CLIMATE CHAMPIONS

ISLAMIC RELIEF'S GLOBAL CLIMATE ACTION

Due to climate change, scientists predict years of hard-to-handle variability between drought and flood across the Sahel region of Africa, as here in Mali. Image: Maaria Khalifa IR Worldwide

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Introduction

Dealing with climate change is vital for Islamic Relief to fulfil its mission of addressing the root causes of poverty. Climate change is a threat to us all but it is already having a devastating impact on the poorest and most vulnerable, those who are least responsible for global warming.

This review describes Islamic Relief's most recent interventions and highlights how communities are working with us to adapt to climate change and build resilience, including efforts to reduce the risk from future shocks. It also captures why Islamic Relief is vocal on climate change and climate justice issues, and how we are campaigning to reduce emissions, promote sustainable living and protect the most vulnerable.

We use the term 'climate change' throughout this report, but recognise that what we are witnessing is something entirely different from what occurred throughout the earth's history. This is climate breakdown, where the actions of humans are causing changes within decades that have previously taken millennia[1]. To deal with this means questioning not only current environmental and economic policies, but entire political and economic systems.

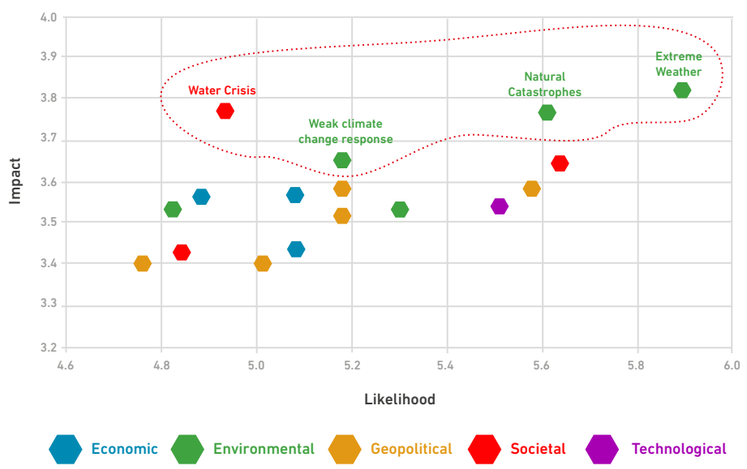
Islamic Relief-supported community water initiatives in Balochistan. Image: IR Pakistan

THE GLOBAL THREAT

The World Economic Forum produces a report every year about the biggest threats facing the world. Over the past decade, this has shown a cluster of environment-related risks: extreme weather events, water and food crises, failure of climate change mitigation and adaptation, and natural disasters.

These are strongly interconnected with many other risks, such as conflict and large-scale forced migration. In v2017, environmental concerns are more prominent than ever, with all risks in this category assessed as being above average in terms of both their likelihood and impact.

Global Risk Landscape 2017



With technology and science advancing at an ever-increasing pace, and all the turbulence and insecurities that seem to be troubling our world, there is nothing that threatens our very existence as human beings more than climate change.

"Climate change is a direct threat in itself and a multiplier of many other threats – from poverty to displacement to conflict ...[it] is an unprecedented and growing threat. The arguments for action are clear. So are the immense opportunities for peace and prosperity if we act quickly and decisively"

António Guterres, UN Secretary-General, May 2017

Livestock are dying in Wajir County, Kenya, and other parts of the severely drought-affected north east. Image: Gloria Kivuva IR Kenya

IT'S HAPPENING NOW

Temperatures reached 42.5°C in Jessore district , Bangladesh, in April 2014
Image: Shaista Christy Islamic Relief

Extreme weather

Climate change is causing extreme weather all over the world, though the global north accounts for most studies and observations. Analysis suggests 63% of all extreme weather events studied to date were made more likely or more severe by human-caused climate change[2].

In 2016, there were a number of extreme transitions from drought to above-average rainfall and flooding. In May, torrential monsoon rains in eastern China caused the worst flooding there in nearly 20 years, destroying 145,000 homes and killing more than 500 people [3]. In November, unusually heavy downpours ruined crops and exacerbated food insecurity as flash flooding turned roads to rivers and swamped farmers' fields in Ethiopia[4]. Two major hailstorms in Texas resulted in combined damage of more than $5 billion, and the Netherlands witnessed hailstones of 5cm–10 cm in diameter that led to losses estimated at $540 million.

May/June 2017

30 days of natural disasters and extreme weather[8]

28TH MAY, BANGLADESH
Cyclone kills six people and leaves 500,000 displaced

28TH MAY, SRI LANKA
Floods and landslides kill at least 150 people

29TH MAY, MOSCOW, RUSSIAN FEDERATION
Freak winds leave 13 people dead

6TH JUNE, MISSOURI, USA
Flooding disaster declared day after US President announces withdrawal from Paris agreement

9TH JUNE, SOUTH AFRICA
Wildfires destroy hundreds of homes

12TH JUNE, PUNJAB, PAKISTAN
Severe dust storm leaves seven dead and 65 injured

18TH JUNE, PORTUGAL
Forest fires kill 64 people

20TH JUNE, LIMA, PERU
Mudslides threaten the world's great 'self-built' city

21ST JUNE, USA
The most extreme heatwave in the south-west US in years

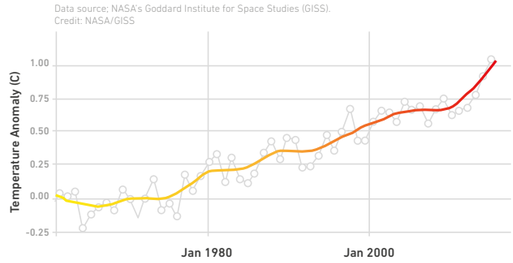
22ND JUNE, GERMANY
Violent thunderstorms kill two people

23RD JUNE, ARIZONA, USA
Heatwave leaves up to 62 dead and people desperate to escape

25TH JUNE, CHINA
Landslide leaves 30 dead and scores missing

28TH JUNE, CHINA
Deadly floods and landslides affect 7.44 million people in the south of the country

Global Land-Ocean Temperature Index



There was also some unusual hurricane activity. As well as being oddly timed, Hurricane Pali in the central Pacific reached the lowest latitude (2°N) of any western hemisphere hurricane, while Alex was the first January hurricane in the North Atlantic for 80 years. In July, the temperature in Maniitsoq, Greenland reached a record high of 25.9°C. The extent of Arctic sea ice fell to its second-lowest annual minimum (after 2013) in September.

The last 16 years have been the warmest since modern records began 136 years ago, with the exception of 1998 which also had record high temperatures. The year 2016 ranks as the warmest on record, and 2017 looks set to continue the trend[5].

Food crisis

The Paris Agreement on climate change recognises 'the particular vulnerabilities of food production systems to the adverse effects of climate change' (UNFCCC, 2015) [6].

"We are facing the largest humanitarian crisis since the creation of the United Nations. Now, more than 20 million people across four countries face starvation and famine. Without collective and coordinated global efforts, people will simply starve to death. Many more will suffer and die from disease".

–

UN Under-Secretary General & Emergency Relief Coordinator, Stephen O'Brien. Statement to the UN Security Council, March 2017

The impact of climate change on agriculture is already significant, and it will eventually affect every aspect of food production [7].

Water scarcity

In June 2017, on World Day to Combat Desertification and Drought, the World Bank noted that 20 million people in Africa and the Middle East were experiencing a prolonged drought, while Vietnam had been struck by its most severe drought in 90 years, affecting more than two million people. In Indonesia, the UN estimates that 1.2 million people live below the poverty line in severely drought-affected districts. These communities rely on rainfall for food production and for their livelihoods, but the rainy season did not start when expected due to El Niño.

Super El Niño:

The impact on weather worldwide

El Niño is a complex and naturally occurring weather pattern that results when ocean temperatures in the Pacific Ocean, in the vicinity of the equator, vary from the norm. The phenomenon typically occurs every two to seven years. The 2015-2016 El Niño, however, is being called a 'super' El Niño, because it was the worst in 15 years.

Although El Niño's strongest impacts are felt around the equatorial Pacific, they can affect weather around the world by influencing high and low pressure systems, winds and precipitation. As the warmer ocean waters release excess energy (heat) into the atmosphere, global temperatures rise. Recent research has linked El Niño with a massive surface melt on the West Antarctic Ice Sheet. If it completely melted into the ocean, it could add about 3.4 metres to the sea level worldwide.

http://blogs.ei.columbia.edu/2016/02/02/el-nino-and-global-warming-whats-the-connection/
Nicolas, J. P., Vogelmann, A. M., Scott, R. C., Wilson, A. B., Cadeddu, M. P., Bromwich, D. H., ... & Powers, H. H. (2017). January 2016 extensive summer melt in West Antarctica favoured by strong El Niño. Nature communications, 8, 15799. https://www.nature.com/articles/ncomms15799.pdf

Debris abandoned by people seeking refuge in Europe from conflict and climate related threats in the Middle East and Africa. Lesbos Greece Image: Maaria Khalifa IR Worldwide

Conflict

"The world is entering its most dangerous chapter in decades".

–

Foreign Affairs, 5 January, 2017

In January 2017, Foreign Affairs magazine warned that the world was "entering its most dangerous chapter in decades". It highlighted 11 conflicts to watch in 2017: Syria; Iraq; Turkey; Yemen; Greater Sahel and Lake Chad Basin; Democratic Republic of Congo; South Sudan; Afghanistan; Myanmar; Ukraine; Mexico. Climate change is a key component in international conflicts as it aggravates pre-existing problems to function as a "threat multiplier", causing escalating cycles of humanitarian crises, political instability, forced migrations and conflicts. The war in Syria and conflicts across the Sahel, for example, have a major climate-change fingerprint [9].

Large-scale migration

Migration from the regions most affected by climate breakdown, and from conflicts associated with changes in weather patterns, has increased markedly. Long-term demographic trends mean that 100 million Africans could be driven to Europe by climate change and poverty in the coming years, an eventuality for which European governments are unprepared[10].

"No nation, whether it's large or small, rich or poor, will be immune from the impacts of climate change"

–

Barack Obama, May 2017

In the four days between 24 and 27 June 2017, 8,863 migrants arrived in Italy, including more than 5,000 on the Monday alone, according to the International Office for Migration. A further 2,000 people were reported to have arrived on Tuesday. The June surge came after the arrival of 60,228 migrants in Italy by sea in the first five months of 2017, with 1,562 reported to have died in the Mediterranean. The number of migrants from Libya this year is on course to exceed the 200,000 recorded last year.

Large areas of South Asia were inundated with catastrophic monsoon flooding in August 2017 Image: Safiul Azam, IR Bangladesh

AN ISLAMIC PERSPECTIVE

Concern for the environment and the impact of human actions is deeply rooted in the Islamic worldview. Islam provides guidance for humanity to live sustainably and justly on earth, and its teachings can stimulate individual consciences and mobilise communities to action.

Some of the key concepts in the Qur'an relating to environmental concern include the principles of unity (tawheed), natural state (fitra), balance (mizan) and responsibility (khilafa).

"Allah is the Creator of all things and He is the Guardian over all things"
(Qur'an 39:62).[11]

"So set yourself firmly towards your faith, as a pure natural believer. Allah's natural pattern in which He originated mankind. There is no changing Allah's creation. That is the true faith. But most people do not understand it"
(Qur'an, 30:30).

"O children of Adam!.. eat and drink – but waste not by excess for Allah loves not the wasters"
(Qur'an, 7:31)

"It is He who appointed you khalifs on earth"
(Qur'an, 6:165).

"Mischief has appeared on land and sea because of (the deed) that the hands of men have earned, that (God) may give them a taste of their deeds: in order that they may turn back (from evil)"
(Qur'an, 30:41).

Islamic Relief's Climate Change Policy outlines the Islamic principles of sustainable living as well as the conservation techniques that have been successfully used by Muslim societies.

Islamic Declaration on Climate Change, 2015

"We are in danger of ending life as we know it on our planet"
–
Islamic Declaration on Climate Change

As extreme events such as heat waves, heavy rain and coastal flooding become more frequent, the Islamic Declaration on Climate Change – an initiative spearheaded by Islamic Relief alongside other international partners – predicts severe adverse effects on the global economy, biodiversity and the goods and services provided by ecosystems. It warns that the earth's 'core physical systems' will abruptly and irreversibly change.

The Islamic Declaration on Climate Change (2015) summarised the global threat we are facing:

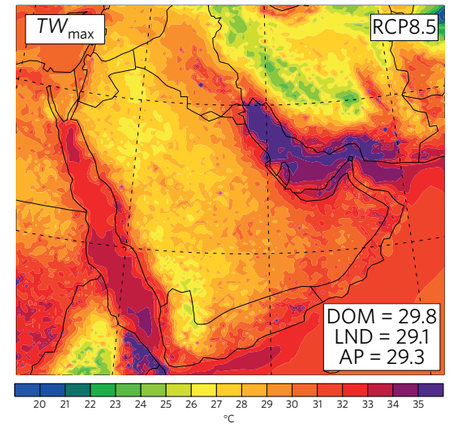
- Ecosystems and human cultures are already at risk from climate change
- Risks resulting from climate change caused by extreme events such as heatwaves, extreme precipitation and coastal flooding are on the rise
- These risks are unevenly distributed, and are generally rising in every country, at all levels of development
- Foreseeable impacts will adversely affect the earth's biodiversity, the goods and services provided by our ecosystems, and our overall global economy
- The earth's core physical systems themselves are at risk of abrupt and irreversible changes.

Climate at the heart of Islam:
The holy sites under threat

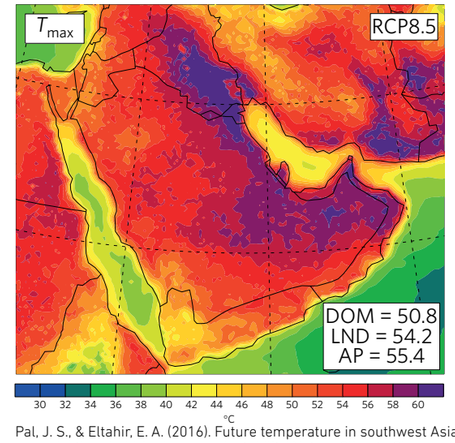
Recent research supported by the Kuwait Foundation for the Advancement of Science shows that by the end of the century, temperatures in the holy cities of Mecca and Medina will rise to intolerable levels due to climate change. Outdoor rituals of the Hajj and Umrah pilgrimages are likely to become hazardous to human health, especially in the summer months, with elderly people most at risk.

In Mecca, the combined measure of temperature and humidity is projected to reach 32°C, with dry temperatures up to 55°C. These exceed the limit of survivability for most people outdoors (shown in dark red to purple below.)'

Temperature and Humidity



Dry Temperature



Pal, J. S., & Eltahir, E. A. (2016). Future temperature in southwest Asia projected to exceed a threshold for human adaptability. Nature Climate Change, 6(2), 197-200.

The coasts of the Arabian Peninsula are especially susceptible to high temperatures due to clear skies, water evaporation and heat absorption of the Gulf and Red Seas. The region that has been a major source of oil and gas consumed around the world is now facing an insecure future due to the effects of global warming caused by burning fossil fuels.

ISLAMIC RELIEF IS CLIMATE AWARE

Islamic Relief was founded in response to a devastating drought in Sudan in 1984, and has always been inspired by Islamic teachings on justice and stewardship of the earth. We recognise climate change as one of the greatest moral, social and environmental issues facing humanity today, and we uphold our duty of custodianship over the planet and its resources.

In 2007, Islamic Relief identified climate change as undoing "the positive steps that some countries have taken towards development". We predicted that drought would lead to "scarcity of food and water, increased rates of malnutrition and the loss of livelihoods for those dependent on agriculture for their survival'. In other areas, flooding would "increase the prevalence of serious water-borne diseases". Climate change would have "fatal consequences for those affected by serious disease, malnutrition and instability caused by mass population movements"[12].

Today, these predictions are proving prescient. In large parts of the world, development efforts have been delayed or diverted by humanitarian crises partly or solely caused by weather events. In the Horn of Africa, long periods of drought, with precious little respite and rainfall in between, have left 21.4 million in need of humanitarian assistance[13]. In Pakistan, Malawi, India and Bangladesh, Islamic Relief has been called to respond to destructive floods displacing and endangering hundreds of thousands of people.

In 2012, we reported on our Disaster Risk Reduction programmes in Kenya, Mali, Bangladesh and Pakistan, which better prepared people for adverse events and improved land and the environment. Two years later, we celebrated our projects in West Africa that tackle the water crisis and lift communities out of poverty[14]. Looking ahead, the global Islamic Relief family has prioritised "climate change adaptation, disaster preparedness and mitigation" as a main theme for its 2017-21 strategy.

Islamic Relief's response

Islamic Relief is currently engaged in over 50 climate-related projects in 14 countries worldwide (August 2017) and our Action on Climate and Consumption project aims to reduce carbon emissions in both developed and developing countries.

Disaster Risk Reduction (DRR)

DRR is a systematic approach to identifying, assessing and reducing the risks of disaster. It aims to reduce socio-economic vulnerabilities to disaster as well as deal with the environmental and other hazards that trigger them[15]. Islamic Relief is committed to the Sendai Framework for Disaster Risk Reduction[16] and particularly to enhancing collaboration at the local level, enabling people to assess and disseminate disaster risk information, manage disaster risk, invest in resilience and improve preparedness. We work with local and national governments to develop and implement disaster risk strategies such as in Pakistan, where we supported the State Government of Azad Jammu and Kashmir to develop a ten-year 'road map' to inform their entire planning and development process from the perspective of community-led DRR.

Migration, livelihoods and social cohesion

As the climate changes, people are increasingly displaced from their homes, seeking refuge in cities and other parts of their country, or further afield as migrants.

Growing movements of people are influenced by the immediate need to earn a dignified living and make independent decisions about how best to meet their needs – aspirations that are threatened by climate change. The changing climate is also undermining social cohesion within communities where displaced people, refugees and host communities are forced to live together and compete for scarce resources in what can be a tense and uneasy co-existence.

"Climate change threatens to undermine Islamic Relief's mission – to protect life and dignity as well as reduce poverty and suffering."

–
Islamic Relief's Climate Change Policy

Islamic Relief aims to build the resilience of these communities so they can be self-reliant during chronic crises. Our support will help improve community assets, increase access to a regular income and open channels for dialogue.

Inclusion

Islamic Relief is acutely aware that in development and emergency work there is a danger that some people, often the most vulnerable, are left behind in consultation, decision-making, planning and access to goods and services. This may be due to disability, health, age, religion, gender, social or economic status and a variety of other factors. For some there is the extreme vulnerability that comes with suffering multiple 'intersectional' discrimination, but it is important in climate change work, as in other areas, that action is taken to ensure inclusivity. Islamic Relief has been at the forefront of having an inclusive approach, such as in Bangladesh where we ensure people with disabilities are able to safely reach cyclone shelters.

"Climate change and inequality are locked in a vicious cycle. Initial socio-economic inequalities determine the disproportionate adverse effects of climate hazards on people at disadvantage. The impact of climate hazards in turn results in greater inequality. Because of the lack of capacity to cope and recover, vulnerable groups frequently experience a disproportionate loss of life, human capital, assets and income. Addressing the root causes of inequalities enables adaptation and the building of resilience to climate hazards."

–
UN (2016) World Economic and Social Survey: Climate Change Resilience: An Opportunity for Reducing Inequalities.

Handing over the Road Map for Disaster Risk Reduction developed by Islamic Relief Pakistan to the Prime Minister of State of Azad Jammu and Kashmir, Pakistan. Image: IR Pakistan

Gender responsiveness

Islamic Relief recognises that women's vulnerability to disaster is often greater both during and after climate-related events[17]. Disproportionate numbers of casualties are women, and cultural expectations make it harder for women to be mobilised or to access health and other services. When displaced, women are often the primary carers with responsibility for children and the elderly.[18] Gender differences in access to resources, power and processes of decision-making, including responsibilities within the household, make women particularly vulnerable to climate hazards[19].

Islamic Relief ensures that climate change interventions are gender-responsive, which means recognising and addressing the particular pressures and challenges women face. In most contexts, women's domestic and communal responsibilities as stewards of natural resources have put them at the forefront of livelihood strategies that are adapted to changing environmental realities. Women need to be fully involved in decision-making and planning, and their skills should be used in disaster preparedness and response, and all aspects of climate mitigation and adaptation.

Emergencies

Most of Islamic Relief's climate change work is developmental, equipping vulnerable people with the means to adapt to changes and build for the future. However, a great deal of the organisation's work involves responding to humanitarian emergencies such as conflict and its associated displacement of people, seasonal floods and cyclical drought, and sudden shocks like earthquakes and tsunamis. Humanitarian responses to weather-related events like storms and flooding are also increasing as global warming disrupts weather patterns and sea levels and temperatures[20].

Increasingly, the conflicts to which Islamic Relief responds by ensuring the survival and protection of civilian populations - such as in Somalia, Mali, South Sudan and Syria - include climate change among their causes. Even the increasing incidence of earthquakes in Pakistan is thought to be triggered by changes in the load on the earth due to melting glaciers[21]. As one of the first aid agencies to respond to global emergencies, and with the breakdown of weather patterns, our work will increasingly involve dealing with the issues created by the accelerating rate of climate change.

Global advocacy and campaigning

Islamic Relief Worldwide and its partner offices around the world are actively involved in advocacy and campaigning around climate change issues, often pioneering efforts to build partnerships and promote joint initiatives.

Islamic Relief Worldwide, as part of the Global Muslim Climate Network, ran a global advocacy campaign to encourage Muslims to tackle climate change following the publication of the Islamic Declaration in 2015. In support, Islamic Relief UK (a founding member of Muslim Climate Action, the country's first Muslim coalition on climate change) led a civil society delegation to the COP 22, the UN Climate Change Conference in Morocco.

As an active member of Klima-Allianz Deutschland, Islamic Relief Germany is pressing for a strong commitment to climate protection. In preparation for the Hamburg G20 summit, the organisation's CEO called for the rich countries of the global north and the large emerging economies to meet their responsibilities with more money for development cooperation, renewable energy and handling the consequences of climate change.

Similarly, Islamic Relief Sweden has joined the Klimat Sverige network, working for rapid and fair global transformation into a society that respects the planet's ecological and climatic boundaries. Islamic Relief USA has noted the pressures that the current administration in the US is placing on climate scientists with its threatened withdrawal from the Paris Agreement and the rolling back of environmental protection. In response, IRUSA led the 'Keepers of Faith' section at the People's Climate March and is making the link between its response to recent floods in California and climate change awareness.

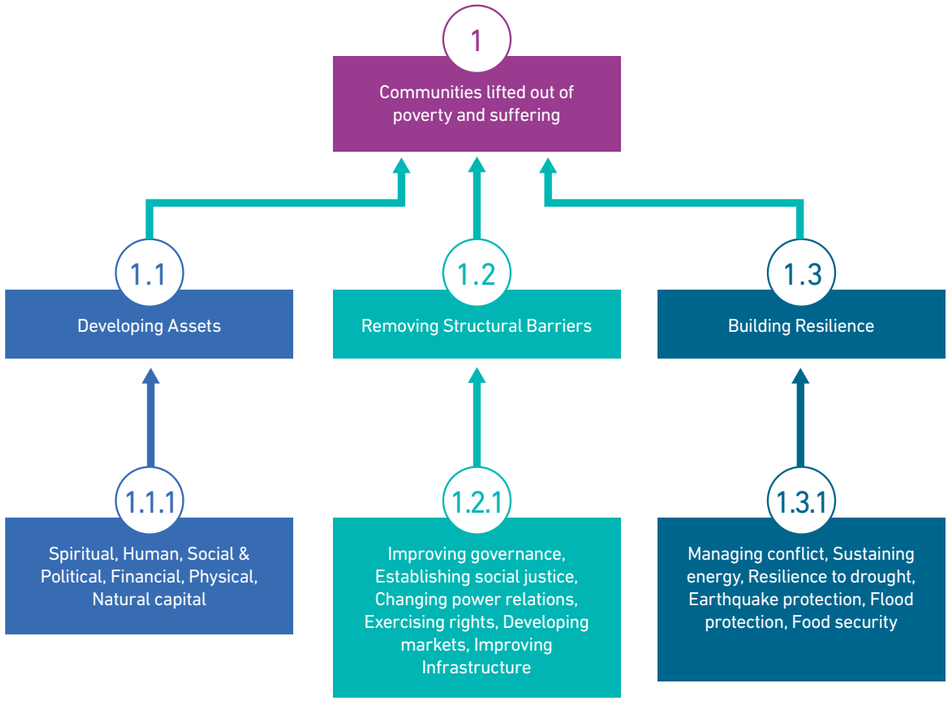
Islamic Relief Bangladesh also invests in advocacy and actively develops the leadership capacity of vulnerable people. This ensures that their voices are heard, and that their priorities and concerns are included in local and national planning for DRR and climate change adaptation.

As a result of Islamic Relief Pakistan's advocacy, sensitisation and technical assistance, the State Government of Azad Jammu and Kashmir has approved State Level Disaster Risk Management Plans and allocated seed funds.

Islamic Relief's strategic framework

Islamic Relief's Global Strategy 2017-2021 ensures the organisation will develop, and be recognised for, its expertise in livelihoods and climate change adaptation. In a strategic framework for climate change, our major partners and field offices are drawing together their work as a climate-smart organisation that is the foremost Muslim agency with expertise on climate adaptation and mitigation. In doing so, we will influence the planning of national and local governments, and hold them to account for commitments on livelihoods, adaptation and mitigation policies.

Islamic Relief's Theory of Change:
Climate Adaptation



ASSETS

SPIRITUAL: Support for and protection of the vulnerable; values and rituals to support resilience

HUMAN: Knowledge of climate risks; conservation agriculture skills; good health to enable labour

SOCIAL AND POLITICAL: Women's savings and loans groups; farmer-based organisations

PHYSICAL: Irrigation infrastructure; seed and grain storage facilities

NATURAL: Reliable water source; productive land

FINANCIAL: Micro-finance and insurance; diversified income sources

SOCIAL CHANGE

IMPROVED GOVERNANCE: Local government capacity to plan and implement adaptation

ESTABLISHING SOCIAL JUSTICE: Equitable access to information, skills, services, land and resources

CHANGE IN POWER RELATIONS: A voice for marginalised groups in local planning and resource allocation

EXERCISING RIGHTS: Minimum conditions for living with dignity; livelihood security; legal redress

DEVELOPING MARKETS: Fair access to the local market for jobs, goods and services

IMPROVING INFRASTRUCTURE: Services; utilities; communications; transport

RESILIENCE

CONFLICT MANAGEMENT: Pre-existing or climate-related conflicts routinely mitigated and transformed

SUSTAINABLE ENERGY: Renewable energy supported by information on efficiency; air quality; recycling

RESILIENCE TO DROUGHT: Water conservation and efficient use; resistant species and mulch planting

FLOOD PROTECTION: Defences and raised levels of dykes; potable water sources; disease reporting

FOOD SECURITY: Reserves of food and agricultural inputs; diversified livelihoods

ADAPTED SHELTER: Resilient to future climate conditions and extreme weather events

Adaptation

Most of Islamic Relief's climate programme is about adaptation – building the capacity of individuals and communities in order to reduce their vulnerability to the effects of climate change.

Islamic Relief has raised over £26 million in the last three years to address issues related to climate change

Over the last three years, Islamic Relief has raised over £26 million from private and institutional donors to address issues related to climate change in some of the most vulnerable communities in 14 countries. This ranges from small-scale projects in Malawi to a major enhancement of water supplies in an entire province in Sudan. In Pakistan, one of our programmes provides safe drinking water, sanitation facilities and health interventions that improve hygiene practices and reduce the risk of disease, especially among women and children.

In Bangladesh, we are running a number of long-term programmes to reduce risks by enhancing climate change adaptation and disaster resilience. One of our integrated development projects is empowering climate-vulnerable households and communities through a four-year scheme to enhance income, food and livelihoods security, basic services and resilience and to achieve a reduction in extreme poverty. In north-eastern Kenya, we recently completed a solar irrigation project to support and improve community resilience, preparedness and food security. This programme increased self-reliance among pastoralists who repeatedly lost their herds to drought by helping them switch to fruit and vegetable farming.

Islamic Relief's climate change programmes

Sudan: Integrated action

Climate change has caused water scarcity and desertification in Sudan, forcing the displacement of populations who can no longer rely on agriculture and livestock production. A third of a million people are already displaced by the conflict in South Sudan, and the recent famine has caused a further influx of refugees into Sudan.

Threat

Sudan is one of the countries most threatened by climate variability and change. Over the past few decades, frequent droughts and uneven rainfall have strained agriculture and pastoralist systems which are essential to the country's economic stability. By 2050, this is set to worsen with a predicted 0.5° to 3° C increase in average temperatures, resulting in less pasture and water for livestock, loss of arable land and reduced crop yields. Rural populations will increasingly migrate to urban areas, and conflicts over scarce water resources will intensify. Coastal regions will suffer the loss of key ecosystems and species, intensification of storm surges and cyclones damaging infrastructure. Sudan's largest source of power, hydroelectricity, is also threatened by decreased water flows[22].

Intervention

Islamic Relief is running two of its largest long-term climate-related projects in Sudan. The Water for Three States project involves a substantial engineering of water catchment and distribution in response to erratic rainfall. Its integrated approach supports the sustainable use of water resources, improves access to drinking water and sanitation facilities, and promotes better hygiene. The project operates through community-led water resource management committees and emphasises building relationships, particularly between resident and nomadic communities. The Integrated Action for Improving Access and Quality of Services project also has a community focus, working with people displaced by conflict and climate change, and those hosting them. It recognises people's needs for livelihoods, access to health, education, water and sanitation and seeks to address these in an integrated way.

Installing a solar-powered water pump at Hilat Koko, Sudan. Image: Rebecca Slater IR Canada

Community awareness:
Looking on the bright side

The Islamic Relief Sudan team believe that climate change is forcing communities to learn how to preserve their environment and protect natural resources from exploitation such as the decades-old threat of desertification. Sustainable technologies such as improved stoves and solar panels have been installed in health centres and schools; firebreaks now reduce the damage from annual wildfire; classrooms are being constructed with soil blocks rather than burned bricks that are an environmental and health hazard; nurseries produce short-cycle crop varieties; and more trees are being planted to increase green cover, encourage rainfall and improve farmers' livelihoods.

Niger:
Ready for change

A recent household survey conducted by Islamic Relief attributed the lack of food supply to crop failures resulting from insect and pest damage, drought and poor soil fertility.

Threat

Niger is consistently ranked as the poorest country in the world. Beset by conflicts spilling over from neighbouring states and climate change that has led to increasingly erratic rain patterns and a catastrophic failed harvest at the end of 2011, the entire region is left in the grip of a dire, ongoing food crisis. Annual temperatures are predicted to rise between 2.3° and 2.6°C by 2049, and the rainy season will start later in the year, shortening the growing season. As a result, agricultural production will suffer and food insecurity will rise. There will also be reduced fishery productivity; water shortage and groundwater depletion; increased disease and other health problems; loss of forest area and biodiversity; and degradation or loss of land. Already more than two million Nigeriens are food insecure, and a third of a million in food crisis.

Intervention

Islamic Relief has helped communities protect their environment against drought and floods using land rehabilitation techniques, cutting trees selectively rather than destroying them for firewood, and planting trees using organic fertiliser. Rural communities have adopted climate adaptation strategies to manage natural resources such as supporting vegetation growth and re-greening the landscape by creating small catchments to retain rainwater. Appropriate agricultural technologies, natural pesticides and improved seeds have been introduced, community vegetable gardens have been established and women are being supported to establish water supplies and land for irrigated market gardens. Islamic Relief has also equipped health centres with solar-powered electricity to improve and expand their coverage, operate for more hours and provide high-quality treatment services.

Islamic Relief is currently training small-scale farmers in irrigation techniques that are ensuring crop production despite erratic rainfall.

Islamic Relief's intervention in Niger has improved the livelihoods of climate-vulnerable people by supporting them in fish farming, crop processing and goat-rearing. As a result, there has been a reduction in hunger, increased food security, and improved health outcomes. Economic migration has been reduced, especially amongst women, as they are able to grow vegetables all year round rather than migrating to the city each dry season to find domestic work.

Crops being watered in Niger. Image: Hamayoon Sultan IR Worldwide

'Regenerative Design' fish farming provides a sustainable source of protein and vegetables as changing climate disrupts traditional activities in Nyambi, Machinga, Malawi. Image: Sharifa Mia IR Malawi

'Half-moon' structures to harvest run off water and re-store degraded land. Image: Mahaman Maza IR Niger

Malawi:
Making water count

Late last year, as the temperature in southern Malawi rose to more than 46°C, a long regional drought destroyed the staple maize crop and left millions of people dependent on food aid.

Threat

Malawi is a mainly rural country ranking as one of the weakest in the Human Development Index. Drought is causing rural populations to seek alternative livelihoods in urban areas and this is expected to increase as average temperatures across southern Africa soar, possibly as much as 3°C by the 2060s, and 5°C by the 2090s, which would render most human life nearly impossible. Malawi's vulnerability to climate change is exacerbated by high population growth, rapid deforestation, and widespread soil erosion. Research suggests that rains, floods, strong winds, high temperatures and droughts are all becoming more common[23].

Water poverty is destroying lives and livelihoods through conflict, persistent malnutrition and disease, but Islamic Relief has achieved water security for people in Mali, Sudan and Malawi. By working with communities, water can be controlled, food production can increase and communities can thrive.

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'Greening the Desert: Water Solutions for West Africa,' published by Islamic Relief, 2014.

Intervention

Islamic Relief's Malawi team is dedicated to helping communities adapt farming, restore forests, improve water supplies and grow the economy quickly and sustainably to give them a chance of surviving climate change. Our 'regenerative' fish farming projects allow natural sources of water to fill ponds, then runoff from the ponds is used to irrigate vegetable plots, with vegetable wastes providing a source of feed for the fish. We have developed sustainable gravity-fed irrigation systems and trained farmers in the efficient use of resources to regenerate depleted and overused soils. To help reduce deforestation we have supported the planting of trees and worked with religious leaders to promote energy-saving stoves that make more efficient use of charcoal.

Children drink clean water in Malawi village. Image: Sharifa Mia IR Malawi (Child protection issue)

Irrigating land with the gravity canal system developed in Nyamuka village, Zomba District, Malawi. Image: Sharifa Mia IR Malawi

Case study

Water for schoolchildren in Malawi

In Malawi's Chikwawa District, it had been four years since Mikolongo School had running water. The situation was so dire that the head teacher was considering not opening the school in the next academic year. With temperatures exceeding 40°C, children and teachers would suffer extreme hardship without water, and the school would also struggle to offer its feeding programme to pupils. Islamic Relief intervened by bringing together government officials and community leaders to install an articulated water supply fitted with a solar- powered water pump. The community came together to support the project and over 2,000 children now have access to safe drinking water and school meals, as well as an education.

Members of the Water Point Committee watering recently planted trees at Matcheya, Malawi. Image: Sharifa Mia IR Malawi

Kenya: Supporting the most vulnerable

We work with faith-based groups to promote community tree planting and establish crop gardens for 'greener villages'. We also use local radio and women's groups to promote sustainable production, consumption and climate smart-behaviours.

Threat

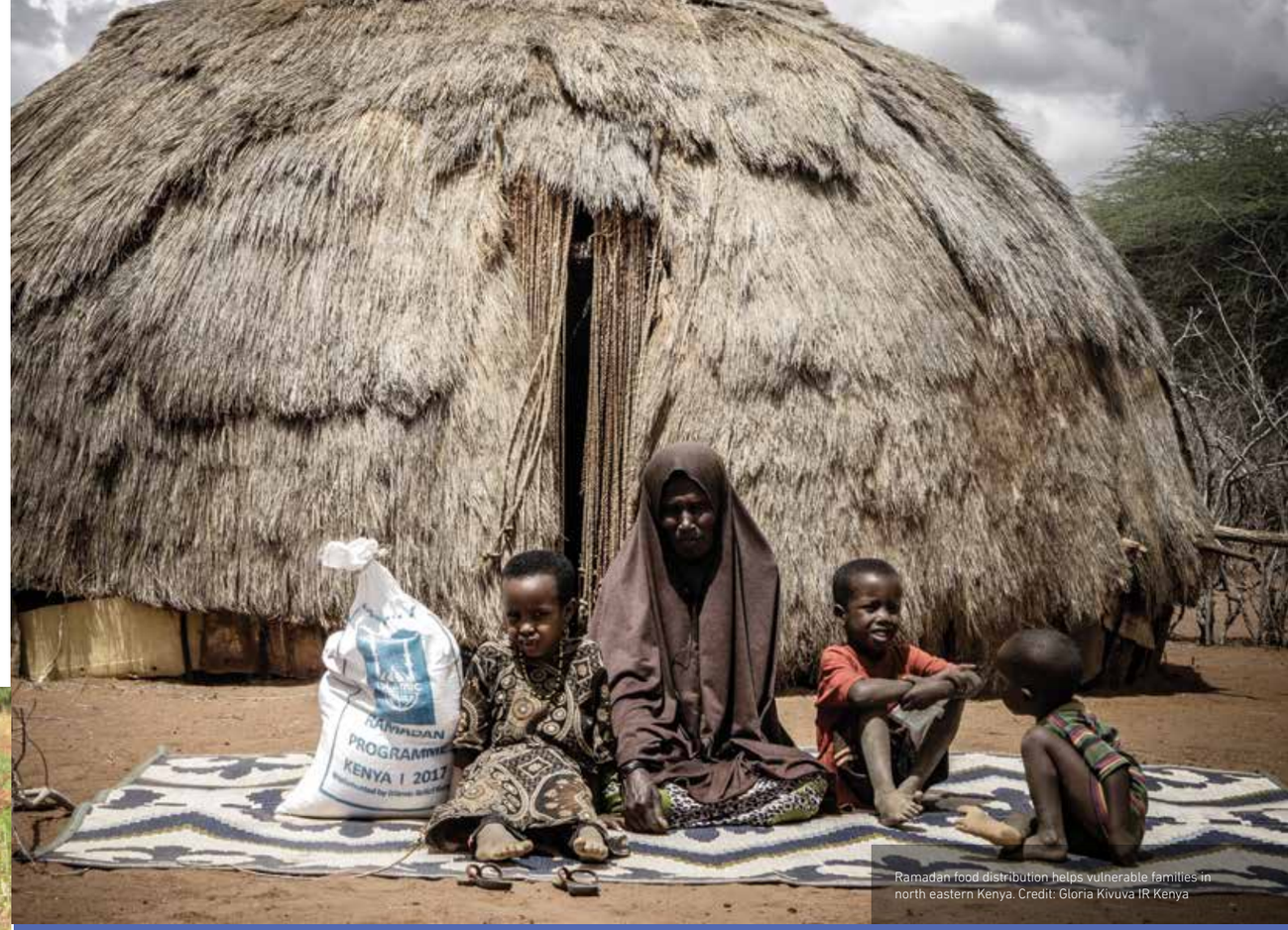
Kenya is currently facing its worse drought in decades, causing a widespread food security crisis. Over the last decade, livelihoods have become increasingly uncertain due to unpredictable weather patterns and frequent hazards such as drought and flooding, particularly in the northeast. Changes in weather patterns have also begun to negatively affect fertile highlands, and scarcity of water and pasture is increasingly the cause of migration and conflict. Flash flooding regularly takes lives and sweeps away homes while charcoal burning for cooking leaves visible air pollution, with public health deteriorating as a result. Furthermore, an exponential increase in motor vehicles in cities has reduced air quality to dangerous levels.

Intervention

Islamic Relief Kenya is supporting people to adapt their economic and social activities to the changing conditions in their environment. 'Climate Resilient Livelihoods for Pastoralist Communities' is a large-scale project that includes greenhouse cultivation, irrigated agriculture, animal health, cash for work, micro-credit support, rehabilitation of selected community infrastructures, the establishment of crop storage facilities and community-managed DRR. Islamic Relief is also providing solar-powered pumps and intensive training to farmers on good agronomic practices that open up more land and ensure appropriate crops are grown within a proper water management system.

Livelihood options for pastoralist communities in Northern Kenya improve food security and resilience of people threatened by the effects of climate change. Image: IR Kenya

In partnership with government, Islamic Relief has overseen disease surveillance, treatment and vaccination benefiting 3,000 pastoralist families, and provided a similar number with fuel subsidies, seeds and pumps to promote climate-smart mixed systems. We have also developed the capacity of communities to manage DRR, lobby government agencies and assert their rights. In Wajir county, we have formed self-help groups and encouraged women and children to play an active role in natural resource management and environmental conservation. Where there is potential for conflicts to arise, our approach is always to address the underlying causes in order to prevent violence.



Ramadan food distribution helps vulnerable families in north eastern Kenya. Credit: Gloria Kivuva IR Kenya

Adapting to change: **Climate Smart Agriculture**

Climate Smart Agriculture (CSA) is a new concept that seeks to adapt agricultural production to climate change and weather variability, while maintaining agricultural and economic development. It is claimed that CSA could boost agricultural production and broadly contribute to sustainable development in the most challenging contexts.[1,2]

However, CSA is restricted to a collection of technical solutions to field-level problems posed by climate change.

It is important to also address systemic inequalities of access in both production and consumption, as well as power relations that leave people vulnerable and food insecure. CSA needs to be more than adapting production to maintain existing, climate-destructive consumption practices[3]. Islamic Relief therefore combines innovative agricultural best practice at the local level with efforts to remove structural barriers to equity for the poor.

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Former pastoralists are growing vegetables on land irrigated from the river Dawa with support from Islamic Relief Kenya. Image: Adnan Hafiz IR UK

Somalia:
Tackling the causes of poverty

Threat

As the conflict recedes, water shortage caused by successive weather events is now the most critical problem facing the people of Somalia. The country faces a severe food crisis, high levels of acute malnutrition and disease, and a reliance on humanitarian assistance. It has been put on the UN watch list for famine after suffering long-term drought that has severely affected the amount and quality of food people consume.

Displaced families, Somalia, 2017. Image: IR Canada

In the summer of 2017, vegetation conditions were the worst on record in many areas with poor seasonal rainfall particularly in central Somalia, and harvest prospects very poor in the south. Additionally, many of the population's consumption and production behaviours are unsustainable and exacerbating the crisis, such as the use of charcoal for cooking resulting in deforestation, soil erosion, and compromise of water sources. Increasing consumption of water trucked in from distant deep wells is also depleting resources and increasing energy use.

Building water tank provides sustainability for income-generating projects in drought-stricken Somalia. Image: IR Canada

Intervention

In addition to emergency humanitarian assistance to populations affected by climate change, Islamic Relief is building people's resilience against social and political as well as environmental shocks in order to reduce chronic poverty. Our integrated livelihood project near Mogadishu has alleviated water shortages by renovating two boreholes and it has also helped highly vulnerable women establish incomes and supported their children to return to school. In Somaliland, we designed a long-term integrated sustainable development project with the community in two rural district, helping the poorest people meet the challenge of recurrent drought through self-help and community organisation.

Members of a Self Help Group in Somaliland, Somalia. Image: Jamie Williams IR Worldwide

Bangladesh: Partnership with Government

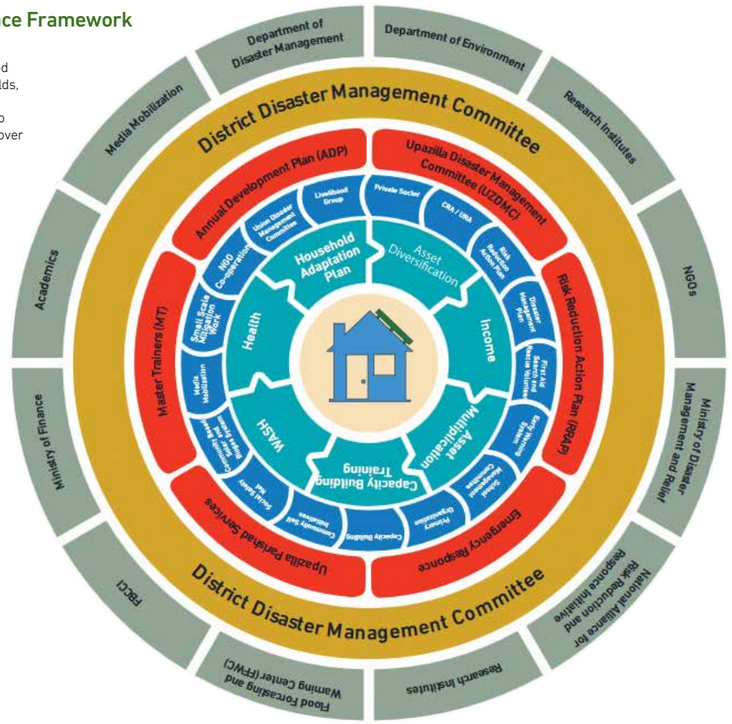
The Government of Bangladesh has adopted Islamic Relief's curriculum on climate change and disaster risk reduction as a national training module.

Threat

Bangladesh is among the countries most vulnerable to climate change due to its low-lying land area being dominated by major rivers. Many people are forced to live on and cultivate land where frequent floods caused by cyclones and seasonal rains lead to significant loss of life and property. Coastal communities have a limited capacity to cope with climate-induced shocks and in the next 20 years, five to ten million people will be forced to move to the already overcrowded cities. By 2100, indicators predict that Bangladesh will see an increase in temperatures of between 2 and 4.7°C. The winters will become significantly drier, and the wet season will see an 11 per cent increase in rainfall; cyclone frequencies and intensities in the Bay of Bengal are also predicted to rise.

Islamic Relief's Resilience Framework

The Resilience Framework developed in Bangladesh shows how households, communities, local government and national institutions are supported to anticipate, plan for, adapt to and recover from climate variability and shocks




Bridge destroyed by cyclone, Tazumuddin, Bangladesh. Image: Aslihan Künkör IR Germany

Intervention

Islamic Relief's Climate Change and Disaster Relief Programme unit in Bangladesh is dedicated to empowering communities, local governance and policy-makers. We use participatory approaches to increase awareness and foster positive behaviour change in households and communities, promoting rights and social justice through disaster management committees. Our locally generated risk and vulnerability assessments inform and improve development planning and resource allocation, while joint civil society and government monitoring teams inculcate a culture of collective decision-making.

Islamic Relief projects throughout Bangladesh have succeeded in relieving some of the distress caused by serial displacement and built community resilience to withstand further shocks. We have helped people lift themselves out of extreme poverty, and with an emphasis on self-help and community mobilisation there is now an institutional capacity to find durable solutions to the crisis.

Case study:

Model for eliminating extreme poverty

Islamic Relief's model to end extreme poverty has helped thousands of people and made them more resilient to the effects of climate change. The project offers income-generation training and grants of up to $800 to vulnerable women. It also helps them organise into self-help groups so they can support each other in starting their businesses. As soon as they make enough money to set aside small savings, they pay into the group's bank account and start lending to other members. The interest-free loans help generate an income for more and more women, and the model continues to succeed as it is self-regulated, with an inbuilt flexibility and understanding of each family's situation.

The results of the model are astonishing, with over 70 per cent of targeted families rising out of extreme poverty in Bangladesh over the last six years, and less than 10 per cent still living below the poverty line. Many have gone on to take a third and fourth loan to expand their enterprises or to add new sources of income. Education and health levels have also improved, and beneficiaries who had previously resorted to desperate measures said they were relieved to be able to be earn a dignified living. They are also better prepared and have the resources to face challenges like droughts and floods[24], and through the self-help groups have elected apex bodies to improve services and take up issues with local government.

Pakistan:
Providing climate expertise

Islamic Relief Pakistan engages with communities, civil society and local government in the long term, supporting initiatives such as saline-resistant agriculture, the revival of coastal mangrove forests, drought-resistant crops and irrigation.

Threat

Pakistan has recently experienced weather variability that has meant one part of the country is flooded while another is struggling with drought. It has also witnessed an increase in the number of earthquakes, which have been associated with climate change[25]. Heat stress has affected agricultural productivity and climate change has had an impact on water, food and energy security. Pakistan's vital economic sectors of agriculture, forests, livestock and fisheries have all been affected and climate-driven migration is putting huge pressure on cites due to unplanned urbanisation.

The negative effects have already been felt in terms of people's health, jobs and incomes, social cohesion and stability, and they are all likely to become more acute. Extreme weather events such as flooding and drought will put more lives at risk, cause displacement, have an adverse effect on health and leave more people food insecure. Coastal communities and small-scale farmers will be at greater risk, and families in rural homes constructed from mud and makeshift materials will be more vulnerable[26].

Intervention

Islamic Relief has been engaged in extensive relief and development work in Pakistan to build the resilience of communities affected by climate challenges. Our DRR programmes raise awareness, invest in early warning systems, and promote knowledge sharing across vast areas. Our work with farmers has helped transform local communities into self-sustaining, disaster-resilient, organised and continuously developing societies, promoting eco-friendly solutions and alternative energy resources wherever possible.

Water management is building the resilience of communities. Image: IR Pakistan

In Balochistan, which has experienced six severe droughts in the last 50 years due to climate change, poor water management and deforestation[27], Islamic Relief's work includes providing safe water, promoting sustainable livelihoods and advocacy initiatives on DRR and climate change adaptation. Our programmes span across the sectors of health, nutrition, access to education and vocational training, access to drinking water and adequate sanitation, natural resource management, agriculture and micro-enterprise development. In both Balochistan and Sindh, we promote proper planning and implementation of sustainable initiatives to rehabilitate the lives of populations affected by drought and flooding, and make them secure from future disasters. In Azad Jammu and Kashmir, our technical expertise on water and agriculture has helped farming communities plant orchards and grow crops with less water, reducing the incidence of land erosion.

Working with local partners, Islamic Relief has engaged over 250 community organisations to take forward the cause of climate change and adaptation at village level and with local governments.

Islamic Relief's interventions across Pakistan have led to an increase in income and food security among the communities we work with. Families have freed themselves of debt and developed household assets, schools have reopened, teachers have taken up posts in villages, embankments have been repaired and communities are increasingly campaigning for their needs with confidence. The provision of clean and safe water has reduced the time taken for women to fetch water and allowed them to focus on better hygiene and sanitation. Communities are far better prepared to deal with future emergencies, with villages able to safely evacuate in the event of a disaster.

Water management is building the resilience of communities. Image: IR Pakistan

Water management is building the resilience of communities. Image: IR Pakistan

Conclusion

Climate change is already affecting us all, but the lives of economically vulnerable people are most at risk. Its impacts in terms of health, agriculture and food security, increasing natural disasters, migration and pressure on cities are extremely challenging for the communities affected and for Islamic Relief's efforts to eradicate poverty and suffering.

Through our work with communities around the world we have learned that improved policies and intervention programmes can reduce the negative effects of climate change on people's lives. Our integrated approach has focused on enhancing resilience (through financial inclusion, livelihoods support and disaster risk management), adaptation, and giving people a voice in inclusive and climate-aware development policies.

We will continue to work with governments to urgently implement policies that reduce the vulnerability of communities by addressing poverty in all its forms and its causes, creating opportunities, providing access to basic services, and establishing well-designed social safety nets before the negative impact of climate change becomes more acute. We will challenge development and investment that creates future vulnerabilities as the climate changes, and campaign for development that is sustainable, rapid, inclusive and climate-informed. We will strive for emission reductions in our own work and that of others, and support initiatives that help poorer countries to offer better social protection.

Islamic Relief believes it can achieve its vision of reducing poverty and suffering in spite of climate change. To do so, we will continue to respond with relevant development, adaptation and risk reduction interventions to help communities cope with the short-term impacts of climate change. In parallel, we will advocate for pro-poor mitigation policies that limit its long-term impacts and help create the conditions that allow for sustainable, equitable and global prosperity.

Action on climate and consumption:
The poorest saving the world

People in some of the world's poorest countries are working with Islamic Relief to fight climate change, as those with the least to give are setting an example to those with the most. Bangladesh now has the highest proportion of electric vehicles in the world. Somalia is planning an eco-centre near its capital advising farmers how to green their activities and reduce emissions. Niger is working alongside Malawi and Kenya to reduce its carbon footprint. The people who consume the least are looking for ways to solve the problems caused by those who consume the most.

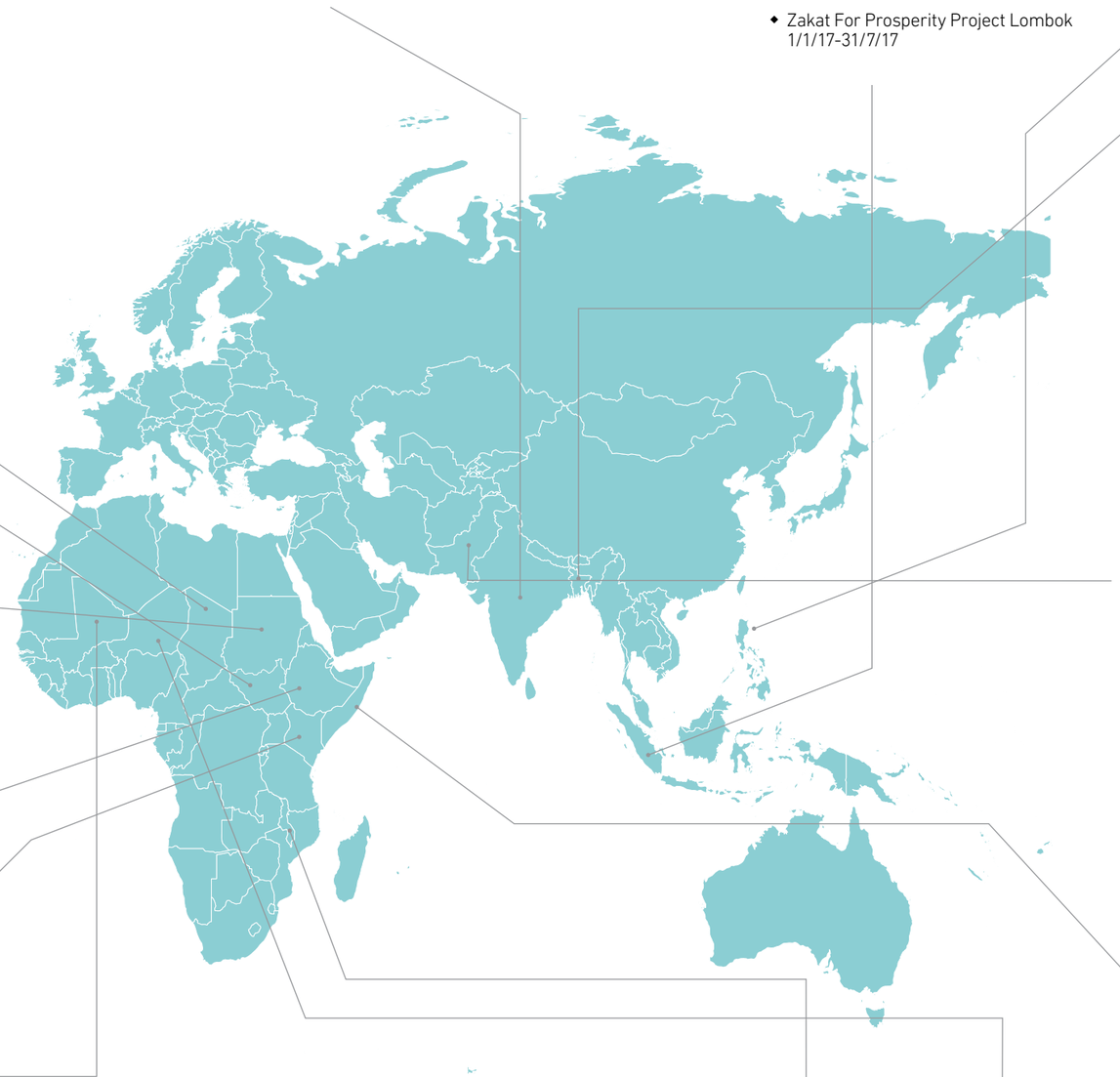
Islamic Relief's Action on Climate and Consumption project is supporting these efforts while at the same time inviting Muslim communities and others in the global North to join the struggle. Mosques and schools are committing to lowering energy consumption by adjusting heating and conditioning levels and looking for 'green' providers. Families are reviewing their food-buying habits to cut out waste, and their transport use to cut emissions. Individuals are digging gardens, growing vegetables and planting trees. People everywhere are considering how they can reduce, reuse and recycle what they buy.

Islamic Relief is calling upon all individuals, communities and nations, rich and poor, to join the global effort to tackle climate change before it puts all our lives at risk.

Collecting water during a dust storm in Kenya. Dust storms cause soil loss from the dry lands, reduce agricultural productivity and damage young crop plants. Image: Islamic Relief

Appendix

Recent and current Islamic Relief climate-related Projects (June 2017)



Chad

- Environmental Friendly Water Systems for Drinking, Food Security and Livelihood - East Chad 1/6/16-31/5/17
- Environment Friendly Water Systems for Drinking, Food Security and Livelihood of Vulnerable Population in Amdam District 1/12/16-30/11/17

South Sudan

- Support to Women in Alternative Farming Technology 1/7/16-30/4/17

Sudan

- Water for Three States 1/6/2015-31/5/18
- Integrated Action for Improving Access and Quality of Services in Sudan 15/1/17-15/1/20

Ethiopia

- Empowering Vulnerable Pastoralist Communities in Ethiopia 1/5/16-30/4/18
- ETHIOPIA: Pastoralist Livelihood Improvement 14/3/16-13/9/17

Kenya

- Improving Food Security through Climate Smart Agro Solar Crop Irrigation 1/3/17-28/2/19
- Increasing Agro-Pastoral and Pastoral Incomes through Production of High Value Fruits and Vegetables Using Agro Solar Irrigation Technology (Securing Water for Food) 1/7/16 – 1/2/19
- Promote Rights And Access to Better Socio-Economic Opportunities for Marginalised Communities in North Eastern Kenya 1/3/17-28/2/19

Mali

- Islamic Microfinance and Enterprise Development: Empowerment of Female-Headed Households through Islamic Microfinance and Economic Inclusion 1/4/16-31/3/17
- Rebuilding Livelihood and Reducing Food Insecurity in Northern Mali 1/3/17-30/9/18
- Strengthening the Resilience of Vulnerable Populations in the Commune Of Bambara Maoude, Ouinerdene and Inadiatafane in the Circle Of Gourma-Rharous through the Creation of Productive And Sustainable Assets 1/1/17-31/12/17
- Sustainable Livelihoods And Food Security Enhancement in the Circle Of Kati, Mali 1/6/17-31/5/19
- Wash Assistance To Molobala and Balala Village, Koulikoro, Southern Mali 1/1/17-1/8/17
- Water and Food Security in Koulikoro 1/10/16-30/11/17
- Water for Food Security in Sananmbele Rural Village in the Commune of Diallakoroba 1/5/17-31/7/18

India

- Disaster Resilient Water Supply Project in Bihar 1/4/17-31/12/17

Indonesia

- Waqf For Resilient Community in Lombok 1/10/16-31/12/17
- Zakat For Prosperity Project Lombok 1/1/17-31/7/17

Philippines

- All Inclusive Growth Activities Towards Development and Poverty Alleviation

Bangladesh

- Enhancing Climate Change Adaptation and Disaster Resilience in Bangladesh 30/5/13 – 31/5/18
- Integrated Sustainable Development Programme for Climate Vulnerable Ultra-Poor Communities of Southern Bangladesh 1/10/14 – 30/9/18
- Scaling Up Inclusive Resilience Amongst Waterlogged Communities in South Western Bangladesh 1/4/16 – 31/10/17
- Promoting Access to Safe Water, Sanitation and Hygiene for the Coastal Community Living in the Satkhira District 1/11/16 – 31/10/17
- Alternative Orphan Family Sponsorship Programme through Sustainable Livelihoods 1/3/13 – 31/8/18
- Scaling Up Inclusive Resilience Amongst Water Logged Communities in South Western Bangladesh 1/4/16-30/9/17
- Resilience Through Watershed Management, Risk Reduction and Development In Bangladesh 1/1/14 – 29/2/16

Pakistan

- Strengthening Azad Jammu & Kashmir (AJK) through Rural & Urban Resilience 1/9/14 -28/2/17
- Economic Development through Value Chains, Advocacy and Disaster Risk Reduction in AJK 1/1/16 - 30/9/18
- Sustainable Initiative for Resilience and Transformation 1/4/13 – 31/3/17
- Balochistan Water and Sanitation Project 1/6/14-1/10/17
- Clean And Safe Water Access in Bannu 1/1/17-30/6/17
- Decent Livelihood and Transformative Development Initiatives for Bannu 15/4/17-14/8/18
- Drought Resilient Agricultural Modelling 1/3/17-1/9/17

Somalia

- Integrated Drought Recovery in Somaliland 10/10/16-20/6/17
- Integrated Livelihood For The Most Vulnerable in Somalia 1/6/16-31/5/18
- Rural Integrated Development in Somaliland 25/5/15-25/5/19

Malawi

- Integrated Fish Farming and Irrigation Project 1/7/15-30/6/16
- Supporting Rural Communities in Food Security 1/7/16-30/6/17
- Sustainable Water Supply And Food Security in Rural Malawi 1/1/15-30/9/16

Niger

- Sustainable Livelihood Rehabilitation for Agro-Pastoralists 10/07/2017 – 09/07/2018
- Strengthen and Support Women's Economic Opportunities 1/04/17 – 31 /03/2018
- Resilient Agricultural Innovation Dissemination in Tillaberi Region 28/11/16-27/11/17
- Food Security Enhancement 1/1/17-31/12/17
- Reducing Nutrition Related Child Mortality in Say District 1/1/17-31/12/17
- Resilience in Ouallam 1/9/15-31/8/16
- Food Security and Livelihood Rehabilitation 1/4/13 – 30/6/16

Further information

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http://www.islamic-relief.org/wp-content/uploads/2016/05/Climate-change.pdf

Islamic Declaration on Global Climate Change
http://www.ifees.org.uk/wp-content/uploads/2016/10/climate_declarationmMWB.pdf

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