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Game-changers in the Paris climate deal:

What is needed to ensure a new agreement helps those on the front lines of climate change

Summary

There is likely to be a climate deal in Paris. The emission pledges that more than 150 governments have put on the table this year show that global climate ambition is increasing. But much more is needed, as it's a deal that could still lead to around 3°C of warming. New Oxfam-commissioned research estimates that compared with 2°C, developing countries could be faced with an additional \$600bn per year in economic losses by 2050, and see their adaptation finance needs raised by almost \$300bn per year by the same date.

But there is still scope for a stronger deal. In this briefing Oxfam looks at potential game-changers on finance and mitigation ambition that could avert these costs for the world's poorest people. These are the issues that over the next two weeks will determine whether the Paris deal reflects the power of the biggest fossil fuel emitters and elites, or is a turning point which starts to address the needs of the poorest and most vulnerable.

What is at stake in Paris?

Every year of delay in tackling climate change costs lives. It is already making the daily struggles of the world's poorest women, men and children harder, and it is the single biggest threat to winning the fight against hunger. Left unchecked, climate change could reverse decades of development in the world's poorest countries. The science is unambiguous: climate change must be tackled. Action in the next 10–15 years to significantly reduce emissions will be critical, alongside efforts to ramp up support for adaptation to unavoidable climate impacts.

Those who have most at stake at the Paris climate conference are the 3.5 billion poorest people around the world. They are the least able to cope with increased risk of floods, droughts, hunger and disease, and are also least responsible for the emissions that have caused the problem. For them, the Paris agreement must ensure that the goal of keeping

global temperature rises below 1.5°C, or even 2°C, stays within reach. And it must increase financial support to help them cope with an already changing climate.

Earlier this year, world leaders endorsed momentous goals to end extreme poverty and hunger by 2030.¹ When US President Obama, Indian Prime Minister Modi, Chinese President Xi Jinping, and other leaders meet again at COP21 in Paris, their commitment to a world with 'zero hunger' that 'leaves no one behind' must be reflected in their determination to agree a zero emissions future and ensure that the poorest get the support they need. Governments must not squander the opportunity to avert runaway climate change and instead build humanity's capacity to secure safe and dignified lives for all.

Box 1: Climate-related shocks are increasing

The consequences of climate change are a reality for an increasing number of people: from the 2011 drought in the Horn of Africa, to Hurricane Sandy that struck the United States in 2012, and Typhoon Haiyan which battered the Philippines in 2013.²

This year, Super Cyclone Pam ravaged Vanuatu with wind speeds of up to 250kph and gusts of 320kph. More than 13,000 homes were damaged and 180,000 people were affected. Cyclones are likely to become stronger as a result of climate change.

Shirley Laban is one of the Pacific's key voices on climate change: a campaigner and co-ordinator of climate adaptation programmes on many of Vanuatu's islands.

'Climate change is our number one challenge: it threatens our agriculture and food security, and it threatens our livelihoods,' says Shirley. 'It's good to think about reducing our carbon emissions: we think this is important, very important. But we need an equal importance, or prioritization of, financial resources for adaptation.'



Shirley Laban, Vanuatu, September 2015. Photo: Arlene Bax/Oxfam

Six years on from Copenhagen – what has changed?

Unlike Copenhagen, COP21 in Paris is not being hailed as the silver bullet that will save the climate. The lessons of the ‘failed’ Copenhagen summit six years ago have been learned and Paris is being conceived as a turning point towards increased ambition over time. Expectations for Paris are much lower than they were for Copenhagen, increasing the likelihood of a deal, but raising alarm that it will fall far short of what is needed.

The low-carbon transition is well underway...

Recent years have seen spectacular growth in solar and wind power and a huge shift in the economics of renewables.³ Renewables are now the world’s second largest source of electricity (behind coal) and cost-competitive in a growing number of countries.⁴ Significantly, 2014 saw emissions in the energy sector stall for the first time even as the global economy continued to grow.⁵ But coal and other fossil fuel use continues to rise at an alarming rate in spite of this progress,⁶ and fossil fuels continue to receive more than nine times more finance than renewable energy from the world’s major banks.⁷

A shifting political climate...

In many respects the pre-COP context is more favourable than ever before. The past 18 months have seen unprecedented engagement by leading global players: the US/China joint declaration on commitments for Paris last year; G7 leaders’ agreement in June 2015 to phase out fossil fuels by the end of the century; new commitments from the private sector to set science-based emissions cuts and source 100 percent renewable energy;⁸ and more than 150 countries already submitting emissions targets for Paris, the most ambitious of which have come from developing countries.⁹ There have also been interventions by key figures – from the UN Secretary-General, to Pope Francis’ encyclical and the Muslim Leaders’ declaration – all highlighting the moral imperative of ambition in Paris to protect the most vulnerable from climate extremes.

The diplomatic stalemate between China and the US marred progress in Copenhagen. But over the past year the world’s superpowers have made historic joint announcements on reducing emissions and found common cause on many key issues. This breakthrough signals that collapse in Paris is unlikely. But with convergence on a softer, weaker global climate framework between the US, China and other key players, it risks being a deal that is not commensurate with the challenge of avoiding dangerous climate change.

Developing country voices have become stronger this year, backed by their unprecedented pledges of national action, but in Paris they need to be even louder. Under the robust leadership of South Africa’s Ambassador Diseko, the 134-strong G77+China group of developing countries is now more united and assertive.¹⁰ Leaders of small island developing states, including Kiribati, Tuvalu and the Marshall Islands, have voiced stark warnings that their future is under threat unless an ambitious deal is reached.¹¹ And establishment of the ‘Vulnerable Twenty’ (V20) group, calling for major mobilization of finance, is also significant. The continued resolve of the Africa Group, Least Developed Countries and the Alliance of Small Island States not to accept a weak deal will be decisive in Paris.

Targets are on the table...

Unlike Copenhagen, countries have tabled their emissions reductions pledges before Paris in the form of Intended Nationally Determined Contributions (INDCs). While that's welcome, it's clear these targets will not keep temperature rises below 2°C, much less 1.5°C above pre-industrial levels – which more than 100 countries say is needed and is recognized as an option for the Paris agreement. Even if all countries meet their INDC commitments, the world is likely to warm by a devastating 3°C or more, with a significant likelihood of tipping the global climate into catastrophic runaway warming.¹²

A recent civil society review of INDCs shows that the ambition of all big developed countries falls well short of their fair share.¹³ Meanwhile most developing country INDCs meet or exceed their fair share. The emissions reduction gap must be closed, and it must be closed fairly: the onus is on rich countries to move fastest and furthest.

Money has been slow coming...

In Copenhagen, the commitment to mobilize \$100bn per year by 2020, combined with a Fast Start Finance pledge of \$30bn, saved the summit from being a complete disaster. There has been some progress towards meeting the \$100bn commitment in recent months, with Germany, France, the UK and others making new pledges up to 2020.¹⁴ But overall, the money has been slow in coming, and adaptation finance has consistently been neglected. Oxfam estimates that public climate finance provided by developed countries was around \$20bn on average in 2013–14.¹⁵ Of that, adaptation's share was only around \$3–5bn – woefully less than 50 percent, which Oxfam says must be a minimum.¹⁶ Developing countries are also contributing significant amounts through their own domestic budgets, and in the case of Ethiopia, Tanzania and others this amounts to more than they are receiving from international support.¹⁷

Box 2: Adaptation finance today amounts to \$3 a year for poor farmers

If all of today's public adaptation finance were to be divided among the world's 1.5 billion smallholder farmers in developing countries, they would get around \$3 each a year to cope with climate change.¹⁸ This would be to adapt to more frequent and severe droughts, floods and other climate extremes, and to pay for drought-resistant crops, small-scale irrigation systems or mangroves to protect crops from storms. Equivalent to the price of a cup of coffee in many rich countries, this grossly inadequate amount underlines the derisory sums of money being provided to the world's poorest people to adapt to a problem they did least to cause.

Oxfam's work with smallholder farmers in developing countries indicates that they are perilously exposed to changes in the climate, meaning that too much rain, or too little, can be the difference between having enough food or living in hunger. Women are particularly vulnerable and in need of adaptation finance support, as they tend to have less resources and access to land than men, and funds made specifically available to women are limited.

As temperatures rise, crop yields will fall. If temperatures rise to 3°C globally (the estimated level of ambition contained in INDCs), the World Bank indicates that virtually all of the present land used to grow maize, millet, and sorghum across Africa could become unviable.¹⁹

Bounthit Inthavong has been farming in Vientiane province, Laos, since she was young and is among the millions of farmers around the world who have noticed a change in the weather. Increasingly unpredictable and extreme weather makes it harder for farmers to know when to plant their seeds and harvest, while some crops no longer grow as they used to. Bounthit says temperatures have risen and rainfall is heavier, making it harder to grow rice, bamboo, fruit and vegetables.

'It's difficult to know what each year will be like. I'm worried about the future because the weather really affects farmers. You plan to plant, you invest, and then if it is too hot or the heavy rains come, you lose.'



Bounthit Inthavong, Tao Than village, Laos. Photo: Tessa Bunney/Oxfam

What would make Paris a turning point?

The parameters of the likely Paris agreement are taking shape, notably with the aggregate ambition of INDCs, which will be the cornerstone of the deal. It is clear the targets are not enough to avert catastrophic warming, and there are still no concrete offers of climate finance for the post-2020 period on the table. But there is still scope in Paris for a stronger deal to be secured.

Below we set out potential game-changers over the next two weeks that could make a real difference to the type of agreement reached. Two critical questions will determine the extent to which the Paris deal reflects the power of the biggest fossil fuel emitters and elites, or will be one which helps those on the frontlines of climate impacts. The first is whether there is enough finance in the deal for poorer countries. The second is whether the deal is strong enough to keep the goal of 1.5°C, or even 2°C, within reach.

1. Is there enough climate finance?

The provision of financial support from developed to developing countries – to help them adapt to a changing climate and develop in a low carbon way – is an obligation enshrined in the UN Climate Convention. Progress has been slow, with financial support falling far short of what is needed, especially for adaptation. But new modelling commissioned by Oxfam indicates that the stakes could get even higher: inadequate mitigation ambition contained in INDCs could increase developing country economic losses and adaptation finance needs considerably (see Box 3).

Box 3: Inadequate emissions cuts on the table for Paris are likely to raise the adaptation finance needs of developing countries by almost \$300bn per year by 2050, and could cost them an additional \$600bn annually in economic losses

Ahead of Paris, more than 150 countries have pledged how much they plan to reduce their emissions by in 2025 or 2030.²⁰ In total these targets could see the world warm by around 3°C;²¹ well above the politically agreed 2°C degree target, let alone the 1.5°C limit that is needed.

Lack of ambition to reduce emissions will come at a high price for developing countries. The new Oxfam commissioned research, using the integrated assessment model AD-RICE to assess the impact of aggregate INDC ambition,²² estimates that:

- By 2050 developing countries could face adaptation costs of at least \$790bn²³ per year, **an additional \$270bn annually** (over 50 percent higher) compared with estimated adaptation needs under a 2°C scenario (about \$520bn annually).²⁴
- By 2050 economic damage for developing countries could be \$1.7 trillion per year (about 1.3 percent of GDP), which is **an additional \$600bn annually** compared with estimated economic damages in a 2°C scenario.²⁵ This is four times more than rich countries gave to developing countries in aid last year.

The results of the AD-RICE model should be considered conservative: both economic losses and adaptation finance needs could be significantly higher than projected.²⁶

Everyone knows that money will need to be on the table to seal the deal, but climate finance has been the biggest unknown in the lead up to Paris. Negotiations on climate finance have been at a glacial pace, and only really began in earnest at the final negotiating session in October. They were highly polarized between developed and developing countries, with the powerful 'Umbrella Group' of industrialized countries (which includes the US, Japan and Australia) putting forward proposals for minimal provisions on finance in the new agreement (non-specific, non-binding and too small). The US even questioned the inclusion of the

existing commitment to \$100bn per year by 2020 as an overall finance floor. This, despite Hillary Clinton's unexpected endorsement of the goal six years ago, which marked an important turning point at the Copenhagen summit.

Most developed countries are likely to have something in reserve to help push through the deal but have been reluctant so far to play their hand. Signs are that the EU and others are prepared to take a deal on finance, but have not been prepared to give one yet.²⁷ Sitting on commitments until the final night is not a winning strategy – it will not help to build trust and bring new contributors on board.

Coping with climate change is not just about adaptation finance, as some impacts go beyond what people can realistically adapt to: extreme droughts and desertification, ever stronger typhoons and cyclones, and rising sea levels. Known in the international climate negotiations as 'loss and damage', these impacts include economic losses, but also loss of life, habitats, culture and territory.²⁸ The most vulnerable countries (low-lying states and small islands in particular) have made it clear: loss and damage needs to be tackled in the new legal agreement if the deal is to be fair and long lasting. Negotiators from the G77 are unambiguous: 'excluding loss and damage is equivalent to climate denial'. Meanwhile, the Umbrella Group has resisted having loss and damage as a stand-alone article. In Paris, the role of the EU and other third parties will therefore be critical to break the stalemate and facilitate progress.

Game-changers in Paris

Finance is an agenda item that can still move in Paris, and must move quickly and significantly over the next two weeks.

- **Addressing the adaptation finance gap: a commitment to a dedicated public finance target for adaptation or a commitment to dedicating at least 50 percent of public finance to adaptation**

For the most vulnerable, the biggest potential game-changer in Paris will be the 'offer' contributing countries make on adaptation finance; something that the French Presidency of COP21 has been looking at closely. Oxfam's assessment is that a commitment to \$35bn in public finance for adaptation by 2020 is the minimum needed to start to address the current gap.²⁹ By 2025, a commitment to a minimum of \$50bn in public finance should be made, subject to review based on national assessments of needs. An alternative approach could be to follow the principle agreed at the Green Climate Fund to ensure a 50–50 split between adaptation and mitigation finance provided after 2020. Such targets must come with assurances that the quality as well as quantity of climate finance will improve.³⁰

- **Improving predictability of scaled-up support: global targets for adaptation and mitigation finance every five years, and provisions for multi-year pledging by contributing countries**

Today's ad-hoc system of finance provision offers little clarity to developing countries on levels of finance from one year to the next, making it hard to plan a low-carbon transition or to have certainty that vital adaptation programmes can be implemented. There have been limited signs of progress on this front this year: developed country proposals have generally sought to weaken overall obligations on contributing countries rather than strengthen them. But at the last negotiating session in Bonn the G77+China group identified lack of progress on financial support as their key concern ahead of Paris. If the EU is willing to step up, it could play a key role in bridging developed and developing country demands. Calls for greater predictability and scaled-up support are gathering steam and may yet secure a breakthrough in Paris.

- **New contributors to climate finance**

The EU, US and others want a broader base of climate finance contributors beyond developed countries, and are reluctant to accept strong climate finance provisions in the absence of new contributors among richer developing countries. China recently signalled its intention to provide \$3.1bn in climate finance, and last year Colombia, Peru and South Korea were among those contributing to the Green Climate Fund.³¹ Commitments by other wealthier developing countries could shift the dynamics in Paris considerably by removing the main excuse for lack of ambition from rich countries. This issue was squarely on the table at the pre-COP ministerial meeting, where the dispute centred on whether new countries ‘in a position to do so’ should be encouraged to make finance commitments. Oxfam’s assessment is that a number of countries do now have the capacity to step up, including Russia, the Republic of Korea, Mexico, Saudi Arabia and Singapore, with contributions that are captured in a separate South–South goal.³²

- **Announcements on new sources of climate finance**

The continued displacement of traditional aid for climate finance needs to stop. The major part of climate finance to date has come from aid budgets – OECD DAC indicates that 20 percent of Official Development Assistance in 2013–14 was climate finance; which means less support for other vital development priorities, such as schools and hospitals.³³ The EU is in a good position to champion innovative finance sources in Paris by signalling its intention to allocate a share of revenues from the EU Emission Trading Scheme to the Green Climate Fund, as well as committing a portion of revenues from the EU Financial Transaction Tax. Beyond 2020, these new sources of climate finance, agreed by the EU and others, will be critical to ensure that additional and predictable flows reach the most vulnerable countries.

- **Loss and damage included as a stand-alone pillar in the new legal agreement**

With mitigation ambition in the Paris deal amounting to around 3°C of warming, adequate provisions on loss and damage are a major imperative for vulnerable nations. The new legal agreement must acknowledge the Warsaw Mechanism, which is looking at ways to implement loss and damage, and its work programme must be extended to explore responses when adaptation is no longer possible, including: financial support, a displacement coordination facility and access to risk transfer and insurance mechanisms. The EU has an opportunity now to ally with vulnerable countries on loss and damage, in line with their broader stated intent to work together.

2. Is it a ‘below 2°C’ deal?

National pledges add up to barely half of the emissions reductions needed to avoid catastrophic and irreversible climate change. Global ambition needs to at least double by 2030.³⁴ The credibility of the Paris outcome thus rests on the strength of any mechanism to increase ambition from 2020, when INDCs and the new agreement take effect. Delay will put the world on a trajectory requiring extraordinarily difficult emissions reductions in a decade’s time. The world simply cannot wait that long to fix a 3°C deal.

The Alliance of Small Island States (AOSIS), Least Developed Countries and the Africa Group support a strong review mechanism that raises ambition in 2020. But the review mechanism is subject to heated negotiations. Many key players would prefer not to revise their INDCs at all, or to do so in 2025: the EU supports five-year cycles and a review mechanism, but does not specify a 2020 start date for increased ambition; the US also supports a review mechanism, but equally is less keen on a 2020 deadline as it does not want to revisit its own pledge; and China has signalled its reluctance to commit to a review that requires individual countries to increase their ambition, preferring instead a *global* stock take of adequacy.

In addition to a review mechanism, an increasing number of countries, businesses and civil society groups have called for a long-term goal to provide vision, common direction and a time frame for global action to reduce emissions. Leaders from some of the world's largest economies have expressed their support, evidenced by this year's G7 Leaders' Summit Communiqué and the Germany–Brazil Joint Statement on climate change.³⁵ Preferred terminology for the long-term goal varies: decarbonization, net zero emissions and carbon neutrality are the most common points of reference. Time frames also vary, with suggested deadlines ranging from between 2050 to the end of the century. The importance of equity – how the effort to achieve a long-term goal is divided fairly among countries – is less widely discussed, but will be critical in determining whether agreement is reached or not.

Game changers in Paris

- **A commitment to an INDC review mechanism that raises ambition from 2020, and every five years thereafter**

A firm alliance of the EU, AOSIS, Least Developed Countries and the Africa Group has the potential to turn this outcome in the right direction, and it must. Their support for a review mechanism that equitably increases ambition from 2020, following a robust science and equity review of INDCs by 2018, is vital. India's support would also be decisive, but India and others will need to be assured that developed countries, who are furthest from having pledged their fair share to date, will act and that support will be available to developing countries that need it if they do take on stronger emissions reductions targets. In Paris the world will be watching closely to see who fights for a strong and equitable review mechanism and who blocks it. An equitable mechanism will need to ensure developing countries are supported to do more and developed countries do their fair share. Those that do will be blocking a deal that keeps the 1.5°C, or even 2°C, goals within reach.

- **A long-term goal that recognizes equity**

Richer countries pledging to decarbonize faster, and/or provide financial support to developing countries to decarbonize, would be a game-changer in Paris. In the absence of explicit recognition that the effort to achieve a long-term goal would be divided fairly, developing countries are unlikely to agree to a long-term goal. The German–Brazilian declaration includes language on 'the specific needs of developing countries' which may be a helpful starting point for finding consensus.³⁶

Paris: A platform for further climate action

The Paris COP won't save the world. But it must serve as a springboard for increasing climate ambition in the years ahead. The Paris outcome will be a legal agreement, lasting for the next 15 years at the very least. As a consequence, we cannot afford to lock in low ambition, and we cannot settle for a deal at any price.

Governments need to have the voices of the most vulnerable people ringing in their ears as they negotiate, and they must ensure that the agreement reached addresses their needs. Rich countries must keep their financial promises to the poor, and all governments must agree a deal that keeps the goals of 1.5°C and 2°C within reach. If they do, Paris may be the moment that the long arc of fighting climate change finally starts to bend towards justice. But if they don't, Paris will leave the world's poorest countries facing crippling climate impacts in the decades ahead, with less certainty of financial support to help them cope than they have today.

The Paris agreement has the potential to bring us a long way, but even with success in Paris we will have much further still to go. Paris won't be the end of the fight, but will hopefully be the start of a new chapter in climate action.

Oxfam demands for COP21 in Paris

- Rich countries need to demonstrate that they are well on the way to meeting their existing commitment to jointly mobilize \$100bn per year by 2020 for climate action in poor countries. This must involve significant new public finance commitments, and agreement in Paris to increase public finance for adaptation to \$35bn by 2020.
- Rich countries must commit to a substantial increase in resources for the Green Climate Fund during its first replenishment from 2017, and immediately for the Adaptation Fund and Least Developed Countries Fund to ensure a fast-tracking of adaptation resources for the countries and communities, and notably the women, that need them most.
- Governments must agree strong provisions in the new agreement on climate finance post-2020, including:
 - commitment to increase financial support from developed to developing countries from a baseline of \$100bn per year from 2020;
 - establishing a system for providing climate finance in the new agreement that includes global targets for adaptation and mitigation every five years, starting in 2025;
 - a dedicated collective public finance target for adaptation that will see at least 50 percent of overall public finance flow to adaptation from 2020 onwards, and quantified targets for 2025 and 2030 in line with the mitigation ambition of the agreement;
 - A mechanism to address loss and damage from the impacts of climate change to which it is not possible to adapt, as a standalone element in the new agreement.
- The new legal agreement must include a commitment to periodic review of mitigation goals every five years. It must also include a strong review mechanism that commits governments to assess the adequacy of INDCs against science and equity, starting in 2018 and increasing the overall ambition of INDCs from 2020.
- The new legal agreement must include a collective long-term goal to fairly phase out all fossil fuel emissions and phase in 100 percent sustainable renewable energy, with universal access, by early in the second half of the century. Rich countries must commit to moving faster to phase out their own emissions and provide the necessary financial and other support for developing countries that need it to do so too.
- The new legal agreement must recognise the need to respect, protect and implement the principles of human rights, gender equality and just transition for workers and their communities in the implementation of climate policies. To ensure, for example, that climate finance reaches and does not exclude women.

NOTES

- 1 Sustainable Development Goals, <https://sustainabledevelopment.un.org/?menu=1300>
- 2 For climate change attribution analysis of the 2011 East Africa drought, see: F.C. Lott, N. Christidis, and P.A. Stott (2013) 'Can the 2011 East African drought be attributed to human-induced climate change?' *Geophysical Research Letters* 40, 1177–1181; For Superstorm Sandy and Haiyan, see: K.E. Trenberth, J.T. Fasullo, and T.G. Shepherd (2015) 'Attribution of climate extreme events' *Nature Climate Change*, published online 22 June 2015.
- 3 S. Buchanan (2015), <http://www.ipsnews.net/2015/03/a-year-of-eye-catching-steps-forward-for-renewable-energy>
- 4 Renewables cost competitive in growing number of countries, <http://about.bnef.com/press-releases/wind-solar-boost-cost-competitiveness-versus-fossil-fuels/> ; IEA (2015) World Energy Outlook states that renewables have become the second largest source of electricity after coal http://www.iea.org/publications/freepublications/publication/WEB_WorldEnergyOutlook2015ExecutiveSummaryEnglishFinal.pdf
- 5 IEA (2015) 'Global energy-related emissions of carbon dioxide stalled in 2014', <http://www.iea.org/newsroomandevents/news/2015/march/global-energy-related-emissions-of-carbon-dioxide-stalled-in-2014.html>
- 6 IER (2015), <http://instituteeforenergyresearch.org/analysis/global-consumption-of-fossil-fuels-continues-to-increase/>
- 7 Fair Finance Guide International and BankTrack (2015) 'Undermining our future: A study of banks' investments in selected companies attributable to fossil fuels and renewable energy'
- 8 Many company commitments to science-based emissions cuts and procuring 100 percent renewable energy are captured here: <https://www.cdp.net/en-US/Pages/RTP/adopt-science-based-targets.aspx>
- 9 'Fair Shares: A Civil Society Equity Review of INDCs', November 2015 http://civilsocietyreview.org/wp-content/uploads/2015/11/CSO_FullReport.pdf
- 10 Ambassador Diseko brokered the 'Durban Mandate' that paved the way for the Paris agreement.
- 11 'Pacific islands make last-ditch plea to world before Paris climate change talks' The Guardian, 2 November 2015 <http://www.theguardian.com/environment/2015/nov/02/pacific-islands-make-last-ditch-plea-to-world-before-paris-climate-change-talks>; 'The Marshall Islands 'Will Go Under' If The Paris Climate Talks Fail, Foreign Minister Says' Huffington Post, 29 September 2015 http://www.huffingtonpost.com/entry/marshall-islands-paris-climate_560a9784e4b0dd8503091e6c
- 12 Recent analysis by Climate Action Tracker estimates projected warming on the basis of INDCs to be 2.7°C <http://climateactiontracker.org> while UNEP estimates a level around 3°C or above <http://www.un.org/sustainabledevelopment/blog/2015/11/new-report-emissions-to-be-limited-by-2030-but-more-action-needed/> and Climate Interactive has projected warming of INDCs to be 3.5°C <https://www.climateinteractive.org/tools/scoreboard/scoreboard-science-and-data>. Based on these estimates, Oxfam considers around 3°C is a reasonable proxy to the global temperature increase of aggregate INDC ambition.
- 13 Fair Shares: A Civil Society Equity Review of INDCs, op. cit.
- 14 In June 2015 Germany committed to double its climate finance from roughly €2bn in 2014 to €4bn in 2020. In September the UK committed to provide £5.8bn in climate finance from April 2016 to March 2021, including at least £1.76bn in 2020, with half of this finance aimed at adaptation. In September, France committed to increase loans for mitigation from €3bn to €5bn by 2020, and to increase grants for adaptation by €370m by 2020.
- 15 We arrived at a range of between \$18.8bn to \$21.3bn by looking at what donor countries provided in the form of concessional finance, i.e. either concessional loans (assumed to be counted at face value) or grants, either bilaterally to countries or in the form of (imputed) contributions to multilateral institutions or funds. The lower end of the range only includes projects with climate as the main objective (Rio Marker 2, climate 'principal') for bilateral contributions. The upper end also includes financial support where climate change is one of multiple objectives (Rio Marker 1, climate 'significant') for bilateral support, which we've discounted to roughly 25 percent of the total to reflect that many projects in this category are likely to be less climate-relevant than reported. Source: OECD data from 2015 on climate-related development finance in 2013 and 2014.
- 16 This range expresses our estimate for grant/grant-equivalent adaptation finance provided by donor countries either bilaterally or by their (imputed) contributions to multilateral institutions or funds. OECD disaggregated data for 2014 is not yet available, including adaptation and mitigation split, Rio Marker 1 and 2 projects, as well as grants and concessional loans. We therefore assumed that the related shares of each of these

elements were the same for the 2013/2014 average as they were in 2013 (which we based on data from OECD DAC database). For multilateral contributions, we applied the adaptation/mitigation percentages of outflows to (imputed) inflows to MFIs from developed countries. The lower end of the range (\$2.9bn) only includes projects with climate as the main objective for bilateral (Rio Marker 2, climate 'principal') and multilateral contributions. The upper end (\$4.7bn) also includes financial support where climate change is one of multiple objectives in bilateral projects (Rio Marker 1, climate 'significant'), counted at 25 percent of total project cost. We estimate the average grant equivalent of concessional non-grant instruments to be 25 percent. Source: Data from OECD (2015) Ibid.

- 17 Tanzania and Ethiopia national adaptation spending estimates based on national budget analysis by Bird (2014), as described in Oxfam (2014) Breaking the Standoff: Post-2020 Climate Finance in the Paris Agreement, <http://policy-practice.oxfam.org.uk/publications/breaking-the-standoff-post-2020-climate-finance-in-the-paris-agreement-336230> and data on international adaptation finance received under Fast Start Finance from www.climatefundsupdate.org, as presented in Oxfam (2014) Hot and Hungry: How to stop climate change derailing the fight against hunger, <http://policy-practice.oxfam.org.uk/publications/hot-and-hungry-how-to-stop-climate-change-derailing-the-fight-against-hunger-314512>
- 18 Estimates of smallholders is notoriously difficult as many small-scale farmers employ different livelihood strategies at different points in the year. However, the most commonly cited estimate is from the World Bank which states 1.5 billion people live in smallholder households in developing countries – see World Bank, World Development Report, 2008, p.29 http://siteresources.worldbank.org/INTWDR2008/Resources/WDR_00_book.pdf Oxfam's estimate of adaptation finance today (see footnote 16) has been divided against this estimate to determine a rough approximation for each smallholder farmer.
- 19 World Bank (2013) 'Turn down the heat: climate extremes, regional impacts, and the case for resilience', p.22
- 20 The INDC Synthesis Report was published by the UNFCCC Secretariat on the 1st of November: <http://unfccc.int/resource/docs/2015/cop21/eng/07.pdf>
- 21 See footnote 12
- 22 The Oxfam-commissioned research carried out by Climate Analytics, uses the integrated assessment model AD-RICE to assess adaptation costs in different warming scenarios. AD-RICE projects temperature-dependent adaptation cost pathways, and compared with other models its results are close to the latest bottom-up assessments of adaptation costs. Technical specifications and calibration of the model are explained in a technical annex here: <http://policy-practice.oxfam.org.uk/publications/impacts-of-low-aggregate-indcs-ambition-research-commissioned-by-oxfam-582427>. The assessment results show the comparison between the adaptation costs and economic damage in the INDC aggregate scenario (interpolated using IPCC RCP6.0, taken as a proxy of an INDC 3°C scenario) and the adaptation costs in the 1.5°C and the 2°C degrees scenarios (IPCC RCP2.6 equivalent to 1.7°C taken as a proxy of 2°C scenario).
- 23 All results are expressed in US\$ 2012 value.
- 24 Model projections can vary largely depending on assumptions, such as changes in dollar value. Results are therefore more reliable as an indication of orders of magnitude than as exact estimations. The numbers presented here were rounded to the nearest 10, exact figures from the modelling were: by 2050 developing countries could face adaptation costs of about \$794bn per year, an additional \$274bn annually, compared with estimated adaptation needs under a 2°C scenario (about \$520bn annually). The 2°C estimate is in line with the upper end of UNEP's 2014 Adaptation Gap report, which estimates adaptation costs between US\$280bn and \$500bn by 2050 for developing countries in a temperature scenario of about 2°C degrees. For more details on results offered by the model: <http://policy-practice.oxfam.org.uk/publications/impacts-of-low-aggregate-indcs-ambition-research-commissioned-by-oxfam-582427>
- 25 The AD-RICE model projects GDP using a Cobb-Douglas production function (based on labour, capital and energy). Economic damages in dollars are obtained by multiplying economic damage expressed in percentage of GDP to GDP projections from the AD-RICE model. The estimate assumes no adaptation action. Results are expressed in US\$ 2012 value.
- 26 Integrated Assessment Models are highly aggregated top-down models, which do not include all sectoral and regional impacts in detail. They include assumptions and simplifications that are necessary due to both lack of data and computational limitations. A degree of uncertainty therefore remains regarding the damages associated with climate change, where some impacts have not yet been identified or quantified. The details on limitations and caveats of the AD-RICE model are explained in a technical annex by Climate Analytics: <http://policy-practice.oxfam.org.uk/publications/impacts-of-low-aggregate-indcs-ambition-research-commissioned-by-oxfam-582427>
- 27 The EU International Development Commissioner, Neven Mimica, said: 'It is a top priority for the EU to assist the most vulnerable countries in their efforts to adapt to climate change and at the same time to transit to green and sustainable economies.' http://europa.eu/rapid/press-release_IP-15-5943_en.htm

- 28 In its INDC, Myanmar identified that Tropical Cyclone Nargis caused loss and damage of \$4bn, killed 138,000 and caused long-term socio-economic impacts. Malawi singled out the severe floods in 2015 that caused \$33m loss and damage and killed 176 people.
- 29 The recent OECD climate finance report estimates current climate finance flows to be around 70 percent public finance: 'OECD (2015) Climate Finance in 2013–14 and the \$100bn goal'. Assuming this proportion of public finance in 2020 and the \$100bn commitment is met, then \$70bn of international finance flows would be public of which Oxfam states at least half (\$35bn) should be allocated to adaptation.
- 30 Including counting only the grant-equivalent of concessional loans and stricter accounting of projects where climate change is one of numerous objectives.
- 31 Pledges to the GCF by 1 September 2015: <http://news.gcfund.org/wp-content/uploads/2015/04/Status-of-Pledges-2015.9.1.pdf>
- 32 Countries that have obligations to provide climate finance are listed in Annex II of the UN Climate Convention. They were determined based on membership of OECD in 1992. Oxfam's assessment of potential new contributors is set out in Oxfam (2014) *Breaking the Standoff: Post-2020 climate finance in the Paris agreement* op. cit.
- 33 OECD (2015) Climate Finance in 2013–14 and the USD 100 billion goal, p 32
- 34 Fair Shares: A Civil Society Equity Review of INDCs, op. cit.
- 35 Leaders' Declaration G7 Summit https://www.g7germany.de/Content/EN/Artikel/2015/06_en/g7-gipfel-dokumente_en.html Brazil-Germany joint declaration on climate change <http://www.bundesregierung.de/Content/EN/Reiseberichte/2015/2015-08-18-merkel-brasilien-regkonsultationen.html>
- 36 The Brazil–Germany joint declaration earlier this year called for achieving the decarbonization of the global economy in the course of the century: 'bearing in mind needs in terms of adaptation, access to finance, technology and capacity-building as necessary elements to undergo such a transition, mindful of the specific needs of developing countries'. Ibid.

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