DEFENCE EVOLUTION

CLIMATE INTELLIGENCE & MODERN WARFARE

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In The Art of War, Sun Tzu stated that foreknowledge enables "the wise sovereign and the good general to strike and conquer, and achieve things beyond the reach of ordinary men". Information must be timely if it is to be of use. And so, for 2,500 years, it has been recognised that intelligence creates the foundation for successful strategic combat. Climate Intelligence (CLINT) is the next stage in Defence Evolution, underpinning modern warfare in a climate changed world.

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Climate Intelligence as a UK Military Task

Designed as a tool to manage risk, Climate Intelligence provides historic, current, and predictive information on natural (primary) and human (secondary) systems, thereby facilitating informed decision making for climate security mitigation and adaptation. Its genesis has been driven by advances in artificial intelligence, machine learning, and the acceleration in the processing time for climate data. This trifecta facilitates an enhanced understanding of climate hazards and impacts, as well as their implications for polity and security at local, national, and regional levels.

As well as supporting military operations, Climate Intelligence also provides data that can be used by academics, civil society, and policymakers to examine the interactive drivers of conflict within the context of climate change. If harnessed correctly, Climate Intelligence holds a powerful capacity to mitigate tactical to strategic level climate risks, and secure some of the world's most vulnerable communities.

The Climate Security Context

Climate Security concerns unite military, academic, and civil organisations. From the High North, across the Sahel, and through Europe, Climate Security is prominent issue. Following COP26, the climate change debate focused on mitigation and the lack of robust emission reduction targets to keep planetary warming under 1.5°Cand this has influenced military posturing. The focus of COP27 is on action and implementation – particularly of financing initiatives relating to loss and damage.

Military responses are often reactive, deployed to stabilise (potential) insecurity and end conflict. A full analysis of the need to transition to a hybrid 'peacebuilding methodology' is beyond the scope of this paper, however the necessity of adaption to the forecasted operating environment remains central to mainstream military planning. Sustainability, operating in harsher conditions, and responding to the impacts of climate change through activities such as Humanitarian Assistance and Disaster Relief (HADR), Military Aid to the Civilian Authorities (MACA), and augmenting military estates are commonly cited as ways in which Defence will have to adapt.

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Providing the foundation for this pre-emptive action, The Ministry of Defence's 'Climate Change and Sustainability Strategic Approach' highlighted that Defence accounts for 50% of the UK central Government's emissions and prescribed the identification of products, practices and behaviours that are more climate aware, environmentally sound, and work towards reducing emissions. This vision was shared by the 2021 UK Defence Command Paper

which expressed an intent for the UK to become a world leader in responding tothreats exacerbated by climate change, building resilience to more extreme weather conditions, mitigating the impact of Defence's carbon footprint, and seizing opportunities to improve sustainability. Climate Intelligence would be an additional resource in this battle.

Why Incorporate CLINT into the UK Military Offering?

Climate change is a shaping threat, a threat multiplier, and a direct threat. Climate Intelligence informs the multifaceted understanding of the drivers and catalysts of climate conflict, as well as changes to operating environments. Climate Intelligence also provides the necessary nuance for understanding that climate impacts vary between groups and individuals, by gender, ethnicity, poverty, unequal social and political power, and other processes of exclusion and marginalisation. It is not covert in a traditional intelligence sense, it is about providing policymakers with decision advantages to influence events (which requires access to a vast eco-space of information).

As British Land Forces increase their global footprint, their reach and risk thresholds facilitate penetration beyond civilian capabilities. In collaboration with domestic and international academic institutions, military climate intelligence could greatly enhance climate security forecasting and predictive analysis. In this context, the impact of military data collection should not be underestimated. Militaries have the capacity to maintain operational effectiveness in the fragile environments where the impacts of climate change are most acute, and they therefore offer a capability to collect data in areas inaccessible to civilian counterparts.

By exploiting this inherent reach and flexibility, the UK military could be the vanguard of a more considered and holistic approach to climate security. In this context, the military would play a vital role in enhancing the understanding of some of the world's most fragile climate impacted communities. Given the increasing awareness of the climate-security nexus, the collection of this data can be used to identify 'targets' for necessary engagement and resources, thus mitigating the security risks posed by climate variation and change.

In short, integrating Climate Intelligence into military intelligence collection plans is about enhancing predictive analysis and advance warning for climate risks. Further, by default, it complements the 2021 Command Paper's vision of a persistent and proactive global engagement that increases understanding and pre-empts threats to UK national security and economic interests.

Which units could trial CLINT collection?

By making minor adjustments, and creating additional duties, Defence's deployable assets could have an immediate and positive impact on climate security as the military is perfectly positioned to collect data, information, and Climate Intelligence.

UK military CLINT could be led by Land Special Forces who are routinely deployed alongside partner forces around the world, and use their access to innovative equipment and intelligence capabilities to pre-empt threats. Another key trialling unit could be the new Special Operations Brigade that work to undermine adversaries and contribute to collective deterrence by training, advising, and, if necessary, accompanying partners. The 11th Security Force Assistance Brigade (SFAB) would also be well placed to coordinate, having been designed to commission, design, deliver and assess security force assistance activity to inform regional Defence strategies in permissive environments around the world.

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Notable with all these units is that their reach, into often peripheral geographical areas, rarely deilvers a comprehensive analysis and understanding of the operating environment. Intelligence collection for units operating in these theatres is standard, but their global footprint could be further exploited by enhancing the breadth of indicators that they routinely report on.

The capabilities of the Reserves, particularly within Special Group Military Intelligence (SGMI) and 77th Brigade, combines military training with in-depth subject matter expertise to support Regular units. The contribution of Reserves is key to meeting the challenges of modern warfare and conflict and including the Reserves network here would significantly enhance the UK offering. Such collaboration could also build organic expertise by training deployable climate security experts within the UK's 6th Division that orchestrates intelligence, information, and partner operations.

How Could CLINT be Integrated into mainstream Tactics, Techniques, and Procedures?

Social, Economic, and Political Data Collection - the Intergovernmental Panel on Climate Change (IPCC) provides a repository of socioeconomic information that offer a consistent framework of factors that can be applied in climate change impact assessments. The collection of this

data was conducted at the macro (global – aggregate regional level). Arguably, micro (granular – local level) research would improve information on population estimates, economic conditions, land use, water access, agricultural activity, and biodiversity. Engagement with local stakeholders and the observation of local assets would generate a useful bank of data and information.

Furthermore, investigation into loss of livelihoods due to environmental degradation and extreme weather, as well as food insecurity and its secondary impact on social tensions, would increase and inform contextual understanding. Similarly, the understanding of local political dynamics and the quality of governance retains huge significance for managing climate-related security risks. In the context of a horizon scanning,

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To achieve this necessary level of granularity across socio-political themes that are atypical to the routine intelligence collection, the concept of augmenting forces with genuine expertise should be considered. Just as 'Cultural Advisors' are embedded within military units to enhance situational awareness, attaching 'Climate Advisors' who could analyse local climate impacted economic and political dynamics would increase operational effectiveness

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and allow Defence to offer a valued contribution to upstream conflict prevention. Further, minor adjustments could have a major impact. A Q1 brief, for example, could be tailored to include climate impacts as part of the understanding of the operating environment.

Human Terrain Mapping - the ability of military sources to provide the ground truth cross reference satellite imagery, and provide mapping in the absence of satellite data is invaluable. A common climate insecurity driver is conflict between farmers and herders over the diminishing arable and pastoral land. Analysis, conducted by Mercy Corps in Mali used geo-coded Armed Conflict Location and Event Data Project (ACLED) data that mapped the distribution of conflict across the country and then overlaid it with several different environmentally linked factors, including transhumance patterns.

A wider network on the ground, with the skillset and reach to operate in volatile areas would greatly enhance future offerings. Military assets also add value by fact checking satellite data to ensure that it still represents the ground truth at the time an incident takes place. Filling high resolution satellite imagery gaps to enable detailed conflict analysis would also add value. Reconnaissance units could be engaged to provide real time information on vegetation health, land use, and water source capacity.

Military assets also have the ability to conduct human terrain mapping which could help with the identification of specific transhumance routes and forced displacement. Furthermore, through their

own networks and assets they may be aware of conflict incidents that go undetected on ACLED but are logged on their own systems, such as the Tactical Ground Reporting System (TIGR). Such data could be overlaid with other data sources to enrich climate security analysis.

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Considering Partnering Options – to enhance the CLINT offering, British Defence must engage with a diverse range of stakeholders. Military penetration far exceeds access by civilian actors. However, in some theatres, data collection may be increased in collaboration with state and non-state groups with unaligned values or poor human rights records. The Integrated Review states that the UK's ability to tackle transnational challenges, from security to climate change, will depend on our capacity to work with a wide range of partners across the world, including those who do not necessarily share the same values. Engagement here would have to be assessed on a case-by-case basis.

The Essential Element: Strength in Unity

In order to develop military understanding of the complex and nonlinear relationship between climate change and conflict, it is important that CLINT is not siloed from wider government and scientific expertise. The optimal structure is one that amplifies the 2018 National Security and Capability Review's Fusion Doctrine, as well as the vision of the Integrated Review to genuinely integrate and interface UK national assets, so as to tackle climate security collaboratively.

Arguably, this vision should be grander and drive the UK MOD to coordinate with international organisations such as the United Nations Environment Programme's Strata platform that seeks to 'democratize environmental and climate security intelligence by making analytical capacity available to practitioners and policymakers'. Strata works by overlaying environmental and climate indicators, socio-economic indicators, and indicators related to conflict and crisis, in order to identify potential conflict flashpoints.

Another potential partner is the International Organization for Migration's Transhumance Tracking Tool (TTT)which monitors transhumance routes and provides early warning of potential conflicts that may arise due to food and water insecurity or the movement of rival groups into contested territories.

Similarly, NATO is set to continue its ambitious programme of climate security deliverables, with enhanced climate impact assessments, forecasting, and exercises. The UK has much to offer the Alliance with direct contributions to the NATO work strands of Allied Command Transformation (ACT), Emerging Security Challenges Division (ESCD), and the soon to be established Climate Change and Security Centre of Excellence (CCASCOE).

Sharing UK CLINT would enhance this international offering and would enhance the (in)direct benefit to UK interests at home and abroad. Collaboration with such platforms, and sharing of intelligence amongst wider databases would also strengthen the (inter)national policy decisions made to strengthen our collective defence against climate insecurity.

Conclusion

Climate security and modern warfare are inextricably linked. Climate Intelligence is the next stage of Defence Evolution. Enhancing the capacity to prevent instability and conflict by evidencing context specific requirements, Climate Intelligence enables targeted pre-emptive mitigation and adaptation responses. With minor adjustments, the UK military has the opportunity take the lead in developing this offering. This offering would enhance both civilian and military capabilities, thereby strengthening our collective climate defence and security.