

### Secours Islamique France (SIF)

Secours Islamique France is an independent, non-governmental, humanitarian, and non-profit organization. Founded in 1991 in France, it is committed to humanitarian aid and development assistance internationally, as well as social support within France. Through its actions, it addresses the essential needs of the most vulnerable populations, guided by solidarity, respect for human dignity, and the humanitarian principles of neutrality, independence, and impartiality. SIF is a signatory of the IFRC Code of Conduct.



# HOW DOES WATER FEED US?

*This document outlines the connections between water access and management, food security, the challenges of achieving Sustainable Development Goals (SDGs), describes the approach and actions of Secours Islamique France (SIF), and provides recommendations to strengthen and accelerate the response.*

## Water and Food: Interconnection, Challenges, and Solutions

While states have committed to achieving universal access to water, sanitation, and hygiene (WASH) services, as well as eliminating hunger and ensuring food security for all by 2030 (Sustainable Development Goals - SDGs 2 and 6), the figures are alarming:

- Still 2.2 billion people, or 1 in 4 worldwide, lack access to safely managed drinking water services at home[1].
- In 2022, 2.4 billion people were experiencing moderate or severe food insecurity (29.6% of the global population)[2].
- In 2020, 1.2 billion people were living in agricultural areas frequently affected by drought[3].
- In 2023, 1.84 billion people were impacted by drought, with 4.7% facing "severe" or "extreme" conditions[4].
- Increasing pressure on water resources threatens both global food security and ecosystems[5].

SDGs 2 and 6 are closely interconnected: ensuring universal access to safe drinking water and sanitation is crucial for eliminating hunger, while recognizing the importance of water in food production and food security (and integrating this into development policies and programs) is essential for achieving SDG 6 (and SDG 2).

[1] 2023 Joint Monitoring Program Report, WHO/UNICEF

[2] Executive Summary of The State of Food Security and Nutrition in the World, FAO, 2023

[3] 2020 Report on the State of Food Security and Nutrition in the World (SOFI), FAO

[4] "Global Drought Overview 2023" Report, United Nations Convention to Combat Desertification, 2023

[5] 2020 Report on the State of Food Security and Nutrition in the World (SOFI), FAO




The convergence of challenges related to food security and access to water demand essential reflection to understand the complexities of natural resource management and the fulfillment of human rights. This requires a holistic, human rights-based approach to ensure a future where every individual can fully enjoy their recognized rights to adequate food and safe drinking water, regardless of their socio-economic or geographic context.

The effective functioning of food systems largely depends on water availability. Irrigated agriculture accounts for 70% of global freshwater consumption[6]. Of the water used in agriculture, 78% is what is referred to as **green water**, while 22% is **blue water**, which is drawn directly from rivers and groundwater for irrigation purposes.



## i

Depending on their source and use, different categories of water are traditionally assigned a specific color:

-  **Blue water** comes from rivers, lakes, and groundwater.
-  **Green water** refers to rainwater that infiltrates the soil, is absorbed by the earth, and later evaporates from vegetation, such as forests, grasslands, and non-irrigated crops.
-  **Grey water** corresponds to domestic, agricultural, industrial, etc., wastewater that is discharged into natural environments without treatment. [7]

From agricultural production to food industry and final consumption, water is a crucial component at every stage of the food chain.

Since the beginning of the 20th century, global water consumption for agriculture multiplied by six [8], leading to a significant rise in water withdrawals, outpacing population growth. This expansion has contributed to the alarming degradation of one-third of soils, according to IPBES, due to water erosion, salinization, pollution, and biodiversity loss.

Like energy, water is essential to the proper functioning of our modern systems of production and consumption. Hunger and malnutrition can be worsened by insufficient access to clean drinking water and adequate sanitation infrastructure. Waterborne diseases, such as diarrhea, resulting from this lack of access, reduce the absorption of essential nutrients, thereby compromising the health and nutrition of populations. Furthermore, the degradation of water quality due to pollution and wastewater has significant health impacts, increasing the risk of malnutrition, especially among children under the age of 5.

[6] United Nations World Water Resources Development Report, UN-Water 2022

[7] Brokman, I., & Descollonges, C. (2024). *Water, Fake or Not? Rethinking Our Water Management Without Fake News: Water Savings and Sharing, Water Quality Improvement, Restoration of the Hydrological Cycle*. Tana

[8] Ibid.

Water plays a vital role in food security, directly influencing health, agricultural production, and income. Water management policies must adopt a multisectoral approach to account for its impacts and fully integrate it into food security strategies.

Agriculture, as a steward of the biosphere, is crucial for food supply and sustainable natural resource management. It provides environmental services while creating jobs and wealth. Optimizing water management in this sector offers numerous benefits: carbon sequestration [9], poverty reduction, improved soil fertility, prevention of floods and droughts, and securing water supply for everyone.



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**Water is the foundational bedrock for the proper functioning of ecosystems and human livelihoods. How can we ensure both water security and food security?**



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[9] Carbon sequestration is a long-term and sustainable process of storing carbon dioxide (CO<sub>2</sub>) to keep it out of the atmosphere. This capture can occur naturally or be facilitated through technologies, with the goal of reducing greenhouse gases to limit the phenomenon of climate change (Carbon Cooperative, La Rochelle – "What is Carbon Sequestration?").

# Irrigation for Food: Use and Protect Resources

Since the dawn of humanity on the fertile lands of rivers and valleys, water and agriculture have maintained an inseparable bond, shaping the history of civilizations. From the fertile banks of ancient Mesopotamia to the irrigated plains of the Nile Valley and modern fields equipped with sophisticated irrigation systems, water has always been a cornerstone of agriculture.

Often used in conjunction with rainfed irrigation, irrigation aims to increase yields and extend the growing season of crops. Between 30% and 60% of irrigation water [10] evaporates before benefiting the crops, highlighting the ongoing challenges regarding efficiency and water management in irrigated agriculture.

➔ Through its expertise, SIF promotes the adoption of agricultural practices and technologies that enable more efficient water use in food production, such as drip irrigation [11], rational water management, and the reuse of treated wastewater.



## SIF is active in Gaza for the treatment and reuse of wastewater.

*[Activities have been halted since October 2023 due to the conflict.]*

A severe water crisis is affecting the Gaza Strip, where 97% of the water resources are unfit for consumption, and the few treatment plants are overwhelmed. On the ground, SIF has developed a wastewater recycling project, placing circular water management at the forefront of its approach. Since 2018, teams have installed wastewater treatment units for 370 vulnerable families who are not connected to the public network.

The goal is to reuse these resources for irrigation of agricultural crops (vegetable greenhouses and orchards) and for toilet flushing, thereby ensuring food security and domestic hygiene.

SIF's emphasis on training and awareness programs serves as a model for integrating circular water management into the fabric of community life, promoting sustainable practices and reducing dependence on conventional water sources.

The project has not only resulted in a 42% reduction in household water bills but has also led to significant improvements in health, hygiene, and agricultural production. Over 1,800 beneficiaries have reported the tangible benefits of this initiative, thus strengthening community resilience. This multifaceted success highlights the potential of circular water management to address interconnected challenges.

[10] Water and Agricultural Activities, Planet Vie, École Normale Supérieure.

[11] Drip irrigation is a more precise and water-efficient technique. It delivers water under low pressure through suspended pipes, laid on the ground, or buried, allowing plants to receive water directly at the root level intermittently.



### SIF is active in Syria for the rehabilitation of irrigation canals (Aleppo Governorate, Rural Hama).

During the conflict in Syria, infrastructure, particularly irrigation canals, was severely damaged, profoundly impacting the country's economic and social fabric. Agriculture, a key pillar of the Syrian economy, was hard hit. Damage to irrigation systems prevented many farmers from cultivating their lands, leading to the loss of vast agricultural areas and a dramatic drop in production. This has resulted in deteriorating livelihoods for thousands of families, exacerbating an already critical food crisis.

By 2023, nearly 50% of the Syrian population was food insecure, and 70% depended on humanitarian aid, a situation worsened by a multifaceted socio-economic crisis due to inflation, economic sanctions, the COVID-19 pandemic, and recent earthquakes. Persistent drought, caused by insufficient rainfall, further compounded agricultural difficulties, especially in an economy heavily reliant on rain-fed agriculture. Additionally, aging infrastructure, a lack of regular maintenance, and soil geology have further complicated the situation.

In response to this crisis, SIF in partnership with UNHCR, launched a project in 2021 to rehabilitate irrigation canals, aiming to restore farmers' livelihoods and strengthen the resilience of affected communities. Nearly 70 km of canals have been rehabilitated, revitalizing agricultural lands in the Aleppo and Hama governorates. These actions have directly contributed to improving food security by revitalizing agricultural activities and providing sustainable solutions to water management challenges.

The project emphasizes circular water management, a crucial element in a country facing increasing water scarcity. By rehabilitating canals, distributing fertilizers and seeds, and training farmers in sustainable agricultural practices, SIF has not only promoted the rapid recovery of agricultural lands but also enabled internally displaced persons, returnees, and vulnerable host communities to gain autonomy and resilience in the face of multiple crises.

The project has also had positive repercussions on local employment, creating short-term jobs for infrastructure rehabilitation and supporting long-term employment in the agricultural sector. By improving irrigation and making lands cultivable again, this initiative has boosted agricultural yields, contributing to the economic stabilization of these regions and reducing poverty.





Pakistan, 2022 / © SIF



In Mali, to strengthen the skills of committee members in managing hydraulic infrastructures and ensuring the sustainability of these facilities, several training sessions have been conducted. These sessions covered the roles and responsibilities of members of drinking water management committees, poor practices in the operation of water points, and sustainable management of modern infrastructures.

The training included management tools aimed at ensuring the sustainability of funds, financial systems designed to guarantee the long-term operation and maintenance of hydraulic infrastructures. These tools encompass fundraising strategies and financial resource management, which are essential for keeping facilities in good condition and ensuring consistent access to drinking water.

To enhance the financial sustainability of infrastructures, community funds have been established to gather the necessary resources for their maintenance and repairs. Managed by trained committees, these funds ensure a regular flow of resources to cover maintenance costs, thereby preventing the rapid deterioration of water supply systems. The training sessions also addressed water policy in Mali, various approaches to drinking water supply, and the maintenance of human-powered pumps.



In Pakistan, to ensure the sustainability of hydraulic infrastructures, rehabilitation is accompanied by training programs for communities to ensure proper maintenance. These training sessions cover not only disaster and flood risk management but also focus on strengthening the capacities of institutions and authorities responsible for risk reduction, particularly in districts that still lack disaster risk management plans.



Pakistan, 2022 / © SIF

The management of water resources, particularly in the agricultural sector, raises major challenges in terms of local governance. Various organizational approaches and governance models can contribute to improved management of surface and groundwater resources. Among these are traditional and customary water irrigation management systems, water user associations, local water markets, as well as other forms of decentralized governance.

➔ Integrated water resources management (IWRM) [12] promotes adaptation to climate change and sustainable agricultural practices. It not only preserves this valuable resource for future generations but also protects aquatic ecosystems, which are essential for overall food security. Shared resources like water can be sustainably managed by local communities through decentralized governance, adaptive institutions, and local control of resources. Regional and national governments have a crucial role to play in promoting effective institutional systems to support this local management of resources.

SIF is committed to ensuring the sustainability of water supply infrastructures by closely collaborating with communities and local committees. This co-construction aims to guarantee the technical feasibility of projects and their social acceptability while considering all territorial issues, such as potential conflicts related to water resources and land tenure. Integrating food security projects with income-generating initiatives within the **water-energy-food nexus** (see focus page 17) enhances community engagement in the maintenance of hydraulic infrastructures and promotes development. To ensure their effectiveness, these interventions must not only guarantee the sustainability of infrastructures but also strengthen the capacities of communities in resource management.



In Senegal, the market gardening perimeters established by SIF are an exemplary success story. The implementation of income-generating activities, supported by the establishment of autonomous water posts—installations that operate independently from a centralized power grid, particularly through renewable energy systems like solar panels—ensures regular and reliable access to drinking water, even in remote areas. This type of system not only reduces energy costs but also contributes to the sustainability of the infrastructure by minimizing environmental impact.

By promoting energy autonomy and ensuring a stable water supply, these initiatives encourage communities to invest in the maintenance and management of their hydraulic infrastructures, thereby enhancing their capacity to sustain these installations in the long term. This improvement in living conditions and financial prospects for households is significant. The integrated approach addresses essential needs for access to water and food security while developing livelihood projects, fostering the autonomy of populations and the sustainability of infrastructures, which are managed by trained committees supported by SIF teams.



[12] GWP (2000), p. 24.

➔ SIF ensures the sustainability of infrastructures by committing to a Human Rights-Based Approach (HRBA) in its water supply projects. The HRBA integrates human rights principles into public policies and development programs, emphasizing the respect, protection, and promotion of these rights. It goes beyond merely focusing on needs to guarantee the rights of all citizens by addressing the root causes of rights violations and combating discriminatory practices.

The HRBA establishes accountability between rights holders and duty bearers, engaging communities to actively participate in the realization of their rights. It also implements mechanisms for the long-term realization of rights, providing a better understanding of underlying causes, rebalancing power relations, and placing the state at the center of responsibility.



In the context of SIF's activities, this approach is realized through comprehensive community involvement. In Nigeria, for instance, before constructing a borehole, community meetings are organized to discuss water needs and gather the opinions of local residents. These meetings ensure that the project meets the community's expectations and fosters a sense of ownership. A Water Users Committee (WUC) is then elected by community members. This committee plays a crucial role in the daily management of the facilities, ensuring their proper functioning and maintenance. Additionally, a complaint and feedback mechanism is established to ensure that users' concerns are heard and addressed. This not only improves the quality of services provided but also strengthens the trust between community members and the managers of the water infrastructure.





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Access to water, land, and seeds is an essential prerequisite for agroecology. These are indispensable for the realization of the right to food and must be governed according to a rights-based approach. [13]



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The Human Rights-Based Approach (HRBA), along with support for the establishment of user associations/organizations for drinking water networks and well management committees, is essential for promoting inclusive local governance. By encouraging the participation of users and citizens in dialogue and decision-making frameworks, the quality and sustainability of drinking water services are strengthened. The goal is to create governance in which users and citizens play an active role in the implementation, monitoring, and oversight of public water services, involving all relevant stakeholders, particularly public authorities. This ensures a quality, sustainable, and accessible public water service for all, while fostering local social cohesion through open dialogue and joint decision-making for responsible water resource management.

## Leaving no one behind: disproportionate impacts on the most vulnerable populations

Vulnerable people, due to factors such as gender, age [14], disability, migration status, and ethnicity, are disproportionately affected by water scarcity and food insecurity. These inequalities in access to water and food often reflect socio-economic and geographic disparities, exacerbating cycles of poverty and exclusion.

Disasters, whether related to climate change or conflicts, displace millions of people each year [15], compromising access to basic services and human rights. These forced displacements expose people to increased risks of discrimination [16].



The effects of climate change are already being felt in many regions, particularly impacting the most vulnerable farming communities. It is therefore essential to support "small-scale farming," which refers to modest, often family-run agricultural operations where farmers rely on their own resources to produce food. This approach values agricultural and pastoral water resources while promoting sustainable rural development through the active involvement of local farmers. Ensuring land ownership, especially for women farmers, and promoting local techniques and knowledge are crucial elements for effective water resource management and enhancing food security in rural areas.

Women, often at the forefront of climate change impacts, face disproportionate consequences due to their central role in food production and their limited access to resources. By incorporating a gender-sensitive perspective into climate change adaptation strategies, we can identify the specific needs of different population groups. This will enable us to design mitigation and adaptation measures that reflect the realities and capacities of these communities, while strengthening their resilience in the face of growing environmental challenges.

[14] Among children, who are the most vulnerable and most affected by hunger and waterborne diseases, one in five experiences stunted growth, leading to irreversible consequences on development, and approximately 45 million are wasted. (Action Against Hunger, 2023)

[15] In 2022, there were 32.6 million internal displacements associated with disasters and 28.3 million internal displacements associated with conflicts (IDMC Report, 2023).

[16] For more information, please refer to our report "Disasters, Climate Change, and Displacement: Issues and Recommendations. Madagascar, Somalia, and Pakistan": <https://www.secours-islamique.org/images/Nouveau-site/plaidoyer/2024/Etude-PDI-2024-web.pdf>



Traditional gender roles often assign women the responsibility of collecting water for domestic and agricultural needs. In 7 out of 10 cases, households without a water point at home rely on women and girls for water collection [17]. However, women are often excluded from decisions regarding the management of water and its resources. By integrating a gender perspective, it is possible to identify the specific barriers women face in accessing water and to design tailored solutions to promote their inclusion and active participation in water management. In many regions of the world, women play a crucial role in food and agricultural production, significantly contributing to the food security of households and communities.



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Contrary to our perception of the agricultural world, 70% of farmers in Africa are, in fact, women (Food and Agriculture Organization - FAO). However, they often face inequalities in access to productive resources such as land and property rights, seeds, tools, and agricultural credit. Women represent between 45 and 80% of small farmers worldwide, yet they own only 2% of the land, according to the FAO. By integrating a gender perspective, the aim is to reduce these inequalities by ensuring equitable access to resources and strengthening women's capacities in agriculture. Indeed, if women had access to the same resources (technologies, land, education, markets) as men in agriculture, their production would increase by 20 to 30%, which could reduce the proportion of people suffering from hunger worldwide by 12 to 17% and grow agricultural production by 2.5 to 4% in developing countries (SOFA report, 2011).

[17] Progress on Household Water, Sanitation and Hygiene 2000-2022: A Focus on Gender, Joint WHO/UNICEF Report, 2023.



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### SIF is active in Pakistan to reduce gender inequalities through WASH projects.

In the Tharparkar desert in Pakistan, access to water is particularly challenging, exacerbated by recurring droughts. Women and young girls are responsible for water supply, often having to travel to distant wells where water is drawn manually. This task, which is both labor-intensive and time-consuming, inevitably reduces the time available for education and the development of income-generating activities, further entrenching economic and social inequalities.

To address this situation, SIF has implemented a solar-powered water pumping system, which helps alleviate the labor intensity of this work and limits the involvement of children and women in this task. This type of infrastructure has reduced the vulnerability of women and children while improving the overall resilience of the community.

➔ Climate change exacerbates the challenges faced by vulnerable populations, impacting them disproportionately.

➔ Understanding the issues of water and food requires an intersectional consideration of vulnerabilities; this is not only a matter of social and climate justice but also a prerequisite for achieving sustainable development goals.



Somalia, 2023 / © SIF



## FOCUS ON CLIMATE CHANGE IMPACTS ON WATER AND FOOD

Climate change primarily manifests through water: 9 out of 10 disasters are related to this resource. These events have major repercussions on food, energy, urban, and environmental systems. Unfortunately, this trend is worsening, altering hydrological cycles and intensifying flooding and drought phenomena.



There are several types of droughts, each with its own characteristics.

- **Meteorological drought occurs when precipitation is below normal.**
- **Edaphic drought, also known as agricultural drought, occurs when high temperatures lead to intense evaporation of water from the soil, making it inaccessible to plants. Hydrological drought is characterized by a decrease in river flows or even their complete drying up due to prolonged lack of rain.**
- **Furthermore, human activities, particularly excessive water withdrawal, can also induce a form of drought known as anthropogenic drought.**

By 2050, more than one in two people in the world will live in conditions of water stress, exacerbated by current challenges related to climate change, soil degradation, overexploitation of water resources, and pollution. These increasing pressures already threaten global food security by compromising agricultural production and access to drinking water for millions of people. Droughts, floods, and the salinization of freshwater are all consequences of climate disruptions that disproportionately affect vulnerable populations, particularly in developing countries.



SIF is working in Pakistan to adapt to climate change.

In the arid region of Tharparkar, water resources are limited, and droughts, exacerbated by climate change, occur every two to three years. This situation has significant consequences for access to water, sanitation, and hygiene (WASH), as well as for food security and the livelihoods of local populations. There is also significant land degradation and increased salinization of groundwater, pushing communities towards negative adaptation mechanisms such as migration to urban areas.

In response to these challenges, SIF's actions aim to reduce vulnerabilities, strengthen resilience, and decrease these negative adaptation mechanisms. The project includes several components, such as improving access to drinking water, sanitation, and hygiene facilities, as well as promoting drought-resistant and salt-tolerant agricultural crops.

To this end, SIF implements innovative initiatives such as the rehabilitation of natural water basins to optimize rainwater collection, the refurbishment of wells equipped with solar pumps, and the establishment of separate watering points for livestock. Additionally, the development of water-efficient irrigation systems tailored to local conditions is at the core of the intervention.

The project includes training programs for local farmers, covering a range of topics from bio-saline agriculture to more general practices resilient to climate change. Farmers are trained in innovative, environmentally friendly techniques that enhance agricultural production, such as hydroponics and fish farming, and are encouraged to collaborate and draw inspiration from successful farming models.

Rural communities dependent on rain-fed agriculture are particularly vulnerable to droughts, while floods destroy farmland and water supply infrastructure, worsening food insecurity. These events can lead to the sale of land and livestock, increasing debt levels and causing massive rural exodus with the displacement of thousands of people. In densely populated urban areas, rapid population growth and unplanned urbanization exacerbate pressure on water resources and water, sanitation, and food infrastructure, particularly affecting poor populations in slums and informal settlements.



## The salty drop that broke the aquifer's back!

The increasing salinization of freshwater poses a major challenge for agriculture and access to drinking water, reducing crop productivity and increasing health risks. This issue affects approximately 20% of irrigated lands, threatening food security for millions of people. Salty water is unsuitable for human consumption, endangering the health of populations, particularly pregnant women and children.

Salinization is exacerbated by climate change. Variations in precipitation affect soil drainage patterns and groundwater flow, contributing to the accumulation of salt in soils and water sources. Salinization primarily impacts plant development, disrupting germination, growth, reproduction, and sterilizing soils. To mitigate these effects, adaptation measures are necessary, including the promotion of sustainable agricultural practices.



An essential component of SIF's intervention in the Tharparkar region of Pakistan is the establishment of bio-saline farms, in partnership with local authorities, affected communities, and a research center. These farms aim to adapt agricultural practices to the constraints of saline water while ensuring food security for residents and promoting the long-term economic development of the region. Bio-saline farms are agricultural operations specializing in the cultivation of plants that are resistant to high salt concentrations in water, enabling food production while preserving soil and water resources.

Regarding desalination, while this technology can provide drinking water in affected areas, it can be costly and energy-intensive, making its viable deployment in rural or small-scale areas difficult or even impossible. A more sustainable approach emphasizes rational management of water resources, including the reuse of treated wastewater, rainwater harvesting, and other more environmentally friendly and sustainable alternatives.

[19] The global map of salt-affected soils, FAO, 2021.



## FOCUS ON THE FIGHT AGAINST THE WEAPONISATION OF WATER AND FAMINE

According to Article 54 of the Additional Protocol to the Geneva Conventions of 12 August 1949 relating to the protection of victims of international armed conflicts, "it is prohibited to attack, destroy, remove, or render useless objects indispensable to the survival of the civilian population, such as [...] installations and reserves of drinking water." Any action that hinders access to drinking water, damages hydraulic infrastructure, obstructs humanitarian efforts to address water supply problems, or disrupts the operation of drinking water purification and distribution facilities, including cutting off the electricity supply necessary for these facilities, constitutes a flagrant violation of international humanitarian law and the fundamental right to drinking water.

UN Security Council Resolution 2417, adopted in 2018, marked a significant advancement by prohibiting the use of famine as a weapon of war, thereby recognizing the close link between food security, water, peace, and energy. As stated in its preamble and paragraph 1, this resolution underscores the need to protect civilian populations from extreme deprivation resulting from the targeting of hydraulic infrastructure in armed conflicts

« Recognizing that armed conflict impacts on food security can be direct, [...], or indirect, such as [...] decreased access to supplies that are necessary for food preparation, including water and fuel »

« Recalls the link between armed conflict and violence and conflict-induced food insecurity and the threat of famine, and calls on all parties to armed conflict to comply with their obligations under international humanitarian law regarding respecting and protecting civilians and taking constant care to spare civilian objects, including objects necessary for food production and distribution such as [...] water systems, [...] drinking water installations and supplies, and irrigation works, [...] »

**Resolution 2417 of the United Nations Security Council**



In many conflict contexts, water is used as a tool of coercion and control, with devastating consequences for the basic needs of populations and the realization of their rights.

The use of water as a weapon of war has long-term impacts on food security, public health, and the environment. Damaged water infrastructure can lead to long-term water shortages, affecting agricultural production, food availability, and the health of local populations. Furthermore, the contamination of drinking water sources by toxic substances or war waste can have devastating effects on human health and ecosystems.

To address these challenges, it is imperative to strengthen the protection of water infrastructure and ensure equitable access to water for all, in accordance with international humanitarian law. Efforts to prevent and resolve conflicts must also incorporate the dimensions of water and food security, promoting sustainable and inclusive solutions that foster social cohesion, stability, and respect for human rights, while ensuring an inalienable access to humanitarian aid.



- ▶ To put an end to all barriers to the realization of human rights to water, sanitation, and food security, it is imperative to immediately cease the targeting and destruction of infrastructure and to ensure the security of distribution points. Additionally, technical and financial support for rehabilitation and reconstruction must be provided, and the movement of necessary materials and energy sources should not be hindered.







## FOCUS ON WATER-ENERGY-FOOD NEXUS

The water-energy-food (WEF) nexus approach emerged on the international scene in the 2010s. The Bonn Nexus Conference in 2011 played a key role in highlighting how this approach can strengthen water, energy, and food security by improving efficiency and creating synergies <sup>20</sup>.

Water, energy, and food are fundamental elements for human well-being, poverty reduction, and the promotion of sustainable development <sup>21</sup>. The WEF approach allows for a better understanding of the complexities and interdependencies between the natural environment and human activities while fostering more coordinated management and more efficient and sustainable use of natural resources at all scales and across all sectors.

This concept highlights how water is utilized in food production, from crop irrigation to livestock watering and food processing. This interconnection underscores the crucial importance of water and energy in food security and the sustainability of food systems.

Energy is essential for accessing water as it powers pumps that draw water from sources, treatment systems that make it potable, distribution infrastructure, and agricultural irrigation systems.



Adapted and translated from the presentation "Introduction to the Water-Energy-Food Nexus," Nexus WEF, GIZ, 2018.

In the absence of energy, access to water becomes extremely limited, if not impossible. Without fuel/oil, the transportation of water or food, the movement of teams managing water infrastructure, and the supply of generators also become impossible.

In certain contexts, restrictions on the importation of materials necessary for energy production and water treatment, as well as "dual-use" qualification policies, create significant barriers for populations to realize their rights. Under the guise of security, access restrictions to essential technologies such as solar panels and water treatment equipment (chlorine) hinder access to potable water and impede the development of communities. It is imperative to remove these political and economic obstacles.



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[20] La FAO s'intéresse depuis 2012 au lien spécifique entre eau-énergie-alimentation et a lancé un programme de recherches techniques sur ce nexus. Une plateforme indépendante, la Plateforme Eau, Énergie et Sécurité Alimentaire, a même été créée dans le cadre du programme mondial "Dialogues régionaux Nexus", dirigé par la GIZ et financé par le BMZ et l'Union Européenne. Son objectif est d'intégrer le dialogue Nexus dans les politiques régionales, les décisions d'investissement et la politique de développement mondial. Pour ce faire, elle met en œuvre des Dialogues Régionaux Nexus visant à concrétiser ce concept à travers des recommandations politiques et des projets pilotes. <https://www.water-energy-food.org/fr/>

[21] Rapport le Nexus Eau-Energie-Alimentation : Une nouvelle approche pour soutenir la sécurité alimentaire et l'agriculture durable, FAO, 2014

[22] La notion de "double usage" fait référence à la possibilité pour un matériau ou une technologie d'être utilisé à la fois à des fins civiles et militaires. A ce titre, leur exportation est soumise à autorisation. Dans le contexte des politiques de qualification de double usage, certains matériaux ou technologies peuvent être restreints ou contrôlés en raison de leur potentiel d'utilisation dans des applications militaires ou de sécurité nationale, même s'ils sont également utilisés pour des usages civils, tels que la production d'énergie ou le traitement de l'eau. Ces restrictions peuvent entraver l'accès des populations à des ressources essentielles et compromettre leurs droits fondamentaux.

➔ SIF particularly focuses on rural communities, and its multisectoral approach has led it to implement numerous integrated WASH (Water, Sanitation, and Hygiene) projects that are also aligned with food security, while incorporating the Water-Energy-Food nexus.



Since 2014, SIF has established autonomous water points in Senegal, Mali, Chad, Burkina Faso, and Madagascar, designed to support vegetable farming areas primarily managed by women's groups.

This initiative not only contributes to food security but also enhances household incomes. By integrating solar pumping systems, SIF ensures reliable access to water while preserving the aquifer, which is essential for irrigation and pastoralism.

These projects embody the water-food-energy nexus: access to water enables crop irrigation, thereby increasing food production, while the use of renewable energy ensures energy autonomy for communities. This synergy not only strengthens economic resilience but also respects the environment by minimizing the ecological impact of agricultural activities.

In parallel, SIF is dedicated to strengthening community capacities. Literacy courses are offered to women to help them manage activities, while training on infrastructure maintenance is provided, with long-term support. Management committees actively participate in improving infrastructure, such as adding water points and launching new income-generating activities. SIF also encourages sustainable agro-pastoral practices, thus contributing to integrated natural resource management.





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## RECOMMENDATIONS FROM SIF

SIF reiterates all the recommendations outlined in the note  
“Overcoming the Water and Sanitation Crisis” available here:



- ✓ States must do everything possible to achieve SDG 2 and 6 and recognize the close links between the right to water and the right to adequate food.
- ✓ Water resources must be regarded as a common good by states and managed fairly and sustainably in a context of resource pressure.
- ✓ States and relevant users must promote sustainable agricultural practices and protect, restore, and conserve water resources.
- ✓ States must prioritize adaptation to climate change and ensure climate justice through agricultural issues.



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