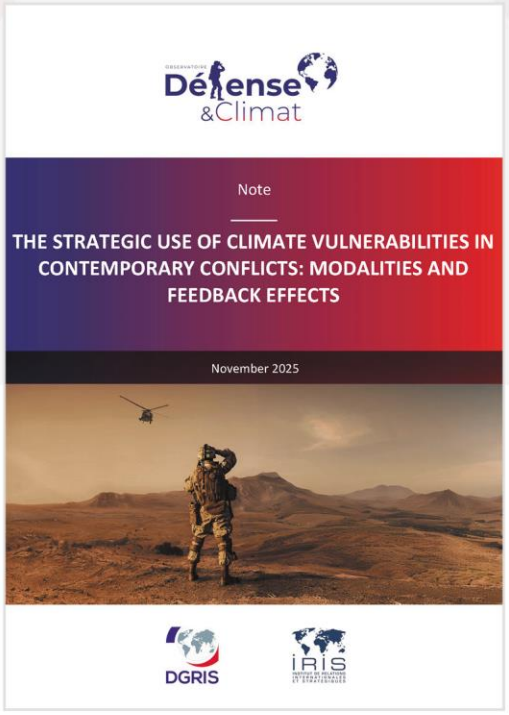
SUMMARY

THE STRATEGIC USE OF CLIMATE VULNERABILITIES IN CONTEMPORARY CONFLICTS: MODALITIES AND FEEDBACK EFFECTS

November 2025



The Defence and Climate Observatory, launched in December 2016, aims to study climate-related security and defence issues.

It is coordinated by IRIS as part of the contract carried out on behalf of the French Ministry of Armed Forces' Directorate General for International Relations and Strategy (DGRIS). The Observatory's multi-disciplinary team includes researchers specializing in international relations, security, defence, migration, energy, economics, climatology and health. It is directed by Mathilde Jourde and François Gemenne.

The Observatory has initiated numerous collaborations with European partners (Netherlands, Luxembourg) and international partners (Australia, United States, India), international NGOs and national and international public bodies. These initiatives have strengthened cooperation on climate issues and their security implications.

The Climate and Defence Observatory produces reports and notes, organizes restricted seminars and conferences open to the public, and hosts the podcast "On the climate front".

www.defenseclimat.fr/en

The Ministry of Armed Forces regularly calls upon private research institutes for outsourced studies, using a geographical or sectoral approach to complement its external expertise. These contractual relationships are part of the development of the defence foresight approach, which, as emphasized in the White Paper on Defence and National Security, "*must be able to draw on independent, multidisciplinary and original strategic thinking, integrating university research as well as specialized institutes*".

Many of these studies are made public and available on the Ministry of Armed Forces website. In the case of a study published in part, the Directorate General for International Relations and Strategy may be contacted for further information.

DISCLAIMER: The Directorate General for International Relations and Strategy or the organization leading the study cannot be held responsible for the statements made in the studies and observatories, nor do they reflect an official position of the Ministry of Armed Forces.

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Since the early 2000s, climate issues have become a central focus of states' foreign and domestic policies and have been progressively integrated by security and defence actors, notably through the concept of *climate security*. However, this dynamic now faces certain obstacles, including narratives highlighting a tension between defence priorities and the consideration of climate change, leading to the latter being deprioritized. Yet a joint analysis of security and climate issues appears essential in light of the current geopolitical and environmental context. Indeed, the (re)emergence of the concepts of "high-intensity conflict" and "**hybrid warfare**" reflects efforts to characterize the evolving nature of contemporary conflicts. At the same time, climate change continues to intensify—now more rapidly than initially projected.

By focusing on the **interaction between climate issues and conflict dynamics**, this paper seeks to **move beyond the dominant debates of the climate–conflict nexus**, which largely concern the role of climate change as a direct or indirect driver of conflict, by analysing **how climate vulnerabilities are integrated as leverage within conflict dynamics**. To this end, the paper provides an analysis of case studies of contemporary conflicts of varying nature and intensity in order to understand how climate vulnerabilities are used as a strategic lever in conflict settings, along an instrumentalization-to-weaponization continuum (I). The second section examines the environmental degradation caused by conflicts—also instrumentalized by belligerents—and its doctrinal and strategic implications (II). Finally, the paper outlines three prospective scenarios, accompanied by recommendations for the Ministry of the Armed Forces (III).

I. The Use of Climate Vulnerabilities as a Strategic Lever in Contemporary Conflicts: From Instrumentalization to Weaponization

A. The Use of Water Vulnerability as a Strategic Lever

Freshwater is vital for human societies, giving it a belligerent character since antiquity. However, water resources are under severe anthropogenic pressure, with climate change playing a central role. Although cooperation over water remains far more common than confrontation, **water vulnerabilities are used as strategic levers in contemporary conflicts**.

In the **conflict opposing India and Pakistan over control of the Kashmir region**, both belligerents have incorporated into their repertoire the **political and strategic use of water vulnerabilities** linked to the Indus River basin. These vulnerabilities are subject to **discursive** instrumentalization by both parties, but also to **normative** instrumentalization (legal obstruction by Pakistan and lawfare by India) and **informational** instrumentalization (disinformation by Pakistan and information withholding by India). These manoeuvres aim to influence the international community or local populations, but also to harm or even coerce the adversary.

The security situation in the **Lake Chad** region has been explicitly linked to the progressive disappearance of its waters due to climate change. Yet scientific data demonstrate that this assumption is inaccurate, and certain political and economic actors have deliberately dismissed this evidence to serve their foreign or domestic policy agendas. The basin's water vulnerability has thus been instrumentalized by international actors as a **tool of influence, of reshaping bilateral relations, and of gaining access to new markets**, while regional actors have used it to **depoliticize the security situation and attract international funding**.

B. The Use of Agri-food Vulnerability as a Strategic Lever

Agri-food resources, essential to societies, are being weakened by climate change, which reduces yields and disrupts supply chains. This scarcity of available resources, combined with poor management and dependence on global supply chains, generates tensions and conflicts, while high-intensity conflicts already exacerbate food insecurity by disrupting production, infrastructure, and markets. The combination of these factors **increasingly enables belligerents to use agri-food vulnerabilities as a strategic lever**.

In the context of the Yemeni civil war, the Yemeni government—supported by an international coalition—and the Houthi rebels have exploited local agri-food vulnerabilities, already exacerbated by the effects of climate change, **to subdue or incite populations to rebel in territories controlled by the opposing side**, and to constrain the enemy's supply lines. The international coalition systematically targeted and destroyed agri-food system infrastructure, as did the Houthis on a smaller scale, illustrating the **weaponization of the agri-food system**. The belligerents also destroyed or blocked humanitarian aid, **combining weaponization and instrumentalization**. Finally, the Yemeni government instrumentalized agri-food vulnerabilities by ceasing to distribute public-sector salaries—the country's largest employer.

In the war against Ukraine launched by Russia in February 2022, the Kremlin has, on the one hand, **weaponized Ukrainian wheat** by destroying Ukraine's agricultural infrastructure, seizing land, and blocking exports. On the other hand, Moscow has instrumentalized this resource to **strengthen its influence in Africa and the Middle East**. By replacing Ukrainian exports with its own grain and employing a form of "**grain diplomacy**," **Moscow is transforming dependence on cereal imports into a strategic lever**, exploiting the economic, political, and climatic vulnerabilities of importing countries.

This first section shows how climate vulnerabilities—ranging from their instrumentalization to their weaponization—are incorporated into **hybrid warfare strategies** and become strategic levers, revealing complex links between climate, natural resources, and conflict.

II. Conflicts' Environmental Consequences: Feedback Effects and Strategic Implications

A. Environmental Consequences and Feedback Effects

Several international humanitarian law conventions provide protection for the environment during armed conflict, but this protection remains partial and is not systematically respected by belligerents, leading to numerous direct and indirect environmental consequences. Armed conflicts directly and negatively impact **soils, water resources, air quality, endemic biodiversity, and high-altitude areas**. While some damage may be considered unintentional or collateral, other destruction results from **deliberate degradation and pollution**. In such cases, environmental destruction becomes a strategic and tactical objective in its own right, which can be analysed as the instrumentalization of environmental vulnerabilities. Conflict-related environmental degradation is also accompanied by **long-term indirect effects**. The war economy diverts financial resources from adaptation policies, promotes the funding of carbon-intensive military infrastructure, and generates local social dynamics that are often destructive for the environment.

Conflicts and environmental vulnerability are part of a **mutual feedback loop**. The cases of Haiti and Sudan illustrate how a conflict situation contributes to **political and social instability, which in turn reinforces local climate vulnerabilities** that existed prior to the conflict. Moreover, these dynamics undermine the implementation of adaptation strategies and the development of resilience among local populations. The worsening of climate vulnerability and environmental degradation in the country further reinforces conflict dynamics, creating a vicious cycle in which conflicts perpetuate environmental and social fragility.

B. Strategic Implications for France and French Armed Forces

To systematically integrate environmental and climate challenges into security policies, it is essential to rethink protection priorities and adopt an **ecological security approach**, which places ecosystem preservation at the heart of strategic considerations. This approach highlights the interdependencies between environmental degradation, conflict, and insecurity, and could enrich the defence strategy of the Ministry of the Armed Forces by incorporating **new insecurity factors**, such as conflict-related environmental degradation or the instrumentalization of climate and environmental vulnerabilities. **The goal is to strengthen resilience in the face of conflicts transformed by ecological upheavals.**

The use of climate vulnerabilities as a strategic lever contributes to broadening the spectrum of conflicts beyond high-intensity forms, increasingly occurring through the **use of non-strictly military processes**, involving an interweaving of discursive, normative, informational, coercive, and other manoeuvres akin to **hybrid warfare practices**. Taking into account the interplay between hybrid warfare practices and climate change in French strategic thinking would **strengthen the Ministry of the Armed Forces' anticipatory and resilience capacities** in the face of the doctrinal advances of major military powers, and would **develop the Ministry's strategic climate resilience**, understood as the ability to anticipate the exploitation of its climate vulnerabilities by third-party actors.

III. Foresight Scenarios and Recommendations

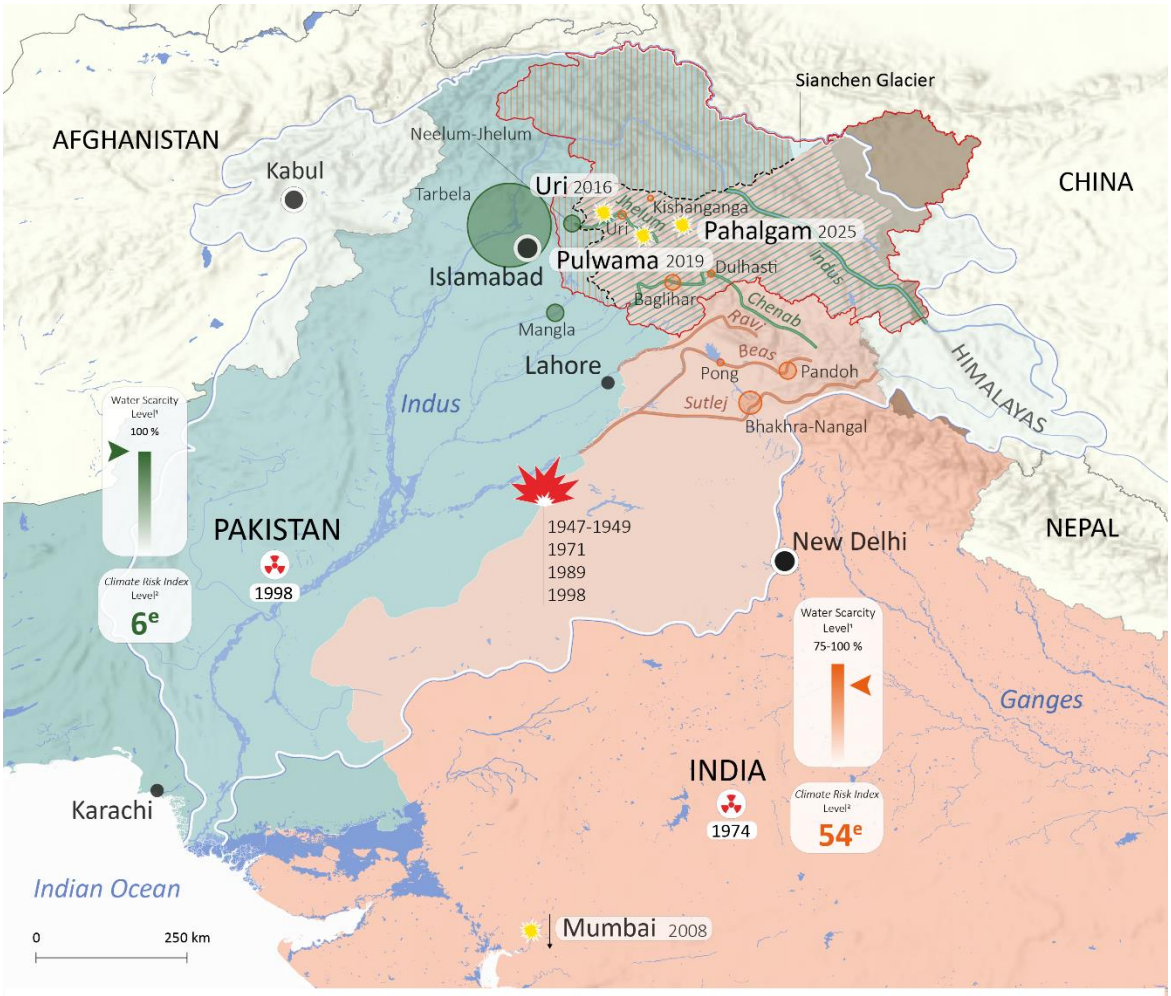
Foresight scenarios

Scenarios	Conflict Drivers and Geopolitical Situation in the Region	Geopolitical Consequences, Implications for France, and Impacts on the French Armed Forces
2038 – Wheat against a military base: The Ivorian Russian agreement	Global warming +1.9°C. Historic drought around the Black Sea: regional cereal production drops by 50% compared to 2037, causing a surge in food prices. Food riots erupt in Africa, destabilizing governments. Russia manages to maintain its production and signs an agreement with Côte d'Ivoire: securing cereal supplies in exchange for the establishment of a Russian military base, presented as a humanitarian and logistical facility.	Division within the African Union: some praise the solidarity initiative, while others denounce the instrumentalization of agri-food vulnerabilities. Consolidation of Russian military and political presence in West Africa, reinforced by information campaigns. Growing French diplomatic isolation, loss of strategic foothold, and weakening of security partnerships with regional countries. End of Operation CORYMBE in the Gulf of Guinea. French operational repositioning in Gabon and Djibouti. Paris faces the need to rebuild its strategic credibility through influence and local cooperation initiatives. Doctrinal reflection is required to integrate this instrumentalization into French strategies and doctrines.
2043 – Creation of a China–Kiribati civil-military centre in the South Pacific	Global warming +2.3 °C, sea-level rise (+20 cm locally), partial disappearance of atolls, and population evacuations since the 2030s. Extreme vulnerability of infrastructure to cyclones and tropical storms. China conducts HADR operations and develops resilient dual-use infrastructure, strengthening its influence with island states. Signing of a China–Kiribati agreement including a civil-military centre, HADR missions, surveillance, and a migration component.	Loss of legitimacy and credibility for France in the region. Strengthening of regional powers' capabilities (United States, Australia) and French capabilities (Polynesia, New Caledonia) is limited by logistical and budgetary constraints. Rising social tensions and anti-French sentiment in overseas territories following military movements, fuelled by Chinese social media campaigns. China consolidates its military presence and economic influence in the South Pacific, using climate vulnerabilities as a strategic lever. Allies' coordination (AUKUS, FRANZ) is strengthened but remains cautious.
2044 – Hostage-taking of a French scientific vessel in the Arctic	Regional warming of approximately +5 °C. A surge in commercial, military, and scientific vessels. Strong environmental pressures emerge, and indigenous peoples now represent only 5% of the regional population. Cooperative mechanisms are weakened following a U.S. attempt to control the strait. A collision between a U.S. military supply ship and a Russian methane tanker causes an unprecedented oil spill. An indigenous and environmental rights advocacy group takes scientists aboard Tara Polar Station 2 hostage, demanding protection and restoration of the region's ecosystems.	Egypt, Russia, and China instrumentalize the environmental vulnerabilities of indigenous peoples. An interministerial crisis unit is established to rescue the scientists taken hostage. Relations within NATO become strained. Paris fails to secure concessions. The French assault results in the deaths of three hostage-takers and one German scientist. Protests erupt in several major capitals in tribute to the killed hostage-takers. France seeks to reaffirm its image as a responsible power and organizes an exceptional summit on Arctic ecological security. Within the French armed forces, the decision is divisive. Supported by the Chief of the Defence Staff (CEMA), the President announces the preparation of a new Arctic strategy.

Recommendations

1	Prevent the use of climate vulnerabilities as a strategic lever by France's adversaries and competitors in a context of escalating great-power rivalries.
2	Promote a systemic vision of climate and ecological security among our allies and partners, at the European and international levels, through an interministerial approach.
3	Strengthen environmental protection in military operations to avoid feedback loops.
4	Increase the role of defence actors within the framework of climate diplomacy.

Annex 1. Map 1 : The Indo-Pakistani Conflict over Kashmir: Between Territorial Rivalries and Vulnerabilities



Territorial Rivalry for Kashmir's Control

The Partitioning of the Kashmir Region

- Border of the Jammu-and-Kashmir Royal State in 1947 before British India's partinioning
- Territory controlled by Pakistan, contested by India
- Territory controlled by India, contested by Pakistan
- Territory controlled by China, contested by India
- --------- Line of control (1972 Simla Agreement)

A Region Marked by Wars and Violences

- India-Pakistan wars since 1947
- Nuclear powers (first trial year)
- Uri 2016 Attacks in India claimed by Islamist or autonomous movements

The group which first claimed responsibility for the 2025 Pahalgam attack later retracted its statement.

Water in the Indus Basin: A Resource Unequally Shared and Subject to Change

A Geography Favorable to India Demanding a Cooperation Framework

- Indus Basin
- Western tributaries under Pakistani control, within the framework of the 1960 Indus Waters Treaty, suspended by India in 2025
- Eastern tributaries under Indian control, within the framework of the 1960 Indus Waters Treaty, suspended by India in 2025

A Basin Transformed by Water Infrastructures and Climate Change

- 4 888 MW / 1 000 MW Capacity of Pakistan's major dams
- 1 325 MW / 330 MW Capacity of India's major dams

1. Water stress level corresponds to the ratio between freshwater withdrawals and available renewable resources, considering environmental water requirements.

2. The Climate Risk Index, developed by Germanwatch, analyses how extreme weather events affect countries, thereby measuring their consequences on those nations.

Sources: Center for Strategic and International Studies (CSIS), *Le Monde diplomatique*, *Le Monde*, Climate Risk Index 2025 du Germanwatch, UN Water.

Annex 2. Case Studies Infographics

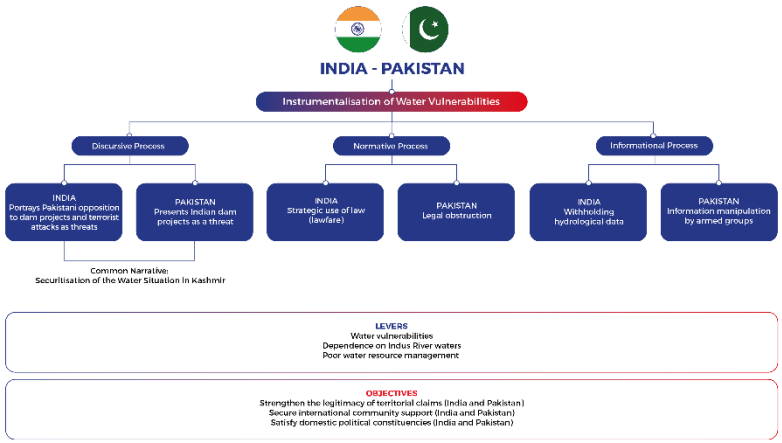


Figure 1 - Water Vulnerability as a Strategic Lever in the Indo-Pakistani Conflict over Kashmir

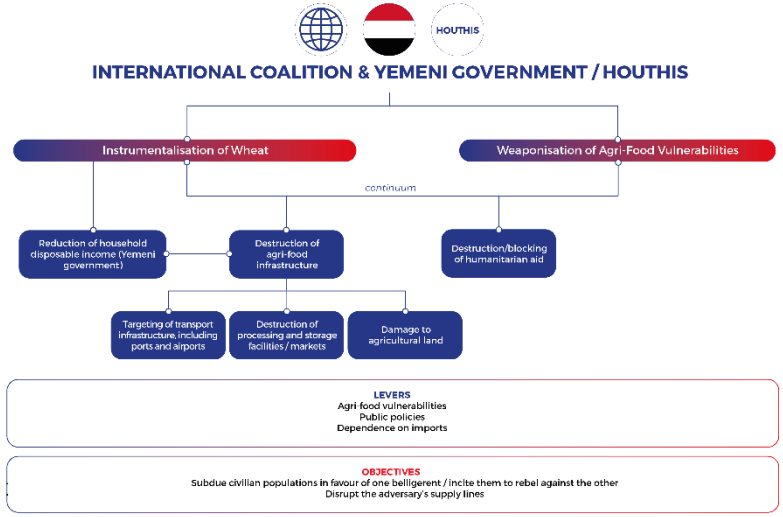


Figure 5 – The Weaponisation and Instrumentalisation of Agri-Food Vulnerabilities in the Yemeni Civil War

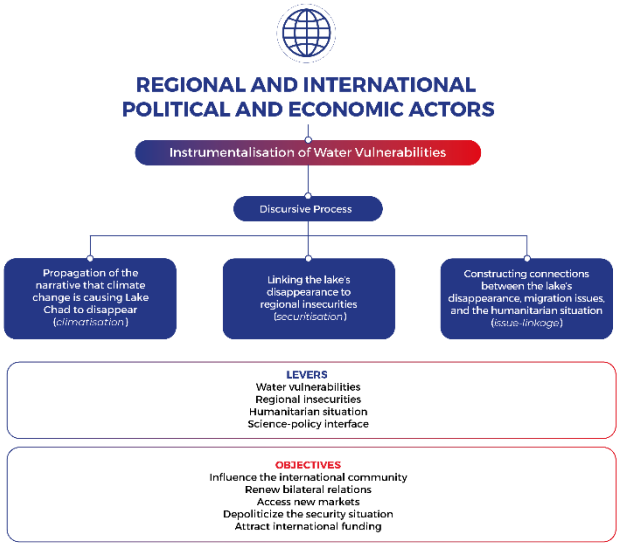


Figure 3 – The "Disappearing Lake Chad" Narrative as a Strategic Lever

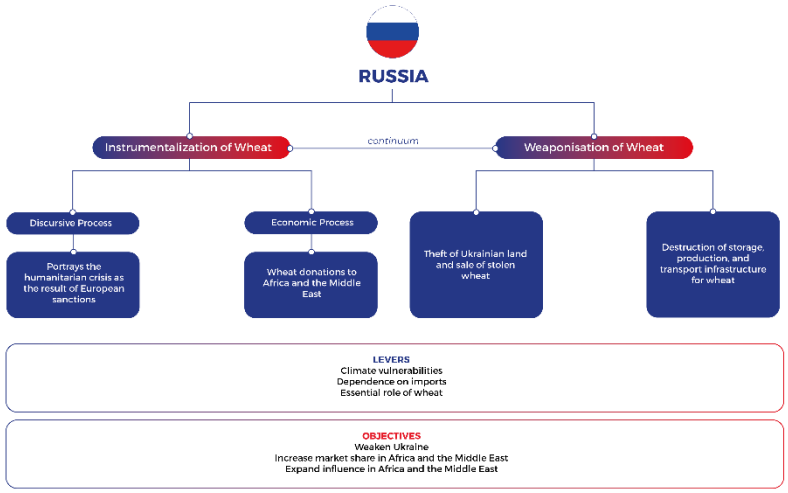
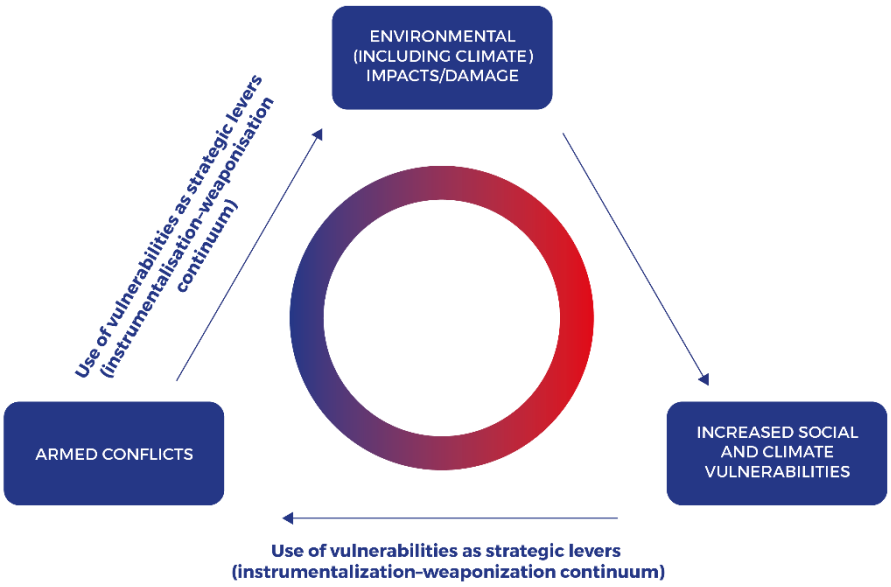


Figure 7 – The Weaponisation and Instrumentalization of Wheat in the Russo-Ukrainian War

Annex 3. Figure 8 – “Conflict, Climate, and Environment” Feedback Loop



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