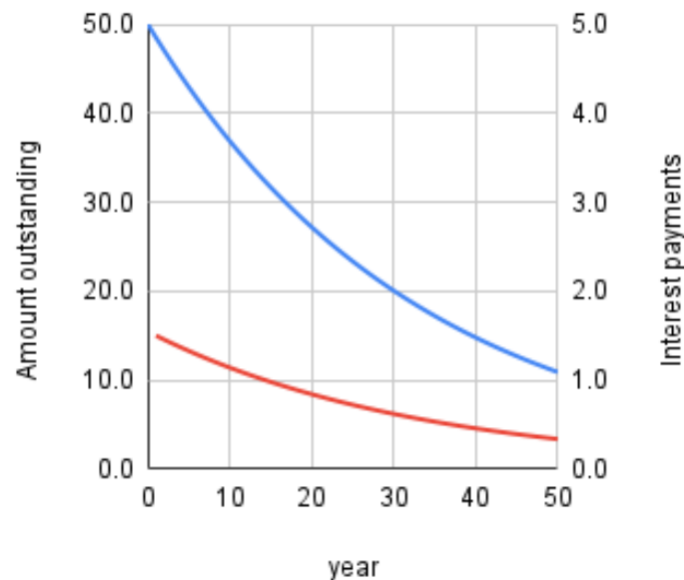


Figure 2: View from the Bank. Blue is the outstanding loan amount, and red is the size of repayments (on the right hand axis).

The bank has used 2021 Dollars in its graph, which is reasonable. But it is also reasonable to ask what the graph would look like if we assume that future inflation rates in both currencies are the same as the historical averages and look at the amount outstanding in real terms.

See figure 3. The difference is striking. Your local currency is on average deflating against the dollar, which means that you will get fewer dollars for your local currency next year than you do this year. That means that even though the amount outstanding decreases in dollar terms, those dollars are increasing in value faster than the rate you are paying off your debt. You are never going to repay your loan. And in fact, your repayments get progressively harder to pay in real terms each year.

## View from the Developing Country

Amount outstanding, expressed in real terms

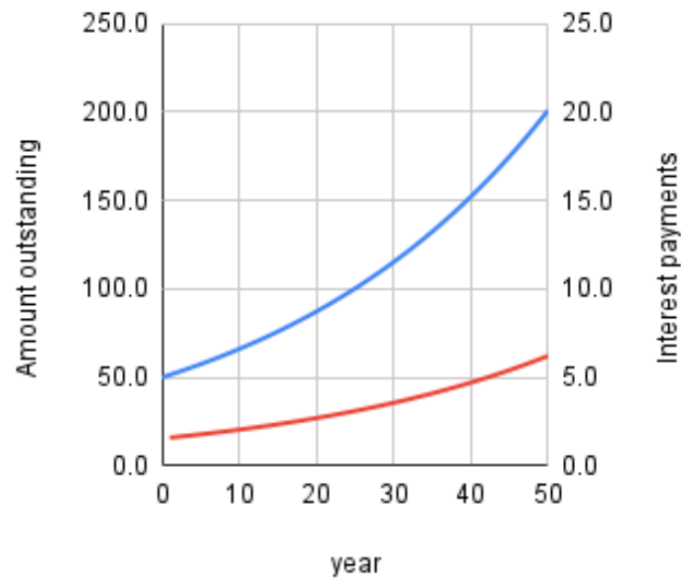


Figure 3: View from the Developing Country. Blue is the outstanding loan amount, and red is the size of repayments (on the right hand axis).

This could be a problem. Even if the loan repayments were initially affordable, eventually the loan will become unpayable.

According to Debt Justice, there are currently 64 countries which have debt payments which are higher than the amount they spend on health care.

In some cases, debt payments are five times health care payments.

But it doesn't have to be this way.

What would happen if the bank lent you the money in your local currency?

Then, the comparatively high inflation rate is your friend; even though you are



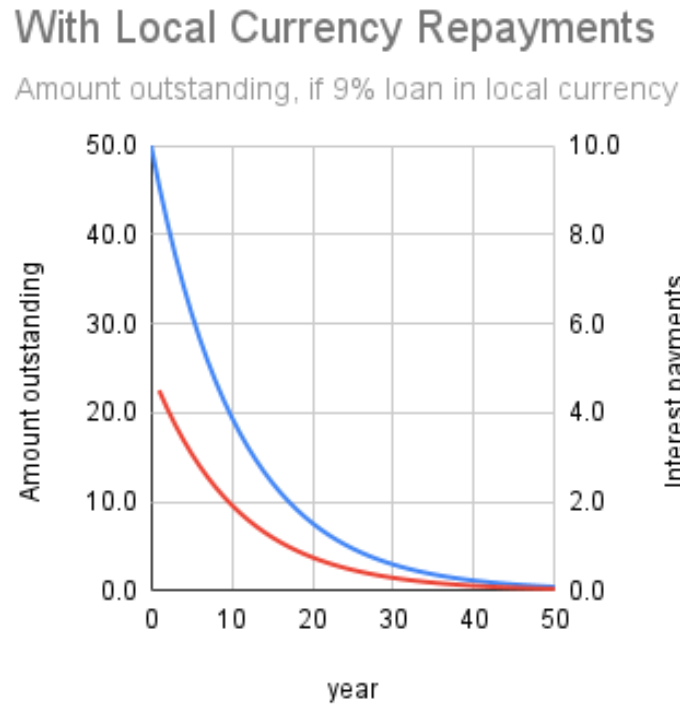


Figure 4: View with local currency repayments. As before, blue is the outstanding loan amount, and red is the size of repayments (shown on the right hand axis).

still paying off the same percentage of the loan each year, your ability to do so increases each year. See figure 4.

This is similar to the first graph, the one the bank used when explaining your repayments, except that the amount you will be repaying decreases steeply in real terms. In fact, we are assuming a 9% repayment rate now instead of 3%, and even so, this is clearly preferable.

The more observant of you will have noticed that the y-axis differs between these graphs. Figure 5 shows a side-by-side comparison of the real terms cost of repaying both loans – the one in US Dollars and the one in local currency.

## Side-by-side Comparison

USD loan (red) versus local currency loan (dots)

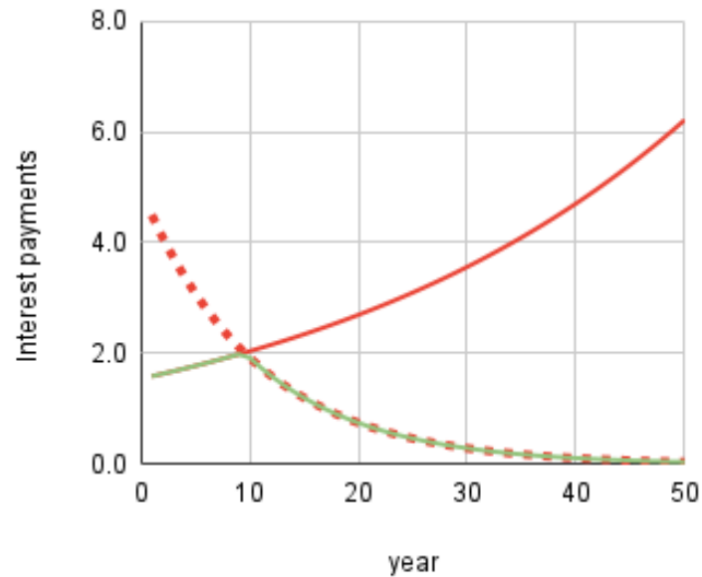


Figure 5: Side-by-side comparison. Red: Interest payments on a 3% US Dollar loan and (dotted) on a 9% local currency loan. Green: ideal repayment schedule. As inflation in your currency is higher than that in the US, a commitment to repay a loan taken out today becomes a smaller and smaller burden over time, with the result that it quickly becomes possible to repay the total amount outstanding. Over a period of decades, the debt evaporates. This is one of the cornerstones of Climate-Just Debt Swaps.

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Doesn't it make you question the morality of making loans to the developing world in hard currencies? Loans to developing countries must be in local currencies.

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