
10 MYTHS ABOUT...

GLOBAL WASTE

Sorting **facts** from **fiction**.

How much do you know about global waste?

Take a look and explore 10 popular myths about global waste (such as e-waste, agricultural waste and plastic waste), consumption and production.



OUT OF SIGHT, OUT OF MIND...?

It is a startling reality that much of the material output generated by the world since the Industrial Revolution is still with us – despite what we may think, it hasn't gone away. A 2016 study published in the journal *The Anthropocene Review*, estimated that in the centuries since then, the world has produced 30 trillion tons of 'stuff'. This material, a huge amount of it waste, has now created a new layer of sedimentary rock (a 'geological stratum') that poses great risks to life and planet.

Because so much of our waste is dumped or taken away, we no longer see it; it is 'out of sight' and therefore 'out of mind'. The reality is, of course that it has not simply disappeared – it has simply 'gone' somewhere else (until very recently mostly the Developing World or into the ground, air or water). While we have become more familiar with the slogan 'Reduce, Re-use, Recycle', the world continues to produce more and more waste. So much so that we are running out of space in which to put it and put it 'safely' avoiding serious risks.

Our world culture of waste is consuming huge amounts of resources – water, air, timber, fish stocks, soil etc. – while at the same time threatening human and non-human species as well as the planet itself. As a major contributor to climate change, waste represents one of the great challenges of our time.

Simply put, we are producing far too much waste and no amount of recycling can resolve the problem. But there is much that we can and should do, if we change the way we look at the issue as well as changing our behaviours fundamentally. Apart from being a problem, waste also presents us with great opportunity.

In 2015 the governments of the world adopted the 17 Sustainable Development Goals to improve people's lives by 2030. Goal 12 – ensuring sustainable consumption and production patterns or 'doing more and better with less' – seeks to reduce resource use, degradation and pollution while increasing the quality of life, especially for the world's poorest.

How we understand the issue of waste and how we approach it (becoming 'waste activists') is important. If we want to see a world where waste reduction and re-use becomes real by 2030, citizens, civil society group, governments and the private sector must collaborate to invest, innovate and create lasting solutions.

WASTE IS LITERALLY THAT – A WASTE OF PRECIOUS RESOURCES, A WASTE OF OPPORTUNITY AND A WASTE OF THIS WORLD



WHY THINKING ABOUT GLOBAL WASTE MATTERS

1. How we think about world waste – ‘out of sight, out of mind’ – is one of the greatest obstacles to ending it
2. To become waste activists, we need to sort fact from fiction
3. There are many widely shared myths around waste - only by freeing ourselves from the damage such myths do can we begin to grapple with its root causes and with its real and possible solutions
4. The attitudes and policy responses to the many challenges of waste worldwide - affluent countries like Ireland need to move way beyond talk alone to providing real leadership and sustainable actions.
5. We also need to recognise that waste is indeed a worldwide reality and that developing countries face particular challenges in addressing it, challenges that are truly global.

Six reference points online:

- Human rights and sustainable development ideas, debates & resources. See: *developmenteducation.ie*
- Our World in Data: <https://ourworldindata.org/water-use-sanitation#water-footprint-of-food-products> (this section on water footprinting and food)
- Junior Cycle for Teachers geography, home economics resources and more: <https://www.jct.ie>
- Scoilnet – <https://www.scoilnet.ie> teaching materials, ideas and resources for primary and post-primary schools on a wide range of related topics e.g. forests and global forest watch <https://www.globalforestwatch.org>
- World Wildlife Fund – home of the Living Planet Report – offers a huge amount of relevant materials, evidence, case studies https://wwf.panda.org/knowledge_hub/all_publications
- National Geographic site with much relevant data, resources (especially visual resources) and case studies e.g. deforestation <https://www.nationalgeographic.com/environment/2019/08/to-save-the-planet-protect-forests-now-ipcc-report-says/>



The Sustainable Development Goals are the blueprint to achieve a better and more sustainable future for all. They address the global challenges we face, including those related to poverty, inequality, climate, environmental degradation, prosperity, and peace and justice. The Goals interconnect and in order to leave no one behind, it is important that we achieve each Goal and target by 2030

SDG 12 relates to issues of sustainable consumption and production. It promotes the idea of ‘doing more and better with less’, respecting each other, nature and the planet in the process. It also highlights the importance of education as vital.



It focuses on promoting resource and energy efficiency, sustainable infrastructure, and providing access to basic services for all. It highlights the ‘green’ agenda for jobs and for a better quality of life for all worldwide.

Realising Goal 12 means realising human and sustainable growth while also reducing future economic, environmental and social costs and reducing poverty especially among the poorest.

SDG Target 12.3 aims to “by 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses

12.5 - By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.

[MYTH 01]

THE DEBATE ON WASTE IS ABOUT ISSUES SUCH AS PLASTIC, FOOD, TURNING OFF LIGHT SWITCHES, REDUCING WATER WASTE AND THE NEED FOR RECYCLING



[FALSE]

Waste is a far more complex and widespread issue that affects us all, everywhere. Researchers have identified eight key types of waste, each with its own impact and challenges.

Sewage (water carried wastes) includes greywater (from baths, showers, dishwashers etc.), human body wastes, soaps and detergents. The one we 'see' most – **municipal solid waste (MSW)** – includes household (plus garden) waste, commercial, office, hospital and government waste. It includes organic waste, plastic, paper, glass and aluminium. MSW can include small amounts of hazardous wastes.

Industrial waste from manufacturing includes chemicals, iron and steel, pulp and paper, plastics, glass, concrete, food and is the largest waste stream. **Agriculture and forestry waste** includes manure, harvest waste, fertilisers, pesticides and biomass (wood chippings etc.).

Construction and demolition waste includes bricks, gypsum, wood, glass, metals, plastic, solvents and asbestos – it is the largest form of waste by weight. Similar in many ways is **mining and quarrying waste** it includes topsoil, rock and tailings and other, more toxic wastes such as mercury.

Hazardous waste includes cleaning fluids, paints and solvents, asbestos, discarded medicines and e-waste (including fluorescent light bulbs, old TV tubes and batteries). Also includes wastes from decommissioned military bases, dismantled chemical and biological weapons, all of which pose major problems for nature and for humans.

Nuclear and radio-active waste from nuclear plants and weapons and certain types of medical wastes.

This listing of different waste types highlights the many fronts on which we simply have to act. All too often, we simply focus on a small range of waste and forget the big ones.

Source: Global Waste Management Outlook (2015) Wilson D C., L. Rodic, P. Modak, et al, UN Environment Programme (UNEP) and ISWA. See https://issuu.com/raquel.lejtregger/docs/-global_waste_management_outlook-20 (includes excellent and usable topic sheets)

[MYTH 02]

**NOW THAT WE ARE
ALL MORE AWARE,
WE ARE GETTING
THE ISSUE OF WASTE
UNDER CONTROL**



[FALSE]

The volume of waste humans are producing continues to grow and grow fast – it is very unlikely to peak in this current century.

In a major report in 2012, researchers warned that, for example global solid waste generation was likely to increase by 70% by 2025, from approximately 3.5 million tonnes per day in 2010 to more than 6 million tonnes by 2025. The global cost of dealing with such waste continues to rise they argued from US\$205 billion a year in 2010 to US\$375 billion by 2025. The highest cost increases would be in developing countries.

In 2017, it was estimated that a million plastic bottles were bought worldwide every minute with just 10% of them being recycled.

In an updated study, the authors argue that if we continue to produce waste 'as usual' solid waste rates will exceed 11 million tonnes per day by 2100. Currently waste levels are highest in OECD countries at about 1.75 million tonnes per day but this picture will likely change after 2050. Waste levels in the Asia Pacific countries will not peak before 2075 and we do not yet have reliable figures for Sub-Saharan Africa.

As urbanisation grows, so will waste - the world's urban population will be producing three times as much waste as it does today by 2100.

These levels of increase in world waste have serious consequences for health, budgets and for disposal issues (the world's 50 largest landfill dumps are now in the Developing World with huge consequences for the 64 million+ local people). The world's waste incinerators raise concerns about ash disposal and air pollution. Landfills and uncollected waste continue to contribute to climate change through the production of methane, a potent greenhouse gas.

Source: 'What a Waste' Report: Why the Numbers Matter (2012), by Dan Hoornweg (video). See <https://www.worldbank.org/en/news/video/2012/06/06/video-what-a-waste-report-why-the-numbers-matter>

Note: a tonne (usually referred to as a metric ton is equal to 1,000 kilograms.

[MYTH 03]

**WASTE IS,
ESSENTIALLY, A
TECHNICAL CHALLENGE
AND CAN BE RESOLVED
TECHNICALLY**



[FALSE]

Waste is now truly global and, at the same time, deeply personal. Waste also has a long history. The challenge of waste is brilliantly captured in a comment from scientist K A Gourlay who noted that the concept of waste includes that blob of mustard on the side of your plate to a dismantled nuclear reactor.

We often believe that when waste exploded as a world problem with the rise of consumer societies after 1945 technology would solve any difficulties. We believed that we could bury, recycle, incinerate, dissolve or consume waste. We now know different - while we can make waste apparently 'invisible', it doesn't actually disappear.

Scientists, engineers and environmentalists accept that while technology is a part of dealing with the waste crisis, it is not the solution. Achieving anything near zero waste is down to human beings.

In the past, many argued that if people were better informed about the damaging aspects of waste and mistreatment of the environment, they would be motivated to behave responsibly. Recent decades have shown that information alone may not necessarily translate into sustainable environmental

Knowing is by no means enough. Our actions are routinely influenced by many external factors – the influence of others, the impact of the media (including social media), the belief that one person cannot really influence things and many of us resist change emotionally, even if we 'know it's right'.

Research now suggests that three factors influence human actions on issues such as waste and the environment. Having a general sensitivity to and knowledge of environmental issues is basic. Possessing some detailed knowledge along with personal commitment and a resolve to act positively are also important. Finally, having some familiarity with available action options and the skills to engage with them is also key.

Source: Climate Change, Climate Justice: Education Resource Pack for Post Primary Schools (2012) by Trócaire. See <https://www.trocaire.org/sites/default/files/education/lent2015/post-primary-resource-trocaire.pdf>

Background debate: Challenges for Environmental Education: Issues and Ideas for the 21st Century (2001) by Stuart J Hudson. BioScience, Volume 51, Issue 4. See <https://academic.oup.com/bioscience/article/51/4/283/247100>

[MYTH 04]

**WASTE IS PRIMARILY
AN ISSUE FOR THE SO-
CALLED 'DEVELOPED
WORLD'**



[FALSE]

As stated earlier the fact that the world's 50 largest landfill dumps are now in the Developing World dispels this myth. While the highest volumes of waste have been generated in Developed Countries (and still are if measured per capita) in recent decades, this is now no longer the case.

The steepest rates of waste increase are now being recorded in Africa and South Asia (overall and per capita). Waste levels in China have also increased dramatically. With the highest levels of population increase and expanding consumerism, the countries and cities of the Developing World are now a key focus. For example, just five countries - China, Indonesia, the Philippines, Thailand and Vietnam - now account for the majority of the 8 million tons of plastic dumped into the world's oceans every year.

In 2018, China announced to the world that it would no longer accept waste generated in the Developed World. This decision, along with individual decisions in other developing countries is a game changing one. Historically, the West dumped much of its waste (including its hazardous waste) in the Developing World. This has had considerable impact on the health and well-being of workers and their communities in receiving areas – a legacy that continues to this day.

The 'Developing World' was also the recipient of vast amounts of western e-waste (electronic waste from old lap tops, mobile phones, TV's, stereos etc.) shipped from Europe, North America and Australia. There, they were dismantled by badly-paid workers (including children) exposing them to considerable hazards. Despite campaigns to end this trade, it is alive and well today.

Sources: For more on this aspect of waste and the campaigns around it, see the Basel Action Network <https://www.ban.org> and STEP (solving the e-waste problem) <http://www.step-initiative.org>

What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050 by the World Bank: <https://openknowledge.worldbank.org/handle/10986/30317>

[MYTH 05]

**WASTE IS AN
UNFORTUNATE SIDE
EFFECT OF OUR TYPE
OF ECONOMY**



[FALSE]

We live in what many argue is a ‘make, use, dispose’ economy.

Others highlight the fact that we live in ‘societies of disposability’. Our constant focus on waste as an ‘end product’ in our economy, often prevents us from seeing it as a built in component (often an unnecessary and expensive one) of that economy.

Take food for example. So much of our ‘fast and convenience foods’ generate waste in their manufacture, packaging, advertising, transport and consumption. It is only in very recent years that our food manufacturers and supermarkets have begun to take the issue of food waste seriously. According to the UN Food and Agriculture Organisation (and many more researchers and local organisations), at least one-third of all food produced is wasted before it is consumed. Some researchers argue that in many developed countries, the figure is closer to 50%.

Or our digital devices. When it comes to electronic goods, many of the world’s biggest companies build in obsolescence, forcing customers to discard old models in favour of new. Not only does this build up our stocks of e-waste, it also continues to use up those scarce resources used in manufacturing digital products.

Research also suggests that very many of us impulse buy goods we don’t actually need and subsequently don’t actually use. Vance Packard, the author of the best-selling 1960 book *The Waste Makers* argued that Americans ‘overconsume’ harming themselves and their environment in the process. And, generating large quantities of waste.

What was true of the US in 1960 is now true for a great many more countries.

Source: Food Loss and Food Waste by UN Food and Agriculture Organisation. See <http://www.fao.org/food-loss-and-food-waste> and on Europe, see the environment section on European Commission website <https://ec.europa.eu/environment/waste>

[MYTH 06]

**THE RISKS
POSED BY
WASTE ARE
'LOW-RISK'**



[FALSE]

The most hazardous wastes still exist. Not one single gram of high-level nuclear waste has been safely disposed of. Used nuclear fuel rods continue to be stored in pools around nuclear plants. The 2011 Fukushima nuclear accident in Japan led to overheating in cooling ponds generating radiation which impacted on food produced over 300 km away.

People continue to be killed in **'waste slides'** beside mega dumps while the health and well-being of local populations is damaged. Smoke from burning wastes pose serious health risks often releasing toxins and oil residues. Uncontrolled incineration of waste can also produce hazardous emissions.

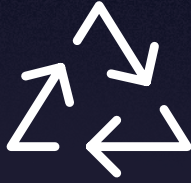
Waste work, especially in developing countries is dangerous as the picking, handling, dismantling, processing and reworking of waste remains unregulated and often illegal. There are significant health risks as **waste collection systems** either do not effectively exist or are overwhelmed. Today, at least 2 billion people worldwide still lack access to solid waste collection.

Our **waste output** ultimately reaches our water sources and our oceans, whether intentionally or not through littering, sewage, oil spills, agricultural runoff, toxic chemicals and air pollutants. This, in turn leads to reduction of oxygen in the water, negative impacts on marine animals, including on their reproductive capacity, contamination of food chains and serious damage to fragile ecosystems such as coral reefs.

Waste in its various forms is also a **significant contributor to global climate change** and its attendant emergency. In food production, for example, when we waste food, we also waste all the energy and water it takes to grow, harvest, transport, and package it. And if food goes to landfill and rots, it produces methane—a greenhouse gas even more potent than carbon dioxide. About 11% of all the greenhouse gas emissions that come from the food system could be reduced if we stop wasting food.

For more, see Waste Awareness Wales website www.wasteawarenesswales.org.uk/hazards-risks-and-exposure-dangers-when-dealing-with-waste-management

[MYTH 07]



THE ANSWER IS SIMPLE – REDUCE, REUSE, RECYCLE

FACT 1

Much of the plastic we recycle, for example can only be recycled once or twice. Then it will end up in landfill or incinerated. It is estimated that approximately 6.4 billion metric tons of the cumulative 8.3 billion metric tons of plastic produced since 1950 has become waste, and only 9% was recycled.

FACT 2

In industry, packaging is responsible for nearly half of the global total, followed by textiles, consumer and institutional products – these are the top 3 plastic waste generating sectors and companies (think of the footprints the fast fashion industry and single-use plastics, for example).

[FALSE]

All too often when dealing with waste or when tackling environmental and sustainable development issues we tend to opt for simple (simplistic) solutions. For example, today much of the focus is on plastic and on avoiding its use and switching to alternatives. In general, this is clearly a good thing but it is by no means enough.

Equally, focusing simply on reducing, reusing and recycling alone without considering the bigger picture is just too simplistic.

Consumption or, more accurately, **overconsumption**, is the biggest issue we face. Take mobile phones – there are currently 6 billion such phones worldwide with an additional 1.5 billion produced annually. In the US alone, 152 million phones are thrown out every year with only 11% of them recycled. It is estimated that there are 22 million mobile phones dumped in desk drawers in Australia (equivalent to its total population).

Our consumption of such items at such a rate and on such a scale highlights the complexity of the challenge of waste. In a 2009 study of ecological intelligence, science journalist Dan Goleman introduces the idea of the ‘vital lie’. This is the lie we tell ourselves in order to justify inaction. If we focus just on issues such as recycling alone we are guilty of such a lie. Recycling is important but barely impacts on the massive damage we do to both people and planet by overconsumption.

Our current consumption model places never-ending priority and reliance on material goods to drive ‘development’. These goods require resources extracted from nature at ever increasing rates posing widespread ecological threats. Individually and collectively, we need to radically reduce the overall burden and impact that mass production and consumption has on nature and the environment around us.

On its own, recycling is not enough - reducing and reusing are essential.

See:

- TED talk by Leyla Acaroglu (2013), sociologist and UNEP Champion of the Earth
- Our World in Data, FAQ on Plastics (2018). See: <https://ourworldindata.org/faq-on-plastics>
- The Story of Stuff project, videos and more <https://storyofstuff.org>

[MYTH 08]

**WASTE IS WASTE —
IT HAS LITTLE VALUE**



[FALSE]

Waste is highly valuable at a number of levels.

- In terms of extracting and reusing resources (some of which are scarce), waste has value (discarded electronic waste is a good example)
- The management of waste itself is profitable (some of the world's largest corporations are involved with waste) and provides large numbers of jobs (1.4 million in the EU in 2015 alone) many of them for poorer communities and areas within cities (approximately 10,000 'waste pickers' work in the world's largest dump Agbogbloshie in Ghana and about 5,000 in Bantar Gebang in Indonesia)
- Waste has high value when managed properly as part of mitigating climate change and protecting nature and the environment (reducing carbon dioxide emissions for example)
- Waste has non-material value especially when it brings together use, art and politics (e.g. 'end of life' ships have been sunk to help assist the protection of coral reefs, plastic is frequently used in art and waste is often used in public campaigning)
- Waste is valuable in terms of energy recovery from non-recyclable materials (extracting heat, electricity or energy)
- After clothing is used, almost all the value in the materials they are made from is lost. Of the total fibre input used for clothing, 87% is landfilled or incinerated, representing a lost opportunity of more than USD 100 billion annually. As much as 73% of material going into the clothing system is lost after final garment use
- People working for waste picker organisations have formed international networks and become active in promoting the ideas and policies of 'zero waste' and improved laws and policies for anyone working for waste picker organisations.

Source:

- Chapters 2 and 3 of Waste (2019) by Kate O'Neill. Polity Pres.
- See the Global Alliance of Waste Pickers <https://globalrec.org>
- See the Ellen MacArthur Foundation report, A New Textiles Economy: Redesigning Fashion's Future (2017): <http://www.ellenmacarthurfoundation.org/publications>

[MYTH 09]



WASTE IS, ESSENTIALLY, A MATTER FOR EACH INDIVIDUAL

‘SUSTAINABABLE’

The myth of endless economic growth and ever-increasing wealth dominates planning throughout the world. ‘Markets’ continue to drive decision-making often reducing the concept of sustainability to what many have labelled ‘**sustainabable**’ – the word can now mean almost anything and therefore nothing. Through overuse, the words *sustainable* and *sustainability* lose meaning and impact.

Language itself has been hijacked in the process of defending waste, overconsumption and unsustainability. Words such as ‘bio-degradable’, ‘low-carbon’, ‘climate-neutral’, ‘environmentally friendly’ and ‘green’ increasingly dominate advertising and public relations without real substance, measurement or meaning.

[FALSE]

How waste is generated and what can be done about its impact and where it ends up are matters that can be challenged and changed by individuals and communities.

Different kinds of **waste generated** from our societies has been found in the stomachs of animals, in some of the deepest reaches of our oceans, in some of the world's most 'isolated' areas and even in outer space. **Plastic** forms massive 'gyres' in our seas, landfill gases fuel climate change; **nuclear waste** is stored in mountains and caves, **hazardous wastes** are shipped across oceans while the health and safety risks from developed country waste (such as Ireland, the UK and the US) are routinely **exported to the world's poorest countries**.

Our **economic growth model** is built on generating waste, on disposability and on excessive consumption. When nature is deemed to be 'free' and when the costs of environmental damage (on land, air, oceans, biological life etc.) are not normally included in our planning, we underestimate the costs of development worldwide today.

Nature itself has increasingly become 'a commodity' to be bought and sold and often powerful energy-hungry companies place immense pressure on governments to approve access to public land, resources and wealth. Such pressure can often damage democracy.

At the turn of this century, the Millennium Ecosystem Assessment reported that more than 60% of the world's major ecosystem goods and services were degraded or used unsustainably. The number of **oxygen-depleted dead zones** in the world's oceans that cannot support marine life has doubled each decade since the 1960s. Even the decline of bees and other pollinators is putting agricultural crops and ecosystems at high risk. The World Health Organisation argues that urban waste and air pollution causes millions of premature deaths each year. The list goes on.

While countless millions and millions of individual decisions (and inactions) fuel these realities, their scale and impact has potentially overwhelming consequences for society, our 'commonwealth' and our planet.

[MYTH 10]

**WHAT ONE PERSON,
FAMILY OR
COMMUNITY CAN DO
IS VERY SIGNIFICANT**



[TRUE]

Stated simply, each of us is individually responsible for thinking about the waste we generate, then for what we do (or don't do) to reduce or eliminate it and then for participating as citizens in public discussions and actions on the issue. Arguing that 'it's up to others' – passing the buck – is neither reasonable nor fair.

It is undeniable that we live in a highly unequal and unjust world and this applies to environmental issues and challenges. Global wealth and power are highly concentrated and to argue that in such a situation that every person has equal responsibility for the mess we now face is unreal. While we all have some power and some responsibility, some clearly have much more than others, especially powerful institutions and corporations.

People in power (be it political or economic) very rarely change things unless pushed by ordinary citizens. We have had many examples of that in Ireland, North and South in recent decades. That is why we need to recognise the power and opportunities we have when we act individually and collectively at the same time.

Our power lies in getting the balance right between individual to collective action.

We have the opportunity to make a difference at three key levels:

Discussion and debate: keeping ourselves informed and motivated at a basic level is vital. Sharing the conversation and the issue with family, friends, locally and at school or work helps build up a public awareness and conversation. While much of the waste we generate comes from our daily behaviour with food, shopping, heating and lighting, travel etc., remember that our waste footprint also arises from things like roads, education and healthcare. These conversations are important and help build up public judgement on issues like waste.

Taking individual action and providing leadership: careful and ethical consumption is key to taking action. There are literally thousands of easy things we can do in our own individual lives as regards food, shopping, waste creation, travel, energy (mis)use, reducing the volume of stuff we buy (and then often don't use). This helps make a difference but it also leads by example and encourages others. We need to stop being just passive consumers and insist that governments and companies 'do the right thing'.

Join with others in your home, local associations and clubs, churches, workplaces, schools etc. – wherever people gather together. Working together is so much easier and has much more impact. Participate in or organise events, activities, discussions. Take it to another level by letting local and national institutions, companies and political structures what you are doing. Recognise that there is power in numbers.

10 MYTHS ABOUT... SERIES

The 10 Myths About... series looks to sort facts from fiction on key global development, human rights and justice issues.

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With special thanks to the Junior Cycle for Teachers (JCT) Geography Team for review work and feedback on the draft, including Ada Broderick, Paula Needham, Susan Connolly, Marie Sheridan, Breege Henry and Sinéad Callanan

Design: Dylan Creane at Gush Design and Ray O'Sullivan at PixelPress

Print: Pixelpress, Dublin, Ireland

Cover photo: by Stas Knop via <https://www.pexels.com/@stasknop>

Published by: developmenteducation.ie 2020

c/o 80:20 Educating and Acting for a Better World, St Cronan's BNS, Bray, Co. Wicklow

ISBN: 978-0-9930234-8-4

PRODUCED BY



This booklet was part-funded by Irish Aid, the Irish Government's programme for overseas development. The views expressed in this booklet are those of the authors and not necessarily those of Irish Aid.



Development
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