13 May 2024

In spite of the huge economic and social costs resulting from environmental degradation, the way we invest is not changing

If you wish to boost your morale, don't read this article.
If you wish to know what's really going on, please do.

Hungerexplained reviewed for you a few recent studies that show that although ongoing environmental degradation has serious economic and social consequences, humanity is not changing behaviour.

1. Amazing economic costs

A number of research teams are working to measure the economic damage caused by environmental degradation. Two recently published studies are presented here.

1.1. Global economic costs of climate change

A team of German researchers assessed the future cost of climate change based on actual empirical data from more than 1,600 regions worldwide over the past 40 years and according to plausible future greenhouse gas (GHG) emission scenarios. Impacts considered include consequences of climate variables such as temperature and precipitation on labour, health and agricultural productivity, as well as flood damage.

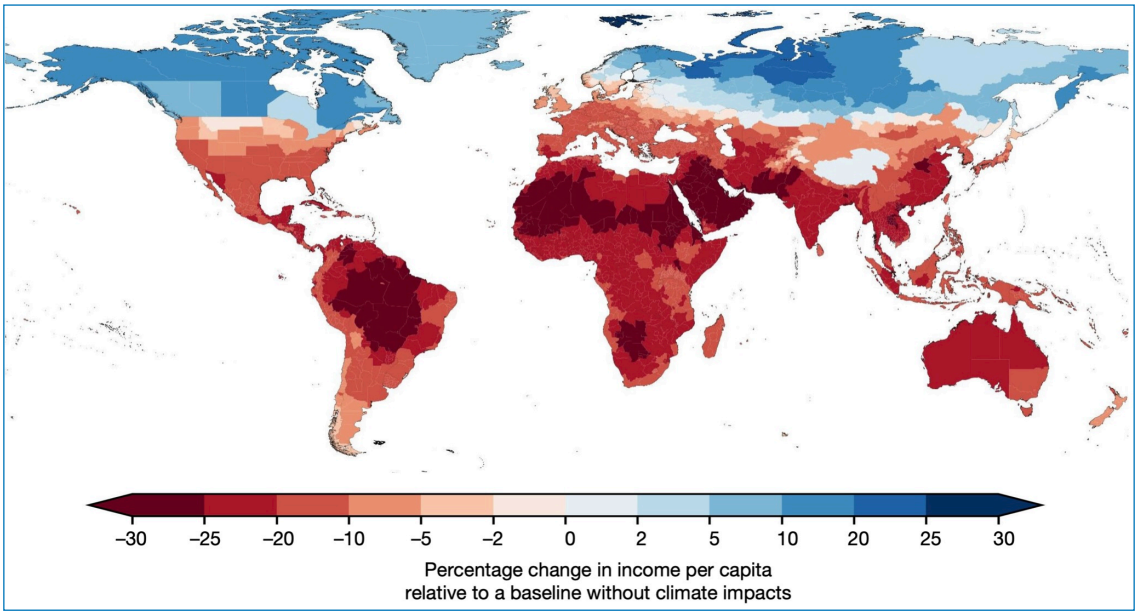
The results obtained are mind-blowing, as they indicate that "the world economy is committed to an income reduction of 19% within the next 26 years independent of future emission choices"[1]. These damages "already outweigh the mitigation costs required to limit global warming to 2 °C by sixfold" and are estimated at an annual 38 trillion in 2005 international dollars (likely range of 19–59 trillion 2005 international dollars) by 2049 [read]. They are expected to be greater in low-latitude countries where temperature is already warm relatively to high-latitude countries (see **Figure 1**).

These results indicate an obvious conclusion: the cost of climate change is stratospheric and anyone sensible should be convinced that spending resources to mitigate climate change is a very effective way of spending money (and that

[1] This order of magnitude is broadly consistent with earlier estimates made by reinsurance provider Swiss Re [read].

reducing future GHG emissions should be an absolute priority, rather than trying to achieve a minute and ephemeral annual growth rate). Yet, experience shows that funding of climate change-related programmes is direly insufficient [consult our thematic page on climate finance]. Worse, humanity is still investing its resources in activities that will generate additional future GHG emissions (see below).

Figure 1 – Projected percentage change in income per capita relative to a situation without climate change, by 2049



Source: Kotz et al., 2024.

1.2. The UK: an example of estimating financial costs caused by environmental degradation

In the UK, the Green Finance Institute (GFI) just released a study concluding that "damage to the natural environment is slowing the UK economy, and could lead to an estimated 12% reduction to GDP in the years ahead", equivalent to around $270 billion per year!! [read] The method adopted for computing an estimate in value of the impact raises a number of theoretical and methodological issues [read pp. 6-9] but, when used in full knowledge of its limits, it gives a useful order of magnitude of the future impact.

The team of top researchers conducting the GFI study found that deterioration of the environment "could lead to an estimated 12% loss to GDP… In comparison, the financial crisis of 2008 took around 5% off the value of the UK GDP, while the Covid-19 pandemic cost the UK up to 11% of its GDP in 2020." This includes both chronic risks and acute risks with the shocks they are likely to create in the decade to come.

Interestingly, the authors of the study found "that half of the UK's nature-related financial risks originate overseas".

Another striking feature of the GFI report is that it did not just consider the cost of climate change, the crisis that attracts currently most interest in the public, prompted by both media and political debate. It also includes in its analysis the cost of other intertwined crises such as soil health decline, water shortages, global food insecurity, biodiversity loss, zoonotic diseases[2] [read] and antimicrobial resistance [read]. At hungerexplained we salute the expanded scope adopted by this team of researchers.

The study emphasises the particularly high risks (and costs) related to agriculture and utilities such as water supply. The research group stresses that estimates made are rather conservative.

From the point of view of hungerexplained, the results of this study show that given the size of the economic and financial impact of environmental degradation, it is highly justified that countries

- invest in environmental protection,
- invest in adaptation and preparedness to likely shocks, and
- monitor environmental degradation and update regularly estimates of its economic impact.

Moreover, the importance of overseas risks is an added argument in favour of funding environmental programmes worldwide. Unfortunately, such programmes attract only very limited funding as of now. This is exemplified by inaction observed in combating climate change and its consequences [read].

2. Dire social costs and growing inequalities

Environmental degradation also impacts unequally countries and communities, often perpetuating and even aggravating social inequalities. This is particularly true for climate change, the impact of which is both unequal and unjust.

A recent report by FAO illustrates this by showing that "those who have contributed the least to climate change bear the most burden, experiencing its severest impacts and lacking access to the resources, services and opportunities needed to adapt and survive". This conclusion is the result of the analysis of data collected from almost 110,000 rural households (representing over 950 million rural people) in 24 countries[3] that are low or very low GHG emitters [read].

Estimates indicate that "in an average year, poor households lose 5 percent of their total income due to heat stress relative to better-off households, and 4.4 percent due to floods", women-headed households being hit harder than male-headed households.

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[2] Diseases that move from animals to humans, like COVID-19, bird and swine flu, mad cow disdease (ESB).

[3] Armenia, Bangladesh, Burkina Faso, Cameroon, Ecuador, Ethiopia, Georgia, Ghana, India, Iraq, Malawi, Mali, Mongolia, Nepal, Niger, Nigeria, Pakistan, Peru, Rwanda, Senegal, Sierra Leone, United Republic of Tanzania, Uganda and Viet Nam.

In rural areas, heat stresses push youths to seek more income-earning opportunities outside of agriculture to compensate income losses in agriculture, while child-work gains more importance.

3. Yet, investment in projects that degrade the environment continues…

3.1. G20 countries' and multilateral development banks invest in fossil fuels

Despite commitments to reduce GHG emissions in order to combat climate change, G20 countries' and multilateral development banks "provided at least USD 142 billion in international public finance for oil, gas, and coal" between 2020 and 2022.

This is the conclusion of a study by Oilchange International and Friends of the Earth US, published in April of this year [read] that reviews funding by G20 export credit agencies, G20 development finance institutions and the major multilateral development banks.

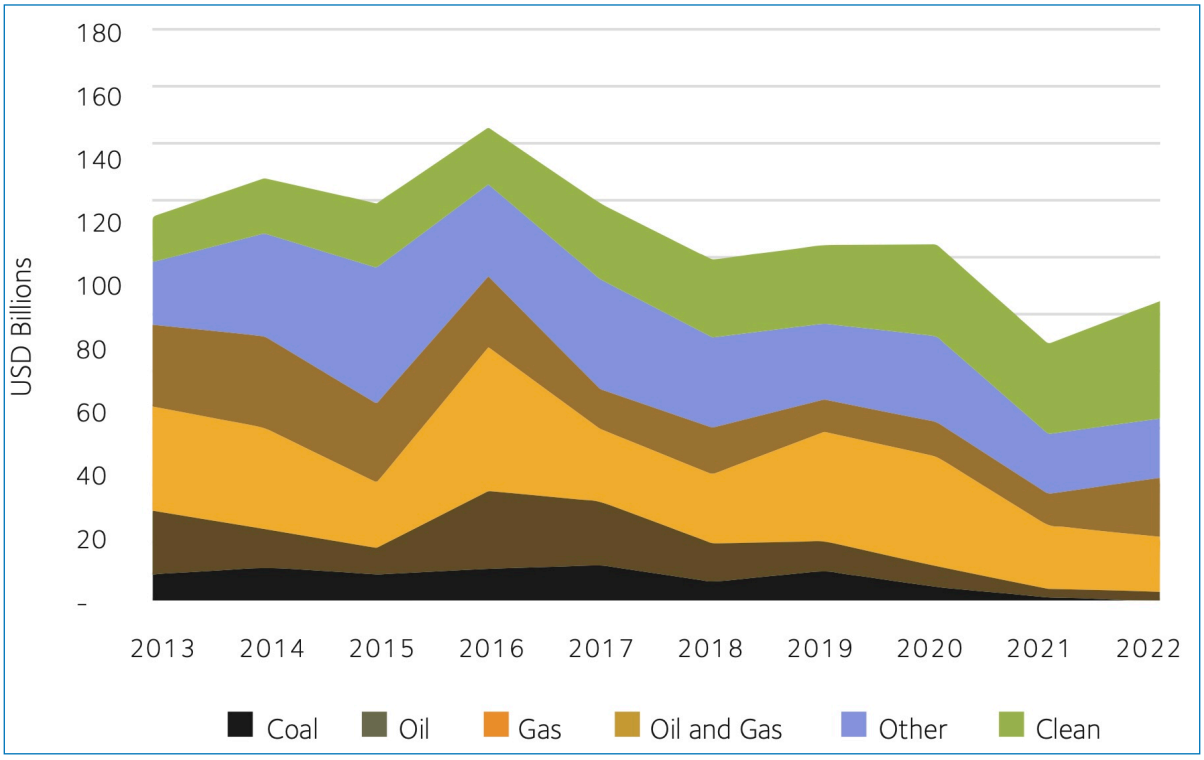
These findings show that in spite of commitments made, a huge amount of public money is still going into fossil fuel development, and that these doings are underreported and widely underestimated. Obviously, such spendings undermine the very much necessary transition out of fossil fuels, as public funding encourages the development of fossil fuel projects by reducing risks for investors. Thus, they contribute to attracting larger volumes of private resources.

Figure 2, below, shows that after a slight decrease of public finance of energy between 2016 and 2021, 2022 has seen an increase of spendings that can at least in part be linked to the war resulting from the invasion of Ukraine by Russia. The only positive change observed on this graph is that the share of public money going to 'clean' energy has been increasing.

The main beneficiary of public energy financing of fossil fuels has been gas, probably in part because of the spurious argument that the replacement of other fossil fuels by gas is supposed to be a step into the right direction, i.e. towards reducing GHGs and the energy transition [read p. 7].

The top three countries funding fossil fuels in 2020-2022 were Canada, Korea and Japan.

Figure 2 – Annual G20 countries' and multilateral development banks international public finance for fossil fuel, clean[4], and other[5] energy (2013–2022, in USD billions)



Source: Public Finance for Energy Database, energyfinance.org quoted in OI&FotE/US, 2024.

The report notes a shocking reality: "The international public finance institutions of Global North countries invested 58 times more in climate-wrecking fossil fuel projects each year between 2020 and 2022 than they have so far in the loss and damage fund[6]." And we cannot be comforted by the fact that clean energy received more public resources during the 2020–2022 period, as the amount financed (around $35 billion annually) is "far below the estimates of the quantity and quality of public clean energy finance required to limit warming to 1.5 °C".

3.2. In the food sector, investments in meat production undermine GHG reduction pledges

Two major recent studies show that the meat sector persists in attracting investors, both public and private.

[4] Clean energy: energy that is both renewable and has negligible impacts on the environment and human populations, if implemented with appropriate safeguards.

[5] Other: includes large-scale hydro, biofuels, biomass, nuclear power, and incineration.

[6] Fund for compensating vulnerable countries coping with loss and damage caused by climate change, the creation of which was approved at COP28.

At global level

At global level, the update of Feedback's report on finance for industrial livestock companies reveals that the 55 largest of these companies benefitted from more than $500 billion in credit since 2015 and the signature of the Paris agreement. In addition, as of March 2023, large private financial institutions held a total of $323 billion in shareholding and bond holdings [read]. These moneys boosted further an activity that is a major (and often forgotten) source of GHG emissions, environmental degradation (e.g. deforestation, loss of biodiversity, water pollution and soil degradation), health risks (pandemic risk, antibiotic resistance, overweight, cardiovascular diseases, cancer and air pollution), social bads (worker and farmer exploitation) and well as animal suffering.

In fact, data show that financial flows to the sector grew by an overall 15% between period 2015-18 and 2019-22. The three biggest creditors were Bank of America, Barclays and JPMorgan Chase, while the largest investors were BlackRock, Vanguard and Capital Group.

As a result, these 55 large companies have acquired the capacity to slaughter **every day**, approximately 44 million chickens, 199,000 cattle and 639,000 pigs, roughly one fifth of what is slaughtered in total in the world every day.

In the US

In the US, "industrial livestock financing sabotages major US banks' climate commitments" says a report by Friends of the Earth and Profundo.
Recalling that industrial livestock production is a key GHG emitter comparable to Japan (the 8th highest GHG emitting country), the authors found that "US banks channelled $134 billion in loans and underwritings to the top 56 meat, dairy and feed corporations" between January 2016 and March 2023 [read].

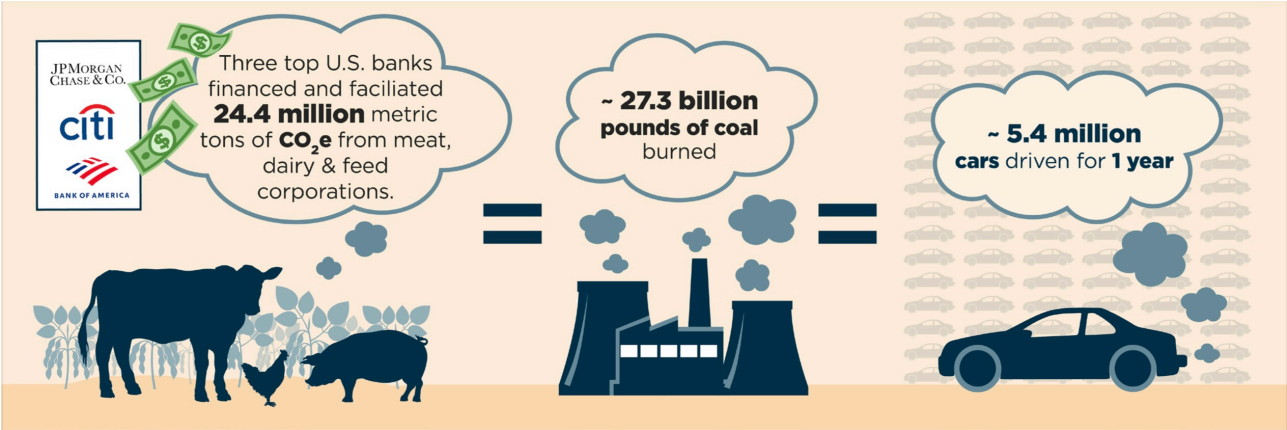
In this total, three top banks alone (Bank of America, Citigroup and JPMorgan Chase) provided 55% of this amount. Main beneficiaries included Archer Daniels Midland (ADM), Nestlé, Tysons Food, Cargill and Danone.

Interestingly, while the loans granted by the three banks represent less than 0.5% of their outstanding loans, they weigh between 9% and 14% of the total GHG emissions they finance! In other words, to reduce their carbon footprint, cutting the funding of meat, dairy and feed would be a very effective strategy (see **Figure** on next page).

The report stresses a major shortcoming in the way decarbonisation and GHG emission reductions are often considered: the tendency is to focus almost exclusively on CO_2 emissions (and as a consequence mostly on fossil-fuel consumption), but other sources of GHG emissions such as methane generated by livestock production, forest and peatland fire or fermentation occurring in paddy fields, nitrous oxide resulting from industrial processes and the degradation of nitrogen fertiliser, and fluorinated gases used in refrigeration are also important

and represent close to one third of total GHG emissions [read p. 5]. Let's recall that these other gases have a much higher greenhouse effect than CO_2[7].

Figure 3 – Infographics: The equivalence with other sources of GHGs emissions induced by meat, dairy and feed funding by the 3 top US banks



Source: Friends of the Earth and Profundo, 2024.

4. Conclusion

Environmental degradation has dramatic economic and social consequences that hit harder already poor countries and deprived communities. Estimates are that climate change alone will reduce global GDP by up to 19% (nearly one fifth) between now and the middle of this century. It is difficult to image that such a drop could occur without creating extreme social and political tensions.

Yet, human madness [read] seems to blind humanity as it continues to feed the diabolical degradation machine. Thus, the flux of investment in fossil energies persists, while mobilisation remains slow of resources for mitigating global warming and helping the poorest countries to cope with the climate crisis.

In the food sector, financial flows towards industrial livestock production – an often overlooked but major source of GHG emissions – are on the increase to meet a growing demand that has concerning environmental and health impacts.

Under these circumstances, one may doubt that global political and economic leaders will, one day, become really aware of the situation and of their responsibility, and wake up from the dream in which they wallow to embark – and embark the world – on a wiser path, unless people submit them to a strong pressure.

This change is, however, the indispensable condition for avoiding the disaster foretold by already very visible signs, and its accompanying damaging political and social tensions.

[7] For example methane has more than 20 times more greenhouse effect than CO_2, nitrous oxyde 300 times, and fluorinated gases several thousand times!

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To know more :

- Kotz, M., Levermann, A. & Wenz, L. The economic commitment of climate change. Nature 628, 551–557, 2024.
- Friends of the Earth and Profundo, Bull in the Climate Shop: Industrial livestock financing sabotages major U.S. banks' climate commitments, 2024.
- Oilchange International and Friends of the Earth US, Public ennemies: Assessing MDB and G20 international finance institutions' energy finance, 2024.
- Green Finance Institute, Assessing the Materiality of Nature-Related Financial Risks for the UK, GFI, University of Reading, UN Environment Programme, National Institute of Economic and Social Research, 2024.
- Feedback, Still Butchering the Planet: The big-name financiers bankrolling livestock corporations and climate change – 2024 update, 2024.
- FAO, The unjust climate – Measuring the impacts of climate change on rural poor, women and youth. FAO, Rome, 2024.

Selection of past articles on hungerexplained related to the topic:

- Climate: global concern and inaction, as COP 28 Dubai is at hand, 2023.
- When dealing with complex and intertwined crises, mainstream economic solutions prove ineffective and generate more inequalities - The case of the climate crisis, 2022.
- COVID-19: Is agriculture the main culprit? 2021.
- The real cost of food - Can the market alone guide our food systems towards more sustainability? 2020.
- Life plagued by human madness: we must change our paradigms, objectives and values, 2019.
- Opinion: Catastrophic Antibiotic Threat from Food by Jomo Kwame Sundaram and Tan Zhai Gen, 2017.