

[eNews Special Feature: From Albania to Zambia – GAD’s A to Z of world work](#)

Global GAD – how our work goes beyond our borders

The Government Actuary’s Department (GAD) traditionally provides actuarial advice and support to the UK government and public sector.

However, our work is not limited to the UK and its immediate surroundings. We provide expertise to overseas projects where they are aligned with the UK government’s interest.

The Prime Minister set out the government’s priorities in [‘Build Back Better: our plan for growth’](#). It’s about plans to support growth through investment in infrastructure, skills and innovation, as well as ways to support the government’s vision for Global Britain.

A key part of this campaign is demonstrating the UK’s capabilities internationally, as a newly independent trading nation. GAD’s international work is closely aligned with this.

International work areas

GAD provides actuarial advice on insurance and pensions.

We provide international support in:

1. disaster risk financing
2. climate change
3. social security schemes

1. Disaster risk financing

Disaster risk financing considers the financial instruments and budgeting methods that governments can put in place before a shock occurs, such as a flood, earthquake or a pandemic, in order to reduce the impact of the disaster.

GAD has been working in partnership with the Centre for Disaster Protection (CDP), the Foreign, Commonwealth and Development Office (FCDO) and the World Bank for a number of years. We provide analysis and support on disaster risk financing projects for a range of countries and through these partnerships we have worked with several international humanitarian organisations including the:

- UN Development Programme
- UN Office for the Coordination of Humanitarian Affairs
- International Federation of Red Cross and Red Crescent Societies

- START Network

Our partnership with the CDP includes regular secondments of GAD staff where we provide in house actuarial support such as developing training and analytical expertise.

EXAMPLES OF RECENT PROJECTS

Albania

Albania faces serious geological and climate-related risks, particularly from earthquakes and floods and is ranked the most at-risk country in Europe. Working for the World Bank, we developed a model that considers how future disasters could impact on Albania's finances. We set out a methodology for quantifying how a disaster impacts the fiscal position and provided 2 worked examples.

We began by using a catastrophe risk model to consider the damage to private property from possible future events. We then added historical data and assumptions about the government's response and economic effects to the model. This allowed us to consider the likely impact of the disaster on government expenditure and revenue. It also informed analysis of the fiscal impact of a disaster, additional borrowing requirements and actions needed to return the country to a pre-disaster position.

Finally, we considered the government's risk tolerance and whether risk financing instruments could help to mitigate the fiscal impact of future disasters. Our modelling has helped the government of Albania to plan for future disasters.

Ethiopia

Ethiopia has experienced rapid economic and population growth which has led to various challenges, such as food and other resource shortages. This has been coupled with the impacts of climate change. Building Resilience in Ethiopia (BRE) is a 3-year (2019 to 2022) technical assistance programme co-funded by FCDO and the US Agency for International Development (USAID) which aims to mitigate the impacts of growth and climate change on the Ethiopian population.

Through our relationship with the CDP we supported the programme by providing a qualitative analysis of their model for quantifying disaster-related fiscal risk. Following this we supported the CDP in providing training for BRE and the Ethiopian Ministry of Finance on instruments for managing disaster risk.

Malawi

GAD worked with both the CDP and the World Bank on a project to analyse the welfare impacts of drought. We applied data science techniques to model historic data for Malawi and capture both seasonal and geographic trends in order to develop a model that simulates soil moisture. This provided a

methodology which can be used to develop models for simulating other drought measures in different countries.

Full details can be found here:

<https://www.gov.uk/government/news/drought-modelling>.

2. Climate Change

Climate change is one of the greatest challenges facing our world right now, and addressing it requires global collaboration. At the COP26 summit last November, representatives from around the world met in Glasgow. Their aim was to agree steps that must be taken to mitigate climate change and adapt to its impacts. The summit culminated in the Glasgow Climate Pact signed by nearly 200 countries.

As host of COP26, the UK government was central to facilitating this global event. Many government departments were involved in the UK's preparation and GAD is proud to have lent our support to this work.

In the run up to COP26 one of our actuaries, Sara Ronayne, was seconded to HM Treasury's Finance Hub. Her role within the hub (led by former Bank of England Governor Mark Carney) was to support the COP26 Private Finance Agenda. The overarching goal of this agenda was to help create a global financial system where "every professional financial decision takes climate change into account".

Key outcomes with global reach include:

- the establishment of a new International Sustainability Standards Board
- the Glasgow Finance Alliance for Net Zero, with over \$130 trillion of private capital committed to reaching net zero carbon emissions by 2050. This is equivalent to 40% of the world's financial assets

Read [Sara's blog](#) to find out more about her experience.

3. Social Security

In addition to income tax, we pay National Insurance contributions in the UK. These are used to fund state benefits, such as:

- state pensions
- unemployment benefits
- healthcare

A more generic term for this is social security. Current contributors to a social security fund may still be receiving benefits in 60 or more years' time. It is therefore a long-term undertaking and so it is important to consider the financial implications.

There are many uncertainties which arise with such long timelines.

Policymakers need to consider many issues, such as:

- how many people will be employed and paying contributions
- what level of contributions will be paid, and will these be sufficient to cover the expected cost of providing benefits
- how much it will cost to provide pensions to the future population, and how will this cost vary if the population does not change as currently expected

INTERNATIONAL SUPPORT PROVIDED

Guernsey, Jersey and the Isle of Man

As British Crown Dependencies, the governments of Guernsey, Jersey and the Isle of Man have a close relationship with the UK government. GAD has, for many years, carried out actuarial reviews of the social security schemes for Guernsey, Jersey and the Isle of Man.

For these reviews, we look at the projected finances of the scheme over a long period (around 60 years). We consider what benefits are to be paid over this period and, for example, calculate the contribution rate that would be required to fund these and whether the fund would be exhausted during the projection period. We illustrate the key drivers behind the numbers and how changing them would alter the contribution rate, for example:

- investment returns
- migration patterns
- earnings growth

Our analysis provides the governments with a sound basis for making future decisions on benefits and contributions.

Canada

The Office of the Chief Actuary in Canada produces a report on the Canada Pension Plan every three years. The Canada Pension Plan is a key part of the social security system.

GAD helped the Office of the Chief Actuary to select an external peer review panel for the 30th actuarial report, and provided an opinion on the peer reviewers' report.

Further details of the work carried out can be found [on our website](#).

Zambia

GAD has been working with Zambia's National Pension Scheme Authority (NAPSA) for over a decade. We provide actuarial reviews of the National Pension Scheme, the main social security scheme in Zambia, to help NAPSA manage the finances of the scheme.

NAPSA staff have visited GAD to learn more about the modelling that we do and to discuss wider issues affecting social security schemes, such as climate change.

Summary

GAD is committed to using its expertise to support the interests of the UK government both at home and abroad. We continue to welcome new opportunities to work with international clients and further demonstrate our capabilities beyond our borders.

A key part of GAD's 2020-2025 strategy is to "build a strong reputation as objective, professional actuarial experts within the public sector" (Martin Clarke, Government Actuary) and our overseas work plays an important part in demonstrating this.