2024 UNDP TRENDS REPORT

THE LANDSCAPE OF DEVELOPMENT

United Nations Development Programme
Strategy & Futures Team

INTRODUCTION

Answering the question, "**What's going on in development?**", isn't easy. With exhaustive amounts of data and analysis at our fingertips, the best-informed of us can find it hard to choose what to read, remember and reference.

The trends report and these theme cards aim to help UNDP colleagues orient themselves in a constantly changing landscape by providing **an overview of the issues that should be on everyone's radar in 2024**. Among lots of trends reports out there, this one is written for UNDP.

STRUCTURE

Each theme describes:

- **Key trends**
- **The current picture**
- **What to watch**: emerging issues that look likely to become more prominent or serious
- **Still uncertain**... : weak signals of change whose direction and meaning are not yet clear

METHODOLOGY

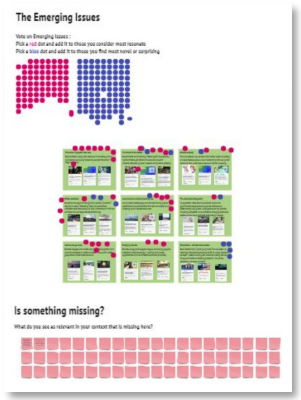
The **Strategy & Futures Team** ran ten workshops in 2023 with UNDP's Communities of Practice. Thematic experts presented the top trends in their area, which over 500 participants then compared with signals of change emerging from the **Future Trends & Signals System** (FTSS). This helped reveal the nuances and gaps in the "known" trends, showing us what to watch for.

News from the Future

Top 10 trends

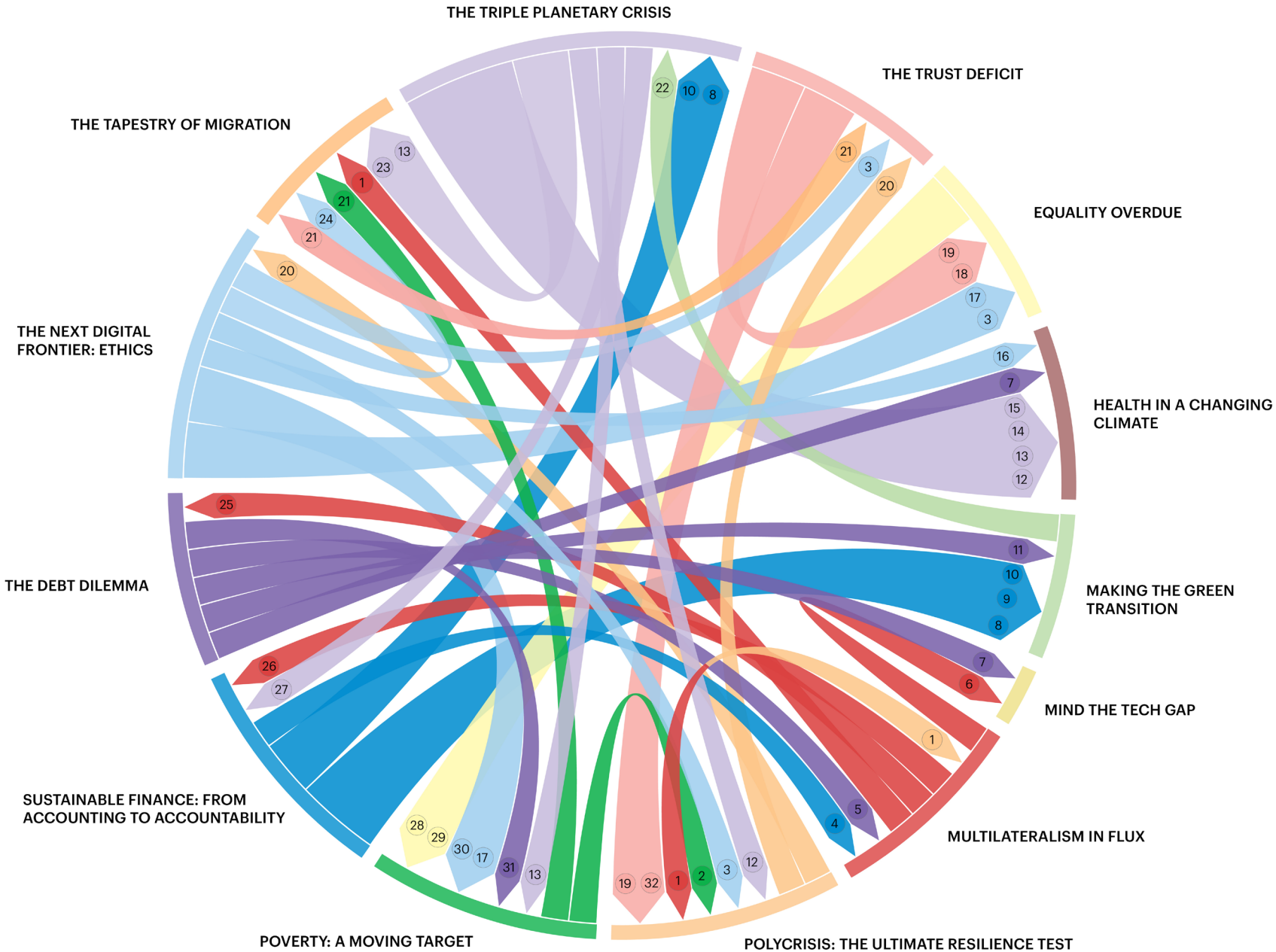
FTSS and Emerging issue Primer

Vote: Emerging issues



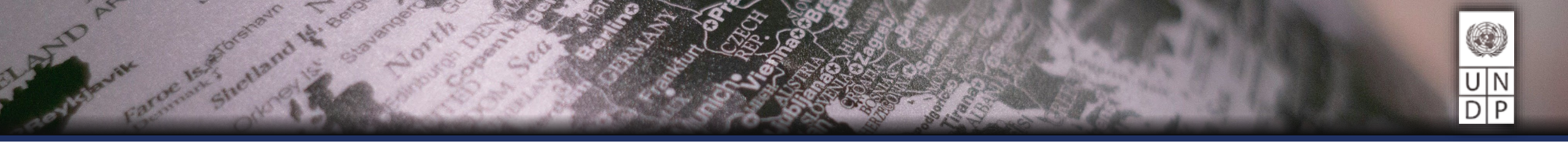
13 THEMES INFLUENCING THE LANDSCAPE OF DEVELOPMENT

1. MULTILATERALISM IN FLUX
2. POLYCRISIS: THE ULTIMATE RESILIENCE TEST
3. THE TRUST DEFICIT
4. EQUALITY OVERDUE
5. POVERTY: A MOVING TARGET
6. THE DEBT DILEMMA
7. SUSTAINABLE FINANCE: FROM ACCOUNTING TO ACCOUNTABILITY
8. THE NEXT DIGITAL FRONTIER: ETHICS
9. MIND THE TECH GAP
10. HEALTH IN A CHANGING CLIMATE
11. MAKING THE GREEN TRANSITION
12. THE TRIPLE PLANETARY CRISIS
13. THE TAPESTRY OF MIGRATION



INTERSECTING TRENDS

1. Conflicts are proliferating and intensifying
2. Rising inequality fueling discontent
3. AI fueling misinformation
4. Widening SDG investment gap in developing countries
5. Calls for a fairer debt system
6. Cutting-edge tech as strategic assets
7. Debt servicing crowding out health and education
8. Sustainable finance market growing
9. Pressure on ESG – from all sides
10. Fossil fuel subsidies persist
11. Debt hampering the green transition
12. Accelerating biodiversity loss & ecosystem degradation
13. New records for annual high temperatures
14. Increasing risk of zoonotic diseases
15. Growing health costs of environmental pollution
16. Growing digital health solutions
17. Digital access and capacity in LICs far below average
18. Democratic backsliding erodes gender equality
19. Increasing polarisation
20. Declining trust
21. Increasing number of migrants
22. Increasing renewable energy deployment
23. Weather-related events driving migration
24. Apps and algorithms influencing migration
25. Developing countries asserting themselves
26. Geopolitical tensions beginning to weaken global trade
27. Nature-positive commitments increasing
28. Care work falling mostly to women
29. Gender inequality persists
30. Momentum increasing around Digital Public Infrastructure
31. Debt distress burdening the poorest most
32. Democratic backsliding and shrinking civic space



MULTILATERALISM IN FLUX

Conflicts are **increasing and splintering positions among states**. The **multilateral chess board is becoming more fluid**, as nations align less readily with familiar political blocs. **Countries of the Global South are voicing their disillusion with the multilateral system** and developing their own alliances and positions. **Beyond conflict, geopolitical tensions are making themselves felt in global trade patterns** and volumes, increasing the risks of a fragmenting global order. **What nations say is not necessarily what they do**; economic ties persist despite political differences.

Conflicts are proliferating — from Sudan to Ukraine to Gaza. 2023 witnessed a three-decade high in the number of conflicts worldwide and the highest number of conflicts since World War II.

Geopolitical trends are affecting global trade. While the global economy remains highly integrated, global trade is set to contract by 5% in 2023. Trade in goods is expected to decline by $2 trillion. Since 2019 the number of new trade barriers each year has almost tripled. Low- and middle-income countries are likely most at risk from economic fragmentation. The 2024 outlook is highly uncertain.

Disillusionment: In a more multipolar world, countries of the Global South pick and choose their allies, resisting pressure to align consistently with any major power. Countries are hedging their bets, adopting a tactical approach to multilateral issues. Some 40 countries abstained or voted against condemning Russia for its invasion of Ukraine. While over 60 countries signed agreements on China's Digital Silk Road, many are trying to remain technologically agnostic.

New or expanding alliances: Countries of the Global South are building new alliances, from an expanded G20 (including the African Union) to the BRICS expansion to Egypt, Iran, Ethiopia, Saudi Arabia and the UAE from January 2024.

Global cooperation : A mild decline in global cooperation (down 2% since 2020) may speak to increased scepticism about the benefits of globalization. More nationalist or protectionist policies could jeopardise the gains to be had from a renewed drive towards broader, more inclusive integration.

TRENDS

- Conflicts are proliferating and intensifying
- Geopolitical tensions beginning to weaken global trade
- Developing countries asserting themselves, with “a la carte" coalitions and ad hoc alignment

WHAT TO WATCH

- The Summit of the Future as an opportunity to consider reforms to global governance, re-build trust and strengthen multilateral cooperation
- How ad hoc coalitions proliferate, given lack of progress towards multilateral reform
- How far commitments to the Global South - eg COP 28 loss & damage fund – are fulfilled, and the impact on Global South trust

STILL UNCERTAIN...

- How climate, geoengineering, AI alignment and other "borderless" wicked problems may spark disputes – or new multilateral efforts to address them?
- Splintering of positions makes it harder to predict which way countries will lean in crises

POLYCRISIS: THE ULTIMATE RESILIENCE TEST

Resilient societies are only as strong as their weakest ties. In times of "**polycrisis" with cascading and compounding effects** across social, economic and environmental systems, **the strength of societies is threatened by a multitude of risks**. **Conflict is intensifying**. In the hyper-connected digital world, **polarization and fake news are weakening trust** in institutions and in each other, degrading social cohesion. **Climate change and environmental degradation undermine our human and planetary capacity to cope**, and make disasters more frequent, more intense.

Polycrisis: conflicts, surging inflation, pandemics, energy security, disasters, climate change and environmental degradation – are intersecting and compounding one another: a "polycrisis" of interconnected events.

Growing conflict: The world became less peaceful for the 13th time in the last 15 years. Conflict intensified, with deaths and conflict events increasing by 14% and 28% respectively (2022–2023). Political risk reached a 5-year high in 2023. 43 countries have seen a significant increase in the risk to human security since 2020.

Increasing disaster risk: Disasters have multiplied five-fold in the last 50 years, driven by the impacts of climate change. Environmental degradation (40% of the earth) makes hazards more intense and more frequent, and people more vulnerable.

Weaker communities: Increasing loneliness and disconnection are reducing civic engagement, weakening social cohesion and making people more vulnerable to polarization: one of the world's top 10 short-term risks.

Growing wealth and income inequalities are another driver of social discontent and more polarised societies. Although global inequality (across countries) has broadly declined since the 1990's (with some exceptions, eg sub-Saharan Africa), inequality within countries has risen. Income inequality has risen within most advanced economies and major emerging economies (equal to two-thirds of global population).

Threats to stability may emerge where we least expect, eg jellyfish proliferating due to climate change, forcing nuclear power station shutdowns.

TRENDS

- Conflicts are proliferating and intensifying
- Declining institutional and social trust, breeding polarization and fragility
- Rising income and wealth inequality fueling discontent

WHAT TO WATCH

- Powerful El Nino pattern likely to hit hard in 2024, bringing extreme weather
- Positive "tipping points" in energy, transport and food could save millions of lives
- Managing the trade-offs in reducing systemic risk – eg in COVID lockdowns, between protecting people's health and restricting their freedom

STILL UNCERTAIN...

- Technological breakthroughs to manage risk, like big data or crowdsourced risk reporting. Will algorithms get better at accurately predicting risk?
- Risks of "bio-terrorism" as the spread of AI and genetic engineering allow even non-experts to threaten national security

THE TRUST DEFICIT

Trust continues to diminish in public institutions worldwide. Trust in governments is especially fragile. Against a background of **deteriorating democracy worldwide**, this trust deficit is **undermining social contracts** between governments and people. **Reactions range from apathy to activism**, across the political spectrum and in different political systems. The 70+ elections in 2024 will put political engagement and trust in democratic systems to the test.

Deteriorating democracy: The V-Dem Institute judges that the level of democracy enjoyed by the average global citizen in 2022 was down to 1986 levels, with drastic deterioration in the last 10 years in freedom of expression, quality of elections, government censorship of the media and repression of civil society. There have been seven successful coups d'état or unconstitutional transfers of power in Africa since 2020.

Decreasing trust: According to the Edelman Trust Barometer, people see government as far less competent and ethical than business and non-governmental organisations. They also believe that over 60% of leaders in government, business and the media try to mislead people by saying things they know are false. These levels of distrust are driving polarisation: seen as the 3rd greatest short-term global risk.

A la carte worldviews: 81% of people interviewed by the last World Values Survey said living in a democratic country mattered a lot to them. Yet 52% agreed a strong leader unbeholden to legislatures or elections was a good thing. Dissatisfaction with the actual functioning of democracy is growing. A small but growing number of Americans say use of force is justified to achieve political ends.

Public reaction ranges from activism to apathy. Even as more countries are cracking down on freedom of speech, and 95 journalists and over 400 human rights defenders were murdered in 2023 and 2022 respectively, public protests worldwide doubled between 2017 and 2022. Yet other people decide to disengage altogether. Wider, socially coordinated inaction is taking on new forms to express discontent at scale, particularly among younger generations.

TRENDS

- Democratic backsliding and shrinking civic space
- Decreasing trust
- Increasing polarisation

WHAT TO WATCH

- Over 70 elections this year will give over half the world the chance to vote. Generative AI-powered threats like more convincing deepfakes may spread disinformation and intensify polarization – threatening to undermine the legitimacy of newly elected governments and provoke civil unrest
- Innovative activism and online groups spilling over into real life
- New leadership roles, like Head of Uncertainty or Chief Heat Officer
- Debate & crowdsourcing of ideas about new forms of the social contract

STILL UNCERTAIN...

- "DIY social contracts" where citizens take collective action to provide their own schooling, security, healthcare, water or energy
- The future of democracy, when young people are voting less, dissatisfied with democracy and their leaders?

EQUALITY OVERDUE

The world is **very far from equal for women and men**, and **democratic backsliding is making progress even harder**. Major hurdles to gender equality remain, including **lack of equality in law, persistent income gaps and gender-based violence**. Social norms and cultural attitudes to gender equality are hard to shift, and the **digital world is amplifying misogynistic voices**.

The equality gap: Not a single indicator for SDG5, gender equality, has been met - or even "almost" met. Women globally are empowered to achieve only 60% of their full potential. By 2030, over 340 million women and girls could still be living in extreme poverty; 1 in 4 will be food-insecure.

Social norms: Nearly 90% of men and women hold fundamental biases against women. The decline in democracy for the past 17 years has gone with a gender backlash, constraining women's rights and rolling back gender equality. In only 14 countries do women have equal legal rights to men. In 2021 a woman was killed every 11 minutes by a relative. A quarter of people worldwide believe it is justifiable for a man to beat his wife.

Women in conflict and fragile settings face particular challenges: increased maternal mortality and morbidity, lack of healthcare, girls out of school. Only 16% of conflict negotiators in 2022 were women. Only 0.3% of bilateral aid ($148 million) supported women's rights organizations in fragile settings in 2021.

Women in politics: Women remain underrepresented in politics; the share of women as heads of state or government has remained around 10% since 1995 and only 26% of parliamentarians are women (though that is up from 11% in 1995, and increases to 35% in local government in 141 countries).

Closing the education gap: With some glaring exceptions like Afghanistan, gender gaps have been narrowing in education; worldwide, female enrolment in tertiary education tripled from 1995 to 2018. Still, 32% of young women aged 15-24 were not in education, employment or training in 2022 (compare 15% of young men)

Violence: New forms of violence against women **are emerging online**, fueled by digital tools like deepfakes and by misogynistic influencers. Online violence forces women out of digital spaces. Underrepresentation of women in tech is one reason why generative AI tools are perpetuating harmful gender stereotypes.

TRENDS

- Economic gender gaps persist
- Democratic backsliding eroding gender equality
- Care work falling mostly to women

WHAT TO WATCH

- How women's rights feature in 2024's electoral campaigns in 70+ countries – and how manifestos translate into action
- Increasing risks to women in conflict environments, from rape as a weapon of war to lack of medical care and being sidelined in peace negotiations
- Policies that constrain women's choices (eg encouraging higher birth rates)

STILL UNCERTAIN...

- The impact of AI on human relationships. Will growing options for human-AI intimacy expand women's choices or erode human connection?
- Whether women are empowered or excluded by increasing digitalization

POVERTY: A MOVING TARGET

Poverty is changing shape. Recovery from the shocks of Covid has been uneven; the world is **still not on track to SDG1 "No poverty"**. At current rates, only one-third of countries will have halved national poverty by 2030. **New deprivations - like climate vulnerability, clean energy access and digital access - matter more and more** to people's chances to thrive. What it means to be poor is constantly changing.

Long term progress: From 1990 to 2018, extreme poverty declined from 38% to 9%. 25 countries successfully halved their global MPI values within 15 years.

Further to go: 1.1 billion out of 6.1 billion people live in acute multidimensional poverty across 110 countries. 5 out of 6 live in Sub-Saharan Africa (534 million) and South Asia (389 million). 84% live in rural areas; half are children. By 2030, fragile states will make up 5 of the 10 countries with the highest numbers of extreme poor.

Polycrisis impacts: The 2020-2023 polycrisis of Covid, the war in Ukraine and the cost of living crisis saw 165 million people fall into poverty, while debt servicing crowded out social protection, health and education spending. UNDP called for a debt-poverty pause until the multilateral system could address debt restructuring.

Income inequality between countries has declined since the 1990's. Yet within countries (which people notice most) it has risen for 71% of the world's population.

New dimensions of poverty: Some 4.5 billion people are at high risk of an extreme weather event; half are poor. One third of the world has no internet access (39% of people in Asia, 60% in Africa). In 2021 internet users in rural areas were half those in urban areas. Women were 16% less likely than men to use mobile internet.

Gender gaps persist: In 2019, women earned 51 cents for every dollar a man earned. Women spend over 250 minutes every day on unpaid care work and up to 18 hours a week collecting wood and fuel. Most of the 3.2 million deaths from indoor pollution are women. If women participated equally in the economy, that could add $28 trillion to world GDP in 2025.

TRENDS

- Income poverty is expected to decline in 2023 in 3 out of 4 low- and middle income countries
- Debt distress is burdening the poorest most by reducing public budgets for social spending
- Gender inequality persists, further holding back progress

WHAT TO WATCH

- **Demographic change** - what will Africa's youth bulge and ageing populations mean for the jobs market, migration, the care economy?
- Will we start **to measure vulnerability to digital and data poverty** (e.g. affordability, skills, privacy) – even mental and spiritual health?
- **Digital public infrastructure** has huge added value potential for poverty eradication – provided it's rights-based and inclusive
- The impact of **rapid urbanization**

STILL UNCERTAIN...

- **Potential for creative economies** to enable developing countries to leapfrog innovation and reduce poverty
- Poverty reduction strategies will increasingly need to consider the **rights of non-human entities** (e.g., rivers, oceans, space) and future generations

THE DEBT DILEMMA

Developing countries' debt may have peaked but **it's still a huge burden**. Many **countries face the unenviable choice of servicing their debt or providing public services** and investing in their future. **Current relief measures don't match the scale of the problem**; structural changes in the **global financial system** that recognize the linkage between debt and development – including resilience to climate change - are ultimately required.

Global public debt peaked at $92 trillion in 2022 – a five-fold increase since 2000. The 75 countries eligible to borrow from the World Bank's International Development Association have more than doubled their external debt since 2012, now at a record $1.1 trillion. 52 countries – 40% of the developing world – are in serious debt trouble, including 28 of the 50 most climate-vulnerable.

Debt burden hits the poorest hardest. Rather than default, some countries are having to "trade off" investments in health and education. Some 3.3 billion people now live in countries where debt interest payments exceed spending on health or education. 165 million people fell into poverty between 2020 and 2023 as debt servicing crowded out social protection, health and education spending.

UNDP estimates that up to $148 billion could be unlocked for the 52 countries in debt distress by restructuring existing debt and expanding access to affordable finance. It called for a debt-poverty pause until the multilateral system addresses debt restructuring.

Debt and the climate crisis are linked. 70% of public climate finance takes the form of debt. Ironically, poor countries' climate vulnerability raises their cost of borrowing, creating a vicious circle as high debt repayments crowd out investment in climate adaptation, resilience or a just transition.

The Bridgetown Agenda 2.0 proposes to reform the global financial system to better support developing countries facing escalating climate threats. 20 nations most at risk from climate change are considering halting $685 billion repayments to the IMF and World Bank and spending instead on climate change mitigation. In the biggest debt for nature swap yet, Ecuador swapped $1.6 billion debt for a $656m loan plus a commitment to spend $323m on marine conservation.

TRENDS

- Debt servicing is squeezing investments in health and education and driving people into poverty
- Increasing debt is hampering the green transition
- Calls for a fairer debt system are echoing beyond the developing world

WHAT TO WATCH

- Reaction to proposals for a fairer multilateral lending system: UN SG's recommendations to reform the international financial architecture, the Bridgetown Agenda and AU's proposal for a new African Credit Rating Agency
- The effects of enforced austerity on development outcomes in low- and middle-income countries

STILL UNCERTAIN...

- Will domestic debt policies (eg student debt forgiveness in the US) affect voters' attitudes towards international debt write-offs, a debt-poverty pause or multilateral system restructuring?
- Can debt swaps for nature – and other creative solutions to unsustainable debt - reach serious scale?

SUSTAINABLE FINANCE: FROM ACCOUNTING TO ACCOUNTABILITY

Investment in the SDGs is increasing, but it still isn't enough. Developing countries' **investment needs are growing faster than they can attract funding**. But we may be on the verge of real change; the political "noise" around ESG shouldn't overshadow the **momentum towards real accountability**, in the form of stronger standards from the ISSB and the EU and stricter penalties for greenwashing. Still unknown, though, is **how emerging markets will cope with stricter standards** – and **how geopolitics will affect what counts as 'green'** and sustainable finance.

Still an investment gap: investment in the SDGs increased in 2022, but developing countries' annual SDG investment gap has widened, from $2.5 trillion in 2015 to $4 trillion. Funding is available - the sustainable finance market grew 10% to $5.8 trillion in 2022; the Global Impact Investing Network expects the impact investment market ($1.1 trillion) to expand rapidly - but not enough is directed to developing countries.

Growing green bonds: Green bonds have raised $2.5 trillion globally. Hong Kong launched a HK$800 million Tokenised Green Bond in 2023. 19 emerging market governments from Chile to Uzbekistan have issued green, social and sustainability bonds since 2016 (just 2% of the global total of such bonds).

The ESG backlash continues, particularly in the US, where over one-third of states passed anti-ESG laws in 2023. Conversely, advocates dismayed at greenwashing want to "lose the term, double down on the objective." The US Securities & Exchange Commission adopted a new, more stringent labelling rule. BlackRock added "ESG matters" to the list of risks the firm faces.

Stronger reporting requirements: Following the launch of the International Sustainability Standards Board's disclosure standards and the EU's Corporate Sustainability Reporting Directive in 2023, many jurisdictions plan to implement ISSB-aligned reporting rules this year.

Uptake of the SDG Impact Standards is increasing. One impact investment report found nearly a fifth (19%) of investors surveyed using the SDG Impact Standards as their framework to guide impact strategy. 75% of investors tracked their investments using the SDGs in 2022, up from 64% in 2017.

TRENDS

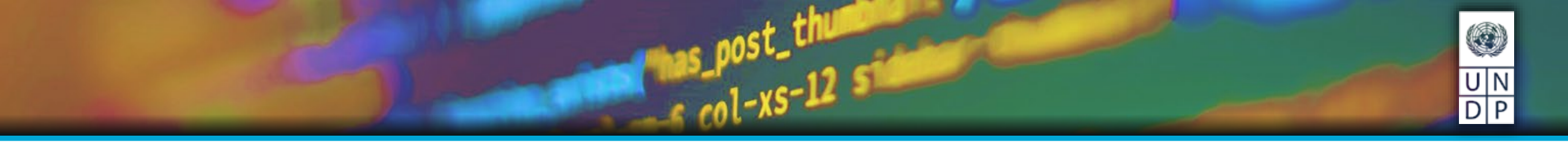
- Widening SDG investment gap in developing countries
- Sustainable finance market growing
- Pressure on ESG – from all sides

WHAT TO WATCH

- Governments move towards legislating on international tax under a UN Framework Convention on International Tax Cooperation
- Deloitte predicts consumer purchases of carbon offsets will become pervasive and grow to $100 billion in developed economies by 2030. Personal and corporate carbon calculators are growing in popularity.
- Are companies in emerging markets ready to meet more stringent measuring and reporting standards?

STILL UNCERTAIN...

- The impact of the proposed reforms of international financing architecture
- If ESG is not fit for purpose, what might replace it?



THE NEXT DIGITAL FRONTIER: ETHICS

Exponential advances in digital tech, including AI, offer huge opportunities for development. **Digital Public Infrastructure** has the potential to benefit whole societies and accelerate the SDGs. But realizing this potential demands **rights-based, inclusive approaches to digital governance**. Otherwise, tech will exacerbate inequalities instead of reducing them, as countries and individuals with digital capabilities race ahead, leaving the rest behind.

Unequal access: 67% of the world was online in 2023. But huge numbers remain offline in the developing world; only 27% of people in low-income countries (LIC) used the internet in 2023. Women's mobile internet use in low- and middle-income countries still lags 19% behind men's. Of the 900 million women not yet connected, nearly two-thirds are in South Asia and Sub-Saharan Africa.

Excited about AI... says 54% of the world. Demand for AI skills rose as applications like ChatGPT made it accessible to the non-expert. Generative AI – capable of generating novel text, audio, images and video - could deliver a $480 billion productivity bonus to the public sector worldwide.

But... as the power of AI expands, risks grow of unequal access, bias and prejudice, malign applications, environmental impacts. The 2024 WEF Global Risk Report considers AI-powered misinformation the world's biggest short-term threat.

AI and jobs: in emerging markets and LICs, 40% and 26% of jobs respectively are "exposed" to AI (would either benefit from AI application or be replaced by it).

Governance isn't keeping up with the pace of change. Concerns include data privacy (data breaches tripled between 2013 and 2021); and environmental impact. Data centers and ICT networks account for 6%-12% of global energy use. The cloud has a bigger carbon footprint than the airline industry. The UN Global Digital Compact (September 2024) will take up many of these issues.

Digital public infrastructure (DPI) can enable digital transformation and strengthen public services, eg through digital cash transfers or e-health. But to further the SDGs, DPI approaches must be rights-based and inclusive.

TRENDS

- AI fueling misinformation
- Momentum increasing around Digital Public Infrastructure
- Digital access and capacity in LICs far below global averages

WHAT TO WATCH

- AI-powered misinformation, with elections in 70+ countries in 2024
- Data and skills asymmetry is likely to deepen, exacerbating the digital divide
- Personalized AI, like local climate predictions for farmers; personalized digital learning platforms; adaptive design for those with special needs

STILL UNCERTAIN...

- Governance of AI: a patchwork of national regulations or a multilateral approach?
- Synthetic AI relationships could break familial & community bonds

MIND THE TECH GAP

Global investment in research and development is increasing. The **market for frontier science and technologies** could be huge**.** But **these technologies are developing at different paces** around the world, with developed countries far ahead. **Developing countries risk missing the boat** if they can't position themselves to take advantage. **Open science can help** – if it can thrive alongside **governments' desire for control over strategically important tech.**

Innovation: Total global investment in R&D (public & private) grew strongly by 5.2% in 2021. Yet the socioeconomic impact of innovation remains low: labor productivity is stagnant, life expectancy continues to fall, CO_2 emissions have returned to pre-pandemic levels.

The frontier tech market (AI, green hydrogen, electric vehicles, etc) could grow from $1.5 trn to $9.5 trn by 2030. Developing economies are still the least ready to make the most of frontier technologies, which rely on digitalization and connectivity. Their share of green tech exports fell from 48% in 2018 to 33% in 2021. But some countries "overperform" (better than their per capita GDP would suggest), including India, the Philippines and Viet Nam – showing developing countries can use frontier tech to leapfrog and move ahead.

Future scientists: Students' proficiency in science remains below average in those developing economies that participate in the Programme for International Student Assessment, jeopardising the future uptake of advanced tech.

Global patent applications increased from c. 2 million in 2010 to c. 3.5 million in 2022, the vast majority in developed economies (plus China and India).

Deep tech: The EU is investing $1.2 bn in "deep tech" innovations in generative AI, space and quantum technologies, to stimulate their commercial application to real-world challenges.

Open science: The number of countries with open science policies (making scientific knowledge, methods, infrastructure and data freely accessible) has almost doubled since 2021. The International Science Council proposes a new mission-led science model to drive progress towards the SDGs.

TRENDS

- Total global investment in R&D continues to grow, with developed economies still in the lead
- Cutting-edge technologies such as AI, space tech and quantum tech are increasingly viewed as strategic national assets
- The open science movement is growing

WHAT TO WATCH

- AI is beginning to accelerate scientific productivity (eg new drug discovery, medical imaging, robots to accelerate experiments)
- How will momentum towards open science clash with the race to develop and control strategically important tech assets like AI or silicon chips?
- The European Space Agency's space-based solar power programme; the African Union's nascent African Outer Space Flagship Programme

STILL UNCERTAIN...

- New blockchain-based infrastructure can drive open science by persuading scientists to share "their" data
- An Open Quantum Institute at CERN aims to offer access to industrial quantum machines, particularly for SDG-related applications

HEALTH IN A CHANGING CLIMATE

Diverse anthropogenic impacts such as **climate change, pollution and biodiversity loss** are making the global **environment more conducive to the spread of disease,** with **the poor most at risk**. Although **new vaccines and digital health solutions** offer hope, many developing countries cannot afford to fund adequate health care (increasingly acknowledged to include **mental health**).

Zoonotic disease outbreaks (animals to humans) are increasing due to deforestation, global warming and biodiversity loss. There is a 27% chance of another pandemic within 10 years. Climate change is increasing the geographic range of diseases like malaria, leishmaniasis and schistosoma. Global dengue cases have increased ten-fold since 2000. As mean global temperatures rise and summers become more severe, heat-related mortality is increasing.

Pollution: Outdoor air pollution caused 4.2 million premature deaths in 2019, 89% in low-income and middle-income countries (LMIC). Particulate matter air pollution is a primary driver of global antibiotic resistance. Annual deaths from anti-microbial resistance are projected to rise from 700,000 to 10 million by 2050.

Health budgets: LICs spend 1.4 times as much on debt servicing as on healthcare. LMICs have redirected health budgets from malaria, TB and HIV to COVID-19 and pandemic preparedness, potentially reversing progress.

Hidden pandemics: A loneliness "pandemic" across all ages and regions is damaging health, lifespans and community welfare. Providing mental health services is a special challenge for LMICs, where only 12% of people with psychosis, and 3% of those with depression, receive treatment.

Digital health could transform health systems, but many countries aren't prepared. Even many OECD countries lack the necessary digital security. Digital tools can improve health equity by expanding access to affordable healthcare and addressing unmet needs.

New vaccines: A new, highly effective malaria vaccine, The first vaccine against chikungunya virus and vaccines against the dengue viruses, have recently been approved. Cameroon has just launched the first malaria vaccination programme.

TRENDS

- Increasing risk of zoonotic diseases
- Growing health costs of environmental pollution
- Growing potential of, and demand for, digital health solutions

WHAT TO WATCH

- Generative AI could unlock $1 trillion of improvement in healthcare
- The spread of harmful information, enhanced by AI and social media, threatens health interventions, especially in humanitarian emergencies.
- Future generations' health: microplastics in placentas and breastmilk; exposure of pregnant women to chemicals damaging their children's fertility
- Increasing conflicts and climate change are disrupting health systems in LICs

STILL UNCERTAIN...

- Next generation treatment like CRISPR gene editing and neural implants are pushing the limits of what it means to be human
- Addictive devices and platforms are rewiring cognitive capacities

MAKING THE GREEN TRANSITION

Renewable energy is booming. **Investments in renewables overtook those in fossil fuels** for the first time ever. But it's still concentrated in developed countries; **developing countries are attracting only one-third of the investment** they need. Even with sufficient investment, governments still face the challenge of ensuring that the energy transition is **fair and equitable**. Meanwhile the race to renewables is complicated by geopolitical tensions, including **competition for scarce resources**.

More renewable power: Global renewable capacity additions increased by almost 50% in 2023 to nearly 510 gigawatts, the fastest growth for 20 years. Policy momentum, relatively cheap prices and energy security concerns, particularly in Europe, are driving growth in solar and wind. While the increases in capacity in Europe, the US and Brazil hit all-time highs, China's acceleration was extraordinary: in 2023 it commissioned as much solar PV as the entire world did in 2022, while its wind additions grew by 66% year-on-year.

Lopsided investment: Investments in renewable energy in 2023 significantly outpaced those in fossil fuels for the first time. Of some $2.8 trillion invested in the energy sector, $1.7 trillion went to clean energy. But investment is concentrated in developed countries. Developing countries need to invest about $1.7 trillion in renewable energy per year, but attracted only $544 billion in 2022.

Fossil fuel subsidies continue: While the COP28 agreement to transition away from fossil fuels is a promising sign, subsidies have meanwhile risen to $7 trillion.

Geopolitical tensions are triggering concerns around energy security and access to critical minerals for the energy transition like lithium, cobalt and rare earths. The G20 declaration recognized the importance of sustainable and responsible supply chains. Eurasia Group rated the fight for critical minerals the #7 geopolitical risk.

A just transition: The social dimension of the green transition will be a major challenge for governments, threatening livelihoods (eg workers in carbon-intensive industries) and rights (eg indigenous peoples displaced from their homelands). If not managed equitably, civil unrest could follow.

TRENDS

- Increasing renewable energy deployment
- Fossil fuel subsidies persist, while investments in hydrocarbons increase
- Not enough clean energy investment in developing countries

WHAT TO WATCH

- Tech breakthroughs revolutionizing energy storage (eg solid-state batteries, sand batteries, hydrogen storage)
- Low-emission (green) hydrogen could grow massively but still accounts for only 0.7% of total hydrogen demand
- "Powershoring" for developing countries: green jobs and exports through investing in decarbonising energy-intensive industrial plants

STILL UNCERTAIN...

- Electricity grids: the weak link in the green transition? AI for smarter, more resilient grids
- Growing attention to carbon capture and storage technologies – but viewed by many activists as a way to perpetuate fossil fuels
- Implementation and governance of geoengineering (eg solar radiation management) to reduce near-term warming

THE TRIPLE PLANETARY CRISIS

The severity of the triple planetary crisis of **climate change, biodiversity loss & ecosystem degradation, and escalating pollution** is increasingly registering beyond UN circles. All three are ranked as **top 10 risks** over the next decade. **Environmental risks feature more prominently** in business risk calculations. New multilateral agreements and private sector pledges show **glimpses of hope**. But will they be realized and will they be enough?

Triple planetary crisis: Experts warn that the goal of limiting global warming to 1.5°C may be slipping out of reach without steep and immediate greenhouse gas reductions. Global biodiversity loss is more significant than earlier thought, with over one million species under threat. Pollution kills 9 million people a year (92% of them in LMICs), costing 2% of global GDP and 7% of healthcare.

Risk awareness: Extreme weather events are the second-highest risk in 2024-25, while the top four 10-year risks are all environmental. Younger people rank biodiversity loss and critical change to earth systems far more urgently than do older groups. Business is sharpening its environmental risk calculations, as insurers, for example, face increasing claims from climate events. Yet AI-fueled disinformation continues to polarize public perception and prevents action.

The rise of "nature-positive": The Kunming-Montreal Global Biodiversity Framework includes removing $500 billion of environmentally-unfriendly subsidies. The new UN "high seas" treaty aims to protect maritime biodiversity. BiodiverCities by 2030, integrating nature into urban planning, and One Trillion Trees for reforestation, are also signs of change.

The private sector, too: Momentum is increasing towards nature-positive corporate strategies, as new disclosure requirements like the EU's Corporate Sustainability Reporting Directive demand more nature-related data and insights. Finance for nature-based solutions increased from $150 billion to $154 billion (2021-2022) – though less than half the $384 billion needed. The Taskforce on Nature-related Financial Disclosures advises companies how to integrate nature into their decisions and investment. Market-based mechanisms, including a stable & high-integrity supply of carbon credits, are key to combatting climate change.

Inadequate funding: The climate adaptation finance gap is $194-366 billion per year; the biodiversity finance gap is $700 billion a year.

TRENDS

- Accelerating biodiversity loss & ecosystem degradation
- Persistent new records for annual high temperatures
- "Nature-positive" commitments and investments increasing

WHAT TO WATCH

- Climate ambition, as countries prepare their next Nationally Determined Contributions due in 2025
- Will governments – given polarization and short-term agendas - drive change fast enough?
- Increased litigation to preserve natural assets for future generations
- Growth of tech, eg AI tool predicting areas at greatest risk of deforestation
- Rise of local action as national & global processes fail to deliver

STILL UNCERTAIN...

- When mindset and behavior will sufficiently shift to drive change at scale

THE TAPESTRY OF MIGRATION

Global migration is increasing, as is forced global displacement. **Climate change is not (yet)** the **main reason why most people move**, but it is **increasingly part of the story**. As warming temperatures render areas less hospitable or even uninhabitable, it could trigger large waves of migration, within countries and across borders. But **global migration patterns are more strongly linked to socioeconomic factors**, such as the search for a better life. **The growing demand for labour in countries with ageing populations and skills shortages** might be an opportunity for more positive, **mutually beneficial migration policies**.

Global migration increased from 173 million in 2000 to 281 million in 2021.

Forced displacement: more than 1 in 73 people worldwide are forcibly displaced (doubling from 2010 to 110 million in 2023), driven by conflict, violence and rights violations. The number of refugees has doubled in 7 years to 36.4 million.

'Climate migrants': 3.3 to 3.6 billion people live in contexts highly vulnerable to climate change. Disasters triggered a record 32.6 million internal displacements in 2022, 98% of them weather-related. Gradual environmental degradation also drives migration; an estimated 25 million to 1 billion people could become climate migrants by 2050, altering the spatial composition of the world's population.

Labour supply-demand imbalances: Some countries are greying rapidly, while others remain overwhelmingly youthful. Populations are declining in 60+ countries, including the 15 largest economies, while many least developed countries' populations are projected to double by 2050. A third of the world's young people are expected to live in Africa by 2050.

Digital management: digital tech is transforming the management of migration, from immigration service chatbots, to AI models to predict migration flows, to digital IDs for refugees. Human rights concerns (eg privacy, data protection and discrimination) are already appearing alongside the potential benefits.

TRENDS

- Increasing number of migrants
- Weather-related events driving migration within and potentially across borders
- Apps and algorithms influencing migration

WHAT TO WATCH

- Signals of international solidarity, eg Australia offering citizenship to Tuvalu citizens displaced by rising sea levels
- Changing patterns of migration: eg for the first time, in 2023 over half the 2.5 million migrants at the US-Mexico border came from beyond Mexico and northern Central America
- Digital platforms shaping decisions: migrants' stories shared on social media; digital passports for skilled migrants; digital connections enabling the diaspora to stay involved in their home country; potential migrants learning about opportunities through auto-translate and digital influencers
- Deurbanization: reverse migration from cities to the countryside

STILL UNCERTAIN...

- Can understanding of migration as a positive force overcome nativist rhetoric (migration as a threat to recipient countries' identity and security)?

2024 UNDP TRENDS REPORT

THE LANDSCAPE OF DEVELOPMENT

STRATEGY & FUTURES TEAM