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WATER AND CLIMATE CHANGE A HUMANITARIAN CRISIS ANALYSIS

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ANALYSIS

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1. LINKS BETWEEN CLIMATE CHANGE AND WATER

The 6th IPCC report, published in March 2023, is crystal clear: **the climate emergency is upon us**, and the impacts of climate change will increase as global warming continues. Extreme hydro-climatic events (heat waves, floods, droughts and cyclones) will increase in frequency and intensity, ice caps will melt and sea levels will rise. These are all intrinsically water-related crises that will lead to loss of life, population displacement, loss of household productivity, destruction of infrastructure and could contribute to the spread of certain diseases.

According to the World Bank, **70% of all deaths from natural disasters are water-related** (World Bank, 2022).

WATER-RELATED RISKS

Global warming is disrupting the water cycle on several levels:

- **Droughts** – warmer air associated with rising temperatures can hold more moisture. If the air warms up, it will take more water from existing reservoirs and transfer it to the atmosphere or elsewhere. **These areas will therefore become drier, with consequences for agricultural production and drinking water supplies.**
- **Flooding** – the change in air temperature has an impact on air circulation, and therefore on rainfall zones. This change in rainfall zones can have an impact on agriculture, biodiversity and any human activity linked to the rhythm of the rains. As the air becomes more water-laden, rainfall will be more consistent and may therefore cause **more extreme events, such as flooding, in areas where heavy rainfall may never have occurred in the past.** Since 2000, flood-related disasters have increased by 134% compared with the previous two decades (UN, 2021).
- **Reduced water quality** – torrential rains can increase surface runoff, i.e. water that runs off the ground and does not infiltrate after a rain. **This moving water can leach nutrients from the soil and pick up pollutants before flowing into other water supplies.** These contaminants can pollute our water reservoirs and make it more expensive to treat the water to make it drinkable. This phenomenon is even more problematic in regions where water and soil management are poor.
- **Loss of biodiversity** – Lack of water has an impact on ecosystems. Changes in water temperature, salinity and acidity cause **the disappearance or migration of certain species and upset the balance of environments.** This can affect economic activities such as fishing and livestock farming. (Water France).

AN UNFAIR CRISIS

The impacts of climate change are highly unequal, with the poorest countries often the most vulnerable because they have less capacity to adapt. This inequality is compounded by the fact that these countries contribute the least to greenhouse gas emissions, and therefore to climate change. For example, **the African continent is responsible for just 4% of global emissions.**

We are also witnessing an increase in the complexity of crises in many countries, where the consequences of climate change are added to, and often exacerbated, political and economic crises, as well as internal conflicts. The very nature of the latter has an impact on ecosystems through the over-exploitation of certain resources (in the event of mass population displacement, for example).

A humanitarian aid strategy that takes account of the climate crisis is therefore vital. SOLIDARITES INTERNATIONAL (SI) has been committed to this approach for many years, and through their fight for

water, our teams are helping the most vulnerable populations become more resilient in the face of climatic hazards, in order to guarantee them secure and sustainable access to water, and to the natural resources that are essential for their livelihoods , as well as the right to a healthy environment¹.

Aware of the growing impact of climate change on water resources, SI **recently conducted a survey among its teams in the field** to analyse their observations and recommendations. This document highlights this analysis, as well as a more global analysis carried out by headquarters through the review of numerous documents and exchanges within its network. Although this is not an exhaustive analysis of the impact of climate change on water resources and access to water, it will add to the humanitarian sector's knowledge on the topic and solutions developed to date.

2. CONSEQUENCES OF THE CRISIS IN COUNTRIES AND REGIONS WHERE SI OPERATES

Our teams in the field have long been witnessing the impact of these large-scale changes on populations we work with.

SAHEL

The Sahel is the region of the world with the highest climate variability. According to the Sahel Alliance, "The Sahel region is one of the most **vulnerable to the effects of climate change**. (Afrique Renouveau) not only because of its biophysical characteristics, but also because of environmental degradation, poverty, food insecurity, rapid population growth, gender inequality, political instability and conflict. Climate change is likely to exacerbate these existing vulnerabilities". For example, the World Bank's Country Climate and Development Report (CCDR) for the G5 Sahel countries estimates that an additional 13.5 million people could be pushed into poverty across the sub-region by 2050 (World Bank Group, 2022).

Our teams in the region have been observing increasingly significant climatic and seasonal disturbances. In particular, there has been an increase in the frequency of floods and periods of drought throughout the region. The hunger gap (**the period of the year before the first harvests**, when there is a shortage of produce from **previous** harvests) is also extending, leading to periods of serious food insecurity.

More locally, the rains are either early or late in southern **Mali** and **Niger**. Temperatures are hotter and described as "extreme" by our teams. Along with being problematic for crops and vital resources, this is also a factor in the increase of disease. In this case, mainly **malaria and cholera**. **These two diseases can be favoured by conditions linked to "extreme climatic events, which sometimes bring too much water, sometimes too little**, two factors that greatly favour cholera insofar as they disrupt access to the water supply and the population may be forced to leave their homes and settle in more temporary - sometimes overcrowded - locations". (World Health Organization, 2023).

¹ SI has also made official commitments to reduce its carbon footprint by signing:

- The Climate and Environment Charter for Humanitarian Organisations proposed by the Red Cross and Red Crescent Movement
- The Humanitarian Environment Network's Declaration of Commitment by Organisations on Climate Change

Other consequences of climate change include the degradation of productive soils, desertification and increased pressure on groundwater and natural resources. This scarcity of the common resources needed for survival, coupled with high population growth rates, is leading to an increase in conflicts over access to these natural resources (water, grazing, arable land) and over land.

Our teams have observed an increase in the loss of livelihoods, as well as lives linked to conflicts and population displacements, natural disasters, hunger and diseases, the prevalence of which is accentuated by climate change.

MIDDLE EAST

The effects of climate change and environmental degradation have worsened in recent years in the Middle East region, **exacerbating vulnerabilities, threatening the livelihoods of a population largely dependent on the agricultural sector as well as the rights of these populations to access water and to enjoy a safe and healthy environment.**

The region is showing strong mobilisation of civil society for action in favour of access to water for all in a context of inappropriate management of water resources and increasingly intense droughts. Despite their efforts, civil society organisations (CSOs) lack effective coordination mechanisms and a forum for dialogue with the authorities, to advocate the introduction of consultation and integrated local management mechanisms that take account of all uses and users.

Iraq is the 5th most vulnerable country to climate change in the world (UNEP, 2019). The main consequences of this change are extreme temperatures (above 50° Celsius this summer), reduced rainfall and increasingly intense droughts. Every rainfall is a threat of flooding due to the reduced absorption capacity of the soil, and sandstorms are becoming increasingly frequent.

A study on water and climate change carried out by SI highlights the problems of governance, with existing climate and environmental policies (in particular national natural resource management policies) being perceived by local representatives as top-down and out of touch with local problems.

Five years after the end of the fight against the Islamic State (IS), Iraq is still suffering from the consequences of decades of war, political instability and the weakness of its public institutions, while also facing the worst drought in its history. These various factors are forcing communities to leave their territories and abandon agriculture, **with the shortage of water cited by displaced people as a reason for not returning.**

Although many respondents to the surveys carried out by SI say they are aware of the need to reduce their water consumption, the relationship between water resources and the climate issue does not seem to be understood by the population and is not yet considered a priority by the Iraqi government. CSOs have a key role to play, but they, like the communities themselves, report a lack of awareness of mitigation and adaptation strategies.

In **Lebanon**, also affected by a high recurrence and intensity of floods, CSOs are struggling to continue their advocacy efforts due to the current political instability. Lessons learnt from ongoing actions suggest that **CSOs have an essential role to play in raising awareness and supporting initiatives at community level, while advocating for the necessary policy reforms, local consultation and integrated management of natural resources.**

In north-eastern **Syria**, SI evaluations noted a lack of CSOs involved in combating the effects of climate change, despite the water crisis. As it rebuilds itself, and following the example of Iraq and Lebanon, Syrian civil society will be able to resume its action in the face of what is known as the "triple water crisis", characterised by a lack of water in quantity, poor quality and inadequate management of the resource. Here, climate change is colliding with other issues such as the destruction of public infrastructure following the conflict, and the economic crisis. Without awareness and rapid action, the consequences of this crisis could be major, particularly on agricultural production capacity.

FRANCE

September 4, 2023, was the hottest day September on record in mainland France.

At a time when heatwaves are becoming more and more frequent, our teams are testifying to the increased risk run by people living in very precarious conditions, particularly those living in insecure housing (shanty towns, squats, camps, on the streets, etc.). The experience of the 2003 heatwave shows that disadvantaged people were more affected than others. **Without a water connection at home, people may resort to alternative solutions to access water for drinking that are often unsuitable (fire hydrants), expensive (buying bottled water) or even dangerous (using surface water: rivers, puddles, unauthorised connections leading to risks of leaks and water contamination), exposing them to health and legal risks.**

3. WHAT SOLUTIONS TO CLIMATE CHANGE AND THE WATER CRISIS?

3.1. SUPPORTING ADAPTATION AND RESILIENCE

In countries in crisis, SI supports the implementation of solutions to prevent and adapt to climate change, focusing on three key areas:

1. **Raising awareness and mobilising the population in the face of the risks associated with climate change** (e.g., not building in riverbeds). Setting up watchdog committees that can warn of rain delays and pass on information about the state of groundwater resources to monitoring and anticipation mechanisms, and developing risk reduction plans at community level or with local authorities are all measures that can help prepare for future climate shocks and reduce their impact.
2. **The adoption of new practices and techniques that are more resilient to climatic hazards.** Integrated management of water resources in contexts of scarcity can guarantee access to water for domestic, agricultural and industrial use, for example. Depending on the context, this will require the adoption of new irrigation techniques, for example, or the use of seeds and crops that require less water. The same logic applies to the construction and shelter sector, through the adoption of materials or designs that are more resilient to heat or flooding.
3. **The strengthening of climate governance at different levels.** This governance will have to be established from the local to the global level, via the political bodies, in order to deal with all the causes and consequences of climate change in a relevant and effective manner. At national level, legislative frameworks incorporating climate issues, disaster risks and human mobility issues into resource management directives can be developed and implemented. The regional level, which is also crucial, should, for example, be the place where cross-border adaptation measures linked to the mobility of resources and populations are applied.

→ Focus - Mali:

Drawing up a risk and disaster reduction plan with the people of the commune of Gargando in the Goundam circle, Timbuktu region

The overall objective assigned to the Disaster Risk Reduction Plan (DRRP) by SI is to improve the resilience of the village communities of Gargando through hazard awareness, risk prevention, preparedness and reduction of negative impacts on key production sectors in the short, medium and long term.

This village disaster risk reduction plan follows a participatory and inclusive Vulnerability and Adaptive Capacity Analysis (VCAA), which enabled the joint identification of options for increasing climate resilience.

Rehabilitation and enhancement of production areas by reseeded pastures

SI has worked with the communities of Gargando to reseed pastures with local wild fodder species (Cram-Cram).

The aim of this action is to improve the resilience cattle rearing communities in the face of the reduction in grazing areas for their livestock. To achieve this, our teams are supporting fodder production from natural pastures that have been moderately degraded by successive droughts, and improving pasture management practices adapted to climate change, with a view to protecting the livelihoods of the most vulnerable livestock farmers.

3.2. STRENGTHENING ADVOCACY TO MOBILISE STAKEHOLDERS

Climate change is a common problem, and no one can solve it alone. Radical change is needed to prevent further suffering. Political action is essential to protect the lives and rights of current and future generations. Advocacy is therefore becoming an essential tool for effectively tackling the environment and climate crisis.

→ Focus - France:

In France, part of the population has inadequate access to water, particularly people living in precarious housing, who find themselves in a situation of extreme water and sanitation insecurity. Since 2020, our teams have been developing water connection solutions for everyone, including direct, above-ground services to living areas (camps, shanty towns and squats). The monitoring and maintenance of these temporary above-ground services means that extreme climatic variations can be taken into account to ensure the continuity of the water supply. To this end, a summer plan is launched every year to raise awareness among people living in precarious housing sites about the risks associated with extreme heat, including water quality, and to ensure its systematic monitoring.

At the same time, **local and national advocacy campaigns are being conducted to change legal standards and implement a real public policy on access to water and sanitation**, with the aim of guaranteeing the right to water in the long term. The fight for access to water for all is a fight for collective resilience in the face of climate change and its consequences for access to water.

→ Focus - Iraq:

Over the last few years, SI has been working on a number of projects to support civil society and local players in the Nineveh Governorate. The Iraqi association **Humat Dijlah** (HD) has taken on the mission of protecting the waters of the Tigris. To achieve this, it is helping to promote sustainable, equitable and fair access to water for all, in particular through awareness-raising and advocacy campaigns. HD and its **network of 400 volunteers mobilises young people and women in particular**, giving it a strong community base and enabling it to be identified by the technical services and local authorities with which it lobbies. Motivated by concerns about their future, **a number of NGOs and youth-led campaigns have launched projects in the field of monitoring and awareness-raising**, as HD is doing with its groups of volunteers. Aware of the urgency, these young activists **relay their messages to the authorities and ask for the support of the international community**.

Humanitarian action alone is not enough, given the scale of the needs for water and the complexity of the causes. The mobilisation of communities - through initiatives such as those presented here - but also of governments, leaders, decision-makers and private players is essential if we are to achieve a convincing result in the face of global warming and secure, sustainable access to water for all.

Many solutions have certainly not yet been thought of. **Space for initiative and innovation must be created so that together we can identify the most effective and rapid levers for saving lives and the pursuit of our future prospects.**

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5. ACRONYMS

AVCA: Analysis of vulnerabilities and adaptive capacities

CCDR: Country Climate and Development Reports

IS: Islamic State

IPCC: Intergovernmental Panel on Climate Change

HD : Humat Dijlah (Iraqi partner association)

NGO: Non-governmental organisation

CSO: Civil Society Organisation

PRRC: Disaster Risk Reduction Plan

SI: Solidarités International

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