

Claude Ake – Democracy and Development in Africa: A Review and a Tribute¹

Ugumanim Bassey Obo², Venatius Azinor Ukor³

Abstract:

This paper which takes the form of a review and a tribute is an acknowledgement of the gargantuan contributions of Professor Ake – one of Africa’s most iconic and venerable thinkers – to the development of radical and revolutionary social science scholarship. A globally renowned Political Scientist whose intellectual compass traversed every area of social science, Ake believed in the transformational power of scientific knowledge and broadened its horizons through his many publications. Whereas it is not an assessment of Professor Ake’s works, this essay reinforces the immortal stature of a man who challenged an unjust status quo and widened the frontiers of progressive scholarship through his numerous research. This essay specifically examines Democracy and Development in Africa (1996), one of Ake’s last works whose analysis is on the nexus between democracy and development in Africa. The book x-rays the problem of leadership failure in Africa and highlights the anti – democratic and anti – development tendencies of African elites. This paper concludes that Professor Claude Ake was one of Africa’s great gifts to humanity, and the book under review is strongly recommended to students, researchers and policy makers interested in democratic governance and development – especially in Africa and the Third World.

Keywords:

Ake; democracy;
development;
Africa; paradigm.

¹ DOI: 10.12700/jceeas.2025.5.4.417

² Senior Lecturer, Department of Political Science, University of Calabar, Calabar; ORCID: 0009-0000-7930-8144; talk2obo@yahoo.com, ugumanimobo@unical.edu.ng.

³ Postgraduate Student, Department of Public Administration, Faculty of Administration and Management Sciences, University of Calabar, Calabar– Nigeria; ORCID: 0009-0005-9981-0242; azinorukor@gmail.com.



“Claude E. Ake (1939 - 1996) is one of Africa’s foremost political philosophers... As a major praxiological figure from whose works the real world in the continent can best be understood, his writings constitute a significant entry point not just for understanding contemporary Africa, but also for rethinking globalization, modernity and the larger theoretical concerns shared by postcolonial theorists throughout the world.”

- Arowosegbe (2019, p.1).

This essay which takes the form of a review is a tribute to the memory of one of the most eminent and globally venerated African social scientists. It explores the author’s position on the interface between democracy and development in Africa as encapsulated in the book. The one hundred and seventy-three-page book, *Democracy and Development in Africa* comprises of five chapters and was written by the cerebral Professor Claude Ake, a “pacesetter, pathfinder, pioneer, *primus inter pares*” (Ukiwo, 1997, p. 34) who “bestrode the African and indeed, the international social science community like a colossus, exemplifying the best and the brightest in social science scholarship that Africa could offer” (Jinadu, 1997, p. 22). One of his last works, this book was an addition to an already intimidating pool of Professor Ake’s patriotic and intellectual contributions to the development of Africa, the social science community and humanity. In his usual lucid and insightful way, the author analyses the correlation between democracy and development and the need for a holistic form of the former to blossom in Africa in order to engender the right type of the latter. He brings to the fore the fact that “there is no question of Africanizing democracy. The key demand of the moment is rather to democratize Africa. This is to say that we cannot import or Africanize democracy because the latter is something that is universal” (Nzongola – Ntalaja, 1997, p. 9).

According to Jinadu (1997, pp. 23-24), in this book, Ake formulated “a populist, people-centred, participatory and perhaps social democratic alternative which recognizes the collective rights of sub-national or ethnic groups and which allows representational voice at different fora for marginalized civil society groups like students, women and trade unions, among others” The implications, in Jinadu’s view, were in a sense iconoclastic, and the result, for example, was a series of insightful interpretations of the development process in Africa and in the identification of the relevant variables that should form the core and central foci for the study of that process. Thus, by challenging Western narratives on the route to development which Africa has to follow, Ake, with this work, “engaged” in “epistemic rebellion” or “epistemic disobedience”, which, according to Zondi (2024, p.60),

„permits the posing of deep and uncomfortable questions necessary in the oppressed and silence’s liberation. It permits the posing of questions against

questions, methods against methods, negation of the negation. We need to be able to negate Eurocentric negations. These are negations by which it has become normal to assume that Africa had no history, has no civilization, has no science, has no spirituality, and it is a dark continent.”

As his point of departure, Ake interrogates the “development paradigm and its politics” and without delay, expresses his dissatisfaction with the slow pace of development in Africa; he lists some of the factors that have been offered to explain the failure of the development process in Africa, and acknowledges that these factors are not irrelevant to the problem. He however argues that “the assumption so readily made that there has been a failure of development is misleading. The problem is not so much that development has failed as that it was never really on the agenda in the first place” (p.1).

The author considers how African politics has been constituted to prevent the pursuit of development and the emergence of relevant and effective development paradigms and programmes, and examines what he sees as “the political legacy of colonialism”, pointing out that colonialism in Africa was markedly different from the colonial experiences of other parts of the world. For example, the colonial state was usually statist, and its power was absolute and arbitrary. It also redistributed land and determined who should produce what and how. In Western Europe, for example, the state promoted the virtues of freedom of economic enterprise and local initiatives and creativity were encouraged and protected by the state. To the contrary, in Africa and the periphery, the colonial state was hostile and disoriented the development freedom of economic enterprise. Local industrial and technological development was discouraged. Local bourgeoisie were suppressed and unskilled labour and cheap natural economic resources were brutally exploited to the greater affluence of the metropolises (Akpuru – Aja, 1998 in Obo and Ukor, 2025). One may add that this was how Africa was forced or conditioned to produce mainly agricultural or primary products to meet the industrial needs of the colonizing countries.

In an x-ray of “the post-colonial situation”, the author observes that the attainment of political independence did not greatly change the character of the state in Africa; it remained much as it was in the colonial era, and it continued to present itself as an apparatus of violence which sought compliance in coercion rather than in authority. Those who inherited the colonial state were not interested in transforming it; rather, they were keen in retaining political power and the control of the state apparatus and the attendant privileges. Indeed, the decision by the emergent post-colonial elites to appropriate and consolidate rather than transform the inherited structures of colonialism-especially the economies and state – not only constitutes the dilemma of the present juncture but also explains the perpetuation of the logic of the colonial condition (Cooper, 2005 in Arowosegbe, 2019). As Olayode (2005, p. 28) asserts, “instead of transforming the state and making it relevant to the satisfaction of the needs and interests of the people, the emergent postcolonial leaders in Africa were content

with using the enormous authoritarian structures of the state to appropriate economic gains for themselves”. Aliu (2014, p.57) amplifies this position by contending that

„the failure of the state and its managers to repudiate and alter fundamentally the inherited and reinforced socio – economic and political institutions, processes and policies of colonialism antithetical to development and governance is germane to explaining the monumental cases of corruption, insecurity, conflict, poverty, inequality, diseases and political instability ravaging Africa”

Professor Ake also surmises that at independence, in Africa, except for a few countries, politics remained a zero-sum game: power was sought by all means and maintained by all means as colonialism left a legacy of lawless political competition (p.6). This made the struggle for power very intense and dangerous because, as stated in another of the author’s works, *A Political Economy of Africa* (1990, p.129), “those in office do all they can to perpetuate their hold on it, and those out of office do all they can to get it; there is hardly any restraint beyond prudence as to permissible means for this struggle”. Clearly, power was sought for selfish reasons and not for the purpose of transforming the society. In other words, the character of the state rules out a politics of moderation and mandates a politics of lawlessness and extremism for the single reason that the nature of the state makes the capture of state power irresistibly attractive. The winners in the competition for power win everything, the losers, lose everything. Nothing can be worse than losing, and nothing better than winning (Izoma, 2018)

In examining “the implications of politics”, the author points out that the political environment at independence was clearly anti-development and the absorbing struggle for power was the main concern of the political elites because, for them, power was everything; it was not only the access to wealth but also the means to security and the only guarantor of general well-being. While pretending to be interested in development, the elites embraced economic dependence, and this mindset led to “the conception of development as something to be achieved through changes in the vertical relations between Africa and the wealthy countries” (p.8). Commenting on “the development paradigm”, Ake states that at independence the elites knew that to retain their power and divert the peoples’ attention from demands for development and transformation, they had to settle for the ideology of development, something to replace the nationalist ideology of self-government, that is, something they hoped would create a sense of common purpose. But, according to him, as it turned out, what was adopted was not so much an ideology of development as a strategy of power that merely capitalized on the objective need for development. And “the ideology of development was exploited as a means for reproducing political hegemony; it got limited attention and served hardly any purpose as a framework for economic transformation” (p.9).

Since the African elites did not have a programme of social transformation, it then fell on the West to supply a development paradigm, and this was the modernization

theory which prescribes that for Africa to develop, it should emulate the countries of the North. That is, for modernization theory, “reduced to essentials, the development of the backward parts of the world was implicitly a matter of becoming Western” (p.10). This is part of what Toyo (2001) calls the “delusions of a popular paradigm”. Western experiences and epistemologies do not define all humans, and the theories and perspectives that flow from them are not applicable to all formations, systems and societies. In fact, it is unfathomable for Africa to adopt and follow European and Western developmental modes, as our histories and societies differ tremendously. African countries cannot simply emulate European values in order to catch up with the West (Osaghae, 2024; Ukwandu, 2017).

The author also observes that the imported paradigm did not improve the well-being of the people as it conceives development as an autonomous process independent of politics, culture and institutional framework, and this understanding allowed the African elites unrestricted liberties. Due to this and other limitations, the paradigm could not achieve the desired results. Although the development paradigm acknowledges the significance of the state, the market and others, it did not show much interest in the institutional framework and cultural values in Africa. Commenting on what he calls “a confusion of agendas”, Professor Ake states that at independence, African elites were in no position to pursue development because they were too engrossed in the struggle for survival, and they did not even know how to manage the development process. In his words, “the poverty of ideas was remarkable” (p.19). He also pointed out that the few countries that attempted to pursue development failed mainly because of the contradictions of the inherited colonial state.

The author surmises that the conflict between Africa and external forces over development strategies was most evident in the rift between the Bretton Woods institutions and African governments. At some point, it is stated, African governments collectively expressed disappointment over the slow pace of development in the continent, and this led to the design of – among others – the Lagos Plan of Action aimed at promoting the development of Africa. Focusing on “the Lagos Plan and the World Bank Study”, Professor Ake states that while the former was designed by African leaders for the restructuring of African economies for self-reliant and self-sustaining development, the latter, titled “Accelerated Development” was developed by the World Bank for Africa but the African leaders saw its recommendations as pro-West and anti-Africa. There was thus a clash between these views, and because African economies were already dependent on the West, the African leaders surrendered to defeat and accepted more Western-designed policies like the Structural Adjustments Programme (SAP).

Professor Ake argues that the bane of analysis of the development experience of Africa is the tendency to ignore history. He stresses the importance of history by drawing attention to the fact that strategies and policies are made and managed by a government in office and a political elite in power in a historical state and under a particular configuration of social forces; one cannot understand development policies and



strategies, let alone the possibility of development without referring constantly to the nature of the state and the dynamics of the social forces in which it is embedded (p.42). He also asserts that most African leaders are not committed to development because of the nature of the state and the political environment; moreover, the state is not a public force as it is being deployed to serve private interests by the dominant faction of the elites. In this case, as Usman (1979 in Nkom, 1986, p. 238) had earlier stated, state or public institutions “are only public in name because they are run, in fact, for the purpose of accumulating private wealth. This is a normal feature of a capitalist society”.

The author examines some of the efforts of African governments to bring about development with his focus on Nigeria and Tanzania. On agriculture, he acknowledges its importance in development but regrets the fact that both the foreign donors and African governments had failed to take advantage of Africa’s agricultural potentials to promote development. He also comments on “agricultural policy initiative in Nigeria”, stating that although most of the agricultural policies of the governments as contained in the different National Development Plans were properly formulated, appropriate measures were not adopted to actualize the goals of these policies. For instance, the Directorate of Food, Roads and Rural Infrastructure (DFRRI) whose function was to promote agriculture and rural infrastructure was mismanaged by the elites due to corruption and greed.

In his assessment of “Nigerian agriculture in the era of structural adjustment”, Ake shows that even with S.A.P, “agricultural policy still suffers from class bias, which often translates into ill-conceived policies and contradictions between manifest and latent functions” (p.54). He points out that the government did not do much about agriculture but only hoped that the sector would enjoy “residual benefits” from the development of rural infrastructure such as roads. Moreover, the elites were more interested in the enormous revenues from petroleum production. On “agricultural transformation in Tanzania”, the author observes that in spite of the hitches of the first year of independence, “Tanzania is distinguished for being one of the few African countries that initiated a programme of rural and agricultural transformation. The transformation was pursued progressively through the village settlement scheme of 1964, the Ujamaa village programme of 1967, and the villagization scheme of 1973” (p.56). On “Tanzanian agriculture under structural adjustment”, Professor Ake observes that the situation in Tanzania was not markedly different from what obtained in Nigeria. With the adjustment programme, there were still contradictions, and the Tanzanian elites did not control agriculture in order to avoid embarking on an affirmative action to promote agricultural production. The author concludes by stating that the problem is not that African leaders do not want agricultural development; rather the fact is that their actions and policies are driven by self-interests which do not promote development.

The author also examines “industrialization” and observes that the problems that beset it are not different from what agriculture faces: external dependence, lack of political will, the selfish interests of the elites etc. He assesses “import substitution” and states that it was the first industrialization strategy that was adopted. The policy initially

yielded some benefits in the countries that adopted it, but it also brought about those countries' dependence on imported intermediate and capital goods. The policy was hampered by lack of discipline within the political class and business community as well as a limited domestic demand. Professor Ake however states that strictly speaking, what was being practised in Africa was not import substitution but rather import reproduction, which implies the domestic production of the particular product that was formerly imported and focuses on product specificity rather than generic functionality (p.75). Commenting on the programme of "indigenization" in Tanzania, Kenya and Nigeria, the author reasons that these countries were motivated by nationalism and the dependency theory to adopt the programme. He also states that the policy indicates the ambivalence of the policy-making elites and the clash between the latent and the manifest functions of public policy; moreover, indigenization policy should not only be about the control of the economy but should be related to the value of effective management to maximize growth and equity.

Professor Ake also briefly discusses "structural adjustment" in Nigeria and Ghana, stressing that in evaluating this policy, one needs to take account of the huge significance that it has assumed in African economies and the lives of Africans. Although originally conceived as short-term measures to revamp a distressed economy, adjustment programmes now look like the only development strategy in Africa. In Nigeria, in spite of what its proponents say, there were problems with S.A.P.: increased indebtedness, adverse social consequences especially for the poor, etc. The author also observes that those who imposed SAP on Africa regarded Ghana as the "framework of adjustment" (p.88). Thus, Ghana was given an unusual level of foreign aid to mitigate the effects of the programme since the Bretton Woods institutions were particularly interested in its success in Ghana. Ake also points out that a major issue raised by the Ghana experience is whether the gains of the programme can be sustained. On "adjustment, growth and development", the author argues that SAP, by its nature is not a development strategy but an interim measure which often tends to be regarded as part of the hegemony of market principles. He states that African leaders whose poor performance necessitates the adoption of SAP do not believe in democratizing the public policy process, and the imposition of the programme on Africa by external forces is also undemocratic.

While examining what he calls Africa's "blocked options", Professor Ake examines some of the issues that are related to the development problematique in Africa. On "the international environment", he points out that following the end of the cold war, Africa does not seem to be important to the global powers anymore, and it is difficult to envisage anything that can put Africa on the international agenda, even as the continent's raw materials are no more indispensable in the global market since they have been replaced by synthetic materials. Moreover, most of the multilateral institutions often impose on Africa priorities that are not salient to it. On "the debt problem" and "the worsening situation", the author argues that in the name of development, African leaders have been preoccupied with gaining access to Western markets and obtaining more loans which may not be very helpful given the continent's

position in the international division of labour. He also states that in view of the fact that Africa's loans are characterized by stiff conditions, and with mounting indebtedness, declining exports earnings and deteriorating terms of trade, new commercial lending became more difficult and the prospects of economic recovery worsened. On "tentative attempts to solve the problem", Professor Ake posits that Africa's debt is so huge that it cannot afford to repay it and thus it is necessary to think of other options to deal with the debt burden. To this end, the strategy of debt cancellation has been pursued but the problem is that Africa's debts that have been cancelled by its external creditors have been very small and of little consequence - which means that Africa still has enormous external debt obligations. When a substantial portion of the national budget goes towards servicing debt, it leaves fewer resources for essential public investments in infrastructure, education, and healthcare thus hindering economic progress, and this has made Africa perpetually dependent on the lenders thereby entrenching a systematic plundering of the continent's resources through unfavourable debt servicing and loan repayments (Ukaegbu, Amali and Chukwuma, 2024; Oyekanmi, Udochukwu, and Adeniyi, 2024). In view of this, "why Africa entered the 21st century as the poorest, most technologically backward, the most debt-distressed and the most marginalized region in the world, is food for thought" (Omotor, 2019, p.70).

In drawing attention to Africa's experience with democracy and development, Professor Ake points out that it is evident that the international development community has been subverting democracy and development in Africa through their alien policies. According to him, the African experience clearly shows that "exogeneity" does not promote democracy irrespective of the policies associated with it. This is because democracy is not a socio-political phenomenon characterized by bits and pieces of values picked up from one social milieu or another, one country or another, or from the international community and its organizations. Each democracy is meant to reflect the ongoing realities of its immediate environment, and it is more of a sin than ignorance to imagine that cultural and ideological factors are not inherently important to the shaping of a people's political culture. Indeed, it would betray common sense to think that democracy, as practised elsewhere with its different economic and socio cultural dynamics should be adopted in Africa without making necessary adjustments (Nnoli, 2011; Falola, 2024).

The author also makes the point that the problem is that Africans have been marginalized in the development of Africa; "development", he states, "is something that people do by themselves and for themselves, or it does not happen. The people of Africa will have to empower themselves to repossess their own development, a formidable task" (p.123). Development is not a unilinear, predetermined condition imposed by powerful actors on less powerful actors. Instead, it is an outcome of the specific association between people and between places across spatial scales seeking to secure advantages, and of actors taking advantage of or contesting new situations. Thus, development policies for Africa should be internally driven and particularly informed

by internal social, political and economic arrangements rather than being externally superimposed (Agbonifo, 2019; Tagarirofa, 2017).

In the final section of the work, Professor Ake discusses what he regards as “the appropriate development paradigm for Africa” and outlines its elements. On the nature of the paradigm, he states that it recognizes the fact that development is a process and not a project, and that it is the process by which people create and recreate themselves and their life circumstances to realize higher levels of civilization in accordance with their own choices and values. On the politics of the development paradigm, the author states that for sustainable development, the people have to be the agents and means of development; that is, they should have the responsibility to decide what development is, its values and methods of realizing it. As Nnoli (2011, p. 304) puts it, “only the masses can take care of their interests. They are the only ones who can remove the obstacles to their progress. In fact, they are the only ones who can tell what these obstacles are in the first place”. Indeed, as Ascroft and Masilela (1994 in Jegede, 2018, p. 243) have illustrated, “if peasants do not control or share control of the processes of their own development, there can be no guarantee that it is their best interest that is being served”.

Ake also examines the feasibility of democracy in Africa as well as the attitude of the West to democracy in Africa, pointing out that Africa does not need externally – foisted democracy, and that the West does not believe that Africa needs democracy which explains the former’s support for authoritarian African regimes. In the words of Yusuf (1994, p. 259), the interference in the internal affairs of African countries and the assistance offered to authoritarian governments, without doubt, contributed to the subversion of democracy, for they supplied these repressive governments with the screws to tighten the machinery of repression. The point is strongly made by the author that Africa needs a democracy that is inclusive and which places emphasis on concrete socio-political and economic rights as well as one in which people have real decision-making power and which also emphasizes collective and individual rights. As Toyo (1994 in Ojukwu and Nwaorgu, 2012) states, in any society where the concept of democracy does not embrace actual governance by the people and does not extend to the economic and cultural spheres, democracy is at best truncated. Professor Ake concludes by once again reiterating the fact that “the development project has not failed in Africa. It just never started in the first place because of hostile political conditions. It can start and it can succeed” (p.159).

With this work, professor Ake’s awesome intellectual profundities were once again brought to the fore-with his penetrating analysis of post-colonial Africa’s experience with democratic practice and foreign development models. It can be discerned from this work that African elites are neither harbingers of development nor promoters of democracy. As Ijoma (2008 in Ochi, Okeke, and Eze, 2023) opines, the best way to assess African states on democracy and development is to score them based on the demands of their people and the responses of the governments towards such demands. Be that as it may, the social condition of the majority of people in Africa presents a startling paradox: Africa, a continent that is so richly endowed, turns out to be wretched



of the earth with the majority of her populace exposed to the terror of poverty, malnutrition, ignorance, and diseases. African elites are self-serving rulers who are only interested in primitive accumulation of wealth by appropriating and privatizing public resources. That is, the promotion of democracy and the development of Africa have never been the priorities of the majority of African elites. In fact African “elites have shown that they are callous, dangerous, unpatriotic and extremely avaricious. They have demonstrated that they are not leaders but... predators who have robbed the...continent of its future as well as bruised and violated the collective humanity of the people” (Obo, Omenka, and Agishi, 2017, p. 22).

This work also cogently demonstrates that it is not in Africa’s interest for it to be studied or governed according to foreign models or epistemologies. Therefore, as Jinadu (2000 in Laakso, 2024, p.9) contends, “Africa must be studied in terms of the conditions and possibilities of its own self-centred development, and the adaptation of its own indigenous institutions to the problems of governance”. One would have loved to see an analysis-even if brief-of the situation in pre-colonial Africa. Before colonialism came with its disruptive and destructive effects, Africa had its mode of socio-political organization which was essentially not anti - democratic. This system promoted development in its own unique way; it established structures and institutions that catered for the needs of the people. This fact cannot be overemphasized.

Generally, we do agree with Arowosegbe’s (2019) view that a measure of a philosopher’s greatness is evaluated in terms of the appeal and continuing relevance of their work, especially after their death. According to him, others may disagree in their assessments and interpretations of their major ideas and positions yet such disagreements in part serve to testify to their greatness. As he rightly puts it, “although it may be too early to measure Ake’s greatness as a political philosopher, nevertheless, one can safely suggest that other considerations notwithstanding, Ake was a great political philosopher” (Arowosegbe, 2019, pp. 169-170).

Conflict of Interest

The author hereby declares that no competing financial interest exists for this manuscript.

Notes on Contributor

Ugumanim Bassey Obo is forty-seven years old, and he lives in Cross River State in the South – South Region of Nigeria. He is a proud family man, a husband and a father. He is an academic and researcher. He studied Political Science at the undergraduate level, and in his postgraduate studies, he reads Political Economy. He is presently a Senior Lecturer in the Department of Political Science, University of Calabar, Nigeria. His area of specialization is Political Economy and Development Studies. His specific issues of research interest include corruption, crisis of underdevelopment in Africa, international financial organizations and multinational corporations. In his years as a university

teacher, he has mentored and supervised many students and he has taught several courses. He has published forty papers in journals and books. He is a member of International Society for Development and Sustainability (ISDS).

Venatius Azinor Ukor is a thirty-eight year old man, and he comes from Cross River State in the South – South Region of Nigeria. He is a proud family man, a husband and a father. He is a postgraduate student and researcher. He studied Policy and Administrative Studies at the undergraduate level, and in his postgraduate studies, he is studying Security Administration. He is currently a Postgraduate student in the Department of Public Administration, Faculty of Administration and Management Sciences, University of Calabar. His area of specialization is Security Administration. His specific issues of research interest include issues of security, issues of governance and public policy. As a postgraduate student, he has published various articles which including Combatting Internal Security Problems in Nigeria: The Relevance of Surveillance, Fuel Subsidy Removal and the Standard of Living of Nigerians: A Study of Tinubu-Led Administration.

References

- Agbonifo, J. (2021). Development As Conflict: Theoretical Note On Resource-Violence Nexus. *University of Nigeria Journal of Political Economy*, 9(1). <https://unjpe.com/index.php/UNJPE/article/view/15>
- Ake, C. (1990). *A Political Economy of Africa*. Longman Group.
- Ake, C. (1996). *Democracy and Development in Africa*. Spectrum Books.
- Aliu, M. (2014). The State, Development and Governance in Africa: The Nigerian Experience. *IOSR Journal of Humanities and Social Science*, 19, 57-66. <https://doi.org/10.9790/0837-19425766>
- Arowosegbe, J. O. (2019). *Claude E Ake: The Making of An Organic Intellectual*. NISC (Pty) Ltd.
- Falola, T. (2024). *Professor Jibrin Ibrahim at 70: A Compass Through Nigeria's Political Adventures*. Retrieved December 9, 2024 from www.premiumtimesng.com
- Izoma, D. (2018). Africa's Underdevelopment Discourse: A Perspective on Its Source of Persistence and Possible Solutions. *International Affairs and Global Strategy*, 64, 34-45.
- Jegede, E. (2018). From Modernization to Alternative Paradigms: Development in History and Ideological Implications of Unequal Relations for The Periphery. *LWATI: A Journal of Contemporary Research*, 15(1).
- Jinadu, A. (1996). Claude Ake: An Appreciation. In V. A. O. Adetula (Ed.), *Claude Ake and Democracy in Africa: A Tribute* (Vol. 1, pp. 232-239). Jos: African Centre for Democratic Governance.



- Laakso, L. (2024). Political science in Africa: Freedom, relevance and impact. In L. Laakso & S. Zondi (Eds.), *Political science in Africa* (pp. 1-12). Zed Books. <https://doi.org/10.5040/9781350299535.0006>
- Nkom, S. A. (1986). Ethical Revolution? – The Futility of Bourgeois Idealism. In F. Odekunle (Ed.), *Nigeria: Corruption in Development*. Ibadan University Press.
- Nnoli, O. (2011). *The Struggle for Democracy in Nigeria*. Pan African Centre for Research on Peace and Conflict Resolution (PACREP) Enugu. <https://books.google.hu/books?id=M8SJMwEACAAJ>
- Nzongola-Ntalaja, G., & Lee, M. C. (1997). *The state and democracy in Africa*. African Association of Political Science.
- Obo, U. B., Omenka, J. I., & Agishi, T. V. (2017). Kleptocracy as the Ideology of Nigerian Rulers: A Glimpse at the Fourth Republic. *International Research Journal of Human Resources and Social Sciences*, 4(6), 118-134. <https://www.aarf.asia/current/2017/Jul/GLxZyoOCHLYKTEq.pdf>
- Obo, U. B., & Ukor, V. A. (2025). The Colonial Incursion and Its Impact on Nigeria: A Re-Assessment” (Forthcoming). *University of Jos Journal of Political Science*, 2(1), 320-337. <https://journals.unijos.edu.ng/index.php/ujjps/article/view/797>
- Ochi, I. B., Okeke, C. C., & Eze, C. M. (2023). Politics and the Crisis of Development in Africa. *International Journal of Advanced Academic Research*, 9(6), 321-338. <https://www.openjournals.ijaar.org/index.php/ijaar/article/view/18>
- Ojukwu, C. C., & Nwaorgu, O. G. F. (2012). Ideological Battle in the Nigerian State: An Interplay of Democracy and Plutocracy. *Global Journal of Human Social Science*, 12(6), 28-38. https://globaljournals.org/GJHSS_Volume12/5-Ideological-Battle-in-the-Nigerian.pdf
- Olayode, K. (2005). Reinventing The African State: Issues and Challenges for Building a Developmental State. *African Journal of International Affairs*, 8(1-2), 23-43. <https://scispace.com/pdf/reinventing-the-african-state-issues-and-challenges-for-55y6344b35.pdf>
- Osaghae, E. (2024). Mainstreaming decolonization in political science in Africa. In L. Laakso & S. Zondi (Eds.), *Political Science in Africa: Freedom, Relevance, Impact* (pp. 41-55). Zed Books, Bloomsbury Publishing. <https://doi.org/10.5040/9781350299535.0009>
- Oyekanmi, A., Udochuckwu, O., & Adeniyi, O. (2024). Politics of Debt Crisis and Management in Sub-Saharan Africa. *AKSU Journal of Politics and Society*, 1, 1-13. <https://journals.aphriapub.com/index.php/AJOPAS/article/view/2805>
- Tagarirofa, J. (2017). Modernization Theory and Third World Development: An Exegesis of Theoretical Sarcasm. *International Journal of Politics and Good Governance*, 8(2), 1-8. <https://onlineresearchjournals.com/ijopagg/art/238.pdf>
- Toyo, E. (2001). *The Delusions of a Popular Paradigm*. Ibadan. The Nigeria Economic Society.
- Ukaegbu, C. O., Amali, A.-M. C., & Chukwuma, O. E. (2024). Nigeria’s Debt Burden and the Dialectics of Economic Development - In the Eyes of a Theorist. *Research*

Journal of Arts and Social Sciences, 22(12), 76-92.
<https://doi.org/10.9734/arjass/2024/v22i12598>

- Ukwandu, D. C. (2017). The Modernization Theory of Development and The Challenges of Development in Sub-Saharan Africa: A Decolonial Application. *Administratio Publica*, 25(4), 99-121.
<https://ujcontent.uj.ac.za/esploro/outputs/other/The-modernisation-theory-of-development-and/9913732207691#file-0>
- Yusuf, A. A. (1994). Democracy in Africa: Problems and Prospects. In O. Omoruyi, D. B. Schlosser, A. Sambo, & A. Okwuosa (Eds.), *Democratization in Africa: African Perspectives* (Vol. 2). Hima & Hima Ltd.
- Zondi, S. (2023). What Does the Decolonial Turn for Political Sciences in Africa Entail? And Where Do We Start? In L. Laakso & S. Zondi (Eds.), *Political Science in Africa: Freedom, Relevance, Impact* (pp. 57-69). Bloomsbury Publishing.



Pre-Colonial Eggon Warfare and the Humanization of War: Reflections on Just War Tradition¹

Esson Alumbugu², Damian Akut³, Julia O. Ogbaji⁴

Abstract:

This paper examines the humanization of war among Eggon people of central Nigeria during the pre-colonial period from the perspective of the Just War tradition and the core principles under *jus ad bellum* and *jus in bello*. The paper argues that the humanitarian principles of war applied by Eggon people in pre-colonial times conformed to the principle of Just War. It uses primary and secondary sources to posit that the Just War tradition was not only universal but that some aspects of humanitarian principles underlying contemporary International Humanitarian Law were observed in pre-colonial Africa, including Eggonland. The paper concludes, therefore, that the existence of a Just War tradition among the Eggon people shows that contemporary IHL is not entirely foreign as some may suggest. As such African states should adhere more to IHL because it conforms to many of the humanitarian principles of war in pre-colonial Africa.

Keywords:

Humanitarian principles; just war; Eggonland; pre-colonial Africa; international humanitarian law.

¹ DOI: 10.12700/jceeas.2025.5.4.406

² PhD Student, Department of History and War Studies, Nigerian Defence Academy, Kaduna, Nigeria; ORCID: 0000-0002-8629-8818; essonalumbugu@gmail.com

³ Master's Student; Department of History, Kaduna State College of Education, Gidan Waya, Kaduna State, Nigeria; ORCID: 0009-0005-4081-4919; damianakut6@gmail.com.

⁴ Associate Professor, Department of History and War Studies, Faculty of Arts and Social Sciences, Nigerian Defence Academy, Kaduna State, Nigeria; ORCID: 0009-0009-5313-8541; joogbaji@nda.edu.ng.

Introduction

War has always been part of the human development throughout recorded history. Many of the different cultures and nations of the world had practiced war at one time or the other in their process of evolution. War was pivotal in the emergence and development of states and it was central to their continuous survival through time. That the practice of war is universal is no longer debatable although its principles vary considerably in different parts of the world. Nonetheless, throughout history, the theories, ideologies, technologies, practices, strategies and tactics of war had always diffused from one part of the world to the other. Therefore, it is often difficult to say with certainty where some military ideas originate from. This is the same with the humanitarian principles that make up the International Humanitarian Law (IHL) applicable to armed conflicts today. The formal codification of IHL only began in the second half of 19th century but for many centuries earlier, war had always been guided by some humanitarian principles. These principles were different across cultures and peoples of the world but the central aim was to limit the excesses of war. While it has been variously acknowledged that IHL is a formalization of customary laws that had been practiced for centuries in the world, Africa was mostly excluded from this process formalization. This paper will show that the underlying principles of IHL were existed in Africa long before Colonialism. This will be done by discussing the customary laws and humanitarian principles guiding warfare in pre-colonial Eggonland from the perspective of the just war tradition. It will begin with providing a brief discussion of the just war tradition. This will be followed by a discussion of warfare and humanitarian principles of Eggonland and its people. Finally, the significance of the humanitarian war principles of pre-colonial Africa to the compliance to contemporary IHL in Africa will be discussed.

The Just War Tradition

Just war tradition, as opposed to just war theory, refers to the “protracted normative conversation about the legitimacy of war, which began in antiquity and has been adopted and refined by numerous subsequent commentators, each advancing related but distinct normative theories about the ethics of war” (Heinze and Steele, 2009, p. 4). This means the discourse spanning over several centuries and cultures that is concerned with the legitimacy of war and makes judgements about the ethics of war while advancing ideas to restrict its excesses. It is the body of ideas about moral judgements in war that is shared by all the just war theories and doctrines developed over the years from different cultures and peoples of the world. As pointed out by Walzer (1977), “For as long as men and women have talked about war, they have talked about it in terms of right and wrong” (p. 3). This means the debate as to whether war is just or unjust is as old as war itself. Just war tradition is mostly expressed using two criteria; *jus ad bellum* and *jus in bello*. The *jus ad bellum* criterion means ‘justice of war’ and it is concerned with specifying the principles that define the right of one polity



to make war against another. The *jus in bello* criterion means ‘justice in war’ and it is concerned with specifying the limits of morally acceptable practices in the process of waging war (Mattox, 2006).

The set of principles under *jus ad bellum* are as follows: *Just cause* – That a war may be waged only for one or more just causes that must be serious enough to justify war. *Right authority* – That the decision to go to war can only be deliberated upon and declared by constituted authority generally recognised to have the power to take this action. *Right intention* – That parties contemplating war must avoid desire for territorial expansion, potentially unnecessary demands, intimidation, hatred, desire for vengeance, and others. *Public declaration* – That the aggrieved party must declare war publicly as a way of demonstrating that all other possibilities have been exhausted and giving the opposing party an opportunity to make amends. *Proportionality of end* – That the anticipated good that would come out of the war must be greater than the expected harm the war would bring. *Last Resort* – That there must be sufficient indication that no other action short of war would satisfy the claims of aggrieved parties. *Reasonable prospect for success* – That war should be avoided unless there is reasonable hope that an aggrieved party will achieve its military objective. *Peace as the ultimate objective* – That war should be undertaken only with a view to restoring peace and avoiding future war (Mattox, 2006; Heinze and Steele, 2009).

The set of principles under *Jus in bello* are: *Proportionality of means* – This holds that only the minimum force needed to achieve the military objective may be used in war. That violence must be brought to an end as quickly as possible and must be based only on military necessity. *Discrimination* – This holds that belligerent parties must differentiate between combatants and non-combatants and direct their violence only against combatants while sparing non-combatants. Non-combatants traditionally include women and children (Mattox, 2006; Heinze and Steele, 2009).

Pre Colonial Eggon Warfare and the Just War Tradition

The area referred to as Eggonland is presently located in Nassarawa Eggon local government area of Nasarawa state, Nigeria. The Eggon in pre-colonial times mostly lived on the group of hills in the area called Eggon Hills. The people were divided into three major clans namely; Eggon Eholo, Eggon Anzo, and Eggon Enro. Each of these clans was further divided into sub-clans, and settlement units. The elders provided leadership in each settlement through a council called *Moa'andakpo Ashim* which was presided over by the *Adan Ashim* who was also serving as the high priest. The *Adan Ubin* was the final authority in each clan and every *Adan Ashim* in the clan was under his authority (Shaw, 1926). The *Ashim* was the religious institution which dictated every aspect of life among the Eggon people. I refer to the *Ashim* as an institution because it dictated almost every aspect of life in Eggon land. The political, social, economic and even military aspects of life depended on the *Ashim* for legitimacy. The political authority of the elders was derived from *Ashim* and so it was the major instrument of social control and sanction. It dictated the customs and traditions and laws that guided

the conduct of the Eggon people. This means that war and other military activities were firmly under the control of the elders through the *Ashim* institution and subjected to the same customs and laws. This arrangement agrees with the assertion that in most cases in pre-colonial Africa the distinction between the military, economic, political, social and religious institutions of government were blurred (Uzoigwe, 1977).

The 19th century was a challenging period for the people in Akwanga area because of the activities of slave raiders who were attacking from Keffi, Jemaa and Lafia sub-emirates. The Eggon people felt the pressure from the slave raids by the 1820s and reacted by moving away from the plains and seeking shelter on the Eggon Hills. The space available on the hills was quite limited and after a while this was filled up forcing a few Eggon groups were forced to remain on the plains. The people of Arugwadu, Bakeno Kasa, Ginda, Alushi and Ubbe took refuge in forests because they had no space to live on the hills. Although these groups suffered more from slave raiding, they were able to survive until the coming of colonialism. The high population density on the hill settlements and the very limited farmland contributed in the escalation of the state of war between the Eggon Eholo, Eggon Anzo, and Eggon Enro clans which resulted in an increase in inter-clan wars from the 1820s. Although the state of war between these Eggon clans had existed since the 18th century and possibly earlier, it was in the early 19th century that the people developed their age-grade warrior system to help in the mobilisation of warriors for the purpose of fighting off slave raiders. Young men between the ages of 18 and 40, called *Moakola* were designated the warrior class saddled with the responsibility of defence or attack for their communities. Teenage boys of about 16 to 17 years of age began training on the use of the bow and arrow using marksmanship contests and mock battles. This was aimed at equipping them with the skills they needed as warriors (Anzaku et al, 1996). Warfare in Eggonland during the period before colonialism was of two kinds; intra-ethnic wars between Eggon clans and inter-ethnic wars with outsiders, such as slave raiders. This is what Dorward (1984) conceptualises as secular warfare and ritual warfare; secular warfare was associated with outsiders and could result in socio-political reorganisation while ritual warfare occurred between Eggon communities and served to reaffirm the existing order. This work is concerned with the war within the Eggon ethnic group which occurred between rival clans, sub-clans, and settlements. This form of warfare conformed to the just war tradition for a number of reasons which will be discussed below.

Among the Eggon people an aggrieved clan declared war on another clan after the *Moa'andakpo Ashim* (council of elders) deliberated on it and arrived at a decision to go to war. As Anzaku et al (1996), put it "the decision to declare war was taken in council by the *Moa'andakpo Ashim* and only the Ada Ubin had the power to declare it publicly.... The Ada Ubin after consultation with the Ada Ashim and *Moa'andakpo Ashim* signalled and declared war over another clan by blowing the Buffalo horn called Eku" (pp. 29, 32). The deliberation of the *Moa'andakpo Ashim* was to arrive at a just cause for the declaration of war on another Eggon clan. This position of the elders in relation to war is perhaps behind the view held by some that the elders were entirely

responsible for combat because young people were simply not brave or skilled enough. However, evidence is ample establishing the fact that active combat was mainly the preoccupation of young people and this had persisted even during the colonial period. For instance, in March 1937 when Eggon Eholo clansmen from Wana village and Eggon Anzo clansmen took up arms against each other over a woman, the combatants (in their hundreds) were entirely made up of young people (Memo to Resident, 1937). The major causes of war among Eggon people during this period were the appropriation of a piece of land belonging to another clan or the seizure of the wife of a member of another clan (Alumbugu, 2019). The *Moa'andakpo Ashim*, *Adan Ashim*, and *Adan Ubin* constituted the highest political and social authority in Eggon land. While *Adan Ashim* and the *Moa'andakpo Ashim* constituted the highest authority in every settlement, the *Adan Ubin* was the highest authority in each clan. Thus together they constituted the right authority to deliberate on and declare war in Eggonland. The *Adan Ashim* also declared the war publicly by blowing the Buffalo horn as a signal to the parties involved. The aim of this war was not to seize territory which was an evidence of right intention. As Dorward (1984) states, "the object [of ritual warfare] was not to seize territory, which, in effect would have constituted a redefinition of the socio-political units...." (p. 87). Thus the war on another clan was neither meant to seize territory nor to change the socio-political configuration because the territories of each Eggon clan was clearly defined and largely fixed during the pre-colonial period. Ende people, Ogba people, Wakama people, Agbon people and the rest of the Eggon people all had their sections on the Eggon Hills and this served as their settlements and their identities (Alumbugu, 2019). This settlement arrangement was never affected by wars among the Eggon people.

During battles between Eggon clans the principle of proportionality of ends took strong effect because the wounding or killing of a few combatants was enough to halt hostilities. In addition, battles were closely supervised and controlled by the leaders of the two belligerent clans;

"The death or wounding of a few individuals appears to have been sufficient for both sides to withdraw to mourn their losses or parade their trophies. This was because ritual warfare was to a greater extent under the control of the Adang Ubben and Adang Ashim of each community, who could intervene to halt hostilities by walking among the warriors with the magical Kujeme (Lophiraalata) leaves, accompanied by the blare of the sacred Ashim horns." (Dorward, 1984, p. 88)

This was to ensure that only minimum force was used by belligerents to achieve their military objectives and hostilities were ended as quickly as possible without resulting to unnecessary sufferings. This practice of limiting the excesses of war between members of the same ethnic group or kindred was common in pre-colonial Nigeria. In Igbo society, for instance, war ethics prescribed two types of wars to be practiced among the

people; in one type it was permissible to kill while in the other type it was not permissible to kill. The war in which killing was not permitted was more common among kinsmen and in inter-village and intra-village warfare. Their customary laws clearly dictated how this war was to be fought, the kinds of weapons allowed, days of non-hostility, those exempted from hostilities and the cleansing rituals that must be done when lives were taken in the war.¹¹ In addition, combatants were required to seek the consent of their priest prior to any war to ensure they were fighting for a just cause (Anyanwu, 1992; Oriji, 1992). The principle of discrimination and non-combatant immunity was also observed among the Eggon because “very old man, women and small children were exempted and protected in the event of war” (Anzaku *et al*, 1996, p. 32). The killing of women was prohibited during war among the Eggon people except in situations where they were active in combat or were instrumental to causing the war (Alumbugu, 2019). Similarly the sons of women married from the opposing belligerent community were also exempted and given immunity status because they were not supposed to raise arms against the kinsmen of their mother. As a result they served as middlemen and peacemakers between the two warring communities (Dorward, 1984). To further exempt non-combatants from war, actual combat took place outside of settlements in bushes or farms situated between the warring parties. In addition, members of the council of elders were recognised as non-combatants and exempted from hostilities which allowed them to walk among combatants to bring battles to an end when necessary. This was demonstrated in 1942 when the elders went to the battlefield and eventually succeeded in bringing an armed conflict between the people of Ekpon and Walon villages after which they were made to take an oath not to resume hostilities (Affray in Wana, n. d.). The elders walked between the two parties while in combat and were able to assert their authority and halt the combat without being harmed. This authority was derived from the *Ashim* institution which was recognised and respected by the combatants.

After hostilities ended among the Eggon people even the less popular principles of *jus post bellum* (justice after war) were applied in the effort of restoring peace among the people. The *Adan Ubin* presided over the settlement of disputes where reparations were paid and the socio-political boundaries between the two belligerent communities were reaffirmed (Affray in Wana, n. d.). In addition, both communities swore an oath to maintain the peace. This is consistent with the *jus post bellum* principle of preventing unjust gains in war:

“If the aggression involved invading and taking over territory or property that did not previously or rightfully belong to the aggressor state, then the secure borders should be reestablished, property rightfully returned, and the victim of aggression reestablished as an independent political community.” (Heinze and Steele, 2009, p. 7)

This is part of the reason why Dorward (1984) asserts that the ritual warfare of Eggonland served to reaffirm the existing order. Since settlements were organised according to clans, it was difficult to claim any new territory as a result of war. The main object of intra-ethnic wars among Eggon people was ultimately to restore the state of things before hostilities began. Thus, although hostilities were prevalent among them every clan retained its independence and territories throughout the pre-colonial period. This was made possible mainly because of the existence of, and observance of, customary humanitarian principles of war among the Eggon people.

Relevance of Pre-Colonial African Just War Tradition to Contemporary IHL in Africa

The existence of a just war tradition among the Eggon people of central Nigeria supports the opinion that the just war tradition is universal. Consequently, it means that there are some humanitarian war principles that are being shared in common by many people of the world. These common principles ought to be universally observed by states, actors and other agents involved with activities related to warfare (Lango, 2014). Evidence points to the existence of humanitarian principles of war among many of the autonomous ethnic groups in the Jos Plateau area of central Nigeria. As Mangwat (1992) states, intra-ethnic warfare was not viewed as true war because the concept of enemy did not apply and only minimum force was used. In contrast, inter-ethnic wars did involve the use of maximum force and the taking of war captives. This suggests that although just war traditions and humanitarian principles existed widely, these were mostly observed within ethnic polities, rather than across ethnic polities, apparently because of the difficulties associated with applying laws across different languages, customs, religions, and socio-political organisations. This is aptly put by Bugnion (2002) as follows:

“History nevertheless also teaches us that every civilization has tried to impose limits on violence, including the institutionalized form of violence that we call war. After all, the limitation of violence is the very essence of civilization. For a long time, this limitation took the form of customary rules, generally inspired by religion, which were respected between peoples sharing the same cultural background and worshipping the same gods. All too often, however, those rules were cast aside when it came to doing battle with enemies who spoke a different language or worshipped other gods.” (p. 5)

Since the contemporary world is still divided by religions, languages, cultures and other social demarcations, it is not surprising that there were many global instances of non-compliance to IHL in recent wars. The problem, therefore, was not the lack of humanitarian principles among the different peoples of the world but that of universal recognition of these principles which was obviously made impossible by socio-political differences.

Nonetheless, the contemporary world has mostly been united as one international community through increased interactions and also through the efforts of multilateral organisations such as the United Nations. Thus, many people who once spoke different languages now understand and communicate with each other through one or more of the common languages spoken in the world. In addition, many of the people that once had different religious beliefs now share common religious philosophies. In Nigeria, for instance, majority of the people speak Igbo, Hausa, Yoruba or English languages – in addition to their own native languages, and the dominant religions in the country are Christianity and Islam. Therefore, even though socio-political divergence still exists in the world, International Humanitarian Law ought to be generally recognised if not generally adhered to.

Africa has a history of grievous violations of humanitarian principles of armed conflicts mainly of non-international nature which challenges contemporary IHL. The Rwanda case where around 800,000 people, mostly non-combatants, were killed within 100 days in 1994 is an example this violation (Iyi, 2016). That contemporary IHL was mainly developed by European states with the exclusion of Africa is undisputable. However, the principles that formed the core of this body of laws existed in Africa in pre-colonial times as demonstrated by the just war tradition among the Eggon people. As Wodie (1986) points out, pre-colonial Africa was aware of humanitarian law until colonial subjugation caused it to lose the autonomy of its law. Therefore, ignoring IHL in internal conflicts of African states on the basis of its Eurocentric origin is not consistent with the humanitarian principles of pre-colonial Africa. The armed conflicts in Africa seem to suggest that African states were more likely to observe IHL in international conflicts than in their internal conflicts. This sentiment is demonstrated in the argument of the delegate of Zaire against the Additional Protocol II of the Geneva Convention, that; “the mistake was to place on an equal footing a sovereign state and a group of its insurgent nationals, a legal government and a group of outlaws, a subject of international law and a subject of domestic law” (Wodie, 1986, p. 251). This view suggests that IHL is not applicable to African countries unless in the case international conflicts. However, in pre-colonial Africa many of the humanitarian principles codified in the IHL were applicable in wars. The only difference is that these humanitarian principles were more applicable in wars within ethnic groups than in wars with other ethnic groups. In the case of Eggon people, these principles applied only in inter-clan wars and did not apply in wars with outsiders such as slave raiders. If this is anything to go by, then humanitarian law ought to be more applicable in the internal conflicts of African states than in international conflicts. This is because the spirit of nationhood that unites a country ought to inspire restraint during armed conflicts so that reconciliation could be easily achieved. As Socrates is reported to have said in his just war treatise: “Greeks ... are still by nature the friends of Greeks when they act in this way, but that Greece is sick in that case and divided by faction” (Whetham, 2009, p. 34). Therefore, rather than ignore IHL in internal conflicts of African states, as the evidence suggests, it should be applied more thoroughly because these armed conflicts are between one

group of people temporarily divided by faction. Thus, the ultimate aim should not be total destruction but speedy reconciliation.

Africa and the International Humanitarian Law

Although humanitarian principles of war did exist in pre-colonial Africa, these were given lesser place in the discourse of the IHL. For instance, in citing examples of ancient rules which restricted wars, Greenwood (2008) mentioned Sumeria, Babylon, Greece, and India, but nothing from Africa. This is not strange because there was no African participation and input in the preparation and development of IHL from its inception in the 1860s until the 1970s. Although Egypt and Ethiopia represented Africa in the negotiations of the Geneva Convention of 1949, it was only in the Convention for the Additional Protocols of 1977 that the representation of Africa was significant with the participation of 39 states (Waschefort, 2016). The result is that African states tend to view IHL as a purely Eurocentric body of laws and so regard them with some measure of distrust. This distrust is not unfounded as Africans were denied the benefits of IHL during the wars of decolonization and yet were expected to apply IHL in their internal conflicts just after gaining independence (Wodie, 1986). The result is that compliance to IHL in Africa leaves a lot of room for improvement. Therefore, while Africa had experienced disproportionately higher conflict fatalities than other continents of the world, the violations of IHL was also relatively high as exemplified by the indiscriminate killings of civilians by the Revolutionary United front in Sierra Leone and the Lord's Resistance Army in Democratic Republic of Congo (Waschefort, 2016). There are many instances of deliberate targeting of civilians in African conflicts. For instance, Boko Haram insurgency, which has been going on in Nigeria for over a decade, is characterised by attacks on civilians including women and children. A major factor contributing to this low compliance to IHL in Africa, as argued by Waschefort (2016) is that Africa maintains a low profile in the global IHL debate both in the interstate and academic levels. This work is contributing to this debate and also demonstrating that although IHL was not developed with African participation, many of the humanitarian principles therein are similar to some humanitarian principles and customs of war in pre-colonial Africa. This also contributes to the understanding of African traditions and customs of war which would help in adapting and making IHL to be more acceptable to Africans, as advocated by Mubiala (1989). The same sentiment is held by Diallo (1976) concerning the IHL, who states that, "the misunderstanding or lack of knowledge of the African traditional background, by making it necessary to resort to entirely foreign ideas, will then make it more difficult to obtain African acceptance of certain principles" (p. 63). Indeed, IHL will appear foreign in the African context on where there is ignorance of the traditional customary laws and principles relating to war in the continent prior to colonial conquest.

Conclusion

This work discussed the humanisation of war in pre-colonial Eggonland from the perspective of the just war tradition. It began by briefly discussing pre-colonial Eggonland and its people. This was followed by a discussion of the just war tradition after which the humanitarian principles of Eggon warfare was discussed within the just war tradition to establish their conformity to this. This showed that the just war tradition was universal and that the humanitarian principles therein were similar to those that formed the core of contemporary IHL. In conclusion, the pre-colonial humanitarian practices of warfare among the Eggon people indicate the existence of a just war tradition which suggests contemporary IHL is not entirely as ‘foreign’ as some may suggest. Therefore, African states should improve on their adherence to IHL in their internal conflicts because it conforms to many of the humanitarian principles of war in pre-colonial Africa.

Competing interests

The authors have no competing interests to declare.

Notes on Contributors

Esson Alumbu is an independent scholar from Nigeria with a BA in History and an MA in Military History. His research interests include Pre-colonial African Military History and Digital History. He has published in peer-reviewed journals and is currently a PhD student of Military History in Nigerian Defence Academy, Kaduna, Nigeria.

Damian Akut, a native of Takad, Kaduna State, Nigeria, is a researcher and a lecturer I with the Department of History, Kaduna State College of Education, Gidan Waya, Nigeria. He is a firm believer in hard work and discipline. Currently, he is pursuing his Master’s degree in African History at the University of Jos, Jos, Nigeria after obtaining his first degree in History at Ahmadu Bello University Zaria, and a Professional Diploma in Education from Kaduna State College of Education respectively. His interest in African History saw him present papers at various conferences and published articles in reputable journals. Damian is happily married and has two children. He enjoys reading, playing chess, and visiting friends during his leisure time.

Dr. Julia Ogbaji is an Associate Professor of Military History at the Nigerian Defence Academy, Kaduna. Specialising in the interplay of uniforms, warfare, and security in Nigeria, her research sheds light on how military attire shape conflict dynamics. With a BA (Hons) and MA from the University of Jos, and a PhD from NDA Kaduna, Dr Ogbaji has taught since 1990, advancing to Associate Professor in 2022. Her work explores how uniforms influence perceptions, tactics, and security challenges in Nigerian contexts. She published widely in books and journals.



References

- Affray in Wana district (Eggon tribal area) of Southern Division. (n.d.) No. 488/304, JOSPROF 488 Vol. 3, NAK.
- Alumbugu, E. (2019). *Warfare in Eggonland of central Nigeria, 1820 – 1942 (Master's thesis)*, Department of History and International Studies, Nigerian Defence Academy, Kaduna, Nigeria.
- Anyanwu, U. D. (1992). Kinship and warfare in Igbo society. In T. Falola, & R. Law (eds.), *Warfare and Diplomacy in Precolonial Nigeria: Essays in Honor of Robert Smith*. University of Wisconsin.
- Anzaku, E. D., Enna, D. M., Dugga, V. S. & Kigbu, K. A. (1996) *The Eggon of Central Nigeria*. Jos: Centre for Research on Eggon Culture and Development.
- Bugnion, F. (2002). Just wars, wars of aggression and international humanitarian law. *International Review of the Red Cross*, 84(847), 523-546.
- Diallo, Y. (1976). Humanitarian law and traditional African law. *International Review of the Red Cross*, 16(179), 57-63. <https://doi.org/10.1017/S0020860400019355>
- Dorward, D. C. (1984). Ritual warfare and the colonial conquest of the Eggon. *History in Africa*, 11, 83-98. <https://doi.org/10.2307/3171629>
- Greenwood, C. (2008). Historical development and legal basis. In D. Fleck (ed.), *The Handbook of International Humanitarian Law* (pp. 10-49). Oxford University Press. <https://doi.org/10.1093/law/9790198847960>
- Heinze, E. A. & Steele, B. J. (2009). Introduction: Non-state actors and the just war tradition. In E. A. Heinze and B. J. Steele (eds.), *Ethics, Authority, and War: Non-state Actors and the Just War Tradition*. Palgrave Macmillan. https://doi.org/10.1057/9780230101791_1
- Iyi, J. (2016). *Humanitarian intervention and the AU-ECOWAS intervention treaties under international law: Towards a theory of regional responsibility to protect*. Springer. <https://doi.org/10.1007/978-3-319-23624-7>
- Lango, J. W. (2014). *The ethics of armed conflicts: A cosmopolitan just war theory*. Edinburgh University Press. <https://doi.org/10.1515/9780748645763>
- Mangvwat, M. Y. (1992). Warfare on the Jos plateau in the nineteenth century. In T. Falola & R. Law (eds.), *Warfare and Diplomacy in Precolonial Nigeria: Essays in Honor of Robert Smith*. University of Wisconsin.
- Mattox, J. M. (2006). *Saint Augustine and the Theory of Just War*. Continuum.
- Memo to Resident, Plateau Province. (1937). No. 144/150, JOSPROF 488 Vol. 2, NAK.

- Mubiala, M. (1989). African states and the promotion of humanitarian principles. *International Review of the Red Cross*, 29(269), 93-110. <https://doi.org/10.1017/S0020860400072375>
- Orij, J. N. (1992). Ethical ideals of peace and the concept of war in igbo society. In T. Falola & R. Law (eds.), *Warfare and Diplomacy in Precolonial Nigeria: Essays in Honor of Robert Smith*. University of Wisconsin.
- Shaw, J. H. (1926). Summary of intelligence report on the Eggon tribal area. No. 144/1926 NAK.
- Uzoigwe, G. N. (1977). The warrior and the state in precolonial Africa: Comparative perspectives. *Journal of Asian and African Studies*, 12(1-4), 20-47. <https://doi.org/10.1163/156852177X00035>
- Walzer, M. (1977). *Just and unjust wars: A moral argument with historical illustrations*. Basic Books.
- Waschefort, G. (2016). Africa and international humanitarian law: The more things change, the more they stay the same. *International Review of the Red Cross*, 98(2), 593–624. <https://doi.org/10.1017/S1816383117000182>
- Whetham, D. (2009). *Just wars and moral victories: Surprise deception and the normative framework of European war in the later middle ages*. Leiden: Brill. DOI: <https://doi.org/10.1163/ej.9789004171534.i-268>
- Wodie, V. F. (1986). Africa and humanitarian law. *International Review of the Red Cross*, 26(254), 249-267. <https://doi.org/10.1017/S0020860400060691>



The Interest Behind Cyber-Attacks Targeting Africa and Attributed to the Region: Analysing Chinese Influence Behind Cyber-Operations in Africa¹

Noémi Csunyó²

Abstract:

Over the past decade, the global importance of cybersecurity has steadily increased as states, companies and societies have become increasingly reliant on digital infrastructures. In parallel, Africa is undergoing a digital transformation, but this rapid growth is often not matched by adequate cybersecurity capabilities, making many states particularly vulnerable to cyber threats. In this rapidly changing environment, China's growing technological presence and expansion in Africa are noteworthy, not only in terms of economic and infrastructural support, but also in the form of a new type of digital influence. The primary objective of the research is to explore the types of technological and financial support China is providing to African countries in the digital sector, the extent to which and how this support is contributing to the development of African states' cyber capabilities. Within this context, the study also analyses the types and characteristics of cyber operations in the region, the possible underlying motivations, and the types of actors (state-sponsored actors, cybercriminals or hacktivists) and their presence behind the attacks. The research will also seek to assess how China affects the digital sovereignty of African countries and its impact on security policy in the region.

Keywords:

China; Africa; influence; cyber; digitalisation.

¹ DOI: 10.12700/jceas.2025.5.4.423

² Researcher and PhD Student at the Institute of World Economy and International Relations, University of Debrecen, Hungary; ORCID: 0000-0002-4864-7116; csunyo.noemi97@mailbox.unideb.hu.

1. Introduction

In recent decades, China has emerged as a dominant player in Africa, extending its influence beyond economic activity to encompass the political and social spheres. It is Africa's largest creditor, accounting for approximately 17% of the sub-Saharan region's external public debt (USD 134 billion) as of 2023 (Munyati, 2024).

Furthermore, foreign direct investment (FDI) has increased significantly in recent years. According to the latest United Nations Conference on Trade and Development (UNCTAD) report, foreign direct investment (FDI) inflows to the African continent increased by 75% in 2024 compared to the previous year, reaching \$97 billion (representing 6% of global FDI, compared to 4% the previous year) (UNCTAD, 2025).

Conversely, the United States is also allocating considerable financial resources to African territories, as illustrated in Figure 1, in comparison with Chinese FDI.

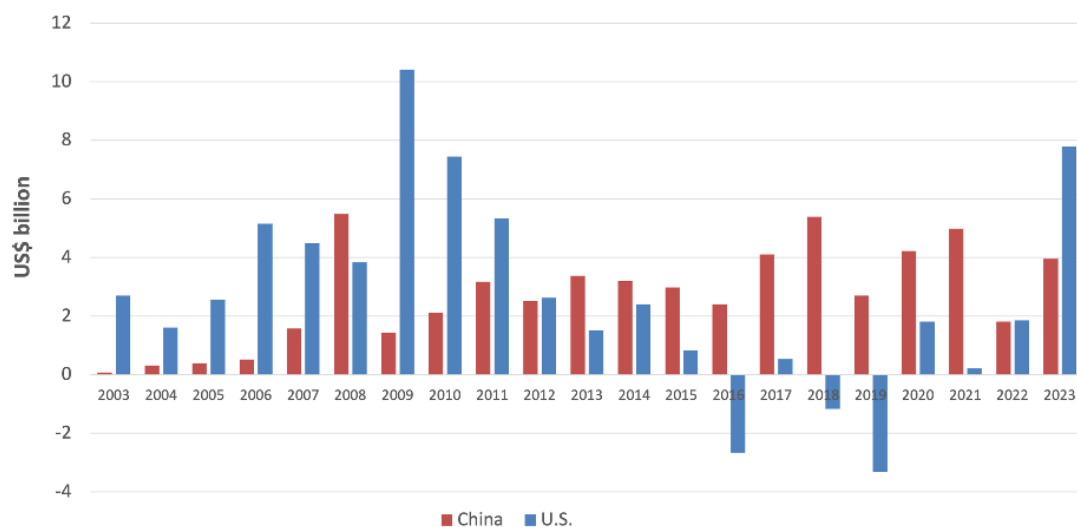


Figure 1: Chinese and US FDI to Africa (flow)

Source: China Africa Research Initiative (2025)

Over the period 2010-2023, Chinese FDI ranged between 4% and 11%, showing a stable presence, while the US investment demonstrated a more cyclical pattern, characterised by frequent capital withdrawals. China's strong presence shows that its plans are long-term, while the US presence is rather short-term and exposed to market fluctuations.

FDI remains dominated by European and American sources, but China is now firmly in third place (USD 42 billion in 2024), and its investments are becoming increasingly diversified.³ One-third of projects within China's Belt and Road Initiative (BRI) are already focused on social infrastructure and renewable energy (UNCTAD, 2025).

Note: Although statistics show that Africa attracts around 7% of Chinese FDI, and up to 15% by value, these figures are often misleading. They often include projects that have

³ The main recipients of Chinese FDI are Niger, South Africa, Angola, Morocco and the Republic of Congo, while US investments are mainly directed towards Egypt, South Africa and Nigeria (China Africa Research Initiative, 2025).

never been implemented, or in many cases do not represent actual FDI but rather loans. Furthermore, most Chinese investments are not export-oriented, focusing mainly on mining, manufacturing, and light industry, producing for the local market. This means that the real economic impact of Chinese-African investments is more modest than official numbers suggest, and Africa's economic transformation is progressing more slowly than expected (Paterson, 2024).

The African continent is not only the target of competition between major powers but is also increasingly becoming an active scene. Several major powers (including China, the US, Russia, the EU and Turkey) are attempting to increase their influence in Africa in various ways⁴ (Gopaldas, 2022). African countries are particularly vulnerable due to the high import dependence of their technological infrastructure. The continent remains exposed to the technological decisions of major powers and to disruptions in global supply chains (Ayodele, 2022).

The Chinese presence is not only aimed at developing infrastructure, but also at building close political alliances that will help strengthen China's global position. These efforts are closely aligned with the African Union's Agenda 2063, particularly the objectives of the Programme for Infrastructure Development in Africa (PIDA) and the African Continental Free Trade Area (AfCFTA), which aim to establish a unified and interconnected African economy (Kluiver, 2025).

It is inaccurate to assert that African development is exclusively reliant on Chinese investment; however, it is evident that the growth in Chinese investment has played a substantial role in establishing the foundations for critical digital and physical infrastructure, including railways, ports, 5G networks, and data centres.

2. Materials and Methods

The current article focuses on how Chinese investment has contributed to the development of digital technology in Africa and how this development has improved the cyber capabilities of African countries. The aim is to analyse how the region's growing influence and digital maturity have made it more vulnerable to cyber-attacks and how these factors affect the region's security posture. This is conducted through the examination of the cyberattacks that have been observed in the region, encompassing their underlying motivations and the characteristics of the attackers. This analysis relies on qualitative methods, including document analysis and case studies, to provide a comprehensive understanding of the threats. The research provides insight into a relatively understudied but strategically significant aspect of Sino-African relations.

3. China's Digital Influence on the Continent

China's influence in Africa is no longer limited to economic and infrastructure investment (Nelson, 2024). In recent years, the nature of cooperation between China and Africa has evolved, with the strengthening of economic and trade relations being complemented by an increasing importance placed on security and technological ties (Krukowska, 2024).

Figure 2 shows the value of Chinese ICT and machine exports to African countries between 2015 and 2020.

⁴ The US and Europe often use soft power, which takes the form of diplomacy, development aid and educational programmes (Gopaldas, 2022).

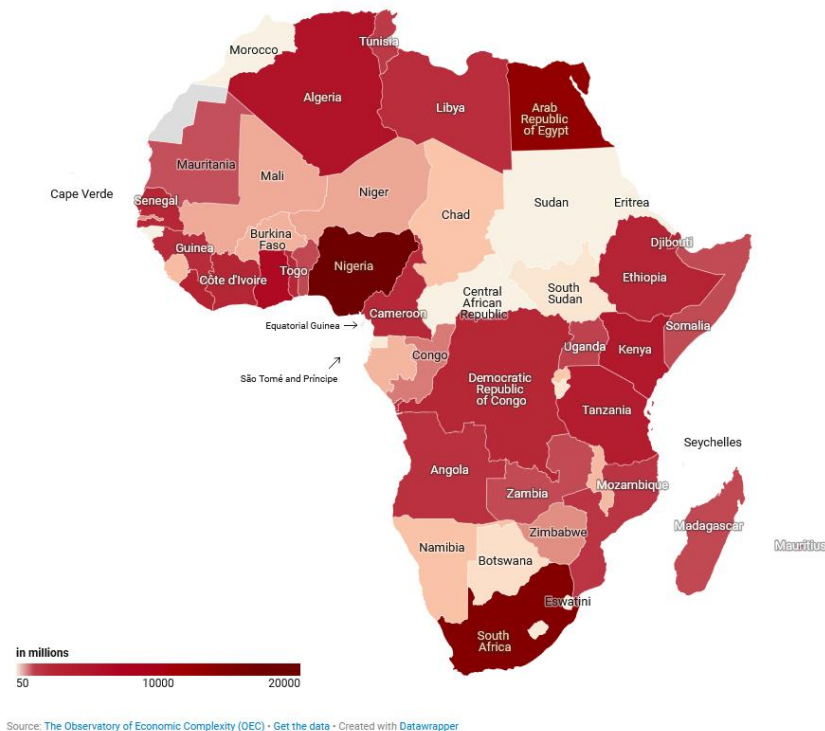


Figure 2: Value of Chinese ICT and machine exports to Africa between 2015 and 2020
Source: Good Governance Africa (2022)

Nigeria, South Africa, and Egypt stand out as the largest importers, each receiving exports worth up to \$20 billion. This reflects their relatively larger economies, more developed ICT sectors, and strategic roles in regional trade. Significant import volumes are also concentrated in Algeria, Angola, Kenya, and Ethiopia, suggesting strong Chinese engagement in infrastructure and technology projects there. Central African countries such as Chad, South Sudan, and several smaller economies have much lower figures, likely due to smaller markets, weaker infrastructure, or political instability limiting large-scale trade. The data aligns with China's Belt and Road Initiative footprint in Africa, with high-value exports often going to countries where China is investing heavily in ports, telecommunications, energy grids, and urban infrastructure. Overall, the map highlights how China's ICT and machinery exports are concentrated in Africa's largest economies and strategic hubs, reinforcing both economic ties and long-term technological dependence in these regions.

In recent years, there has been an increasing emphasis on technological, digital and security cooperation, which has positioned China not only as a 'builder' but also as a key driver of digital development on the continent.⁵ The concept of the Digital Silk Road has opened up new dimensions as part of the One Belt, One Road Initiative (BRI), where Chinese companies are exporting data centres, telecom networks, smart city solutions and complex IT infrastructure to Africa. The provision of technology solutions by Chinese companies is a major contributing factor to the modernisation of local firms, with cloud-based systems, online payment platforms and e-commerce (Huang and Pollio, 2023). The Digital Silk Road initiative has enabled China

⁵ Between 2001 and 2021, China significantly expanded its technological footprint in Africa and has since become the continent's leading technology exporter (Rojo, 2023).

to assume a more prominent role in establishing standards for digital governance, privacy and cybersecurity, thereby exporting its own authoritarian model of internet governance⁶ (Article 19, 2024). For African countries, Chinese technologies – due to their low cost, flexible financing, and quick access – often better suit development needs than Western sources, which tend to impose stricter conditions (Prakash, 2025). Chinese cooperation generally does not impose requirements regarding compliance with the rule of law or human rights standards (Gariba, 2022).

Comprehensive digital infrastructure is an attractive alternative for many countries on the continent (Prakash, 2025). The digital sector has become one of the fastest-growing areas of China's economic presence in Africa. At the 2024 FOCAC Summit, Beijing highlighted the importance of cooperation with African countries in cybersecurity, artificial intelligence (AI) and global digital governance rulemaking (Article 19, 2024). Furthermore, China has announced a commitment of RMB 350 billion (approximately USD 50 billion) to support digital development in Africa. The structure of the investment, whether in the form of an investment or a loan, remains to be clarified. Nevertheless, the primary objective is to enhance the digital economy, education, e-commerce, and network development (De, 2025). The continent now has 590 million registered internet users, demonstrating the improving trend of Africa's digital transformation (INTERPOL, 2025). Moreover, in 2024, mobile data usage has increased to 75%, and usage of mobile financial services has risen to 85% (Enovise Group, 2024). WhatsApp usage at work has also continued to grow (93%), which could blur the boundaries between personal and workplace data security (Collard, 2025). According to the indegree centrality list⁷, China disseminates its technologies most notably through South Africa, Morocco, Algeria, and Egypt (Rojo, 2023).

Huawei, ZTE, and Alibaba are major players in Africa's digitalisation. The inflow of Chinese companies has significantly increased telecommunications coverage in Africa. By 2023, Huawei built 50% of the 3G networks and 70% of the 4G networks in the sub-Saharan region (Kluiver, 2025). This growth is closely linked to the significant presence of Chinese companies, whose comprehensive offerings (comprising hardware, implementation, and financing)⁸ facilitated a substantial expansion in 3G coverage across Africa, from 22% in 2010 to 83% in 2023 (Arnold, 2024, GSMA, 2023). However, the digital divide remained significant. The percentage of the population with online access was 43% in 2023, with a more notable increase in more developed countries (Kenya: 83%, Nigeria: 60%, South Africa: 56%) (Enovise Group, 2024). China has pledged to develop digital infrastructure, including by establishing Digital Technology Cooperation Centres and Digital Education Centres to support the AfCFTA (African Continental Free Trade Area) digital trade protocol (Kluiver, 2025).

Based on an analysis of patent networks, China has become the leading technology exporter in Africa, and by 2021, its outdegree centrality⁹ (the extent of technology exports) already exceeded the level of the United States (Rojo, 2023). The United States seeks to counterbalance this but is less assertive in terms of investment. While the U.S. remains technologically

⁶ China exports surveillance and censorship technologies — often referred to as 'digital authoritarianism' — and actively supports the expansion of state control (Umejei, 2022).

⁷ It shows which countries are the biggest technology importers.

⁸ China exports not only technological tools but also legal and political models. Its provision of digital infrastructure often comes as a package encompassing hardware, software, and an underlying political framework (Bagwandeen, 2022).

⁹ This shows how active a country (in this case, China) is as a technology exporter.

competitive, its presence on the continent is less visible (Dinika, 2022). It is less active in the provision of ICT-based aid in Africa (Mudau, 2022). The US demonstrates comparative strength in the sphere of software and digital platforms (such as Zoom, Google, and Facebook) yet maintains a relatively limited physical presence. The continent represents not only a market, but also a strategic arena between the two major powers (Chitanga, 2022). China maintains a dominant position in infrastructure development (e.g., telecommunications networks, surveillance systems). The United States increasingly approaches Africa from a digital security perspective, aiming to constrain the expansion of Chinese influence (Matanda, 2022).

3.1. The Risks of Technological Dependence

A substantial share of Africa's digital infrastructure is owned or operated by foreign corporations, particularly from China and the United States. Cloud services, data centres, and telecommunications networks are often managed outside African jurisdiction and control (Venske, 2022). Most data on African citizens are collected and stored by foreign platforms (e.g., Google, Meta, Chinese applications), raising legal, security, and economic concerns (Gopaldas, 2022). Loans and financial packages linked to Chinese digital development – particularly through technology transfers tied to loans – could increase countries' debt burdens and financial instability. Chinese funding could lead not only to economic control but also to geopolitical influence, as excessive dependence makes countries vulnerable to political and economic pressure. The deployment of Chinese infrastructure represents a rapid development opportunity for many African countries; however, it also carries technological dependency and data sovereignty risks (Krukowska, 2024). The technologies offered by Chinese suppliers (e.g. Huawei) enable China to indirectly influence the digital infrastructure and data flows of African countries. Through China's Safe City¹⁰ projects, AI-based facial recognition systems, BeiDou satellite navigation and digital surveillance systems, Beijing can gain access to African information and communication networks (Cannon, 2025, Nelson, 2024). Chinese infrastructure could threaten the digital sovereignty of African countries, as technological dependence and a lack of data sovereignty result in a loss of control (Agbebi, 2022). For example, it has been claimed that the Chinese technology giant Huawei has been transmitting data to Chinese servers in Shanghai on a daily basis for the past five years, through computer and telecommunications systems installed at the African Union headquarters in Addis Ababa (Meservey, 2020).

Vulnerabilities in the systems and devices of Chinese companies (Huawei, ZTE) and the ability to control data flows pose a risk of espionage, influence operations, and cyberattacks. Chinese tech giants not only provide infrastructure to countries but also have the potential to provide access to government surveillance systems. The two mentioned Chinese technology companies, been accused of monitoring digital

¹⁰ Safe City projects involve the use of Chinese technologies that introduce advanced surveillance systems. Although these projects bring technological advances, there are concerns about the protection of civil and political liberties (Labscon, 2023).

communications and exerting influence over them. For instance, during periods of political instability in Zimbabwe, the government has imposed internet restrictions, prompting concerns about the involvement of foreign technology providers in facilitating such measures (Labscon, 2023). Planned internet shutdowns are becoming increasingly common, particularly during elections or periods of political unrest, as seen in Ethiopia, Uganda, and Sudan. Such measures are often aimed at suppressing protests and preventing the spread of information (Umejei, 2022).

Note: Several countries, such as Kenya and South Africa, have already taken steps to strengthen their digital sovereignty (Venske, 2022). South Africa's preparation for the Fourth Industrial Revolution also serves as a means of mitigating external influences, particularly in the context of the technological rivalry between China and the United States. The government has established a national 4IR commission, which has put forward strategic recommendations for building a 'future-proof' economy. The aim is for the country to become not only a consumer but also a producer of technology (Ndzendze, 2022). But many African countries are unable to adopt alternatives to Chinese technology giants, due to both technical and financial constraints (Mboya, 2022).

China's dominance in hardware and software, state-backed loans, and lack of transparency in data management could limit technological autonomy and raise sovereignty risks. Over-reliance can make countries vulnerable to political and economic pressure. Furthermore, authoritarian practices may be adopted, such as stricter state control of data and content regulation (Brickstone, 2024).

4. Cyber Capabilities in Africa

In Africa, legal and technical protection significantly lags behind the level of threat. The rapid expansion of the internet, mobile technology, and fintech in many African countries has outpaced the development of appropriate laws, data protection regulations, and digital rights, leaving gaps in areas such as cybersecurity legislation, data protection statutes, and digital trade regulation (Wekesa, 2022). According to INTERPOL, 75% of countries consider their legal, regulatory and enforcement capabilities to be inadequate, and 95% report an insufficient training and resources. In most countries, there is a lack of appropriate incident reporting systems, digital evidence storage and common standardisation. However, many countries have adopted new legislations and strategies, and cooperation at a regional level is also strengthening. (e.g. INTERPOL Serengeti and Red Card operations) (INTERPOL, 2025). In recent years, there has been some progress regarding the establishment of cybersecurity institutions. The Malabo Agreement (on cybersecurity and data protection) – adopted as part of the African Union's digital transformation strategy – and the Cyber Capacity Building Agenda provide significant regional coordination and funding. AFRIPOL-Interpol collaborations (such as training courses on combating cybercrime held in Mauritius) also contribute to practical capacity building. The private cybersecurity sector was valued at USD 2.5 billion in 2020, which is expected to reach USD 3.7 billion by 2025 (Kearney, 2023).

Note: For comparison, the European market is valued at USD 63.12 billion in 2025 (Mordor Intelligence, 2025).

According to the 2024 Global Cybersecurity Index by the International Telecommunication Union (ITU), most countries in Africa are considered to be at the 'evolving' or 'establishing' level. Only seven countries (Mauritius, Tanzania, Rwanda, Ghana, Kenya, Egypt and Morocco) have achieved the highest Tier 1 level. These countries stand out due to their comprehensive legal, technical, organisational and awareness programmes, and because they have functioning Computer Emergency Response Teams (CERTs) and engage in regional cooperation (Chacha and Barclay, 2024, Ecofin Agency, 2024). By international standards, Africa remains far behind. In Europe, 19 countries are classified as Tier 1, including Denmark, Finland, Portugal, Spain, the United Kingdom, Germany, Belgium and Estonia, the latter of which is the most developed country in Europe (International Telecommunication Union, 2024). The US and Canada are considered the most advanced internationally. However, Brazil, India, Japan, South Korea, Australia, Malaysia and Oman are also ranked first¹¹ (ITU, 2024). Although cybersecurity capabilities in Africa are improving remarkably, most countries still have weak cyber defence (Nelson, 2024). According to Cisco's 2025 Cybersecurity Readiness Index, only 5% of South African businesses consider themselves to be adequately prepared to face modern cyber threats (Cisco, 2025). Although South Africa has the Cybercrimes Act¹² and the Protection of Personal Information Act (POPIA)¹³ in place, enforcement and the protection of critical infrastructure (such as health, energy and government systems) remain a serious risk due to a lack of skilled personnel (Caldwell, 2025, MANCOSA, 2025). On the other hand, the growing financial inclusion and expansion of internet access have also significantly increased the attack surface (Wolfenden, 2025, Expression Africa, 2025). The risk of cyber-attacks is further increased by the fact that many African countries are experiencing political transitions, coups, elections, insurgencies and weak IT infrastructure, as well as inadequate security, which factors make the countries more vulnerable to external influence (Nelson, 2024).

5. Cyber Operations in the Region

The development of digital infrastructure in Africa significantly widens the scope for cybercrime. According to the Interpol Africa Cyberthreat Assessment Report 2025, cybercrime currently accounts for 30% of reported crimes in West and East Africa (INTERPOL, 2025). Figure 3 presents a heatmap ranking different types of cybercrime across African regions.

¹¹ Hungary is rated Tier 2, as 'Advanced' in the ITU 2024 assessment with a score of 88.7. It has relatively advanced capacities (legal framework, operational CERT, technical and organisational foundations) but has not reached the highest level (International Telecommunication Union, 2024).

¹² The Cybercrimes Act in South Africa is a law that criminalizes various online offenses, such as hacking, cyber fraud, and the unlawful sharing of data, to improve cybersecurity and protect individuals and organizations from digital crimes (Cybercrimes Act, 2025).

¹³ It is a comprehensive data protection law that governs how personal information must be collected, stored, processed, and shared in South Africa.

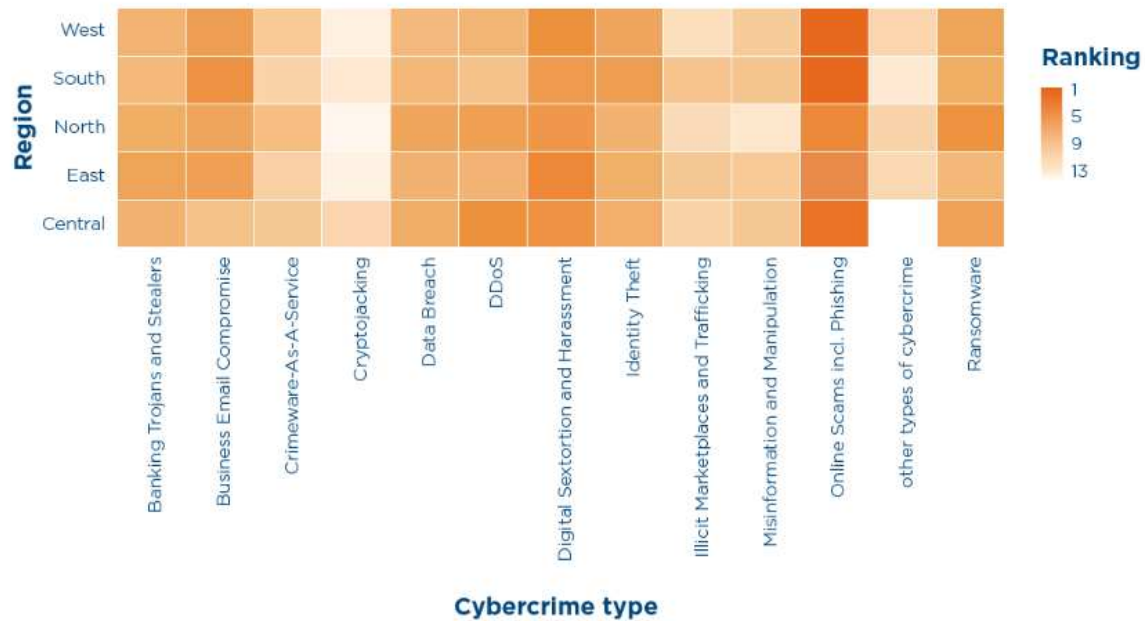


Figure 3: Average ranking of different types of cybercrime by their financial impact across African regions, based on data from INTERPOL member countries
Source: INTERPOL (2025)

Generally, the most common attack methods target the more developed regions of Africa. These methods include phishing, which accounts for 34% of cybercrime on the continent. The effectiveness of phishing and other social engineering campaigns is enhanced by the creation of deepfake content using artificial intelligence tools¹⁴ (Enovise Group, 2024). Ransomware attacks are becoming more frequent, mainly affecting critical infrastructure, banks, and healthcare organisations. Business email compromise (BEC) is also a serious threat (especially in the West African region, where fraudulent emails are causing millions of dollars loss to companies). In addition, there are increasing cases of digital extortion, sextortion campaigns¹⁵, as well as online scams (Enovise Group, 2024). Ransomware attacks were particularly common in South Africa and Egypt, while BEC posed a more serious threat in West Africa (Walsh, 2025, Protectionweb, 2025). In addition, botnets play a significant role in denial of service (DDoS) attacks and data theft (Enovise Group, 2024). In terms of data theft activities, attacks using spyware rose by 14% while password stealers resulted in 26% more incidents detected (Kaspersky, 2025a). According to a Kaspersky report, a total of 131.6 million web attacks were detected in Africa in 2024. The countries experiencing the highest number of attacks were Kenya (20 million), South Africa (17 million), and Morocco (12.6 million) (Kaspersky, 2025b).

The financial sector was the most exposed to attacks. The success of these activities is largely due to the low security awareness of users, the rapid proliferation of mobile banking and payment platforms, and the vulnerability of devices. The African financial sector is currently facing significant cyber threats, particularly from organised criminal groups and state-sponsored

¹⁴ By 2027, it is predicted that the damage caused by attacks with deepfake will exceed \$40 billion, representing a rapidly growing threat (Investec, 2024).

¹⁵ According to the report, cases of digital sextortion have increased significantly, particularly in Nigeria, where more than 63,000 Instagram accounts were deleted by mid-2024. Attackers often use explicit content generated by artificial intelligence to extort money (Bagwe, 2025).

actors carrying out high-value thefts. These attacks often exploit vulnerabilities that have previously been targeted, such as weaknesses in payment processes and internal security controls. Attackers can manipulate the integrity of payment systems by exploiting security weaknesses, enabling them to make illegal payments. Financial institutions in Africa are currently facing a significant number of espionage and data theft attempts by state actors, organised crime groups, insider threat actors and individual hackers. In addition, as more third-party service providers (such as fintech firms) become involved in financial infrastructure, the supply chain becomes more vulnerable, expanding the overall attack surface. Furthermore, public administration and e-government portals, the energy sector, and the healthcare and manufacturing sectors are also frequently targeted. Due to their critical importance, telecoms and technology companies are also high-value targets (World Bank Group, 2022).

Given the digital developments, the trends affecting Africa are closely aligned with cyberspace trends observed in the international environment. The extent and severity of these trends depend on the country's systems, the sensitivity of the stored data, and its usability. Motives related to financial profit are not the only drivers of the attacks on the financial sector. Significant foreign investment flows into Africa are also likely to be a contributing factor. The continent's growing geopolitical importance could result in additional state actors focusing their attention on Africa, thereby increasing targeted cyber espionage.

The internet and digital technology have radically changed the way states gather information. Espionage in cyberspace, whether carried out by secret services or other state actors, enables information to be collected and extracted efficiently and without detection. This change extends traditional power relations into the digital dimension, generating a new form of geopolitical competition on the continent in which China is a prominent actor (Africa Center for Strategic Studies, 2025).

5.1. APT Activities

Nowadays, political disagreements and armed conflicts have become an integral part of cyber warfare, with cyber threat actors linked to states carrying out information gathering and espionage operations in line with the underlying interests of the state behind (Arnold, 2024). APT activity is expected to become increasingly active in Africa by 2024, particularly in the government, energy, and telecommunications sectors. Groups such as MuddyWater¹⁶, FruityArmor¹⁷, and SideWinder¹⁸ use a variety of methods and tactics, including spear phishing, modular malware (DeadGlyph, StealerBot), and the use of legitimate tools and cloud platforms, to increase the effectiveness of their operations. Their motivations are primarily linked to espionage, sabotage or financial gain, which can be attributed to Africa's growing geopolitical and economic importance (Kaspersky, 2025c).

¹⁶ MuddyWater is a cyberespionage group that operates under the Iranian intelligence service, specifically the Ministry of Interior (MOIS) (Mitre Att&ck, 2025).

¹⁷ The cyberespionage APT group mainly focused its operations on organizations in the Middle East (Kaspersky, 2025d).

¹⁸ SideWinder is a highly active and persistent threat actor that continuously evolves and enhances its toolkit. This is a highly prolific APT group that has primarily targeted military and government organizations in Pakistan, Sri Lanka, China, and Nepal, while in Africa, its main targets have been Egypt and Djibouti (Dedola and Berdnikov, 2025).

Given the fact that the African continent is of strategic importance to several major powers (the United States, Russia and China), there is a correspondingly high number of operations aimed at intelligence gathering and espionage, in line with the interests of the underlying country.

Case studies:

1. Diplomatic Specter

The Chinese APT group ‘Diplomatic Specter’ has been actively targeting government, military and diplomatic institutions in Africa, the Middle East and Asia since late 2022. The group mainly targets foreign ministries, military organisations and embassies (Nelson, 2024).

The group carries out automated daily keyword searches on topics related to diplomacy, military, energy and geopolitics. It uses the sensitive documents and emails obtained to support China's strategic objectives and gain information advantage in international negotiations and by geopolitical efforts (Rochberger and Frank, 2024).

These attacks are directly associated with China's growing political, economic and military presence in Africa and the Middle East. China is making significant economic investments in these regions, primarily in infrastructure and raw materials. The country is also building political alliances and strengthening its military presence, for example, through participation in UN missions and arms sales, while striving for digital dominance. The group is constantly active. Despite being excluded from the networks of some institutions, they continue to operate unhindered elsewhere. They encounter minimal resistance as they often target institutions in politically unstable or less democratic states. This allows attackers to access confidential foreign policy and military decisions, which could have serious consequences for national security (Nelson, 2024).

Operation Diplomatic Specter is a systematic, state-sponsored espionage campaign targeting regions of interest to China in order to gather geopolitically valuable information. This is not a single incident, but a well-established and persistent Chinese cyber sabotage strategy that deliberately collects information from governments, diplomatic, and military targets. Gaining information advantage and building political, economic and military influence through digital infrastructure is an integral part of China's long-term global strategy (Rochberger and Frank, 2024).

2. Sharp Panda

In 2024, China-linked cyberspace actor Sharp Panda attacked several African and Caribbean governments as part of an ongoing cyber espionage campaign. The actor used compromised high-ranking Southeast Asian email accounts to send phishing emails. Chinese cyber threat actors are conducting long-term strategic operations against key industrial sectors in Africa, namely telecommunications, financial institutions, and government entities. These campaigns are closely aligned with China's regional technological ambitions, particularly the Digital Silk Road (DSR) initiative announced in 2015. As part of the cyber-attacks, China is using proxy networks ('operational relay box networks') to obfuscate the origin of attacks, enabling them to gain and maintain access to high-value networks more effectively (Lakshmanan, 2024).

3. BackdoorDiplomacy

Chinese state-sponsored actors – including APT41 and BackdoorDiplomacy, which is closely linked to APT15 – have been carrying out coordinated attacks against African telecommunications, financial, and government institutions for years, supporting Beijing's soft power ambitions¹⁹ in the region (Kovacs, 2023).

The attacks identified by SentinelOne are not only aimed at obtaining confidential information, but also at gaining a competitive advantage and securing technical access that can be used for further intelligence purposes, providing diplomatic and economic advantages to China (Hegel, 2023).

This tendency is further reinforced by the significant presence of Chinese companies, particularly Huawei and ZTE, across the continent. Through large-scale investment, these firms ensure that Africa remains heavily reliant on Chinese telecommunications infrastructure.

BackdoorDiplomacy is active in several African countries, including Kenya, South Africa, Senegal and Ethiopia. Reuters recently reported that the group had carried out attacks on Kenyan government agencies, possibly with the intention of gathering information about debts owed to China (Hegel, 2023, Kovacs, 2023).

4. Operation Tainted Love

Operation Tainted Love is an operation launched in March 2023 by Chinese state actors targeting telecommunications service providers in the Middle East and North Africa. In the case of a North African firm, cyber intrusions occurred concurrently with expansion negotiations, suggesting the intent was to acquire sensitive internal data (Hegel, 2023).

5. Other cases, groups

- SideWinder (also known as T-APT-04 or RattleSnake) is a China-linked cyber threat actor active since 2012, that is active since 2012. The group originally focused on South Asia but now has expanded its activities to Africa and the Middle East, where it carries out attacks against government, military, telecommunications, nuclear, logistics, and shipping targets for strategic intelligence purposes (African Business, 2024).
- Daggerfly (also known as Evasive Panda or Bronze Highland) is an advanced cyber threat, whose activity against African telecommunications companies has been observed since November 2022. The PlugX loader also appeared in the campaign, which was typically used by APT groups with ties to China (Threat Hunter Team, 2023).
- Information gathering operations are often focused on companies in the telecommunications sector, as they can be used to access end-user communications.
- Other China-linked actors, such as FamousSparrow and Earth Estries, are also active on the continent (Hegel, 2023).

¹⁹ Soft power tools do not coerce, but rather 'attract'. China uses these tools to shape Africa's political and economic decisions in the long term without entering into open conflict. These efforts complement hard power and provide China's strategic advantage in the global competition.

The targeted operations carried out by the groups behind the attacks clearly indicate that China's use of cyberspace is a deliberate part of its geopolitical strategy on the continent. The objective of the attacks extends beyond simple system disruption. They are primarily aimed at strategic intelligence gathering intended to support China's geopolitical, nuclear, and military decision-making processes.

5.2. Hactivist Activities

In Africa, hactivist activities most often target government, military, electoral and media systems, as well as large corporations. The motivations are linked to political, ideological or anti-corruption agendas, human rights issues, actions against social inequalities, in response to local and regional events. Attacks frequently appear in the form of distributed denial-of-service (DDoS) attacks, data leaks, website defacement or social media campaigns.

- In July 2023, the hactivist group Anonymous Sudan²⁰ conducted a large-scale distributed denial-of-service (DDoS) attack targeting Kenya's digital infrastructure, resulting in significant disruptions to government services (including the e-Citizen portal), public utilities, and financial institutions. The attackers claimed political reasons for their actions, accusing Kenya of interfering in Sudanese internal affairs (Kitili and Abiero, 2023).
- On 6 February 2024, the hactivist group Anonymous Sudan conducted a series of DDoS attacks against Uganda's largest telecommunications providers (Airtel, MTN and Uganda Telecom). The group claimed that the attacks were a form of protest against the companies' alleged support for the Sudanese government in the civil war (Michael, 2025).
- In June 2024, the globally active hactivist collective Anonymous issued a public warning to the Kenyan government, indicating the likelihood of impending cyberattacks. In its statement, the group criticised the government for corruption and for perceived injustices and abuses in public services (ITEdgeNews, 2024).

Hactivist activities in Africa are primarily an expression of political disagreement or social tension. Although these actions may cause temporary disruption, they usually do not result in long-term or substantial damage. These activities are attempts to attract attention carried out by cyber threat actors who are not affiliated with any state. They spread their ideology and political messages through social media and various other online platforms.

5.3. Other Influence in the Region

Digital platforms – social media, messaging services – are not only used for intelligence gathering, but also for structured disinformation campaigns. This could undermine the legitimacy of the elections, increase social polarisation, and enable external actors – states or movements – to

²⁰ There are considerable debate and uncertainty surrounding the activities and background of the Anonymous Sudan group, but a growing number of cybersecurity analyses suggest that the group is likely linked to Russian interest groups or at least cooperates with them. Although they claim to be Sudanese hactivists, several analysts suggest that their methods, infrastructure, communication channels (e.g., Telegram) and choice of targets are similar in many ways to the activities of pro-Russian hacker groups (e.g., Killnet) (Cloudflare, 2025).

influence the political landscape in the Sahel and West Africa (Africa Center for Strategic Studies, 2025).

For example, in 2024, an advanced APT group with links to India (SideWinder) conducted a series of intense attacks against entities of strategic importance in the Middle East and Africa. The targets of the attacks include government and military agencies, logistics and infrastructure firms, telecommunications providers, financial institutions, universities, and oil trading companies²¹ (Lakshmanan, 2024).

Disinformation, monitoring, traffic control, censorship

The 'African Initiative' is a disinformation network with ties to Russia that has operated in West Africa. Its aim is to disseminate false narratives on public health and other issues in order to advance Moscow's political influence in the region (Reuters, 2025).

African peacekeeping missions present further opportunities for the disruption and escalation of information operations. UN peacekeeping operations have been targeted by a number of disinformation campaigns, notably in the Central African Republic (MINUSCA), Mali (MINUSMA) and the Democratic Republic of the Congo (MONUSCO). These often falsely accuse peacekeepers of arms trafficking, supporting terrorists and exploiting natural resources. The disinformation campaign aimed to undermine the international presence of the United Nations by spreading distrust and social tension (in which lack of information played a significant role) (Trithart, 2022).

Note: It shows that the internet is not solely a channel of communication, but also a tool of geopolitical and societal influence. Dominance over the digital domain is becoming an increasingly important strategic objective (Umejei, 2022). This is illustrated by the active 'digital battle' between the United States and China on social media platforms (e.g., Twitter, Facebook) aimed at influencing public opinion in Zimbabwe, as part of the broader global soft power competition (Mare, 2022).

Although the exact source of the disinformation is unclear, it most likely originated from local non-governmental organisations (NGOs) or media outlets with possible links to Russia (e.g. the Wagner Group collaborated with local allies to spread fake news and false information on social media) (Trithart, 2022). Russia's isolated internet infrastructure, known as the Runet, may serve as a model for African states, where state-controlled censorship and ISP-level traffic filtering (using TSPU devices capable of blocking VPN) could also be implemented. Russia exports these censorship and surveillance technologies to African countries, particularly to authoritarian regimes with conservative structures, such as the Central African Republic, Mali, Burkina Faso, and Niger (Rio, 2024).

6. Summary

In recent years, China has emerged as a key contributor to Africa's digital development. The country has provided significant infrastructure, financial and technological support to African

²¹ Among the nations previously targeted by the SideWinder are Bangladesh, Djibouti, Jordan, Malaysia, the Maldives, Myanmar, Nepal, Pakistan, Saudi Arabia, Sri Lanka, Turkey, and the United Arab Emirates. In addition, the group has also conducted attacks against diplomatic entities in Afghanistan, France, China, India, Indonesia, and Morocco (Lakshmanan, 2024).

countries, leading to a surge in internet and mobile communications coverage. However, this rapid development entails significant trade-offs, including increased technological dependence and heightened risks to data sovereignty. The digital autonomy of African countries is decreasing as Chinese devices and platforms become more widespread, given that China maintains significant control over data flows, communication networks, and critical infrastructure. This dependency leaves African states vulnerable to economic, political and regulatory pressures, while their levels of indebtedness continue to rise.

The security implications of China's technological presence are also substantial. Although systems such as Safe City platforms, facial recognition cameras and Chinese software solutions help local governments combat crime, at the same time, they also create opportunities for China to conduct surveillance and gain access to data and communications. Such developments further strengthen China's geopolitical and intelligence advantage in Africa while undermining the countries' informational sovereignty and technological autonomy.

As digital development advances, Africa is also experiencing the growing impact of cybercriminal activity, in line with global trends. China's growing digital presence and influence have led to social and political debates in several countries regarding data protection, digital sovereignty, censorship and the use of Chinese surveillance technologies. These issues have rather civil society, international legal and political implications. Recent hacktivist activities in Africa have primarily been linked to local political conflicts, corruption, human rights issues, elections and broader geopolitical tensions. Chinese digital and political influence in Africa is not primarily expressed through hacktivism, but rather through state-led economic and diplomatic instruments, as well as espionage and information operations, many of which are attributed to advanced Chinese cyber threat actors. These attacks have primarily targeted governmental, telecommunications, financial, and diplomatic institutions across Africa, with the primary objective of acquiring sensitive information and advancing economic and political influence.

In the short term, China's digital expansion supports Africa's modernisation. However, in the long term, it poses a significant threat to the continent's digital sovereignty, security and autonomy. In this long-term perspective, China's technological expansion and the increasing digital reliance of African countries not only pose risks to information security and sovereignty but could also contribute to a broader geopolitical shift across the continent. Africa's future is increasingly becoming a focal point of technological, economic, and political rivalry among major powers. Overall, this highlights the importance of African countries diversifying their technological partnerships, strengthening their defence capabilities and developing a more deliberate regulatory framework to reduce their reliance on external actors.

7. Geopolitical Conclusions

The advancement of Africa's digital landscape has been significantly influenced by external support, which has played a crucial role in enabling the continent to achieve its current level of technological progress (most notably China's investments). While the support has been instrumental in reaching the continent's present stage of digital advancement, the direction of development remains asymmetric, creating long-term dependency traps, structural exposure, and the risk of digital exploitation. The economic, demographic, and geopolitical weight of the African continent makes permanent subordination to any global power incompatible. Theoretically, the continent has the capacity to function as an active and equal participant in global affairs. However, the current geopolitical and economic dynamics of the world order

impose constraints on this potential. Foreign resources remain essential for further development; nevertheless, subordination is not inevitable, provided that Africa can strategically and deliberately shape its own digital and political ecosystems over the long term. With its natural resources, market scale, demographic trends, and strategic location, Africa holds considerable geopolitical weight that should allow it to participate as an autonomous and equal actor in the digital domain. In practice, however, weak institutions, political instability, insufficient digital capabilities, and limited domestic investment maintain its structural dependency. External engagements frequently overlook Africa's specific needs and local realities. Escaping dependency traps and limiting exploitation will require a sustained, coordinated, and regionally driven strategy – building on frameworks such as the African Union and the AfCFTA – to empower the continent to shape its digital and political ecosystems according to its own priorities. In addition, building a multipolar partnership model that promotes diversified cooperation would enhance bargaining power and help mitigate exposure.

Author Contributions

All sections of this study were undertaken by the author.

Notes on Contributor

Noémi Csunyó is a researcher and PhD student at the institute of World Economy and International Relations, University of Debrecen, Hungary. Her research interests include world economics and geopolitics. The field of research mainly focuses on the effects of political actions on economic relations (especially between major powers like the US and China). She is also particularly interested in studying the risks of cyber operations and the use of artificial intelligence. In addition, their effect on geopolitical conflicts.

Conflict of Interest

The author hereby declare that no competing financial interest exists for this manuscript.

References

- Africa Center for Strategic Studies. (2025). *Understanding Africa's Emerging Cyber Threats*. Africa Center for Strategic Studies. Retrieved August 10, 2025 from <https://africacenter.org/programs/cyber/?utm>
- African Business. (2024). *Kaspersky identifies SideWinder Advanced Persistent Threat (APT) expanding attacks with new espionage tool*. Retrieved August 10, 2025 from <https://african.business/2024/10/apo-newsfeed/kaspersky-identifies-sidewinder-advanced-persistent-threat-apt-expanding-attacks-with-new-espionage-tool>
- Agbebi, M. (2022). *China's Digital Silk Road and Africa's Technological Future*. Council on Foreign Relations. Council on Foreign Relations (CFR). Retrieved August 10, 2025 from https://www.cfr.org/sites/default/files/pdf/Chinas%20Digital%20Silk%20Road%20and%20Africas%20Technological%20Future_FINAL.pdf



- Arnold, S. (2024). *Africa needs China for its digital development – but at what price?* Retrieved August 10, 2025 from <https://world.edu/africa-needs-china-for-its-digital-development-but-at-what-price/>
- Article 19. (2024). *China-Africa Cooperation: Beijing's vision raises free expression concerns.* Retrieved August 10, 2025 from <https://www.article19.org/resources/china-africa-cooperation-beijings-vision-raises-free-expression-concerns/>
- Ayodele, O. (2022). *US's and China's 'chipageddon' hits Africa's digital transformation mission.* Good Governance Africa. Retrieved August 10, 2025 from <https://gga.org/us-and-chinas-chipageddon-hits-africas-mission-to-build-digital-economies/>
- Bagwandeem, M. (2022). *China expands its digital sovereignty to Africa.* Good Governance Africa. Retrieved August 10, 2025 from <https://gga.org/china-expands-its-digital-sovereignty-to-africa/>
- Bagwe, M. (2025). *Africa Faces a Digital Sextortion Crisis as Numbers Surge Across the Continent.* Retrieved August 10, 2025 from <https://thecyberexpress.com/africa-faces-a-digital-sextortion-crisis/>
- Brickstone. (2024). *The Hidden Costs of China's Digital Ambitions in Africa: Are We Ready for the Consequences?* Retrieved August 10, 2025 from <https://brickstone.africa/the-hidden-costs-of-chinas-digital-ambitions/>
- Caldwell, A. (2025). *South Africa's Digital Future Undermined by Growing Cyber Threats.* Retrieved August 10, 2025 from <https://informationstreamer.com/2025/03/20/south-africas-digital-future-undermined-by-growing-cyber-threats/>
- Cannon, B. J. (2025). *Maps showing China's growing influence in Africa distort reality – but some risks are real.* The Conversation. Retrieved August 10, 2025 from <https://theconversation.com/maps-showing-chinas-growing-influence-in-africa-distort-reality-but-some-risks-are-real-249454>
- Chacha, L., & Barclay, C. (2024). *Mapping Africa's Cybersecurity Development - Insights from the Global Cybersecurity Index 2024.* DPO Caribbean.
- China Africa Research Initiative. (2025). *Chinese FDI in Africa Data Overview.* Retrieved August 10, 2025 from <https://www.sais-cari.org/chinese-investment-in-africa>
- Chitanga, G. (2022). *Wired Africa now Zooms into China and US.* Good Governance Africa. Retrieved August 10, 2025 from <https://gga.org/wired-africa-now-zooms-into-china-and-us/>
- Cisco. (2025). *2025 Cisco Cybersecurity Readiness Index: Readiness remains flat as AI transforms the industry.* Retrieved August 10, 2025 from https://newsroom.cisco.com/c/dam/r/newsroom/en/us/interactive/cybersecurity-readiness-index/2025/documents/2025_Cisco_Cybersecurity_Readiness_Index.pdf
- Cloudflare. (2025). *What is Anonymous Sudan?* August 10, 2025. <https://www.cloudflare.com/learning/ddos/glossary/anonymous-sudan/>

- Collard, A. (2025). *African Cybersecurity & Awareness Report 2025*. KnowBe4 Whitepaper. Retrieved August 10, 2025 from https://www.knowbe4.com/hubfs/Africa-Annual-Survey_Whitepaper_US_EN-F.pdf#prld=332108
- Cybercrimes Act. (2025). *The full text of the Cybercrimes Act in South Africa*. Retrieved August 10, 2025 from <https://cybercrimesact.co.za/>
- De, R. (2025). *China-Africa Relations: Debt and Investment – Are there new models for engagement?* Finance for Development Lab. Retrieved August 10, 2025 from <https://findevlab.org/china-africa-relations-debt-and-investment-are-there-new-models-for-engagement/>
- Dedola, G., & Berdnikov, V. (2025). *SideWinder targets the maritime and nuclear sectors with an updated toolset*. Retrieved August 10, 2025 from <https://securelist.com/sidewinder-apt-updates-its-toolset-and-targets-nuclear-sector/115847/>
- Dinika, A. A. (2022). *ICT investments: Africa waits to see the money*. Good Governance Africa. Retrieved August 10, 2025 from <https://gga.org/us-china-ict-investments-implications-for-africas-socioeconomic-development/>
- Ecofin Agency. (2024). *ITU Names 7 African Nations Among Top Cybersecurity Models*. Retrieved August 10, 2025 from <https://www.ecofinagency.com/telecom/1709-45902-itu-names-7-african-nations-among-top-cybersecurity-models>
- Enovise Group. (2024). *The Current State of Cyber Threats in Africa – Insights from the Interpol's 2024 African Cyberthreat Assessment Report (3rd Edition)*. Retrieved August 10, 2025 from <https://www.linkedin.com/pulse/current-state-cyber-threats-africa-insights-from-interpols-african-siijf>
- Expression Africa. (2025). *Over half of Africans fear financial losses from cybercrime – KnowBe4*. Retrieved August 10, 2025 from <https://expression.africa/over-half-of-africans-fear-financial-losses-from-cybercrime-knowbe4/>
- Gariba, A. (2022). *Democracy in Africa: Enter the dragon*. Good Governance Africa. Retrieved August 10, 2025 from <https://gga.org/democracy-in-africa-enter-the-dragon/>
- Global System for Mobile Communications Association (GSMA). (2023). *The State of Mobile Internet Connectivity 2023: Sub-Saharan Africa key trends*. Retrieved August 10, 2025 from <https://www.gsma.com/r/wp-content/uploads/2023/10/State-of-Mobile-Internet-Connectivity-2023-Sub-Saharan-Africa.pdf>
- Good Governance Africa. (2022). *Africa in Fact. China vs US: the battle for digital supremacy in Africa*. Retrieved August 10, 2025 from <https://gga.org/project/issue-62/>
- Gopaldas, R. (2022). *A theatre for competition*. Good Governance Africa. Retrieved August 10, 2025 from <https://gga.org/a-theatre-for-competition/>

- Hegel, T. (2023). *Cyber Soft Power. China's Continental Takeover*. SentinelOne. Retrieved August 10, 2025 from <https://www.sentinelone.com/labs/cyber-soft-power-chinas-continental-takeover/>
- Huang, Z., & Pollio, A. (2023). Between highways and fintech platforms: Global China and Africa's infrastructure state. *Geoforum*, 147, 103876. <https://doi.org/10.1016/j.geoforum.2023.103876>
- International Telecommunication Union (ITU). (2024a). *Estonia ranks fifth in the global cybersecurity index*. Retrieved August 10, 2025 from <https://www.itu.int/en/ITU-D/Cybersecurity/Pages/Estonia-ranks-fifth-in-the-global-cybersecurity-index.aspx>
- International Telecommunication Union (ITU). (2024b). *Global Cybersecurity Index 2024*. ITU Publications. https://www.itu.int/en/ITU-D/Cybersecurity/Documents/GCIv5/2401416_1b_Global-Cybersecurity-Index-E.pdf
- INTERPOL. (2025). *New INTERPOL report warns of sharp rise in cybercrime in Africa*. Retrieved August 10, 2025 from https://www.interpol.int/content/download/23094/file/25COM009248%20-%20Cybercrime_Africa%20Cyberthreat%20Assessment%20Report_Design_2025-05%20v11.pdf
- Investec. (2024). *Cybersecurity: Trends, threats, and strategy*. Retrieved August 10, 2025 from https://www.investec.com/en_za/focus/money/cybersecurity-in-south-africa-2024.html
- ITEdgeNews. (2024). *Kenya on high alert: Hactivist group Anonymous sends warnings to government*. Retrieved August 10, 2025 from <https://www.itedgenews.africa/kenya-on-high-alert-hactivist-group-anonymous-sends-warnings-to-government/>
- Kaspersky. (2025a). *14% increase in spyware attacks on African businesses: Kaspersky presents a cyberthreat landscape report at GITEX Africa in Morocco*. Retrieved August 10, 2025 from <https://www.kaspersky.com/about/press-releases/14-increase-in-spyware-attacks-on-african-businesses-kaspersky-presents-a-cyberthreat-landscape-report-at-gitex-africa-in-morocco>
- Kaspersky. (2025b). *Africa Cyberthreat Landscape Report 2025*. Retrieved August 10, 2025 from <https://content.kaspersky-labs.com/se/media/en/africa-cyberthreat-landscape-report-2025.pdf>
- Kaspersky. (2025c). *Cybersécurité: les entreprises africaines face à une hausse préoccupante des attaques, selon Kaspersky*. August 10, 2025). <https://www.kaspersky.fr/about/press-releases/cybersecurite-les-entreprises-africaines-face-a-une-hausse-preoccupante-des-attaques-selon-kaspersky>
- Kaspersky. (2025d). *FruityArmor*. Retrieved August 10, 2025 from <https://apt.securelist.com/apt/fruityarmor>
- Kearney. (2023). *Cybersecurity in Africa – call to action*. Retrieved August 10, 2025 from

- <https://www. Kearney.com/documents/291362523/296371292/Cybersecurity+in+Africa%E2%80%94call+to+action.pdf/cb6f42c4-570c-ddd7-4f8c-719507863674?t=1683214143000>
- Kitili, J., & Abiero, D. (2023). *Kenya's Digital Infrastructure Under Threat? A Look at Anonymous Sudan's Thwarted Cyberattack Attempt and its Implications for Kenya's Digital Systems*. Strathmore University Centre for Intellectual Property and Information Technology Law (CIPIT) blog. Retrieved August 10, 2025 from <https://cipit.strathmore.edu/kenyas-digital-infrastructure-under-threat-a-look-at-anonymous-sudans-thwarted-cyberattack-attempt-and-its-implications-for-kenyas-digital-systems/>
- Kliver, J. (2025). *China-Africa Investments in 2025: Key Trends and How it can Improve Africa's Competitiveness*. Africa International Advisors. Retrieved August 10, 2025 from <https://www.africaia.com/insights/china-africa-investments-in-2025-key-trends-and-how-it-can-improve-africas-competitiveness>
- Kovacs, E. (2023). *China's Offensive Cyber Operations in Africa Support Soft Power Efforts*. Retrieved August 10, 2025 from <https://www.securityweek.com/chinas-offensive-cyber-operations-in-africa-support-soft-power-efforts/>
- Krukowska, M. M. (2024). China's security relations with Africa in the 21st Century. *Security and Defence Quarterly*, 46(2), 4-23. <https://doi.org/10.35467/sdq/190066>
- Labscon. (2023). *The Cyber Arm of China's Soft Power: Reshaping a Continent*. SentinelOne. Retrieved August 10, 2025 from <https://www.sentinelone.com/labs/labscon-replay-the-cyber-arm-of-chinas-soft-power-reshaping-a-continent/>
- Lakshmanan, R. (2024). *New Frontiers, Old Tactics: Chinese Espionage Group Targets Africa & Caribbean Govts*. Retrieved August 10, 2025 from <https://thehackernews.com/2024/05/new-frontiers-old-tactics-chinese-cyber.html?m=1&>
- MANCOSA. (2025). *South Africa's digital future hindered by rising cyber threats*. Retrieved August 10, 2025 from <https://www.fanews.co.za/article/technology/41/general/1204/south-africa-s-digital-future-hindered-by-rising-cyber-threats/41284>
- Mare, A. (2022). *Digital diplomacy shootout in Zimbabwe*. Good Governance Africa. Retrieved August 10, 2025 from <https://gga.org/zims-chinese-and-us-embassies-digital-diplomacy/>
- Matanda, D. (2022). *How the contest for global digital hegemony impacts Africa*. Good Governance Africa. Retrieved August 10, 2025 from <https://gga.org/how-contest-for-global-digital-hegemony-impacts-africa/>
- Mboya, C. (2022). *No Huawei, no cry*. Good Governance Africa. Retrieved August 10, 2025 from <https://gga.org/no-huawei-no-cry/>
- Meservey, J. (2020). *Government Buildings in Africa Are a Likely Vector for Chinese Spying*. The Heritage Foundation. Retrieved August 10, 2025 from

- <https://www.heritage.org/asia/report/government-buildings-africa-are-likely-vector-chinese-spying>
- Michael, C. (2025). *Top 10 cyberattacks that targeted African organisations in 2024*. Retrieved August 10, 2025 from <https://businessday.ng/news/article/top-10-cyberattacks-that-targeted-african-organisations-in-2024/>
- Mitre att&ck. (2025). *MuddyWater*. Retrieved August 10, 2025 from <https://attack.mitre.org/groups/G0069/>
- Mordor Intelligence. (2025). *Europe Cybersecurity Market Size, Share, Analysis, Trends (2025 - 2030)*. Retrieved August 10, 2025 from <https://www.mordorintelligence.com/industry-reports/europe-cybersecurity-market>
- Mudau, P. (2022). *Big-spending China woos Africa with its BRI and DSR*. Good Governance Africa. Retrieved August 10, 2025 from <https://gga.org/chinese-foreign-aid-to-africa-for-ict-implications-for-the-us/>
- Munyati, C. (2024). *Why strong regional value chains will be vital to the next chapter of China and Africa's economic relationship*. World Economic Forum. Retrieved August 10, 2025 from <https://www.weforum.org/stories/2024/06/why-strong-regional-value-chains-will-be-vital-to-the-next-chapter-of-china-and-africas-economic-relationship/>
- Ndzendze, B. (2022). *South Africa's 4IR strategy*. Good Governance Africa. Retrieved August 10, 2025 from <https://gga.org/south-africas-4ir-strategy/>
- Nelson, N. (2024). *China APT Stole Geopolitical Secrets From Middle East, Africa & Asia*. Darkreading. Retrieved August 10, 2025 from <https://www.darkreading.com/threat-intelligence/china-apt-stole-geopolitical-secrets-from-middle-east-africa-and-asia>
- Paterson, S. (2024). *How much of China's investment into Africa is real?* Hinrich Foundation. Retrieved August 10, 2025 from <https://www.hinrichfoundation.com/research/article/fdi/how-much-of-china-investment-into-africa-is-real/>
- Prakash, S. (2025). *The Digital Silk Road: China's Technological Engagement in Africa*. Roosevelt-Group. Retrieved August 10, 2025 from <https://roosevelt-group.org/quick-takes/the-digital-silk-road-chinas-technological-engagement-in-africa>
- Protectionweb. (2025). *New INTERPOL report warns of sharp rise in African cybercrime*. Retrieved August 10, 2025 from <https://www.protectionweb.co.za/cyber-security/new-interpol-report-warns-of-sharp-rise-in-african-cybercrime/>
- Reuters. (2025). *UK discovers Russian 'espionage tool', sanctions GRU officers over cyberattacks*. Retrieved August 10, 2025 from <https://www.reuters.com/world/uk/uk-discovers-russian-espionage-tool-sanctions-gru-officers-over-cyberattacks-2025-07-18/>

- Rio, N. (2024). *Russia's offensive on "digital sovereignty" in Africa*. Retrieved August 10, 2025 from <https://incyber.org/en/article/russias-offensive-on-digital-sovereignty-in-africa/>
- Rochberger, L., & Frank, D. (2024). *Operation Diplomatic Specter: An Active Chinese Cyberespionage Campaign Leverages Rare Tool Set to Target Governmental Entities in the Middle East, Africa and Asia*. Paloalto Networks. Retrieved August 10, 2025 from <https://unit42.paloaltonetworks.com/operation-diplomatic-specter/>
- Rojo, J. V. (2023). China's technological footprint in Africa: A patent network analysis. *South African Journal of Business Management*, 55(1), a4331. <https://doi.org/10.4102/sajbm.v55i1.4331>
- Threat Hunter Team. (2023). *Daggerfly: APT Actor Targets Telecoms Company in Africa*. Retrieved August 10, 2025 from <https://www.security.com/threat-intelligence/apt-attacks-telecoms-africa-mgbot>
- Trithart, A. (2022). *Disinformation against UN Peacekeeping Operations*. International Peace Institute. Retrieved August 10, 2025 from https://www.ipinst.org/wp-content/uploads/2022/11/2212_Disinformation-against-UN-Peacekeeping-Ops.pdf
- Umejei, E. (2022). *The internet war in Africa*. Good Governance Africa. Retrieved August 10, 2025 from <https://gga.org/the-internet-war-in-africa/>
- United Nations Trade and Development (UNCTAD). (2025). *World Investment Report 2025*. Retrieved August 10, 2025 from <https://unctad.org/publication/world-investment-report-2025>
- Venske, T. (2022). *Sovereignty and digital transformation in Africa*. Good Governance Africa. Retrieved August 10, 2025 from <https://gga.org/sovereignty-and-digital-transformation-in-africa/>
- Walsh, M. (2025). *Africa faces cybercrime crisis amid weak enforcement, INTERPOL warns*. Retrieved August 10, 2025 from <https://cybernews.com/cybercrime/interpol-africa-cybercrime-forensics/>
- Wekesa, B. (2022). *Policy, legal and regulatory issues in Africa's digital sphere*. Good Governance Africa. Retrieved August 10, 2025 from <https://gga.org/legal-and-regulatory-issues-in-africas-digital-sphere/>
- Wolfenden, K. L. (2025). *Cybersecurity Concerns Increase in Africa as Mobile Banking and AI Threats Surge*. Retrieved August 10, 2025 from <https://techafricanews.com/2025/02/18/knowbe4-report-highlights-digital-risks-in-africa-amid-growing-use-of-technology/>
- World Bank Group. (2022). *Cyber Threats to the Financial Sector in Africa. An Assessment of the Current Threat and an Analysis of Emerging Trends on the Future Threat Landscape*. Retrieved August 10, 2025 from <https://documents1.worldbank.org/curated/en/099830405172214598/pdf/P16477000601530760af01093740e385fe8.pdf>

China's Arms Exports and Security Engagement in the Sahel: Trends and Political Consequences, 2010–2024¹

Hanna Tietze²

Abstract:

This study analyses China's military exports and security involvement in the Sahel region, with a main focus on Mali, Niger, and Burkina Faso between 2010 and 2024. Relying on the SIPRI and ACLED databases, the article discusses correlations between Chinese arms transfers and incidents of political violence and instability and also applies country and year fixed effects panel models. In descriptive terms, Chinese arms exports strengthen military capabilities and move together with the rise in conflict events and fatalities; however, once Russian and French deliveries, the 2017 activation of the G5 Sahel force, and the country-specific Wagner deployments are controlled for, none of the $\ln TIV$ coefficients are statistically significant. In other words, larger volumes of arms transfers do not, by themselves, drive conflict intensity. Furthermore, the research highlights the multidimensional geopolitical competition involving other international actors such as the United States, Russia, Turkey, Iran, and India, and presents the diverse local political and civil society reactions that complicate decision-making. The study concludes with concrete policy recommendations aimed at improving transparency, governmental oversight, and international coordination in order to reduce the unintended negative consequences of foreign military assistance in the region.

Keywords:

China; Sahel; arms exports; political violence; security engagement; geopolitical competition; policy implications; governance.

¹ DOI: 10.12700/jceeas.2025.5.4.446

² MNB Institute, Msc Degree Program, Hungary; ORCID: 0009-0002-9033-6458; tietzehanna@gmail.com.

Introduction

Over the past decade, China has significantly expanded its military presence and security activities in Africa, particularly in the Sahel region. This region, covering Mali, Niger, and Burkina Faso, continues to face persistent instability marked by frequent coups, terrorist attacks, and other conflicts. During the worsening security, China's growing arms exports and strategic cooperation with countries in the region deserve special attention, as these relationships may shape, but do not in themselves determine, internal political dynamics and security conditions.

As part of China's "Going Out Strategy" and the Belt and Road Initiative (BRI), China is taking an increasingly active security role in the Sahel, developing military partnerships with states that can supply critical raw materials and hold significant strategic and geopolitical positions. While Western powers have mainly focused on humanitarian aid and counter terrorism operations, China, taking a pragmatic approach, offers a wide range of military equipment, including small arms, armoured vehicles, and even unmanned aerial drones. Consequently, Beijing has become an important though not exclusive security partner in the region.

However, China's military and strategic initiatives do not operate independently. The United States, Russia, Turkey, Iran, and India, among other emerging powers, are also increasingly active in the Sahel, making the region a geopolitical battleground. These powers compete through military cooperation, economic investments, and diplomatic engagement, further complicating the regional security dynamics (Sam, 2025; Rudolph, 2024).

Recent academic and policy analyses reveal a nuanced relationship between external military support and local governance structures, civil–military relations, and political stability. While regional governments have widely accepted China's unconditional approach to military and economic cooperation, civil society organizations and opposition parties have expressed growing concerns about national sovereignty, dependency risks, and governance transparency. Furthermore, earlier studies using bivariate analyses found positive correlations between Chinese arms exports and conflict indicators. The fixed-effects results below, however, do not confirm this association once Russian/French transfers and region-wide shocks are controlled for.

Additionally, qualitative case studies indicate that Chinese security cooperation frequently overlaps with civilian infrastructure and economic projects, increasing local debates about dependency and political leverage. The emerging consensus suggests that Sahelian governments face a complex balancing act, navigating diverse international partnerships to enhance security capacities while maintaining political independence and internal legitimacy.

This paper aims to examine the trends of Chinese arms exports and their security implications in Sahel countries between 2010 and 2024 using both quantitative and qualitative methods. Using the SIPRI arms export database and the ACLED conflict database, my analysis seeks to uncover the correlation between Chinese arms transfers and incidents of political violence in the region. Based on these findings, I draw

conclusions about the future implications of China's strategic presence and explore longer-term effects on regional political stability. The study finally provides concrete policy recommendations to strengthen governance oversight, enhance transparency in arms transfers, and promote coordinated international efforts to foster sustainable peace and security in the Sahel region.

The paper is structured as follows: the subsequent literature review synthesizes existing scholarly insights into China's strategic engagement in Africa, highlighting the diverse scholarly perspectives on military cooperation and its geopolitical ramifications. The methodology section outlines the quantitative and qualitative analytical frameworks, explaining the chosen databases and variables used for assessing arms transfers and conflict dynamics. The analysis section presents detailed statistical correlations, also presents descriptive statistics and fixed-effects regression results, and the qualitative case studies illustrating the implications of China's growing security involvement. This is followed by a comprehensive discussion examining the multifaceted regional impacts, local political reactions, and broader geopolitical implications. Finally, the paper concludes with specific policy implications and recommendations designed to improve international cooperation, governance transparency, and regional stability in the Sahel.

Literature Review

The academic literature provides diverse perspectives on Beijing's evolving security and political strategies in Africa. This makes it an exciting yet challenging topic to explore. Devecioglu and Akçomak offer a comprehensive overview of China's African policy during the Xi Jinping era. (Devecioglu & Akçomak, 2024) Focusing especially on the critical role played by energy and raw material demands that shape China's military and economic strategies. According to the authors, China has made significant investments in oil and mineral resource extraction, strategically connected to its military presence to secure a stable supply of resources.

Jean Pierre Cabestan's analysis further deepens our understanding of China's strategic approach by focusing on the "Going Out Strategy" and the Belt and Road Initiative (BRI), using Niger as a key case study. (Cabestan, 2019) Cabestan provides concrete examples showing how infrastructure projects, such as airports, yield direct military logistical advantages. His research highlights China's strategic commitment to projects that may not offer immediate economic returns but offer significant long-term geopolitical benefits.

Based on this, Bharti and Kumari deliver further insights into the relationship between Belt and Road Initiative projects and military cooperation. (Bharti & Kumari, 2023) Their study specifically illustrates China's creation of military training centers in African countries where significant economic interests exist, reinforcing how China consistently integrates its economic ambitions with security objectives.

Diallo and Descamps move this analysis toward a more practical dimension, exploring how China strategically employs the "Global South" narrative to strengthen

its position in the region. (Diallo & Descamps, 2024) The authors argue that China's strategic messaging provides not just symbolic benefits but concrete political advantages, particularly through active participation in regional forums, presenting significant strategic challenges to European Union interests in Africa.

Expanding on the global implications, Lammich places China's evolving security engagement in Africa within the broader context of global geopolitical ambitions. (Lammich, 2025) Her analysis highlights China's participation in peacekeeping missions as a clear reflection of its strategic intent, indicating a shift toward an active and assertive global military presence.

At the operational level, the Strategic Comments report demonstrates the measurable impacts of China's military cooperation, highlighting the widespread adoption of Chinese-made armoured vehicles and military hardware across Africa. ("Chinese arms sales in Sub-Saharan Africa," 2024) Particularly significant is the finding that "approximately 70% of African armies currently operate Chinese-made armoured vehicles," showing the full extent of China's military integration into African security structures.

Further empirical insights are provided by Him, Zheng, and Chen, who demonstrate the direct diplomatic impact of China's military exports. (He et al., 2025) Their quantitative analysis confirms that African nations receiving significant Chinese military support are statistically more likely to converge with China's positions during UN General Assembly votes, underscoring the diplomatic leverage afforded by military assistance.

Finally, Rudolph shows critical security aspects by analysing the potential threats posed by the Islamic State to Chinese interests in the Sahel. (Rudolph, 2024) He outlines the major events and threats, such as attacks against Chinese nationals, which underscore significant long-term strategic risks for China in the region.

Arduino emphasizes that China's increasing military support in Africa represents a comprehensive security strategy with significant geopolitical implications. (Arduino, 2024) The European Parliament (2019) also highlights China's growing military engagements in Africa, interconnected economic interests with security cooperation, presenting challenges to Western influence. MERICS-IISS' 2020 publication underscores China's wide-ranging military cooperation, combining economic security with increasing local state capabilities. (Nouwens & Legarda, 2020) Moreover, Krukowska stresses that China's involvement extends beyond military equipment to technological advancements in surveillance and data management, providing China with additional strategic advantages in the region. (Krukowska, 2024)

In addition, Alden and Large offer an essential comparative perspective by analysing China's security and development model alongside those of Russia, Turkey, India, and Western countries. (Alden & Large, 2018) Their research highlights those diverse international strategies, ranging from China's pragmatic economic and infrastructure-driven approach to Russia's direct military presence without governance requirements, significantly shape local political dynamics. This complexity underscores the diverse

geopolitical competition in the Sahel region, providing critical insights into how different external influences interact within unstable governance contexts.

Collectively, these scholarly contributions provide a nuanced and detailed understanding of China's multifaceted involvement in the Sahel region. The diverse analyses from various perspectives furnish a rich foundation for the current study, allowing a deeper interpretation of China's military, political, and economic motivations and their broader regional implications.

Methodology

In this study, I used a mixed methods approach, integrating quantitative and qualitative analysis techniques. The quantitative analysis relied mainly on two key databases: the arms export database provided by the Stockholm International Peace Research Institute (SIPRI) and the conflict events database by the Armed Conflict Location & Event Data Project (ACLED).

From the SIPRI database, annual data were collected on Chinese arms exports to Mali, Niger, and Burkina Faso between 2010 and 2024. Meanwhile, the ACLED database provided annual event counts of political violence and armed conflicts, as well as the associated number of fatalities within these countries during the same period.

Time series and correlation analyses were performed to identify potential relationships between arms exports and political instability. The qualitative analysis relied on insights from the reviewed academic literature, providing a deeper interpretation of the strategic and political dynamics underlying the quantitative data.

The qualitative analysis also incorporated insights from Benabdallah, who provided critical evaluations of China's developmental security strategies in Mali, and Rajosefa, who emphasized future strategic competition implications in the Sahel region. (Benabdallah, 2017; Rajosefa, 2021) These additional qualitative dimensions improved the robustness of the interpretive framework.

The variables used in this research were defined as follows:

- **Total weapons:** Annual aggregated data representing the number of military equipment items, weapons, and armoured vehicles exported by China to Mali, Niger, and Burkina Faso, based on orders placed each year.
- **Total events:** Annual count of all recorded incidents of political violence and armed conflict events.
- **Total fatalities:** Total number of deaths documented annually across all political violence incidents, covering combatants and civilian victims.
- **Event type:** ACLED classifies events into the following main categories:
 - **Battles:** Armed clashes involving two or more organized armed groups.
 - **Explosions/Remote violence:** Attacks involving explosions, missiles, and remotely operated weapons.
 - **Violence against civilians:** Violent incidents explicitly targeting civilian populations.
 - **Protests:** Demonstrations ranging from peaceful to violent actions.

- **Riots:** Aggressive, violent disturbances involving large groups.
- **Strategic developments:** Significant strategic shifts, including changes in territorial control or movements of military forces.
- **Conflict event:** A detailed narrative describing exactly what occurred at the incident location, including the actors involved, weaponry used, precise location, date, and the damages or casualties incurred.

In the second part of the analysis, I added two additional countries to the sample, which are Russia and France. The required data were likewise taken from the SIPRI database, but this time I drew on the SIPRI Trend Indicator Values (TIVs) table. Because the TIV distribution is highly right-skewed, I worked throughout with the $\ln(TIV + 1)$ transformation. Four main explanatory variables appear in the regressions: $\ln_TIV_China$, $\ln_TIV_Russia$, $\ln_TIV_France$, and their one-year lags (lag 1).

From the ACLED database, I collected annual totals for conflict events (`total_events`) and fatalities (`total_fatalities`), retaining all six event categories. The model specifications apply country and year fixed effects OLS to fatalities, and country fixed effects Poisson and negative binomial models to event counts, with HC1 robust standard errors. Each regression includes two dummies: the Wagner dummy (Mali ≥ 2021 , Burkina Faso ≥ 2023 , Niger ≥ 2024) and the G5 Sahel dummy (≥ 2017). Country year cells with missing values were filled with zeros, yielding 45 panel observations (42 in the lag model).

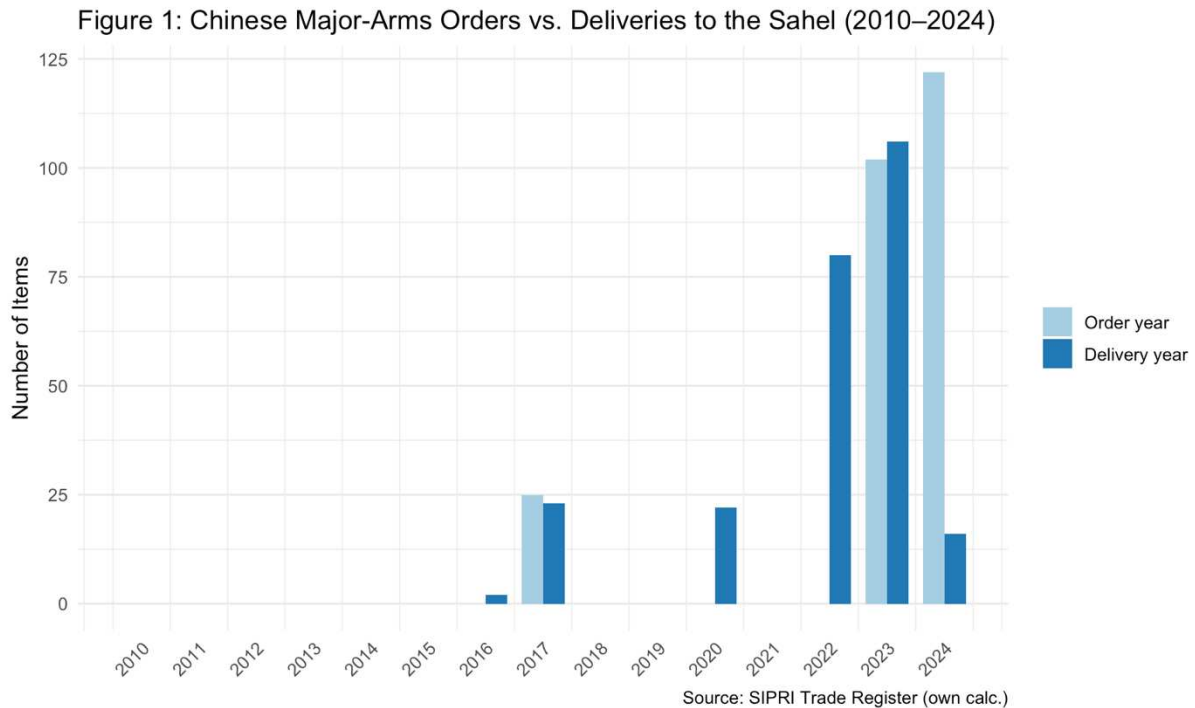
Additional variables:

- **TIV value:** The index calculated by SIPRI, expressed in constant 1990 USD, measures the combat value of a major conventional weapon.
- **$\ln_TIV_China$:** The total TIV of weapons delivered from China to Mali, Niger, and Burkina Faso in a given year, transformed by the natural logarithm (+1 offset).
- **$\ln_TIV_Russia$:** The total TIV of weapons delivered from Russia to Mali, Niger, and Burkina Faso in a given year, transformed by the natural logarithm (+1 offset).
- **$\ln_TIV_France$:** The total TIV of weapons delivered from France to Mali, Niger, and Burkina Faso in a given year, transformed by the natural logarithm (+1 offset).
- **Wagner dummy** = 1 from the first year of documented Wagner/Africa Corps presence (Mali ≥ 2021 , Burkina Faso ≥ 2023 , Niger ≥ 2024); 0 otherwise.
- **G5 Sahel dummy** = 1 from 2017 onward in all three countries, marking the activation of the G5 Sahel Joint Force.

Analysis

In the analysis, I first examined the SIPRI data on an annual basis. The first figure illustrates trends in Chinese arms exports, highlighting a significant increase in shipments

after 2017, particularly concerning armoured vehicles and small arms. The exports reached their peak in 2022 and 2023, with a combined total of more than 180 military items delivered during these two years.

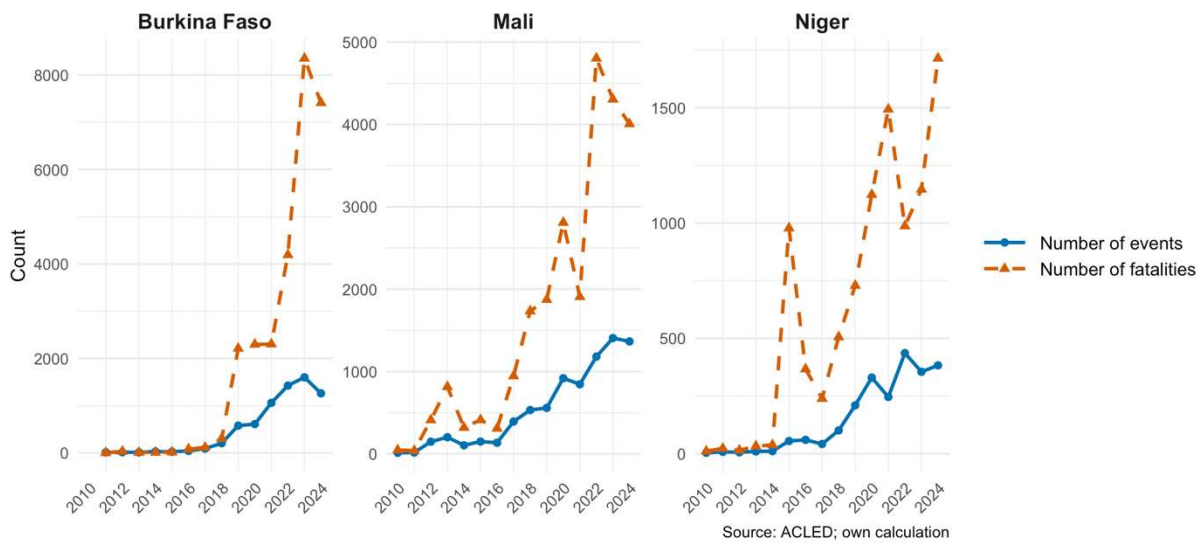


Light blue bars show the year the contracts were placed; dark blue bars show when the items were delivered. Source: SIPRI Trade Register (own calculations)

In descriptive terms, the Chinese exports rise in parallel with worsening security, but the fixed effects models below do not confirm a causal link.

The second figure visualizes the ACLED conflict data. The time series clearly reveals a dramatic rise in both the number of conflict events and fatalities in the Sahel region, especially after 2017, falling exactly at the same point as the surge in arms exports shown in the first figure. While only a few hundred violent incidents were recorded in 2010, by 2022 and 2023, the annual number of conflict events had escalated into the thousands. The increase in fatalities is even more alarming, rising above ten thousand annually by 2023. This rapid escalation underscores a significant deterioration in regional security and presents increasing challenges for local state institutions seeking to maintain stability.

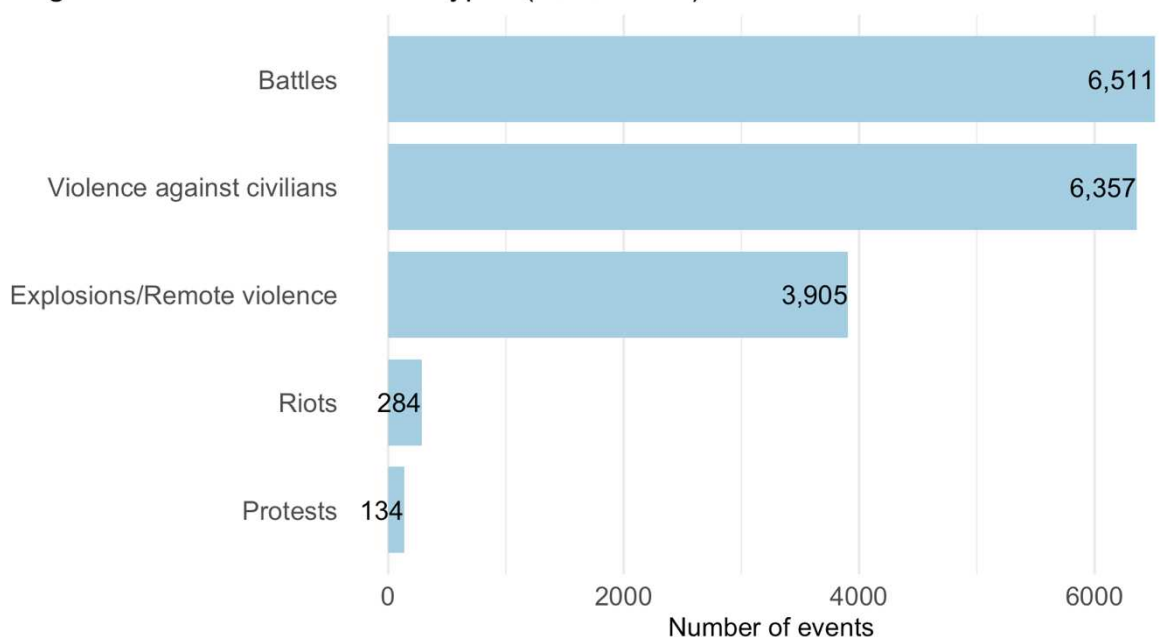
Figure 2: Annual conflict events and fatalities in the Sahel (ACLED, 2010–2024)



Blue line = events; dashed orange line = fatalities.

Analyzing event types provides further important insights: the overwhelming majority of all recorded incidents consist of armed clashes ("Battles") and acts of violence against civilians (Figure 3). Together, these two categories account for more than 12,800 events, making up the vast majority of the total number of recorded incidents. The dominance of these conflict types highlights the complex security challenges facing the region, where conflicts extend beyond conventional interstate warfare to include complex internal conflicts, terrorism, and asymmetric warfare dynamics.

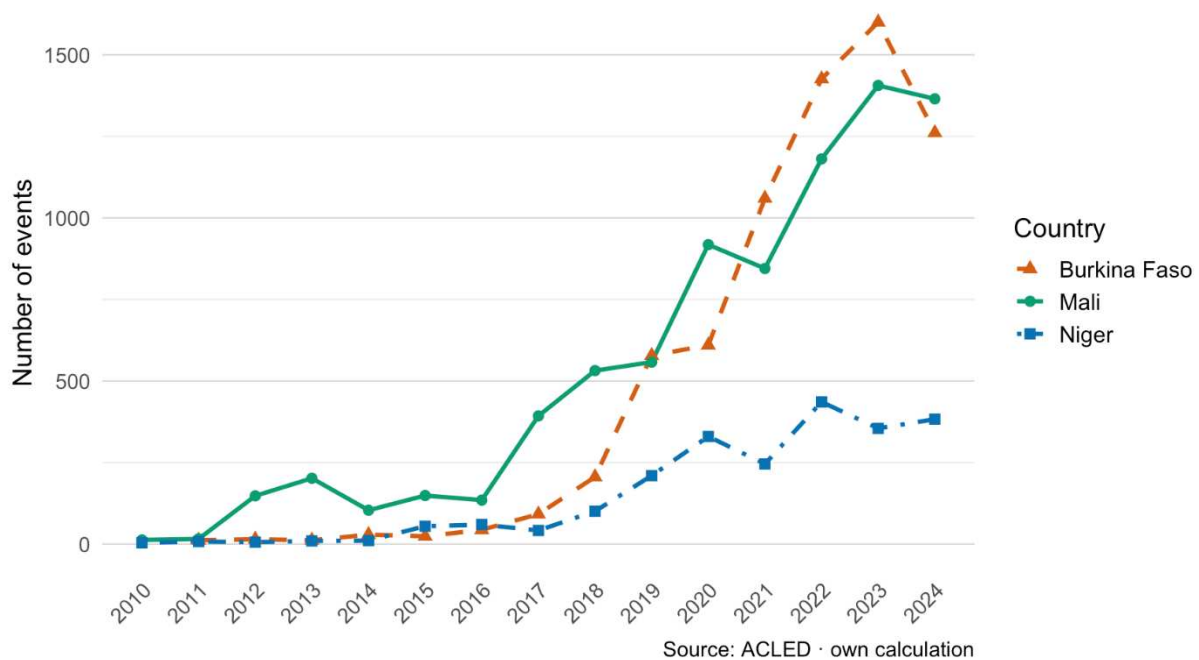
Figure 3: Distribution of event types (2010–2024)



Horizontal bars indicate the cumulative number of ACLED events in each category. Own calculation

Breaking down the conflict dynamics by country shows clear trajectories. Mali and Burkina Faso experienced exponential increases in the number of conflict events starting from 2017, whereas Niger saw a more moderate rise. This divergence raises critical strategic questions: in Burkina Faso and Mali, the escalation in conflicts coincided with a rise in Chinese military support. This raises an important issue regarding whether the surge in arms imports provided these countries with improved capacity to manage conflicts more intensively, or, in contrast, contributed directly to escalating violence. Table 1 examines this question and shows that exporter effects prove nonsignificant once shocks are controlled.

Figure 4: Conflict events by country (2010–2024)



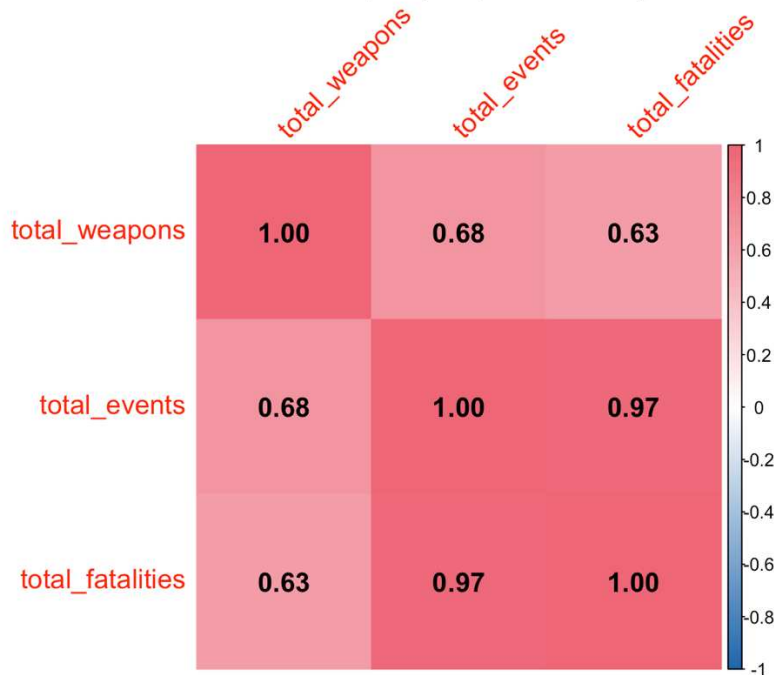
Dashed vertical lines mark the first documented Wagner presence: 2021 (Mali), 2023 (Burkina Faso), 2024 (Niger).

Finally, a quantitative correlation analysis resulted the following key findings:

- A strong positive correlation (0.72) exists between Chinese arms exports and the number of conflict events, indicating that increased arms exports occur at the same time as the escalation of conflict incidents.
- An extremely high positive correlation (0.98) was observed between conflict events and fatalities, logically suggesting that a higher number of incidents is directly associated with a greater number of casualties.
- A moderately strong positive correlation (0.65) was identified between arms exports and the number of fatalities, suggesting that the presence of Chinese weapons may indirectly correlate with the intensity of violence and the resulting death toll.

Although these relationships disappear once exporter and year fixed effects are introduced (see Table 1).

Figure 5: Correlation matrix: SIPRI (weapons) vs. ACLED (events, fatalities)



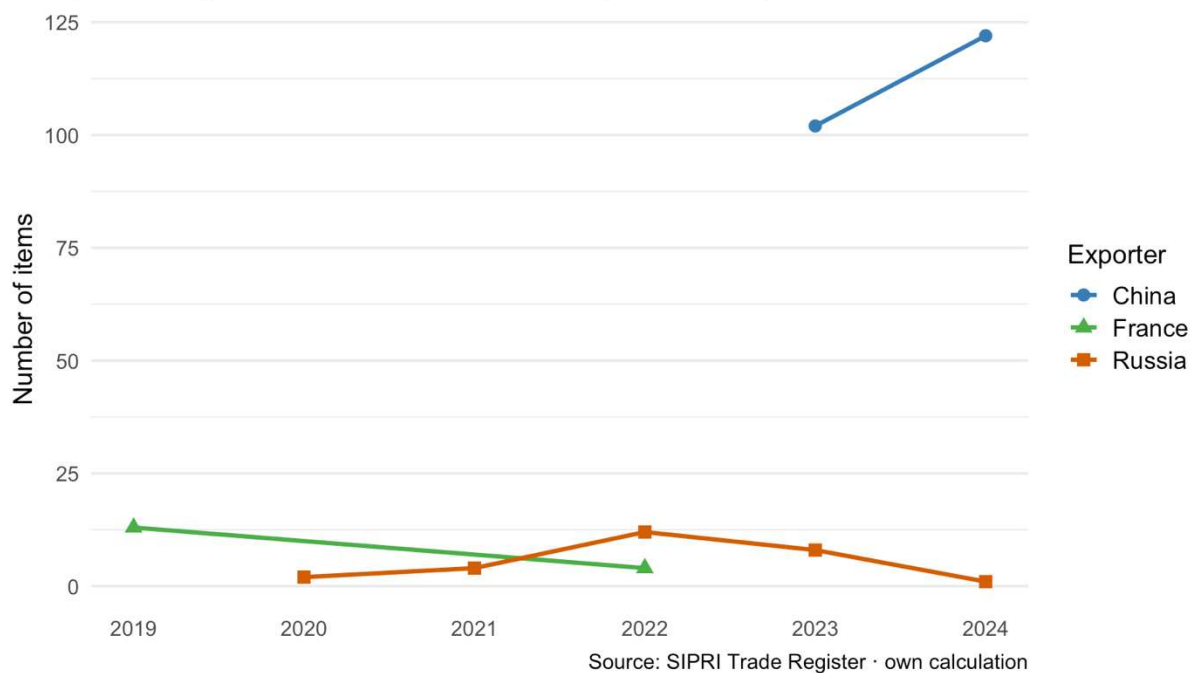
Cell colors reflect Spearman ρ ; coefficients are shown inside the cells.

A qualitative analysis of conflict events adds further depth to our understanding. According to the ACLED data, the majority of conflicts include not only military engagements but also significant violence targeting civilians. This shows a critical issue: increased military presence and growing availability of arms do not automatically lead to greater stability. Instead, under certain conditions, they may increase instability, especially when weapons fall into the hands of non-state actors or are misused by poorly controlled state forces.

Furthermore, integrating qualitative evidence from Devermont and Blank, the analysis acknowledges China's peacekeeping operations and security engagements as missions serving dual purposes, combining humanitarian objectives with strategic influence. (Devermont, 2020; Blank, 2009) Kamerling provided additional context, highlighting China's increasing military footprint as part of broader geopolitical strategies. (Kamerling, 2016)

In addition to China, I included Russia's and France's export data in the analysis to obtain a truly comparative examination. Comparing all three exporters allows for assessing qualitatively different arms export models within the same quantitative framework. In the overall comparison, China's post-2022 export boom is clearly much higher than French and Russian levels (Figure 6).

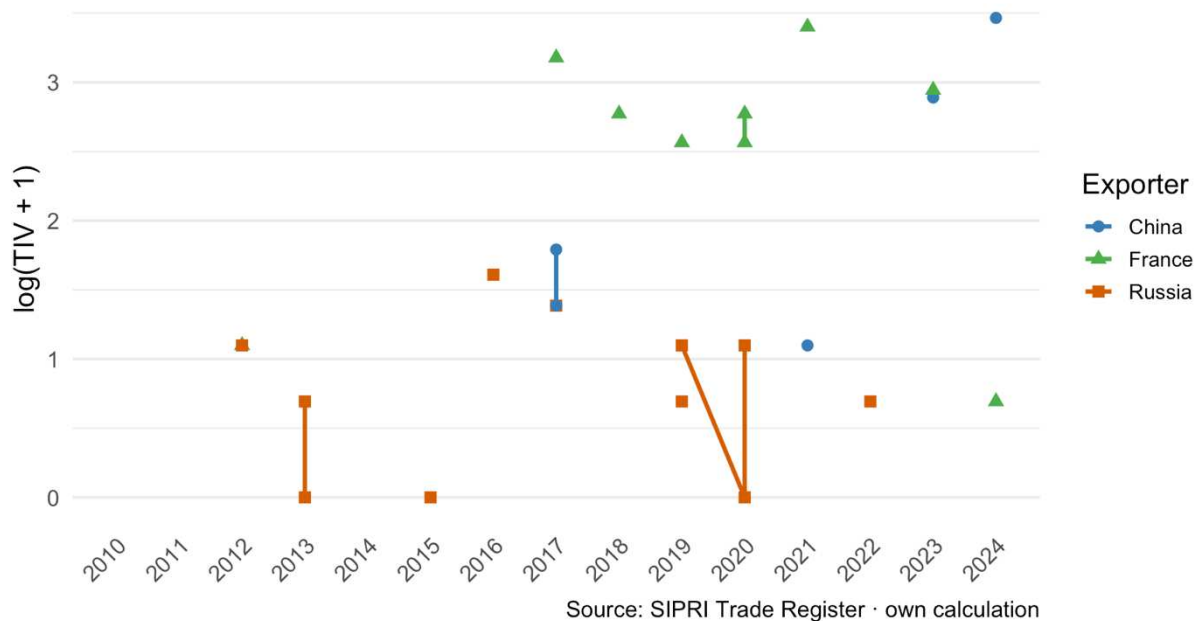
Figure 6. Major items delivered to the Sahel (2010 – 2024)



Blue markers represent Chinese deliveries, green markers show French deliveries, and orange markers indicate Russian deliveries. Source: SIPRI Trade Register (own calculations)

Next, I introduced the SIPRI TIV indicator, which measures the combat value of major weapon systems in constant 1990 USD. To prevent extreme values from skewing the series, I applied a $\log(TIV + 1)$ transformation. The results show that France's highest TIV peak occurred in 2016 18, when successive deliveries of Puma helicopters, Bastion APCs, and SA 342 Gazelles coincided with Operation Barkhane and the build-up of the G5 Sahel force. China, by contrast, increased dramatically in terms of item counts in 2022, but mostly with inexpensive armoured vehicles; the truly high-value package, like Wing Loong UAVs and modern IFVs, appears only in 2024, pushing the log TIV above the earlier French peak (Figure 7).

Figure 7: log-TIV value of deliveries (2010–2024)



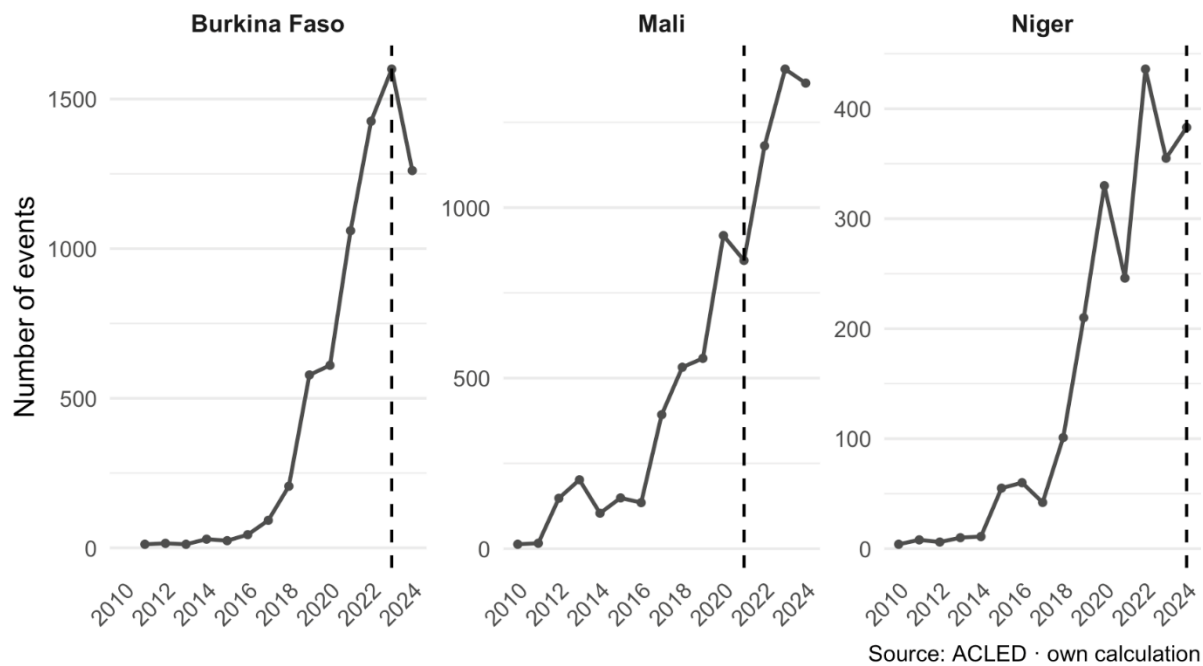
The log scale demonstrates the 2016–18 French peak and the later 2024 Chinese spike.

I then ran a fixed-effects panel model (within estimator) that controls for all time-invariant country traits and common year shocks on 45 observations (42 in the lag specification). The Chinese, Russian and French β coefficients proved non-significant for fatalities. A fixed effects Poisson Generalized Linear Model on event counts yielded the same null result, and a negative binomial robustness test ($\phi \approx 6.6$) did not alter the conclusion. (Table 1)

Although the present sample reveals no medium or large-sized relationship between arms transfers and conflict intensity, this does not rule out the possibility of a smaller effect that the current data cannot detect. Future research should draw on longer time series and a broader set of countries to capture subtle effects.

As Figure 8 illustrates, the rapid rise in violence had already begun before the arrival of Wagner contingents, following a region-wide trajectory.

Figure 8. Conflict events before and after Wagner arrival



The graph shows the annual number of conflict events in Burkina Faso, Mali, and Niger between 2010 and 2024. Source: ACLED (own calculation)

To summarize, the extended analysis shows that between 2010 and 2024, the intensity of conflict in the Sahel cannot be explained by changes in Chinese (nor Russian or French) arms export TIV once country and year fixed effects are controlled for. Descriptive figures point to China's dramatic surge, yet the panel regressions consistently show a null effect. The escalation of violence is instead connected to region-level shocks, the 2017 launch of the G5 Sahel Joint Force, the post-2021 terror surge, and the spread of Wagner effects that the year dummies already captured.

Discussion

This study provides a deeper understanding of China's expanding military footprint in the Sahel by exploring arms export trends (2010–2024) and similar shifts in the region's security environment. The evidence points to a *complex* relationship: external military support can bring strategic advantages but may also coincide with increasing instability. A key descriptive finding is the sharp increase in Chinese arms deliveries to Mali, Niger, and Burkina Faso after 2022, a surge that aligns with Beijing's broader, long-term geopolitical ambitions in Africa. Cabestan likewise observes that China is prepared to make sizeable, even unprofitable in the near term, security investments to consolidate its strategic position. (Cabestan, 2019) Yet fixed effects panel tests show that, once other exporters and region-wide shocks are held constant, higher Chinese volumes do not by themselves explain the escalation of violence.

The results indicate a substantial decline in the security situation in recent years, evidenced by increased numbers of conflicts and fatalities. While causal inference

requires caution, the strong positive correlation (0.72) between Chinese arms exports and conflict events requires further investigation. However, once Russian and French transfers, the G5 Sahel activation and country-specific Wagner deployments are controlled for in fixed effects panel models, this correlation is no longer statistically significant. Research by He, Zheng, and Chen similarly notes that military exports hold diplomatic and political influence, though this influence can be ambivalent, potentially increasing instability. (He et al., 2025)

Analysis of event types clearly indicates a dominance of armed clashes and violent actions against civilians. These conflicts point to the complex security challenges in the region, moving beyond traditional interstate tensions to asymmetric conflicts and terrorist attacks. Rudolph also emphasizes the significant threats posed by non-state actors and extremist groups to regional stability and indirectly to China's strategic interests. (Rudolph, 2024)

Country-specific breakdowns indicate a significant increase in conflict events in Mali and Burkina Faso, corresponding with rising Chinese arms imports, whereas Niger experienced a more moderate increase. This highlights that military support does not necessarily stabilize but may escalate violence, especially where state control is weak. Research by Bharti and Kumari further demonstrates the close integration of China's economic and military cooperation, strongly affecting regional dynamics and requiring careful management. (Bharti & Kumari, 2023)

Qualitative analysis of conflict events also highlights challenges. According to ACLED data, weapon shipments intended to support government forces may increase instability, especially if they fall into poorly controlled or non-state actors' hands. Diallo and Descamps also point out that while China uses narratives of partnership and mutual benefits, actual outcomes often diverge from the intended effects on stability. (Diallo & Descamps, 2024)

Thus, the findings show that while Chinese arms exports officially aim to strengthen regional stability, reality is significantly more complex. There is a genuine risk that external military support could unintentionally worsen conflict dynamics and instability, especially in contexts of weak governance and contested legitimacy. Consequently, further research and political strategy formulation are essential, as suggested by Lammich, emphasizing that China's African engagement should be examined using an integrated approach. (Lammich, 2025)

Overall, China's military and strategic presence in the Sahel clearly reflects its growing geopolitical ambitions, yet its impact is far from consistently positive. Regional and global decision makers must handle this dynamic with care, ensuring that external military support contributes to stability rather than becoming a driver of further conflict.

Mtakwa notes that China's military cooperation strategies are not simply transactional but form part of broader regional influence-building strategies, potentially reshaping traditional alliances and affecting regional power balances. (Mtakwa, 2023) Singh also points out how China's security initiatives compete directly with other international actors, complicating international coordination efforts. (Singh, 2023)

China's increasing security presence in the Sahel region can be better understood within the broader context of intensifying geopolitical competition. According to Alden and Large, China's approach to security and military cooperation in Africa differs significantly from traditional Western models. (Alden & Large, 2018) Western interventions, especially from the United States and the European Union, typically emphasize conditions related to democratic governance, respect for human rights, and institutional reforms. By contrast, China generally helps with fewer political conditions, focusing instead on infrastructure development and strategic economic investments meant to support geopolitical influence and resource access. Russia's involvement, notably through Wagner Group operations, presents yet another contrasting model characterized by direct military presence and limited developmental objectives, often deepening instability by strengthening authoritarian tendencies. Emerging regional actors like Turkey and India further diversify this geopolitical landscape, mixing diplomatic influence, economic aid, and targeted military action. This complexity requires Sahelian states to navigate carefully, balancing external engagements to protect their national sovereignty and manage internal political stability (Alden & Large, 2018).

Local governments have, in response, adjusted foreign policies to balance Chinese military support with Western aid, indicating a more pragmatic turn but also promoting debates on sovereignty and dependency (Rajosefa, 2021).

Moreover, research indicates that China's military cooperation forms part of a broader geopolitical competition in the Sahel. Sam uses policy analysis to argue that US, Chinese, Russian, Turkish, Iranian, and Indian engagements are part of a multi-actor competition, shaping regional political allegiances and complicating aid dynamics. (Sam, 2025)

Finally, Benabdallah's case study on Mali shows that Chinese involvement in security infrastructure often overlaps with civilian development projects, generating complementarities but also raising concerns about dual-use projects and political leverage. (Benabdallah, 2017)

The expanding Chinese military engagement in the Sahel region has provoked diverse and complex responses among local political actors and civil societies. While regional governments have largely welcomed Beijing's pragmatic approach to security and development assistance, opposition groups and civil organizations have voiced substantial concerns. Local political debates increasingly focus on issues of national sovereignty, dependency, and potential debt risks connected to China's financial and infrastructural investments. Moreover, there is growing anxiety over transparency and accountability in government dealings with China, raising critical questions about governance standards and the public. Civil society groups emphasise the importance of monitoring military assistance to prevent misuse by state forces and inadvertent empowerment of authoritarian tendencies.

According to Elischer, civil-military relations in the Sahel have increasingly shown praetorian tendencies, characterized by the heightened political influence of military elites. (Elischer, 2019) These dynamics have increased concerns among local civil

societies regarding external military partnerships, such as those with China, potentially intensifying authoritarian governance practices and reducing civilian oversight.

Politically, opposition parties across Mali, Niger, and Burkina Faso have frequently highlighted the risks of overly relying on Chinese support, calling for more balanced and diversified international partnerships. The concern that strong dependence on a single external power might compromise national interests and autonomy is frequently echoed in local media and political discourse. These dynamics underscore the difficult balance governments must strike in leveraging external support without alienating domestic constituencies concerned with national independence and political accountability.

Policy Implications

Drawing on the analysis presented, several concrete policy recommendations emerge for both international and local policymakers. First of all, strengthening arms regulation and monitoring is crucial for regional stability in the Sahel. In the African context, implementing effective marking, tracing, and destruction programs can significantly reduce the spread of illicit arms and reduce the risk of weapons falling into the hands of non-state actors (Adeniyi, 2017).

Additionally, promoting multilateral security frameworks is essential. Sahelian countries should actively engage in coordination within established international forums such as the Forum on China-Africa Cooperation (FOCAC), the African Union (AU), and ECOWAS. As Lammich highlights, institutionalized cooperation mechanisms, particularly AU-China channels, provide effective platforms for coordinating international efforts aimed at regional stabilization. (Lammich, 2025)

It is also important to integrate a comprehensive security development nexus into international engagements. Following China's own security development model applied in Africa, aligning military assistance with civilian development projects can address the over-militarization of development programs and enhance their overall effectiveness (Bertha & Napoleon, 2020).

Strengthening governance at the local and regional levels should likewise be a priority. International stakeholders need to support efforts to build capacity for improving governmental transparency and control mechanisms. Improved governance capacities are especially essential in the Sahel states facing fragility, where weak governmental structures directly contribute to security risks such as insurgency and coups (Bøås & Strazzari, 2020).

Empowering civil society organizations, media, and local communities to actively oversee arms flows and monitor conflict events can make an important contribution to regional security. Developing and supporting programs to build transparent oversight mechanisms and effective early warning systems could significantly enhance regional stability.

Moreover, forming strategic partnerships for joint peacekeeping initiatives between Sahel states and international partners is highly recommended. According to Lammich, China's willingness to participate in African Union-led peacekeeping missions presents

opportunities for joint or observer status operations involving both Western and Chinese forces. (Lammich, 2025)

Finally, regular strategic dialogue is important. Developing consistent forums involving Sahelian countries, China, the United States, and other international stakeholders could support joint threat assessments, avoid policy conflicts, and manage the complications resulting from great power competition. Such regular dialogues could constructively address geopolitical rivalry and maintain regional stability, as noted by Sam and Singh. (Sam, 2025; Singh, 2023)

Conclusion

The analyses presented in this study clearly illustrate that China's military and defence industrial cooperation with the Sahel region has substantial yet mixed consequences. On one hand, such cooperation strengthens the military capacities of regional states; but on the other, it may indirectly contribute to increased conflict intensity, especially under conditions of weak state control and governmental uncertainty. The findings show that raw trends move together, yet exporter volumes are not a significant driver once country and year shocks are controlled. The main risks come from regional shocks and weak governance. Note that the analysis covers three countries over fifteen years, which means it is best suited to detect medium to large effects. Limited measurement uncertainties in the SIPRI and ACLED data are tempered by country and year fixed effects, but very small effects cannot be entirely ruled out.

The presence of China in the Sahel region also significantly reshapes local political dynamics. Sahelian governments, confronting persistent internal security threats and instability, increasingly look to Beijing for comprehensive support, including military, diplomatic, and economic aid. This shift has led to important changes in regional foreign policies and political alignments, reflecting a pragmatic strategy of balancing between traditional Western alliances and deepening cooperation with China. Such a transition, however, raises critical questions about national sovereignty, dependency risks, and the long-term sustainability of these strategic partnerships.

Considering the contributions of multiple international actors identified by Sam, Besenyő, and Rudolph, future research needs to adopt a more wide-ranging approach that not only examines China's activities but also situates them within the broader competitive geopolitical context. (Sam, 2025; Besenyő, 2019; Rudolph, 2024) This research should extend to the geopolitical influence of other key international actors such as the United States, Russia, Turkey, Iran, and India, whose involvement adds additional layers of complexity and competition to regional security dynamics.

Future studies should also explore more deeply the potential for coordinated international responses to reduce unintended negative impacts on regional stability (Rajosefa, 2021). Multilateral cooperation, involving both Western nations and China within institutional frameworks such as the African Union and ECOWAS, could play a key role in fitting with divergent security policies and ensuring effective coordination of international efforts. Closer dialogue, joint security operations, and shared development

strategies between these powers could significantly reduce competition-driven tensions and strengthen regional stability.

Future research should pursue more in-depth investigations, particularly focusing on the internal dynamics of individual countries and a deeper understanding of China's long-term strategic intentions. Given the weak governance structures and political volatility of the Sahel states, future analyses would benefit significantly from detailed case studies examining local government capacities, institutional resilience, and the effectiveness of existing oversight mechanisms. Such detailed studies would also help policymakers craft context-specific solutions tailored to each country's unique governance challenges.

Lastly, policymakers need to develop integrated strategies that carefully balance security and developmental objectives, using transparent governance practices, stronger civil society engagement, and more robust arms control mechanisms. Responsible and proactive management of China's military cooperation and, indeed, all international military involvements, remains essential. This approach would help realise the benefits of international partnerships while minimizing potential risks, ultimately promoting sustainable peace and long-term stability in the Sahel region.

Even though the analysis did not reveal a clear causal connection between Chinese arms transfers and the increase in conflicts, the study provides a valuable basis for future research seeking to better understand the long-term political and security implications of arms transfers.

Notes on Contributor

Hanna Tietze completed her undergraduate studies in Applied Economics at Corvinus University of Budapest, where she gained a strong foundation in quantitative economic analysis and data-based research. She continued her studies in the International Economy and Business master's program offered by the MNB Institute, which shaped her interest in how political decisions, geopolitical changes, and economic processes are connected. She also studied development economics at Fudan University. In her research and through her participation in the National Scientific Students' Conference (OTDK), she studied the stock market effects of political transitions and government policies in the United States, Hungary's economic and strategic exposure to China, and the dynamics and crisis sensitivity of ownership structures in the Hungarian stock market. In her work, she uses quantitative economic methods to examine the economic effects of political and institutional change. Her current research focuses on China's security and defense-industry expansion, especially in the Sahel region, and its political and economic consequences for fragile states and the international system.

Conflict of Interest

The author hereby declare that no competing financial interest exists for this manuscript.



References

- Adeniyi, A. (2017). *The human cost of uncontrolled arms in Africa: Cross national research on seven African countries*. Oxfam International. Retrieved January 10, 2025 from <https://policypractice.oxfam.org/resources/thehumancostofuncontrolledarmsinafricacrossnationalresearchonseven620205/>
- Alden, C., & Large, D. (2018). *China and Africa: Building Peace and Security Cooperation on the Continent*. Palgrave Macmillan. <https://doi.org/10.1007/9783319528939>
- Arduino, A. (2024). *China's expanding security footprint in Africa: From arms transfers to military cooperation*. Italian Institute for International Political Studies (ISPI). Retrieved January 10, 2025 from <https://www.ispionline.it/en/publication/chinasexpandingsecurityfootprintinafricafromarmstransferstomilitarycooperation184841>
- Benabdallah, L. (2017). *China's peace and security strategies in Mali*. China–Africa Research Initiative, SAIS, Johns Hopkins University. Retrieved January 10, 2025 from <https://linabenabdallah.com/wp-content/uploads/2017/07/20c40wp40benabdallah26largedevsecuritychinaroleinmali.pdf>
- Benabdallah, L., & Large, D. (2020). *Development, security, and China's evolving role in Mali (SAIS CARI Working Paper No. 2020/40)*. China Africa Research Initiative, SAIS, Johns Hopkins University. Retrieved January 10, 2025 from <https://www.econstor.eu/bitstream/10419/248168/1/saiscariwp40.pdf>
- Bertha, O.-H. Z., & Napoleon, K. (2020). Security Development Nexus: China's Policy Framework towards Africa [Special Issue]. *European Journal of Social Sciences Studies*. <https://doi.org/10.47362/EJSSS.2020.1101>
- Besenyő, J. (2019). The Africa Policy of Russia. *Terrorism and Political Violence*, 31(1), 132-153. <https://doi.org/10.1080/09546553.2018.1555976>
- Bharti, M. S., & Kumari, S. (2023). China's Security Presence and BRI in African Countries: Implications for the United States and the European Union. *China Quarterly of International Strategic Studies*, 09(01–04), 21-41. <https://doi.org/10.1142/S2377740023500021>
- Blank, M. L. (2009). *Hugging with Tactical Arms: What Motivates China to Export Weapons? (Bachelor's thesis, University of Michigan)* https://deepblue.lib.umich.edu/bitstream/handle/2027.42/63929/blank_meredith_2009.pdf
- Bøås, M., & Strazzari, F. (2020). Governance, Fragility and Insurgency in the Sahel: A Hybrid Political Order in the Making. *The International Spectator*, 55(4), 1-17. <https://doi.org/10.1080/03932729.2020.1835324>
- Cabestan, J.-P. (2019). Beijing's 'Going Out' Strategy and Belt and Road Initiative in the Sahel: The Case of China's Growing Presence in Niger. *Journal of Contemporary China*, 28(118), 592-613. <https://doi.org/10.1080/10670564.2018.1557948>

- Chinese arms sales in Sub-Saharan Africa. (2024). *Strategic Comments*, 30(10), ix-xii. <https://doi.org/10.1080/13567888.2024.2442886>
- Devecioglu, S., & Akçomak, I. S. (2024). China's Africa policy during the Xi Jinping era (2012–2022). *ChronAfrica*, 17(1), 23-42. <https://doi.org/10.62841/ChronAfrica.2024.196>
- Devermont, J. (2020). *Written testimony of Judd Devermont: China's strategic aims in Africa*. U.S.–China Economic and Security Review Commission. Retrieved January 10, 2025 from https://www.uscc.gov/sites/default/files/Devermont_Testimony.pdf
- Diallo, A., & Descamps, E. (2024). China's security engagement with Africa & the "Global South" narrative. *EuroHub4Sino Policy Paper*(5), 1-20. <https://eh4s.eu/publication/chinassecurityengagementwithafricatheglobalsouthnarrative>
- Elischer, S. (2019). Contemporary Civil–Military Relations in the Sahel. *West African Papers*(19). <https://doi.org/10.1787/f17713c9en>
- Gisela, G. (2019). *China's growing role as a security actor in Africa*. Retrieved January 10, 2025 from [https://www.europarl.europa.eu/RegData/etudes/BRIE/2019/642232/EPRS_BRI\(2019\)642232_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2019/642232/EPRS_BRI(2019)642232_EN.pdf)
- He, X., Zheng, Y., & Chen, Y. (2025). Weapons and influence: Unpacking the impact of Chinese arms exports on the UNGA voting alignment. *European Journal of Political Economy*, 87, 102666. <https://doi.org/https://doi.org/10.1016/j.ejpoleco.2025.102666>
- Kamerling, S. (2016). *The new impetus in China's security engagement with Africa*. *Africa Trends*. University of Groningen. Retrieved January 10, 2025 from https://research.rug.nl/files/39455630/AfricaTrend_5_1.pdf
- Krukowska, M. (2024). *China-Africa military cooperation: Private security and technological implications*. GIS Reports. Retrieved January 10, 2025 from [https://www.gisreportsonline.com/r/china africa military private security/](https://www.gisreportsonline.com/r/china%20africa%20military%20private%20security/)
- Lammich, G. (2025). China's evolving security engagement in Africa: Policies, strategies, and implications. *European Journal of International Security*, 10(4), 624-641. <https://doi.org/10.1017/eis.2025.3>
- Mariani, B. (2020). *China's arms exports to sub Saharan Africa: note 29 arms transfers (Briefing paper)*. French Ministry of Defense Archive. Retrieved January 10, 2025 from <https://archives.defense.gouv.fr/content/download/635898/10510460/file/Note%2029%20Arms%20transfers.pdf>
- Mtakwa, C. (2023). Regional implications of China's security support in Africa. *International Peace Support Training Centre Journal*, 1(1), 14-27. https://www.researchgate.net/publication/366714095_Issue_1_A_Journal_of_the_International_Peace_Support_Training_Centre

- Nouwens, M., & Legarda, H. (2020). *China's rise as a global security actor: Implications for NATO*. International Institute for Strategic Studies (IISS) & Mercator Institute for China Studies (MERICS). <https://merics.org/sites/default/files/2020-12/Research%20Report-China%27s%20Rise.pdf>
- Rajosefa, J. M. (2021). *The future of strategic competition in the Sahel region*. Air University Press. https://www.airuniversity.af.edu/Portals/10/AUPress/Papers/WF_93_Rajosefa_The_Future_of_Strategic_Competition_in_the_Sahel_Region.pdf
- Rudolph, J. (2024). China and the Islamic State in the Sahel: An assessment of potential threats to Chinese interests in the Central Sahel. *Journal of Central and Eastern European African Studies*, 4(1), 1-20. <https://doi.org/10.59569/jceeas.2023.3.4.218>
- Sam, H. (2025). *West Africa at a crossroads of partnerships (Policy Brief No. 20/25)*. Policy Center for the New South. Retrieved January 10, 2025 from <https://www.policycenter.ma/sites/default/files/2025-04/PB2025%20%28Hermine%20Sam%29.pdf>
- Singh, P. (2023). *Africa pivots to China's global security initiative*. Observer Research Foundation. Retrieved January 10, 2025 from <https://www.orfonline.org/research/africapivotstochinasglobalsecurityinitiative>

Appendix

Term	OLS fatalities	Poisson events	Lag 1 OLS fatalities	Lag 1 Poisson events
In TIV China	505.8 (500.2)	0.035 (0.040)		
In TIV Russia	48.1 (431.2)	0.195 (0.191)		
In TIV France	-463.7 (247.3)	-0.148 (0.078)		
Wagner dummy	2 881.0 (1 693.1)	0.018 (0.188)	2 319.0 (1 408.1)	-0.212 (0.214)
lag In TIV China			269.7 (743.3)	0.005 (0.064)
lag In TIV Russia			-325.4 (502.6)	0.058 (0.178)
lag In TIV France			-133.0 (270.7)	-0.075 (0.079)
Fixed effects: country	Yes	Yes	Yes	Yes
Fixed effects: year	Yes	Yes	Yes	Yes
Observations	44	44	41	41
R ² / Pseudo R ²	0.820	0.951	0.779	0.942
BIC	793.8	1 208.7	749.5	1 300.8

Table 1: Regression results for arms transfers and conflict intensity in the Sahel (2010 – 2024)

Critical National Assets and Infrastructure and National Security Architecture in Nigeria: an Evaluation¹

Gani Joses Yoroms², Obinna Ukaeje³

Abstract:

Critical national assets and infrastructure are essential for effective functioning of the state and well-being of the citizens, of which their disruption would have a devastating impact on the state. It is on this premise that the Nigerian government made CNAI a key component of its national security to be protected under the national security architecture. However, despite efforts of the government through the office of the national security advisor, whose responsibility is to coordinate the country's national security architecture, CNAI Protection in Nigeria remains weak, thereby increasing the vulnerability of these infrastructure and national assets to vandalism and attack. Using qualitative research approach and dwelling largely on empirical literature and documented evidence, the paper examined the endangered state of CNAI in Nigeria and the efforts of the federal government toward safeguarding and protecting these vital assets. The paper found out that there is a serious gap between the policies and strategies of ONSA and the implementation itself, which it attributed to challenges like poor coordination, interagency rivalry, and sabotage among others. The paper therefore recommends among others the full implementation of CNAIP Protection Strategy as articulated in the NSS 2019, improve resource allocation for agencies responsible for CNAI Protection, and enhanced cooperation among agencies responsible for the protection of these critical assets.

Keywords:

Critical national assets and infrastructure; national security; national security architecture; vandalism; terrorist attack; sabotage; national security component.

¹ DOI: 10.12700/jceeas.2025.5.4.425

² Professor of Political Science, Department of Defence and Security Studies, Centre for Strategic Research and Studies, National Defence College, Abuja, Nigeria; ORCID: 0000-0002-4456-3783; yoromsgani@yahoo.com.

³ Research Fellow, Department of Defence and Security Studies, Centre for Strategic Research and Studies, National Defence College, Abuja, Nigeria; ORCID: 0000-0002-7231-168X; obinnaukaeje@yahoo.com.



Introduction

Over the past two decades, the Nigerian State has been bedevilled with severe security challenges of threatening lethality and violent fatalities, including terrorism, insurgency, militancy, herders-farmers conflict, armed banditry and kidnapping for ransom, separatist agitations, and vandalism, among others. Apart from the fatalities and threats to life and property they have unleashed on the country, their impacts on Critical National Assets and Infrastructure (CNAI) have been unimaginably huge. They have become targets for attacks by criminal elements, particularly, armed criminal groups including bandits, terrorists, insurgents, separatists, etc., across the country because of their significance to the functioning of the state.

The Nigerian Security and Civil Defence Corps (NSCDC) report released in 2023 revealed that attacks and destruction of schools, buildings and oil installations by criminal elements between 1999 and 2022 were valued at US\$200 billion (TVC News, 2023). This, however, did not include the value of destroyed infrastructure through attacks recorded in sectors like power, telecommunication, transport, rail and construction including national assets like electoral offices and police and military barracks and formations in majority of the states of the federation where terrorism, armed banditry, insurgency and separatist movements have remained major security challenges.

Beyond the attack from criminal elements, rioters and protesters have often went for attack and destruction of critical infrastructures and national assets as ways of venting their anger and getting at the government. The “ENDSARS” protest in 2020 for instance, resulted in a massive destruction of infrastructure and assets across the 13 states valued at N200 billion (naira) which is about US\$486.4 million (Atlas Magazine, 2021). It recorded an estimated destruction of 234 government facilities and infrastructure, 81 government warehouses and 269 facilities belonging to the private sector (The Guardian, 2020).

Similarly, in 2024, precisely between 1st and 10th of August, the country witnessed another protest, “THE END BAD GOVERNANCE” protest that resulted in another massive destruction of critical infrastructure and national assets across the states of the federation, with an estimate average loss of N350 billion per day (Economist Alaje in Channels TV, 2024). In addition to the cost of the physical infrastructure and assets destroyed and looted, the economic loss to businesses nationwide was huge with severe consequences on not only the economy of the state but also the effective functioning of government and welfare of the people. Both the citizens and the state rely on services from these infrastructures for their socioeconomic well-being – a situation that is capable of compromising the task of nation building in Nigeria.

It is pertinent therefore to evaluate the state of critical national assets and infrastructure protection and national security architecture in Nigeria. This scholarly preoccupation is necessary in order to generate knowledge that may be useful in dealing with the challenges of national security within the contest of CNAI protection in Nigeria. The discussion revolves around the significance of mobilizing the support for effective

CNAI protection in Nigeria. To achieve this, the paper therefore is organized into seven parts. The first is the introductory remark, which provides a background to the study and the methodology of the study. The second is the conceptual exploration of critical infrastructure and national security architecture, as well as the theoretical framework of the study. The third reflects an overview of the endangered state of CNAI in Nigeria. The fourth and fifth reflect the efforts of the government at protecting critical infrastructure and national assets and the challenges hampering government efforts at safeguarding and protecting CNAI, respectively. The sixth explains the relationship between CNAI and national security architecture in Nigeria while the seventh concludes the paper and articulates the way forward.

Methodology

The methodology adopted a qualitative research approach dwelling largely on secondary sources of data. The secondary sources of data collection focused on documented evidence and situational reports from libraries and through social media handles. These sources were analysed using the content analysis technique and findings were presented qualitatively. In addition, a thorough evaluation of pertinent literature on the subject matter was utilized.

Conceptual Exploration

Critical National Assets and Infrastructure

The term “Critical National Assets and Infrastructure (CNAI) was coined by the Nigerian Government to identify the essential physical and cyber systems, networks, and assets that are vital for a nation’s functioning and well-being, of which any disruption or loss of their functionality would have a devastating effect on the nation (NSS, 2019). According to the Nigeria Ministry of Interior (2021), they are assets, services and systems that support the economic, political and social life of a nation, such as schools, hospitals, electricity and telecom facilities, oil and gas facilities, transportation amenities like roads, rails, and many others. To ensure their effective functioning, these assets must be protected under the law. The key objective of protecting CNAI as captured in the Nigeria’s National Security Strategy (2019) is to secure and protect the nation’s vital facilities from threats – both conventional and non-conventional – to ensure the continuous and effective functioning of these assets, thereby supporting national development, economic prosperity, and overall public safety and welfare.

The concept of CNAI is synonymous with the global concept of Critical Infrastructure (CI), a relatively new concept that could be traced to the United States of American Congress Executive Order 13010 of 15 July 1996, which defines critical infrastructure as “systems so vital that their incapacity or destruction would have a debilitating impact on the defence or economic security of the United States”. The Order identifies eight sectors as critical infrastructure that should be protected under the U.S. National Security Act including telecommunications sector, electrical power sector, oil and gas sector,



banking and finance sector, transportation sector, water supply sector, emergency services sector, and government (US Executive Order, 1996).

However, the concept of critical infrastructure has undergone a redefinition process after the September 11 attack on the United States of America. As a result, the United States Congress through the Patriot Act of 2001 redefines critical infrastructure to mean “systems and assets, whether physical or virtual, so vital to the United States that the incapacity or destruction of such systems and assets would have a debilitating impact on national, economic and social security, and the stability of the economy” (US Patriot Act, 2001). Although both definitions offered by the United States are similar, there is a slight difference; the inclusion of virtual systems and assets which is absent in the first definition. This inclusion is not unrelated to the crucial role of information communication technology (ICT) systems played in the 9/11 attack. Most importantly, while the Executive Order 13010 focused on the essential role of CI, the Patriot Act focuses on the defence of the US CI against terror attacks.

Furthermore, recent global events like the COVID-19 Pandemic which locked down the economy of the world in 2020 and reduced social and economic activities to virtual and the rising cyber security threats have brought a new meaning to critical infrastructure. They influenced the expansion of the sectors designated to critical infrastructure protection to include facilities like public health, information communication technology, manufacturing, nuclear reactors, food and agriculture, and defence industrial base (CISA, 2020). Presently, 16 sectors are globally recognized and designated for protection as critical infrastructure. However, more sectors are likely to be included depending on how crucial they become in the running of the state and their impact on the well-being of citizens.

National Security Architecture

For a comprehensive understanding of national security architecture, it is important to understand what national security means, so as to be able to distinguish between national security and national security architecture. National security is the overarching goal of a state to protect its sovereignty, citizens, and interests from various threats, while national security architecture refers to the institutions, policies, strategies, and structures a nation uses to achieve that goal. In essence, national security is what needs to be protected and why, whereas the architecture is the how, meaning the specific frameworks and components in place to provide that protection. According to David and Salifu (2020), “a nation’s security architecture comprises the totality of its constitutional and legal framework, and institutions that form and provide safety and security services for its citizens and the defence of its territorial integrity”. The efficacy of a country’s security architecture as captured by Saleh (2020) largely depends on the politically led governance system; influenced by a constitutionally mandated defence, security, and intelligence community system, and institutions that are organized, skilfully trained, well equipped, professionally led, and psychologically motivated.

In Nigeria, the management of national security is exclusively conferred on the President, who is the chief executive and commander in chief of the armed forces. The president manages the country's national security through the Office of the National Security Advisor to the president (ONSA), who in turn designs and coordinates the country's national security architecture. The national security architecture in Nigeria encompasses two levels of operation – the external and internal security. Primarily, internal security responsibilities are vested in the Nigerian Police Force (NPF), the State Security Service (SSS) also known as Department of State Security (DSS), the Nigerian Immigration Service (NIS), the Nigerian Customs Service (NCS), the Nigerian Correctional Service (NCoS), the Nigerian Security and Civil Defence Corps (NSCDC), the Nigerian Fire Service (NFS), and the Federal Road Safety Corps (FRSC) (Mbachu in David & Salifu, 2020).

Equally, the protection of the state from external threats is fundamentally the responsibility of the Nigerian Armed Forces. These include military establishments under the Ministry of Defence comprising the Defence Headquarters (DHQ), the Nigerian Army (NA), the Nigerian Navy (NN), the Nigerian Air Force (NAF), the Defence Intelligence Agency (DIA) (Mbachu in David & Salifu, 2020).

The key instruments of law that highlight critical national assets and infrastructure security in Nigeria are the National Security Strategy (NSS) 2019 and the Designation and Protection of Critical National Information Infrastructure Order 2024. While the NSS 2019 emphasizes the need for appropriate security strategy for the protection of all CNAIs to ensure their effective functioning for the well-being of the nation, the Designation and Protection of Critical National Information Infrastructure Order 2024 aims to designate, secure, and ensure the continued operation of the information communication systems (ICT) that are integral to the nation's functioning. Nevertheless, both instruments fall within the purview of the national security architecture, thus making CNAI an element of national security to be protected and safeguarded under the national security architecture.

Theoretical Framework

The analysis of this study is anchored on the securitisation theory. Securitization theory is a process of shifting interest from normative to significant security concerns when the life wire of the state faces an existential threat. Holmes (2015) noted that policymakers get confused when they conflate secondary factors defined as social or public health matters with national security. Beyond the secondary factors, national security concerns remain the vital interest or referent object, which, when threatened, the existence of the state is undermined. Therefore, the identification of what is of vital interest to a nation is indeed what explains the Securitisation theory.

In a considerable situation where a referent object faces precarious and existential threats, it is moved from low priority to a high priority level of concern for enhanced strategic attention and protection (Rita, 2006). In this case, decision makers prioritize national security interests in terms of existential threats. Securitisation, therefore, is a



powerful lens through which national decision-makers transform a seemingly ordinary issue into urgent security threats that require extraordinary measures (Otukoya, 2024). Therefore, for a referent object to be placed on securitisation pillar, it must command a priority in the live wire of national survival of a country. It must also require protection and must not be subject to the binding rules and regulations. Whenever a securitizing move is made in a democratic system, existential threats are envisaged.

As Buzan and his Colleagues (1998:24) noted, securitization has to be appropriately addressed to avoid the disruption of the state survival. Or else, the state no longer exists and no one would be alive or be free to deal with a situation that no one would wish it happened (Buzan, et al, 1998). Thus, when a referent object is securitised, it becomes apolitical, operating in the realm of the security threshold. Thus, securitisation of a referent object is an “expanded realm where investing in security enables the state to suspend all democratic requirements and legal norms. It also enables the state actors, their professional security agencies and relevant stakeholders to play important roles in defending the security landscape of the country without having to wait for a legal directive. For instance, as the Nigerian economy grows, the security of critical infrastructure becomes increasingly central to her national security, due to their reliability for the effective functioning of the state (Alex-Adedipe and Okorotie, 2024).

The security and resilience of the national assets and infrastructures are vital to a nation’s well-being, affecting not only national security but also the daily lives of the citizens and the overall development of the economy (Hamzat, 2024). Thus, CNAI and security are mutually reinforcing. As much as national security depends on CNAI to function, the latter cannot also exist without the protection provided by the agencies of national security. Any disruption of either of the two will lead to the paralysis of the nation, undermining the economy and by implications placing national security in jeopardy. In addition, revenues derive from CNAI do not only fund national security as the latter depends on it (CNAI) to function.

The State of Critical National Assets and Infrastructure in Nigeria

Critical National Assets and Infrastructure in Nigeria, unlike most part of the world have been subjected to attacks by criminal elements be it either non-state armed groups like insurgents, or terrorists, bandits, separatist groups, vandals or rioters. The actions of these various groups have often resulted to the destruction or disruption of the effective functioning of these vital assets thereby affecting the well-being of the state and its citizens. Almost every sector of the economy is affected, from agriculture and energy to finance and technology including the social amenities such as schools, water supply, electricity supply, and healthcare facilities etc. According to the report released by the NSCDC, several sectors in Nigeria are highly vulnerable to attack, including the oil and gas industry, the telecommunication sector, banking sector, education sector and agriculture due to various threats like cyberattacks, banditry, and militant activity (Channels TV, 2021). This explains the endangered state of critical national assets and

infrastructure in Nigeria. Worst still is the threat it poses to the effective functioning and well-being of the state and its citizens.

Given the importance of these assets and facilities to the effective functioning of the country, the federal government has made concerted efforts towards the security and protection CNAI, from the establishment of the NSCDC in 2003 to the inclusion of CNAI as a component of national security in the national security strategy and policy document in 2019, and several other arrangements that aim at enhancing security and protection of CNAI in Nigeria.

Nevertheless, attack and destruction of these vital assets has continued unabated across the country and across several sectors. For instance, in 2020, just less than inclusion of CNAI Protection in Nigeria's national architecture, the ENDSAR protest erupted across the country. During the crisis, an estimated 269 private/corporate, 234 government facilities and 81 government warehouses were vandalized, looted, and burnt across 13 states of the country (The Guardian, 24 March 2020). The estimated economic cost of the loss was at the tune of N200 billion (Naira) valued at US\$486.4 million at then by the Nigerian Insurers Association (Atlas Magazine, October 2021). In addition, a report released by the NSCDC in 2023 revealed that attack on CNAIs like schools, buildings, and oil installations from 1999 and 2022 is valued at US\$200 billion (TVC News, March 2023). This is suggestive of the negative impact of CNAI attacks to Nigeria's economy.

Beyond the ENDSARS crisis, several sectors have witnessed severe attack on their critical assets and infrastructures. In 2021, the Vanguard Editorial of 27 June 2021 reported a heist by vandals for the struggling Nigeria Railway Corporation as no fewer than five instances of vandalism of the rail trucks: rail tracks and clips were removed by vandals from rail lines across the country. Additionally, the Punch Newspapers of 14 October 2021 reported an interception of a heavy-duty truck conveying no fewer than 970 railway slippers to an unknown destination. This indicates that more efforts need to be done by the intelligence community to prevent the destruction of CNAI from taking place by involving not only human intelligence but also technological intelligence to detect signals on attacks by vandals or natural disaster.

Another sector that has been under constant attack and vandalism is the petroleum sector, with persistent pipeline attack either by oil thieves or militants trying to weaken the economy of the country by disruption oil and gas production output, which is the mainstay of the Nigeria economy. Decades of crude oil theft and pipeline vandalism have constrained the petroleum sector's capacity to meet the OPEC quota of 1.8 million barrel per day (bpd), thus undermining revenue project targets and national growth and development. The Nigerian Extractive Industry Transparency Initiative 2021 report on oil and gas observed that N22.05 billion (Naira) was spent on pipeline repairs and maintenance in six months of 2021 (Tunji, 2023). The Nigerian National Petroleum Company Limited (NNPCL) was also reported to have spent N34.47 billion (Naira) to repair and manage pipelines in 18 months in 2023 (Yoroms and Ukaeje, 2024). Additionally, the NSA, Mallam Nuhu Ribadu while assessing incidents of attacks of oil

and gas pipelines in 2023 few months after resumption as NSA, noted that Nigeria loses US\$4 million daily (about 400,000 barrel of crude oil) to crude oil thieves despite efforts to end the menace in the country (Sahara Reporters, 2023).

Another sector that has continued to witness incidents of attack is the power sector. The power sector has been the subject of attack and vandalism by non-state armed groups like bandits, terrorists and vandals, deepening Nigeria's infrastructural deficit and disrupting smooth running of the system and the well-being citizens. The Transmission Company of Nigeria (TCN) for instance reported over 13 cases of vandalism on their transmission facilities across the country, which as a result disrupted electricity supply in many parts of the country (Ogunleye, 2025). The cost of the repair of these facilities was estimated at about N8.8 billion, resulting in frequent power outages in major cities like Abuja, Lagos and Kano during the period (Ogunleye, 2025).

Recent specific incidents that underscored the severity of attacks on electricity transmission infrastructure in Nigeria include, the destruction of transmission towers by vandals along the Katsina-Gazoua axis on 9 January 2025, putting the entire transmission system at risk of collapse, and destruction of 132KV underground transmission cables near Millennium Park, Abuja, disrupting power supply to key areas (Ogunleye, 2025). The consequences of such vandalism are dire because of the contribution of electricity power to economic growth and development. The World Bank explained it better when it noted that vandalism in the power sector is a major threat to Nigeria economy due to its negative effect on the country's GDP. It further noted that it costs Nigeria an estimated loss of about US\$429 billion annually (World Bank, 2025). This is suggestive of the critical nature of the power sector to the well-being of the country and the need to ensure its security against any form attack that may affect its functionality.

Another sector that has been a subject of attacks and vandalism is the information and communication technology sector. The rising incidents of information and communication infrastructure theft such as fibre optic cuts, equipment thefts, and vandalization of telecom infrastructure across Nigeria have created uncertainty and doubt around efforts at ensuring the protection of critical national information infrastructure (CNII). The Business Day (2025) report noted that Nigeria's telecommunications sector is facing an alarming surge in sabotage, with an average of 1,744 attacks recorded weekly across the country. This includes approximately 1,100 fibre cuts, 545 incidents of access denial, and 99 cases of theft, posing a significant threat to service quality, network expansion, and national security (Business Day, 2025).

Furthermore, the cybersecurity sector has been bedevilled by threats as exemplified by the rising spate of cyber threats on its facilities. For instance, in 2020, cybercriminals attacked the Central Bank of Nigeria's (CBN) website, resulting in denial of service (The Guardian, 2020). These threats have increased considerably in response to the FGN policies on cashless and digital economy. Nigeria experienced an average of 1.5 million cyber-attacks daily in the run off to the 2023 Presidential Elections with over 6 million attacks on the day of the Presidential Elections (Izuaka, 2023). This is in spite of

concerted interventions such as the enactment of the Cybercrime Prohibition Act (CPA) 2015 and the National Cyber Security Policy and Strategy (NCSPS) 2021 to promote a safe cyber space and enhance CNAI protection in the country.

The above analysis on the state of critical national assets and infrastructure across sectors in Nigeria highlighted the vulnerabilities they face and the concomitant danger such vulnerabilities pose to Nigeria's national security. It is on this basis that we shall look at the efforts of the government towards CNAI Protection in Nigeria.

Government Efforts to CNAI Protection in Nigeria

Although the protection of critical national assets and infrastructure was considered important in Nigeria right from independence due to their direct impact on daily life, national security and economic growth. However, its consideration as a top priority on government protection could be formally traced to the creation of the Nigeria Security and Civil Defence Corps (NSCDC) in 2003 through the NSCDC Act 2003. Therefore, the federal government's first effort at ensuring effective protection of CNAI was the establishment of the NSCDC.

The NSCDC Act 2003 established the Corps as a full-fledged paramilitary agency to protect lives, property, and critical national assets and infrastructure. However, due to its conflict role it crossed path with other security agencies responsible for internal security, thus the Act was reviewed in 2007 to grant full authority to the NSDC as the lead institution for CNAI Protection in Nigeria. The new mandate reflects federal government commitment towards safeguarding and protecting its vital national resources like the energy sector, communication networks, and public transportation (Ukaje, 2022). Despite this, the issue of conflict of role between the NSCDC and other security agencies like the Nigerian Police Force (NPF) continued to occur, resulting in some instances to clashes during operation. This however created opportunity for vandals to exploit and vandalise national assets and facilities for their financial gains. Experts attributed this challenge as a reflection of a lack of clarity on the lead agency responsible for CNAI protection.

To mitigate the challenge of lack of clarity of role and to enhance CNAI protection, the federal government in 2017 through the National Security Advisor's office commenced efforts at considering CNAI as a national security component. Consequently, the slow efforts materialized in the 2019 reviewed and expanded National Security Strategy, a policy document for Nigeria's national security. The NSS 2019 encompassed CNAI as a component of Nigeria's National Security. It also recognized the statutory role of the NSCDC as the agency responsible for CNAI Protection, while ONSA retained the coordinating role. ONSA has the key responsibility of mobilizing other security agencies towards safeguarding and protecting CNAI across the country. This means that the NSCDC as the lead agency is to collaborate with other security agencies on the protection of CNAI.

It is pertinent to note that adoption of CNAI Protection as a component of Nigeria's national security is drawn from the United Nations Security Council Resolution 2341 on

critical infrastructure protection passed in 2017. The UNSC Resolution 2341 urged member states to ensure the protection of critical infrastructure as national security components (UNSC CTC 2341).

Another bold step by the federal government towards enhancing the protection of CNAI especially from attacks by non-state armed groups was the establishment of the National Counter Terrorism Centre (NCTC). The Centre plays a vital role in protecting critical infrastructure by doing the following: coordinating national efforts to combat terrorism and prevent violent extremism, ensuring a unified approach to securing critical infrastructure; facilitates information sharing among government agencies, security services, and international partners to identify and mitigate potential threats; develops and implements strategies to counter terrorism, including analysing threats and vulnerabilities to CNAI such as cyberthreats through regulation, threat analysis, and cyber resilience exercises; and developing frameworks to identify and protect CNAI, particularly in the financial services, telecommunications, and defence sectors (Towoju, 2024).

Another effort at enhancing CNAI protection by the federal government is the validation of a draft: Critical National Assets and Infrastructure – National Protection Policy and Strategy – CNAI-NPPS in 2023 organized by the ONSA and the NSCDC. The Exercise aimed at establishing or consolidating a multi-stakeholder protection partnership for CNAI for the first time in Nigeria at the national level between the coordinating, lead and support agencies as well as other relevant stakeholders from within and outside the shores of Nigeria (Aregbesola, 2023). It is expected that the Draft when approved will provide new policy document for CNAI Protection in Nigeria. However, the document is yet to be approved by the federal government to ensure full implementation of policy.

Another effort at strengthening the safety and security of CNAI by the federal government was the gazetting of Designation and Protection of Critical National Information Infrastructure (DPCNII) Order, No.21 by President Bola Ahmed Tinubu on 24th day of June 2024. This Executive Order makes it an offense to damage critical national information infrastructure, such as telecommunication towers and fibre optic cables, with the goal of ensuring the security and resilience of Nigeria's ICT systems and infrastructure. It specifically covers essential sectors including power, water, telecommunications, banking, healthcare, defence, transport, and emergency services. According to Alex-Adedipe and Okorotie (2024), the Executive Order is seen as a significant step by the FGN to protect its information security framework and maintain national stability.

To further strengthen CNAI Protection, towards the end of 2024, precisely in November, the federal government through the ONSA inaugurated a Federal Coordinating Council on CNAI Protection (FCCCNAIP), consisting of heads of security agencies and other relevant stakeholders, and the National Security Advisor as the chairman (Punch, 2024). The aim is to further strengthen collaboration among the relevant security agencies and stakeholders towards effective protection of CNAI across

the country. This effort situates stakeholders' cooperation and collaboration as a factor in enhancing the protection CNAI for enhanced national security in Nigeria.

Despite the efforts, CNAI remains vulnerable to attacks and vandalism across sector, the case of ongoing vandalism of street lights, sewage covers, electricity transmission towers and fibre optic cables in the federal capital territory, Abuja, where the office of the president and headquarters of all security agencies including the ONSA are located is unimaginable and worrisome. This however is attributed to some key challenges. These are discussed below.

Challenges Militating against Efforts Towards CNAI Protection in Nigeria

Several challenges militate against the efforts of the federal government towards protecting Nigeria' critical national assets and infrastructure. These challenges are identified as follows:

Institutional Capacity Constraints

Security agencies and institutions responsible for CNAI protection lack the required capacity, including the necessary personnel, equipment, funding and training, to effectively protect CNAI across the country. For instance, the NSCDC, the lead agency has serious challenge in the area of personnel, equipment and logistics required for CNAI protection across the 36 states of Nigeria and Abuja, and the 774 local government areas in Nigeria. It was observed that weapons available to the agency are G3 and AK-47, while the criminals are equipped with more sophisticated weapons, making it difficult for the Corps to overcome the criminal during operation in some cases (Ali, et al., 2023). In addition, security operatives protecting oil and gas infrastructures in the Niger Delta region lacks the adequate logistics, particularly vehicles required to match the terrain for effective CNAI protection.

Poor Coordination

The NSDC Act 2007, the NSS 2019, and the DPCNII Executive Order 2024 define and designate responsibilities and roles including accountability to each agency involves CNAI protection. However, this has not been effectively articulated to achieve the objectives of the frameworks towards CNAI Protection due to poor coordination by ONSA. In addition, the act establishing agencies like the DSS and NPF still maintain their superiority over agencies like NSCDC in internal security management including CNAI Protection. This creates problems of interagency rivalry, competition and conflicting institutional priorities among the agencies, leading to delay in intelligence sharing, disjointed operations, reduced effectiveness against threats, eroded public trust and ultimately undermining the collective goal of protecting critical national assets and infrastructure.

Lack of Inter-Agency Cooperation

Lack of inter-agency cooperation among agencies responsible for CNAI protection in Nigeria is one of the major challenges affecting CNAI Protection. It has created a deep-rooted institutional rivalry for dominance and resources, and an unhealthy competition among the security agencies, which has led to fragmented efforts, poor information sharing and operational inefficiency, undermining the security agencies' ability to safeguard critical infrastructure from threats like vandalism and attacks. There is an instance where strategic backup or vital information that would have enhanced the progress and success of a joint task operation on CNAI Protection were held back, leading to the failure of the operation (Ukaeje & Yoroms, 2024). This shows how lack of interagency cooperation can undermine operational effectiveness and success. Thus, there is special need for interagency cooperation for CNAI Protection in Nigeria.

Sabotage

Sabotage connotes a deliberate action aimed at weakening a polity, government, effort, or organization through subversion, obstruction, demoralization, destabilization, division, disruption, or destruction. It severely impacts CNAI security and protection by weakening security measures, fostering institutional corruption, leading to the diversion of funds meant for infrastructure, and creating a pervasive environment of insecurity and fear that hinders effective security governance. This vulnerability allows for the widespread vandalism of assets, oil theft, cyberattacks on government systems, and compromises the overall capacity of the state to deliver security and development. The majority of vandalism and attacks on critical national assets and infrastructures across major sectors like railways, oil and gas, electric power, and telecoms are supported sabotage. A good example is the May 2021 arrest of a syndicate responsible for stealing rail infrastructure in Nigeria by the Nasarawa State Police Commissioner, Mr Bola Longe. Among the arrested syndicate were the Special Adviser to the Nasarawa State Governor on Infrastructure, Mr. Yusuf Musa, police and NSCDC personnel, a local government Supervisory Councillor, a Chinese national and a staff of the NRC (Vanguard Editorial, 27 June 2021). This indicates the severe impact of sabotage towards CNAI protection in Nigeria.

Rising Security Threats

The rise in security threats, including terrorism, insurgency, armed banditry, and separatist agitation affect CNAI protection because they target CNAI, causing damage and disrupting essential services. The majority of significant CNAI attacks across the country are carried out by terrorists, insurgents, and militants, including vandals. For instance, the collapse of socio-economic and education activities in the northeast is as a result of Boko Haram attacks on public institutions and facilities for essential services such as telecommunication masts, schools, banks, and hospitals among others. This is applicable to the incessant attacks by militants on oil and gas facilities in the Niger Delta

that nearly crippled the economy before the federal granted amnesty for the militants in 2009. This is same in majority of the states where there are severe security challenges.

Inadequate Infrastructure

Inadequate infrastructure is indeed a significant challenge to protecting CNAI in Nigeria. It can increase the vulnerability of CNAI to various threats such as terrorist attacks, cyber-attacks, and natural disasters. In Nigeria, major infrastructures such as physical (maintained roads, bridges, and power transmissions), digital (cybersecurity measures), communication (communications systems), are poorly maintained and unreliable, which can impede the response efforts and coordination among security agencies towards CNAI protection. For instance, roads, bridges, and power transmission lines are often in despair, making them vulnerable to attacks and disruption. The same is the inadequate cybersecurity measures that leaves critical systems and infrastructure exposed to cyber threats.

Lack of Public Awareness

Lack of public awareness about the importance of CNAI protection and the potential consequences of attacks hinder efforts to prevent and respond to threats, by creating a climate where individuals may not understand the importance of these assets, their vulnerability, or the need to report potential threats. This lack of awareness can lead to citizen apathy, undermining the effectiveness of security measures and making CNAI more susceptible to attacks. For instance, when the public is unaware of the importance of CNAI and the threats they face, they are less likely to report suspicious activities or potential attacks. This can prevent delay or timely intervention by security agencies, allowing attackers to proceed with their plans.

Institutional Corruption

Corruption among security agencies and government institutions undermines efforts to protect CNAI, allowing threats to go unchecked. For example, when funds meant for procurement of equipment, capacity building for personnel, and intelligence are diverted to other ventures that have no bearing on operational strength and effectiveness CNAI Protection, the capacity of the agencies to deliver on their responsibilities are eroded, leaving the infrastructure more vulnerable to attack and vandalism. This systemic issue erodes public trust, demoralizes personnel, diminishes national security, and hampers the government's ability to effectively safeguard critical assets.

Between CNAI Protection and National Security Architecture in Nigeria

It is important to draw attention to the fact that the established National Security Architecture is presented in figure 1 below is the primary architecture that governs security space in Nigeria. It is security/military heavy with minimal supervisory impact

from ONSA. However, Designation and Protection of Critical National Information Infrastructure (DPCNII) Order, 2024 has more supervisory control by ONSA.

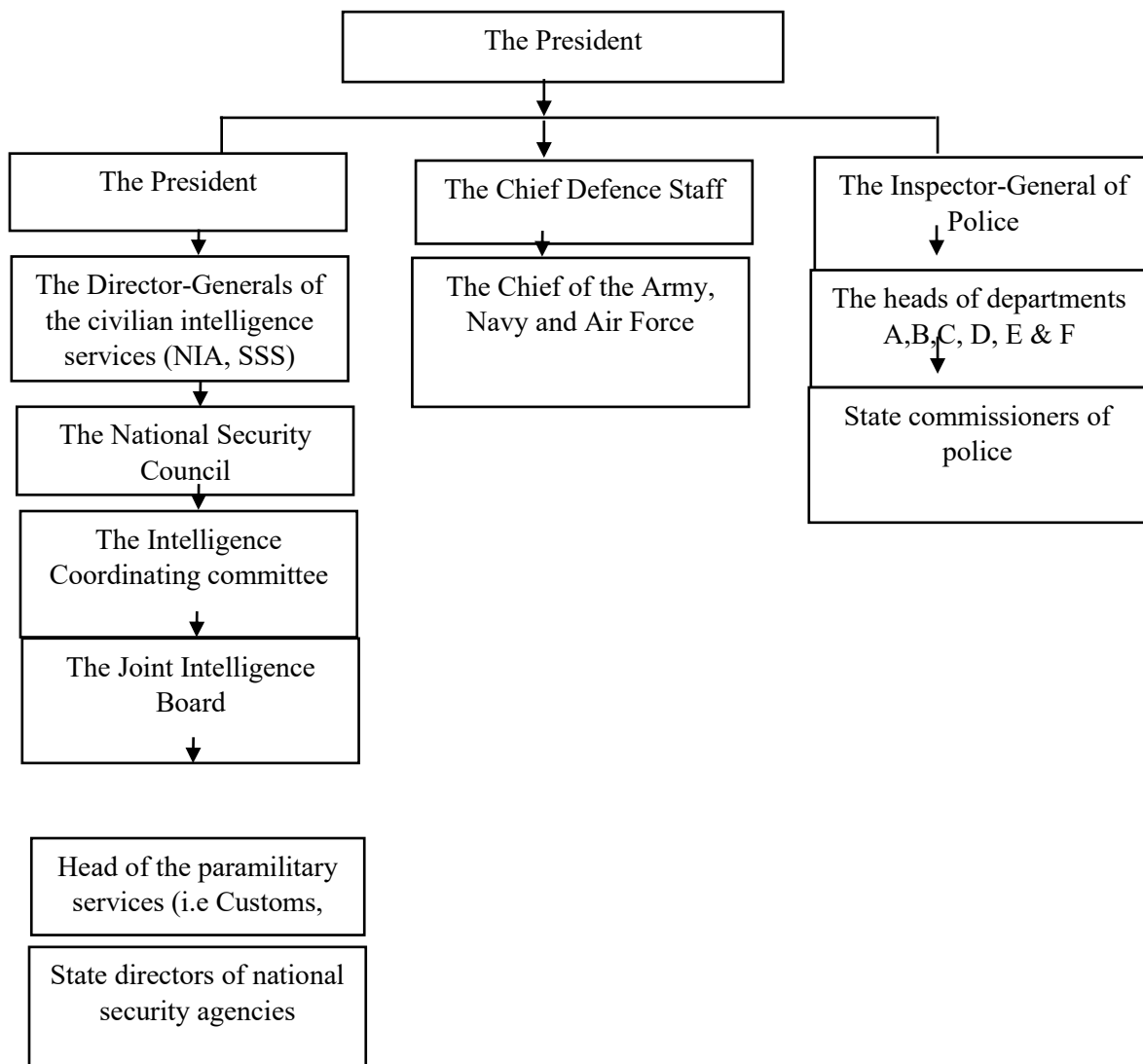


Figure 1: Established Primary National Security Architecture of Nigeria Source: Authors' arrangement.

From figure 1 above we can deduce a sub-National Critical Infrastructure Security Architecture that is more comprehensive and inclusive of critical sectors, critical subsectors, critical services and regulatory agencies as shown in figure 2 below.

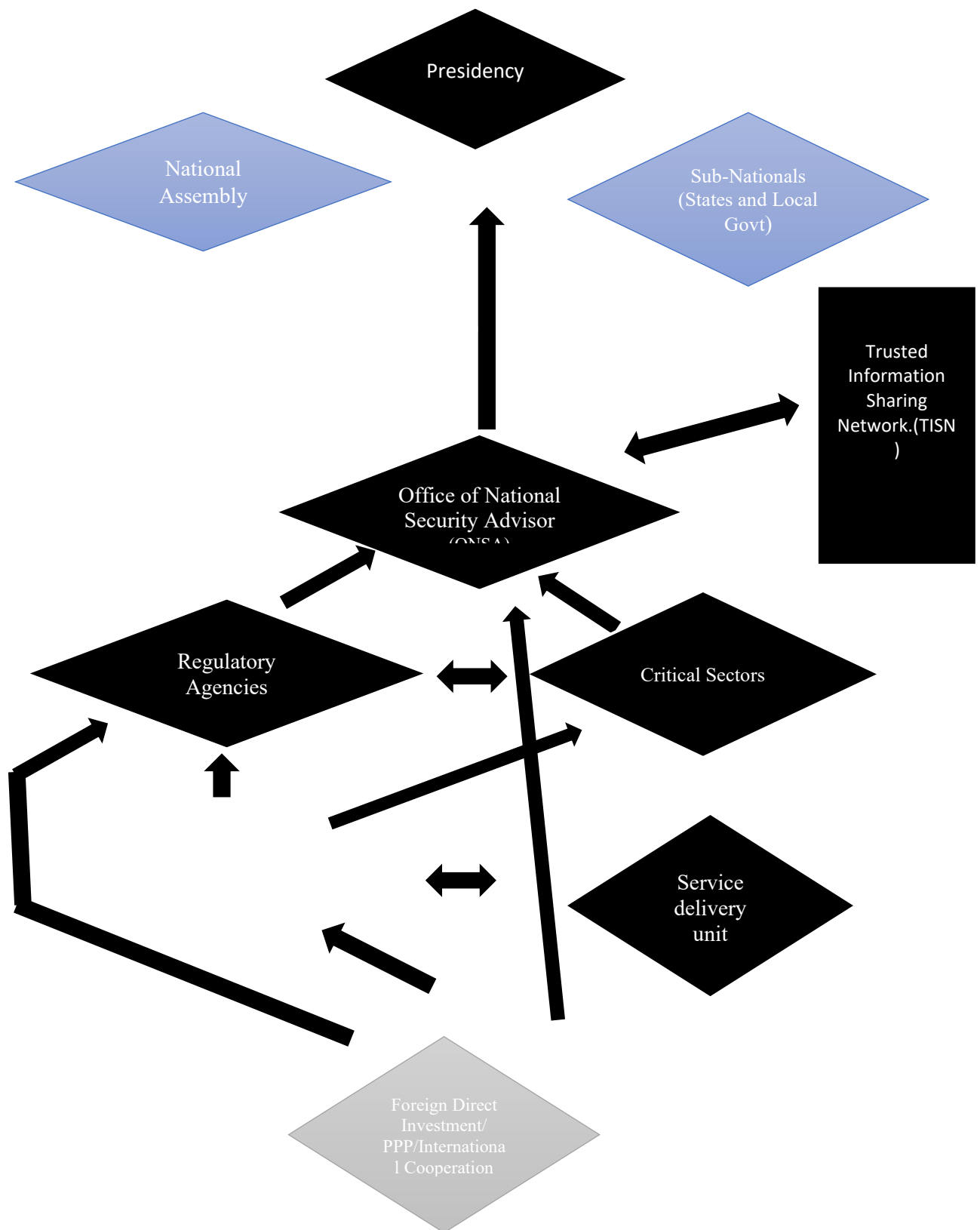


Figure 2: National Critical Infrastructure Protection Architecture



It is important to draw attention to the fact that though the 2019 National Security Strategy stated that NSCDC should be the lead agency in CNAI Protection the DPCNII defers elaborately to ONSA. With ONSA, becoming overwhelmed with the burden of security bearing, it is important that the security architecture of CNII would require comprehensive structure of decision-making. This will help to accommodate the wired interest that provide for critical and regulatory agencies.

In retrospect, the ONSA has effectively put in place some structural platforms that would help to recalibrate the national critical infrastructure architecture. First, the NSS 2019 document established CNAI Protection as a key element of Nigeria's national security to be led by the NSCDC and coordinated by the ONSA. It specifically mandated ONSA to be responsible for identifying, classifying and prioritizing CNAI, and to determine appropriate levels of protection required for each CNAI or groups of CNAI so as to enhance the resilience of CNAI to hazard or attacks. This included the provision for the development of a CNAI Protection Response Plan that would designate roles and responsibilities for all stakeholders to actualize the goal of CNAI Security and Protection.

To further strengthen CNAI Protection, the 2019 NSS also included the design and development of institutional capacity, systemic resilience, physical protection and contingency plans for CNAI by all MDAs. This therefore empowers ONSA to ensure the effective coordination of Nigeria's security architecture for CNAI Protection. Sadly, some of these strategies are yet to materialize. For instance, the CNAI Response Plan has not been put into practice, resulting in the frequent attack on CNAI across the country.

Secondly, ONSA developed a National Crisis Management Doctrine (NCMD) in 2022, to further strengthen CNAI Protection. The Doctrine provided a detailed methodology for national crisis response, outlining interactions among Ministries Departments and Agencies (MDA) at strategic, operational and tactical levels. However, its effectiveness in protecting CNAI is unclear and likely limited, due to factors like weak existing protection techniques, high vulnerability of assets, and potential implementation challenges despite the doctrine's aim for coordinated, effective crisis response. While the NCMD was launched to coordinate responses to various threats, including those affecting CNAI, its practical application and success in protecting these assets have not been clearly documented.

Given security situation in Nigeria, where the six geopolitical zones and even the federal capital territory is threatened by severe security challenges with threatening lethality and fatality, and the timing of CNAI as a key element of Nigeria's national security, ONSA has demonstrated effort and commitment to coordinating CNAI protection across sectors through initiatives like NCMD, DPCNII Order 2024, FCCCNAIP, while efforts to build a consistent approach to CNI protection and cyber resilience are underway. However, ONSA is overwhelmed with the omnibus security challenges across the country, resulting in the little or less attention it pays to issues like CNAI Protection.

ONSA focused more on security/military operations such as the internal security operations going on across the six geopolitical zones rather than protection CNAI. This therefore has affected its supervisory and coordinating role, resulting in the inability of the security agencies responsible for CNAI Security and Protection to foster an effective collaboration needed for a well-coordinated approach to securing the country's vital assets and infrastructure. As a result, the vulnerability of CNAI remains high.

Conclusion and Way Forward

It is obvious that there is an umbilical connection between critical national assets and infrastructure and national security architecture in Nigeria. While critical national assets and infrastructure are vital components of national security, protecting them is a core function of the national security architecture. It is on this premise that the federal government through the ONSA has made efforts to ensure protection and safeguarding of CNAI in Nigeria.

To achieve this, ONSA expanded the national security document to include CNAI to its 2019 National Security Strategy, developed a national doctrine for CNAI Protection response strategy – NCMD in 2022, ensured the validation of a national protection policy and strategy for CNAI – CNAI-NPPS in 2023, and ensured the gazetting of DPCNII Executive Order in 2025 and the critical national infrastructure protection plan – CNIIPP aimed at effective and efficient safeguarding of critical national assets.

Despite the efforts, CNAI faces significant threats, due to several factors including, poor coordination, lack of interagency cooperation, institutional capacity constraints, rising security threats, inadequate infrastructure, corruption, and lack of public awareness. Addressing these challenges requires effective implementation of the NSS 2019 CNAI Protection strategy that combines the institutional capacities of the NSCDC and other security challenges and the effective leadership of the ONSA. This includes improving resource allocation, strengthening accountability mechanism to prevent unnecessary interagency rivalry, and enhancing collaboration and cooperation between NSCDC, the military and other security agencies. Additionally, creating public awareness on the importance of CNAI protection will further reinforce security efforts, creating a more resilient and stable environment for CNAI protection.

Notes on Contributors

Gani Joses Yoroms is a professor of Political Science and former Provost of the Centre for Strategic Research and Studies (CSRS) at the National Defence College, Abuja, Nigeria. His areas of interest are Conflict, Security, and Defence Studies, with a bias towards Conflict Resolution, Terrorism and Violent Extremism, and Energy Security. He has attended professional training programmes on Defence Management at the University of Witwatersrand, South Africa, the UK Defence Academy/Cranfield University, and the CoESPUS Course, Italy. He has extensive research experience and has coordinated several national and international security research and programmes, such as the GIZ and ECOWAS Project on Farmer-Herder conflicts in West Africa. He served as Chair, Security Sub-Committee of the Thematic Committee on Defence, Peace and



Security of the Technical Working Group of the Medium-Term National Planning Experts on the Nigerian Agenda 2050. He is a fellow of ASSRC-MacArthur at the Watson Institute, Brown University.

Obinna Ukaeje is a Political Scientist and Research Fellow in the Department of Defence and Security Studies, Centre for Strategic Research and Studies, National Defence College, Nigeria. His areas of interest include national security, Election Violence, and Regional Counterterrorism and Counterinsurgency (CTCOIN). He has extensive research experience in defence and security studies, particularly in national security and CTCOIN. He has contributed immensely to several discourses on issues of national security and regional CTCOIN. He is a member of the Nigerian Institute of International Affairs (NIIA), a Member of the Nigerian Political Science Association (NPSA), a member of International Security Management (ISMC), and a member of the Savannah Centre for Diplomacy, Democracy and Development (SCDDD) National Quarterly Review on National Security and Promotion of Peace in Nigeria. He is currently the Deputy Coordinator of Research at the Irregular Warfare Centre (IWC), National Defence College, Nigeria.

Conflict of interest

The author hereby declare that no competing financial interest exists for this manuscript.

References

- Akinlade, A. (2020). Telecommunications Disruption and National Security in Nigeria. *Journal of Nigerian Law*(45).
- Alex-Dedipe, A., & Okorotie, H. (2024). Safeguarding Nigeria's Critical National Information Infrastructure: A Review of a New Order. *Pavestones Newsletter*, 29(1).
- Aregbesola, R. (May 9, 2023). *Full Speech on the Validation of the First Ever Critical National Assets and Infrastructure National Protection Policy and Strategy*. Transcorp Hilton.
- Arise News. (August 1, 2024). *Protest Turn Violent in Kano as Demonstrators loot NCC Building*. Retrieved September 27, 2025 from <https://www.arise.tv/protest-turn-violent-in-kao-as-demonstrators-loot-ncc-building/>
- Australian National Security. (2024). *Critical Infrastructure*. Retrieved September 27, 2025 from <https://www.nationalsecurity.gov.au/protect-your-business/critical-infrastructure/>
- Bearne, S., Olga, O., O'Brien, K. A., & Rathmell, A. (2005). *National Security Decision-Making Structures and Security Sector Reform" Technical Report TR-289-SSDAT. Prepared for the United Kingdom Security Sector Development Advisory Team*. RAND Europe.
- Bergen, P. L. (2025). September 11 Attacks (Article History). In *Encyclopaedia Britannica (Updated)*.
- Business Day. (2025). *Nigeria Records 1,700 Weekly Attacks on Telecom Infrastructure*. Retrieved September 25, 2025 from

- <https://businessday.ng/technology/article/nigeria-records-1700-weekly-attacks-on-telecom-infrastructure/>
- Channels Television. (2021). *85% of Schools in Nigeria are Vulnerable to Attack* [Video]. Youtube. <https://www.youtube.com>
- Chisom, D. (May 10, 2023a). National Security Adviser, NSCDC Validate Critical National Assets Protection Policy. *News Planet International*. www.newsplanetinternational.com
- Chisom, D. (May 10, 2023b). National Security Adviser, NSCDC Validate Critical National Assets Protection Policy. *News Planet International*. www.newsplanetinternational.com
- Eroukhmanoff, C. (Januáry 14, 2018). Securitization Theory: An Introduction. *E-International Relations*. <https://www.e-ir.info/2018/01/14/securitization-theory-an-introduction/>
- Federal Ministry of Interior. (2021). *FG Committed to Safeguard Critical National Assets and Infrastructure*. Retrieved June 22, 2025 from <https://interior.gov.ng/press-release/fg-committed-to-safeguard-critical-national-assets-and-infrastructure-aregbsola/>
- Federal Republic of Nigeria. (2007). *Nigeria Security and Civil Defence Corps (NSCDC) Amendment Act No.6*.
- Federal Republic of Nigeria. (2019). *National Security Strategy of the Federal Republic of Nigeria*. Abuja. Office of the National Security Adviser to the President.
- Hamzat, K. (2024). *What Makes the Critical National Infrastructure So Critical*. Retrieved June 22, 2025 from <https://www.harlemsolicitors.com/2024/12/07/what-makes-the-critical-national-infrastructure-so-critical/>
- Holmes, K. R. (2015). *What is National Security?* The Heritage Foundation. Retrieved June 22, 2025 from [www.heritage.org/sites/default/files/2019-10/2015-_index0FUS\\$militarystrength_what%20is%0national%20security.pdf](http://www.heritage.org/sites/default/files/2019-10/2015-_index0FUS$militarystrength_what%20is%0national%20security.pdf)
- Identifying Critical Infrastructure During COVID-19. (2020). *Cybersecurity and Infrastructure Security Agency (CISA)*. <https://www.cis.gov/identifying-critical-infrastructure-during-covid-19/>
- Izuaka, M. (2023). *Nigeria Recorded 12.9 Million Cyber Attacks During Presidential, NASS Elections - Minister*. AllAfrica. Retrieved June 22, 2025 from <https://allafrica.com/stories/202303150510.html>
- National Assembly. (2021). *National Security Summit Report, June* (Vol. 56). House of Representatives.
- Ogunleye, K. (May 19, 2025). Safeguarding Nigeria's Critical Infrastructure against Vandalism. *Business News*. <https://wabusinessnewsng.com/safeguarding-nigerias-critical-infrastructure-against-vandalism-2/>
- Okamgba, J. (2024). *Telcos Record N27bn Loss from Damaged Fibre Cables*. Punch. Retrieved April 21, 2024 from <https://punchng.com/telcos-record-n27bn-loss-from-damaged-fibre-cables/>



- Otukoya, T. A. (2024). The Securitization Theory. *International Journal of Science and Research Archive*, 11(1), 1747-1753. <https://doi.org/1030574/ijrsra2014:11.10225>
- Premium Times. (2024). *EndBadGovernance Protest: Hoodlums Attack Uncommissioned NCC Office in Kano*. Agency Report. Retrieved August 1, 2024 from <https://www.premiumtimesng.com/top-news/719686-endbadgovernance-protest-hoodlums-attack-uncommissioned-ncc-office-in-kano/>
- Punch. (2024). *FG Inaugurates Council for Critical Infrastructure Protection*. Retrieved June 22, 2025 from <https://punchng.com/fg-inaugurates-council-for-critical-infrastructure-protection/>
- Rita, T. (2006). *Securitization Theory and Securitization Studies*. University of Warwick. <https://doi.org/http://dx.doi.org/10.1057/palgravejird.1800072/>
- Shodunke, A. O. (2021). Boko Haram and Counterinsurgency Operations in Nigeria: Explicating the Military Ordeal. *African Journal on Terrorism*, 11(2), 65-98.
- SPA Ajibade & Co. (2024). *The Federal Government Has Officially Signed the Designation and Protection of Critical National Information Infrastructure Order 2024*.
- The Guardian. (October 19, 2020). *Alleged Cyber Attack on CBN Causes Stir in Banks*. Retrieved June 22, 2025 from <https://guardian.ng/news/alleged-cyber-attack-on-cbn-causes-stir-in-banks-others/>
- The Guardian News. (November 24, 2020). EndSARS Protest: Counting the losses and the Gains. *Guardian Nigeria*. <https://guardian.ng/features/endsars-protest-counting-the-losses-and-the-gains/>
- The United States of America Patriot Act. (2001). *Public Law 107-56. Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism*.
- Towaju, R. B. (2024). *One Year of Unflinching Counter Terrorism Efforts in Nigeria*. The National Counter Terrorism Centre, Office of the National Security Adviser. Retrieved March 15, 2024 from www.nctc.gov.ng/
- TVC News. (2023). *Nigeria Lost \$200 Billion to Attacks on Critical Infrastructure*. Retrieved June 22, 2025 from <https://www.tvcnews.tv/2023/05/nigeria-lost-200-billion-to-attacks-on-critical-infrastructure/>
- Ukaeje, O. (2020). Sectarian Violence and National Security in Nigeria: Boko Haram in Perspective. *Wukari International Studies Journal*, 3(1), 41-55.
- Ukaeje, O. (2022). Institutional Corruption as the Bane of Critical Infrastructure Protection in Nigeria. *Security and Defence Quarterly*, 39(3), 63-75. <https://doi.org/10.35467/sdq/147652>
- United Nations (UN). (2012). *Security Sector Reform: Integrated Technical Guidance Notes*. United Nations SSR Task Force.
- United Nations Security Council 2341. (2017). *On Protection of Critical Infrastructure Against Terrorist Acts*. UN Security Council Counter-Terrorism Committee Executive Directorate Retrieved June 22, 2025 from

https://www.un.org/sites/www.un.org.securitycouncil.ctc/files/ctc_cted_factsheet_ict_may_2021.pdf

United States of America Executive Order 13010. (1996). The Clinton's Administration's Policy on Critical Infrastructure Protection: Presidential Decision Directive 63, Federal Register, 61(138). In O. Ukaeje (Ed.), *Institutional Corruption as the Bane of Critical Infrastructure Protection in Nigeria (2002)* (pp. 63-75). Security and Defence Quarterly, 39(3). <https://doi.org/10.35467/sdq/147652>

Upsurge in Rail Track Vandalism. (June 27, 2021). *Vanguard News*,. <https://www.vanguardngr.com/2021/06/upsurge-in-rail-track-vandalism/>

Yoroms, G. J., & Ukaeje, O. (2024). Protecting Critical National Assets and Infrastructure in Nigeria: The Role of Intelligence Management. In I. M. Alumona (Ed.), *Intelligence and National Security Handbook*. Institute for Security Studies, Bwari-Abuja Nigeria.



Has it Ended in Tears? Party Constitutionalisation and Strengthening of Constitutional Democracy in Nigeria¹

Mojeed Adekunle Animashaun²

Abstract:

Political parties have remained critical actors in modern representative democracy. In most democratic countries, they are codified into national constitutions to safeguard their operation and provide a congenial context for inclusive democracy and civilized party politicking. This study examines the nexus between party constitutionalisation and the strengthening of party democracy in Nigeria's Fourth Republic. By focusing on three areas of party constitutionalisation, the paper seeks to contribute to existing body of knowledge on the prospect of constitutional codification of political parties as an instrument for deepening constitutional democracy and constitutionalism in Nigeria. Essentially a qualitative study, the paper largely relies on the literature and formal legal documents including the 1999 Constitution of the Federal Republic of Nigeria as sources of data while it adopts zero-sum approach as its theoretical framework of analysis. The paper finds that while the legal instruments contain elaborate and ambitious provisions aimed at achieving inclusive democracy, civilized/violence-free politicking and accountable party organization, a combination of factors has constrained the achievement of these democracy-enhancing objectives. In conclusion, the paper suggests some measures capable of achieving intended consequences of party constitutionalisation.

Keywords:

Political parties;
constitution; party
constitutionalisation;
democracy; Nigeria.

¹ DOI: 10.12700/jceeas.2025.5.4.422

² Research Fellow, Department of Political Science, Fountain University, Osogbo, Osun State;
ORCID: 0009-0000-3021-8367; adekunleanimashaun39@gmail.com, animashaun.mojeed@fuo.edu.ng.

Introduction

In all electoral democracies, political parties are formed to contest elections into available elective offices with the aim of constituting government and exercising state power. The centrality of political parties to democratic governance is underscored in two important ways. First, no functioning democracy could meaningfully operate without the presence of political parties as parties represent the vehicles through which the preferences of the masses are brought into the electoral arena. Second, political parties present the electorate with a choice to pick from a range of electoral candidates that aspire to elective office (Jinadu, 2014).

Across democracies, both consolidated and emergent, political parties perform certain basic functions namely, aggregating citizen interests, constituting post-election government, generating/promoting policies/programmes, serving as training grounds for future political leaders and selection of personnel to serve in government for the purposes of policy formulation and execution (Deme, 2014).

More than seven decades ago, Schattschneider averred that political parties are the pillars of democracy without which a modern representative democracy can not operate as a functional system of rule (Schattschneider, 1942). Later scholars and analysts (Diamond, 1999; Lipset, 1959; Dalton, 1985) endorse Schattschneider's thesis of indispensability of political parties to democratic rule such that there is a consensus in the literature that no functioning democracy can endure without party organization (Sandbrook, 1996; Rahat, Hazan and Katz, 2008; Deme, 2014; Jinadu, 2014). Even studies that attempt to advance the argument of feasibility of democratic rule without formalized and stable political parties as experienced in six Pacific Island states of Kiribati, Nauru, the Federated States of Micronesia, Palau, Tuvalu and the Marshall Islands, concede to the fact that the very non-existence of political parties within these polities fundamentally vitiates the functioning of these 'partyless' democracies (Veenendaal, 2013).

Despite the weakening of the contemporary political parties as instruments of democratic representation (Van Biezen, 2012); and despite the legalization of independent candidacy in many democracies including the United States, political parties remain the most popular platforms for contestation of political power in a democratic context (Aldrich, 2020). Indeed, according to one source, political parties are in large part responsible for determining the character of democratic politics in any civil polity (Institute for Government, 2023). One key proof of this fact is that most contemporary constitutions expressly state the crucial role accorded political parties in modern democratic contexts (Mobrand, 2018).

One key issue that has defined global democracy in the last seven decades is the phenomenon of party constitutionalisation. Simply defined as the codification of political parties in national constitutions (Van Biezen, 2012), party constitutionalisation represents a significant break from the pre-World War 2 era when political parties were barely acknowledged in spite of their centrality to electoral democracy. Mobrand (2018) has shown that pre-Second World War scholarship paid little attention to

political parties as critical elements of a functioning democracy. According to Lorencka & Obrebska (2018), political parties in the pre-World War 2 period were generally regarded as a “hostile element” between the state and the citizen that was capable of distorting the will of the former. Immediate post-Second World War period however saw an intentional mention of political parties by public laws across Europe.

Essentially a global practice, party constitutionalisation emerged at different times across regions of the world. While in Europe, Italy and Germany, described by Muller and Sieberer (2006) as the “heartland of party law”, pioneered formal entrenchment of political parties into constitution in 1947 and 1949 respectively (Vohito-Anyanwu, 2020), the wave of constitutional codification of political parties reached the African continent in the early 1990s with the advent of the third wave of democratization which hit the continent. Ghafur (2020) however reveals that some sort of codification of parties in national constitutions had earlier occurred in Iceland (1944) and Austria (1945). Today across the global regions, party constitutionalisation is a common phenomenon in electoral democracies. According to one source, by the year 2022, 28 out of 32 democracies in continental Europe had codified political parties in their constitutions (Bale, 2023). Constitutional codification of political parties signals the place of parties in the institutional architecture of governance as well as the nature of party-citizenship relations in democratic polities.

Fundamentally, the basic rationale of party constitutionalisation is rooted in four core issues namely, to protect political parties against elite manipulation; to ensure party competitiveness; to instill sanity into party politicking; and to moderate the behaviour of party organization (Avnon, 1995; Borz, 2016). Thus, as shown by cross national evidences, constitutional regulation of political parties not only mediates party behaviour and parties’ ideological or programmatic choices, it also imposes constraints on the internal structure of party organization. Party constitutionalisation should be conceptually distinguished from party laws. The latter regulate the operational activities while the former relates to the enshrinement or entrenchment of political parties into the constitution. This constitutional entrenchment in a way signals the recognition of political parties as important institutional components of the democratic system (Borz, 2016). What this recognition also suggests however is that political parties lose their hitherto voluntary and private character which forbids state intervention in their affairs (Van Biezen & ten Napel, 2014).

Party constitutionalisation as a practice varies across mature and new democracies in terms of content, scope, issues subjected to constitutional regulation (Van Biezen & Borz, 2012) as well as consequences (Ginsburg & Versteeg, 2023). While national constitutions describe political parties in terms of core democratic values and principles, others define parties in terms of their electoral and parliamentary activities (Van Biezen, 2012). Key actors in party constitutionalisation include parliamentarians, political parties, the courts and the election oversight bodies. Borz (2016) has expanded the actors’ list to include the media, civil society organizations, local constituency and international organizations.

Nigeria had its first taste of party constitutionalisation during the military-brokered transition that culminated into the second republic in October 1979. Since that momentous event, party constitutionalisation has been a recurrent feature of constitution making in Nigeria. The key motivation for the codification of political parties in the 1979 constitution by the military was to avoid the repeat of the divisive and centrifugal tendencies that characterized party politics in the first republic (Jinadu, 2014). With the constitutional codification, political parties were, among others, required to wear national outlook, uphold intra-party democracy and be formally registered by the newly-instituted election management body. While the constitutional status accorded parties in Nigeria has endured till the current republic, there is no consensus as to whether the constitutional entrenchment has deepened constitutional party democracy in Africa's largest electoral democracy. And again, increasing constitutional regulation of parties has received little scholarly attention. It is this scholarly gap that this study seeks to fill. How has party constitutionalisation evolved over time in Nigeria? Has party constitutionalisation shaped party organization and party behaviour in a manner envisaged by the constitution?

This study will particularly focus on three key aspects of party constitutionalisation: intra-party democracy, party financing and electoral conduct of political parties. There are however other important aspects of constitutional regulation of political parties in the 1999 Constitution, as amended. One of such is the prohibition of ideologically extreme and ethnically affiliated political parties. For instance, Section 222 (a) prohibits any association seeking to be registered as a political party from adopting a name or logo that contains ethnic or religious connotation. In the same vein, Section 222 (c) of the constitution provides that the membership of any political association is open to every Nigerian citizen irrespective of place of origin, circumstance of birth, sex, religion or ethnic identity. These provisions are aimed at promoting or strengthening national unity and safeguarding democratic rule against insurrectionary elements. Prohibiting ideologically extreme parties will naturally raise questions of 'democratic intolerance' (Fox & Nolte, 1995; Azad, 2022; Tuovinen, 2023) by which it is meant the degree of tolerance that democratic states should accord anti-democratic elements. While this question is yet to be settled in the literature (Ceva & De Bernardi, 2022), has the experience in Nigeria since the transition to civil politics in 1999 defied the 'democratic value' attributed to party constitutionalisation? Or, given the contradictions that have characterized the codification of political parties in the Nigerian constitution, does it suggest that the constitutionalisation efforts have ended in tears?

Political Parties and Representative Democracy

As primary vehicles of accessing political power in democratically ruled contexts, political parties constitute the 'gate keepers' of democracy (Ashindorbe, 2022). In all liberal representative democracies, political parties represent the instrumentality by which the electorate extract accountability from elective office holders through periodic multi-party elections (Jinadu, 2011; Chaudhuri, 2023).

As an organized group of persons with common ideas on governance and economy which it seeks to control by contesting and winning election, political party does not only represent the primary vehicle of accessing power, it is also an institutional tool of connecting the citizens with their representatives. Through this linkage function, political parties constitute critical channel through which democracy functions. In contemporary electoral democracies, political parties define and initiate political agenda, mobilize and organize the electorate, project diverse interests and hold elected regimes answerable to the voting public (Tesfay & Sete, 2019). Van Biezen (2012) has noted that political parties are critical not only for organizing democratic politics but also for expressing and manifesting citizen participation as well as political inclusion and pluralism.

Across democratic contexts, the roles of political parties are broadly classified into two: they run government or they serve as opposition (Wondwosen, 2009). As ruling or incumbent parties, political parties initiate and formulate policies and programmes that aim at enhancing citizen welfare. As opposition parties, they offer (credible) alternative policy choices and promote healthy policy competition with the ruling parties (Tesfay & Sete, 2019). Being both critical and central to the sustenance of democratic rule, the activities of political parties in and outside of political power considerably influences the stability of the democratic state (Igwe, 2019). Thus, by organizing government and serving as an outlet for recruiting government functionaries, political parties contribute to the vitality and sustenance of democracy.

For Africa which survived the ascent of one party rule of the late colonial rule and early independence era, the third wave of democratization of the early 1990s re-introduced multi-party democracy to the continent (Fombad, 2022).

Theoretical Framework

This study adopts the zero-sum theory of politics to explain the ineffectiveness of party constitutionalisation as an instrument of extracting compliance by political parties with party finance regulations, deepening intra-party democracy, and ensuring responsible electoral conduct by political parties. Zero-sum approach is rooted in game theory (von Neumann & Morgenstern, 1944) and its adversarial logic significantly influences political behaviour in a way that tends to distort efforts at institutionalizing democratic norms both within the parties and the larger polity particularly in emergent democracies defined by weak political culture. Game theory itself dwells on understanding social behaviour and decision making in the context of inter-group competition (von Neumann & Morgenstern, 1944). Game theorists assume that people demonstrate zero-sum tendencies when they feel threatened by their competitive environment even if that threat does not reflect an objective reality but a mere subjective perception (Davidai & Tepper, 2023).

The central thrust of the theory is that political actors perceive political game or state power as a fixed indivisible resource and that one actor's gains correspond to the other's loss. Contenders for power must therefore do everything to outwit one another in the political game in order to access state power which can then be deployed for primitive

accumulation, economic security and patronage (Ake, 2001). Thus, the logic of zero-sum approach provides incentive for power contenders to brazenly violate rules of the game as instituted in party constitutions and national constitutions. These contraventions come in varying forms including manipulated party nomination, imposition of candidacy and manipulation of leadership recruitment process within political parties.

The zero-sum perspective draws its strength from incessant conflict, inequality and proclivity to violence in social and political relations (Read, 2012). The perspective thrives in contexts where finite resources cannot be allocated equally across the society or group resulting in inter-group contestation for the finite goods (Meegan, 2010).

Although the zero-sum theory offers a compelling insight into the inadequacy of party constitutionalisation in Nigeria, it is not without its own limitations. One key critique of the approach that has been advanced in the literature is that it cannot explain the blend of conflict and shared interest as well as that of competition and cooperation that define contemporary social and political relations (Read, 2012). Indeed, Schelling (1958) contends that many social situations combine elements of zero-sum and non-zero-sum perspectives.

Applying the assumptions of the zero-sum theory to electoral competition in Nigeria, Nigerian politicians approach electoral politics with winner-take-all tendency and will spare no effort to realize electoral victory even if to contravene extant legal and regulatory provisions. Ake (2001) alluded to the salience of zero-sum beliefs in African politics in the immediate post-independence period when he wrote that: "...politics remained a zero-sum game; power was sought by all means and maintained by all means...". This zero-sum character of electoral politics and the attendant display of reckless abuse of power and brazen impunity is aggravated by the weakness of institutional framework of political competition. The regulatory institutions lack the requisite autonomy to regulate or constrain the behaviour of the power elite.

Methodology

This study adopts a qualitative research design relying on legal instruments particularly the 1999 Constitution of the Federal Republic of Nigeria, the 2022 Electoral Act, the Companies and Allied Matters Act as well as constitutions of political parties. In addition to these data sources, relevant and recent literature is consulted to gain deep and useful insights into the motivation, manifestation and trajectory of party constitutionalisation in Nigeria. Content analysis is adopted as analytical framework for the study.

Constitutional Regulation of Political Parties: The Justification and the Critique

Constitutional regulation of political parties has remained an unending debate in Political Science and Law disciplines. At the heart of this debate is the question of the

correct status of political parties in the society. Are political parties private associations or public entities? Though the debate is yet to be settled in the literature, it is acknowledged that political parties occupy an unclear and intervening space between government and civil society (Van Biezen, 2012). Before the early 1940, political parties were practically outside of the control of the state. Invested with the power and liberty to define their structure, methods of decision making and modes of financing, the only entity to which the party was responsible and which constituted the tool of oversight over party organization was the party membership (Tesfay & Sete, 2019).

This paper adopts Borz's (2016) framework of party constitutionalisation for the discussion of this section. The framework fundamentally outlines the key justifications for constitutional codification of political parties from the world view of different political actors including political parties, state institutions and international actors. Five key justifications are advanced by Borz which he claims are a product of deductive approach garnished with "cues from new constitutionalism" (Borz, 2016). These justifications are: agency legitimization, organizational survival, distinction from similarly organized associations, prevention of anti-democratic parties, as well as prevention of abuse of power. According to Borz, formal recognition of political parties acknowledges the pre-eminent place of political parties in the power architecture. Constitutional codification of parties also enhances the organizational and financial survival of political parties. Similarly, constitutional regulation of parties distinguishes them from their societal 'rivals' such as the pressure groups and labour/trade unions. Furthermore, constitutional formalization of political parties represents a tool of excluding anti-democratic and extremist groups from the political/electoral space. Subjecting political parties to constitutional restraint also helps in checkmating the proclivity for abuse of powers by political parties particularly by the ruling parties.

Borz's justifications look convincingly rational and outwardly ambitious even if the manifestations of these justifications have varied across party democracies. While party constitutionalisation has granted legal and institutional recognition to political parties in most democracies, the scope of state regulation of political parties differs across democratic countries. Similarly, while state funding of parties is aimed at enhancing the organizational survival of political parties, the degree of party compliance with party finance rules as well as the degree of effectiveness of the regulatory instruments vary from democracy to democracy. Furthermore, while party constitutions have promoted intra-party democracy in some democratic countries, they have utterly failed to mediate party behaviour in other countries (Fombad, 2022; Ginsburg & Versteeg, 2023).

However, despite its utilitarian value as an explanatory tool, Borz's framework (and by extension party constitutionalisation practice) has come under criticism by scholars. Two key critiques of party constitutionalisation are cited here. The first is the overly state regulation of political parties as a core democratic institution. It is feared that excessive constitutional role of political parties may unwittingly lead to the erosion of party autonomy and political pluralism. When state regulation becomes extensive, political parties tend to lose their organizational independence and may gradually

transform into, even if unwittingly, semi-state agencies or public service entities (Bartolini & Mair, 2001). Indeed, opponents of regulation of political parties particularly the use of law to ban the emergence of parties with religious, ethnic, racist or radical tendencies have argued that legislating against the emergence and flourishing of political parties with certain identities tends to undermine critical democratic achievements (Bale, 2014). Other scholars (Rosenblum, 2007; Randall, 2008) have described prohibition of parties as a self-serving, partisan and exclusionary tool to undermine diversity in multiculturalism. To the extent that ethnic representation is a key indicator of democratic quality (Rashkova, 2014), prohibiting ethnic or cultural political parties represents an assault on political/social diversity. Banning or restraining emergence of such parties approximates what Isaacharoff (2007) calls “democratic intolerance”, a sort of restraint imposed on extremist or insurrectionist groups/parties under the guise of protecting the democratic order.

The second critique of constitutional formalization of political parties is the possibility of the emergence of hegemonic parties which are so well privileged by the constitutional prescriptions as to undermine the entry of new political parties into the electoral market.

The Nigerian case illustrates the two critiques cited above. Since 1999, political parties have existed largely under the effective influence of the state and the ruling governments thereby undermining their institutional autonomy; while few established parties with real prospects of capturing power have continued to dominate the electoral space.

Constitutionalising Political Parties in Nigeria: A Historical Sketch

While constitutional codification of political parties formally started with the inauguration of the second republic on 1st October, 1979, political parties as party organizations had emerged more than five and a half decades earlier under the colonial order with the introduction of the 1922 Clifford constitution. With electoral politics limited to the two coastal towns of Lagos and Calabar, the Nigerian National Democratic Party (NNDP) formed by Nigeria’s foremost nationalist, Herbert Macaulay became the first political party in Nigeria. The party dominated the electoral market during the period marked by limited/restricted franchise (Omilusi & Adu, 2016). New parties, largely ethnic-based, later emerged as political parties grew in number. These included the Action Group (AG), the National Council for Nigerian Citizens (NCNC) and the Northern People’s Congress (NPC). While these parties had their respective formal constitutions that guided their internal structure and organization, they were not codified into the national constitution (Jinadu, 2011).

Essentially, Nigeria’s first shot at party constitutionalisation at the beginning of the country’s second democratic experiment in the late 1970s was intended as an anti-dote against the centrifugal and ethno-regional character of party politicking in the late colonial rule and the short-lived first republic. With the codification of political parties in the new presidential constitution, the country transited “from a functional definition of a political party to a legal-constitutional one...” (Jinadu, 2011). Under the new legal context, political parties must assume national identity, uphold internal democracy and

must be officially licensed by the election management body, the Federal Electoral Commission (FEDECO). The emphasis on internal in party organization is underscored by the fact that without its core democratic values and principles such as fair representation, equity and inclusivity within the parties can hardly be achieved (Mersel, 2006; Borz & Janda, 2020).

In broad terms, under the current democratic dispensation, four key documents constitute the regulatory framework for political parties in Nigeria. These are the 1999 Constitution, the 2022 Electoral Act, the 2020 Companies and Allied Matters Act and the INEC Guidelines for Political Parties and Candidates. What this section of the study seeks to do is to analyse the various provisions of these documents relating to the three key areas of interest to this study.

Internal Party Democracy

There are several provisions relating to the achievement of intra-party democracy in the four regulatory instruments under review in this study. For example, Section 84 (3) of the 2022 Electoral Act states that a political party shall not impose nomination qualification or disqualification criteria, measures, or conditions on any aspirant or candidate for any election in its constitution, guidelines, or rules for nomination of candidates for elections, except as prescribed under sections 65, 66, 106, 107, 131, 137, 177 and 187 of the Constitution. This provision is aimed at checkmating abuse of powers by the principal officers as well as wealthy members or financiers of political parties to manipulate selection of candidates for elections for their own selfish ends or to favour certain aspirants. Similarly, Section 84 (13) of the Act states that where a political party fails to comply with the provisions of this Act in the conduct of its primaries, its candidate for election shall not be included in the election for the particular position in issue. This particular provision represents a warning to party managers to follow due process in their running of the affairs of political parties particularly as it relates to party nomination.

Political Party Financing

All the four regulatory documents under review contain elaborate provisions on political party financing. To start with, Section 225 (3a&b) states that no political party shall - (a) hold or possess any funds or other assets outside Nigeria; or (b) be entitled to retain any funds or assets remitted or sent to it from outside Nigeria. Similarly, Sections 85, 86, 87, 88 and 90 contain copious provisions on retention of money or assets sent from outside the country; submission of annual statements of accounts and analysis of sources of funds by political parties to INEC; limitation on contribution or donation to political parties; ceiling or limit on amount of money to be spent on contesting for specific elections; and prohibition of receiving of donation from anonymous sources by political parties.

In the same vein, Section 43 (2) of the 2020 Companies and Allied Matters Act provides that a company shall not have or exercise power either directly or indirectly

to make a donation or gift of any of its property or funds to a political party or political association, or for any political purpose. and if any company, in breach of this subsection makes any donation or gift. Furthermore, INEC Guidelines for Political Rallies and Campaigns by Political Parties, Candidates, Aspirants and their Supporters in Section 17 provides for requirement of transparency in election expenses. Section 25 (4) of the Guidelines provides for limitation on election expenses which is in consonance with the provisions of the Electoral Act.

All the afore-mentioned provisions are aimed at achieving equity, fairness, transparency and accountability in the management of party funds and party organization in general.

Electoral Conduct of Parties

Out of the four regulatory instruments under review, only two contain provisions relating to expected conduct of political parties, candidates and their supporters during elections. The two documents are the 1999 Constitution, as amended, and the 2022 Electoral Act. In Section 227, the 1999 Constitution provides that no association shall retain, organise, train or equip any person or group of persons for the purpose of enabling them to be employed for the use or display of physical force or coercion in promoting any political objective or interest or in such manner as to arouse reasonable apprehension that they are organised and trained or equipped for that purpose.

On its own, the 2022 Electoral Act contains a plethora of provisions that relate to the conduct of political parties, candidates and their supporters before, during and after polling. For instance Section 92 (1&2) of the Act provides that a political campaign or slogan shall not be tainted with abusive language directly or indirectly likely to injure religious, ethnic, tribal or sectional feelings. It also provides that abusive, intemperate, slanderous or base language or insinuations or innuendoes designed or likely to provoke violent reaction or emotions shall not be employed or used in political campaigns.

Similarly, Section 92 (5&6) provides that a political party, aspirant or candidate of a political party shall not retain, organise, train or equip any person or group of persons for the purpose

of enabling them to be employed for the use or display of physical force or coercion in promoting any political objective or interest, or in such manner as to arouse reasonable apprehension that they are organised, trained or equipped for that purpose. It further provides that a political party, aspirant or candidate shall not keep or use armed private security organisation, vanguard or any other group or individual by whatever name called for the purpose of providing security, assisting or aiding the political party or candidate in whatever manner during campaigns, rallies and elections.

Furthermore, Sections 95 (2, 3, 4, 5&6) copiously provide that State apparatus including the media shall not be employed to the advantage or disadvantage of any political party or candidate at any election. Media time shall be allocated equally among the political parties or candidates at similar hours of the day. At any public electronic

media, equal airtime shall be allotted to all political parties or candidates during prime times at similar hours each day, subject to the payment of appropriate fees. At any public print media, equal coverage and visibility shall be allotted to all political parties. A person who contravenes subsections (3) and (4) commits an offence and is liable on conviction, in the case of — (a) a public media, to a fine of N2, 000,000 in the first instance and N5, 000,000 for subsequent conviction; and (b) principal officers and other officers of the media house, to a fine of N1, 000,000 or imprisonment for a term of six months. Section 97 (1a&b) provides that a candidate, person or association that engages in campaigning or broadcasting based on religious, tribal, or sectional reason for the purpose

of promoting or opposing a particular political party or the election of a particular candidate, commits an offence under this Act and is liable on conviction— (a) to a maximum fine of N1,000,000 or imprisonment for a term of 12 months or both ; and (b) in the case of a political party, to a maximum fine of N10,000,000.

There is no denying the fact that the foregoing provisions are both elaborate and ambitious. In any electoral democracy where these provisions are strictly adhered to by politicians, political parties and their supporters; and where the provisions are unbiasedly enforced or implemented, transparency, accountability, legitimacy, issue-based politics and violence-free elections will dominate party politicking in such a democracy.

The Contradictions of Constitutional Codification of Parties in Nigeria's Fourth Republic

What the foregoing section has shown in bold relief is that Nigeria does not lack the requisite party constitutionalisation framework capable of producing intended consequences of party formalization. Both the national and party constitutions contain provisions that aim at entrenching internal democracy within parties as well as instilling liberal and responsible party behaviour that enhances constitutional party democracy. Other legal and regulatory documents aim at enhancing the organizational survival of the parties through finances including (at the beginning of the current republic in 1999) state funding of political parties which was however outlawed following the constitutional/electoral reform of 2010.

In practice however, these comprehensive constitutional efforts have not produced the desired outcomes. Thus, the Nigerian case represents a paradox of growing disorderliness in the context of increased laws. There is a legion of empirical evidences that show the failure of the party constitutionalisation efforts in the period under review. Some of these instances are cited below.

In defiance to the provision on internal party democracy, imposition of candidates is the order of the day within political parties in Nigeria particularly among the established ones. For instance, former President Olusegun Obasanjo single handedly imposed Alhaji Umar Yar'adua on the PDP as its presidential candidate in the 2007 presidential election. Incumbent President Jonathan also exploited political incumbency to clinch the

presidential ticket of PDP in 2015 leading to the mass exit of prominent members from the party including former Vice President Atiku Abubakar and former House of Representatives Speaker, Right Honourable Aminu Tambuwal. Similar imposition of candidate was witnessed in Osun state in 2018 when Alhaji Isiaka Oyetola became the governorship candidate of APC for the 2018 governorship election. Imposition of candidate was also witnessed within the PDP when Senator Ademola Adeleke won the party's governorship ticket for 2022 governorship election. Furthermore, the Plateau State National Assembly Election Tribunal as well as the Appeal Court nullified the election of Napoleon Bali of PDP as Senator representing Plateau South Senatorial District due to the party's refusal to obey earlier court judgement that ordered it to conduct fresh party congress in 17 local government areas in Plateau state. The court consequently declared Simon Lalong of APC as the duly elected senator for the district. Similarly, in May 2019, the Supreme Court nullified the election of all the candidates of APC in Zamfara state in the 2019 general elections for failing to "follow legitimate guidelines and rules". Another assault on intra-party democracy was witnessed in APC during the nomination process for the selection of the party's candidate for the Yobe North senatorial district during the 2023 general elections. Whereas the validly conducted primary election for selecting the senatorial candidate of the party held on May 28, 2022 produced Hon. Bashir Sheriff Machina as the party's candidate, the party unlawfully conducted another primary on June 9 2022 which produced Senator Ahmed Lawan as the candidate of APC.

Against the provisions of the Companies and Allied Matters Act, a self-styled organization named Corporate Nigeria donated millions of naira to the Obasanjo/Atiku Campaign in 2003. Similarly, a business tycoon, Mr. Tunde Ayeni once donated N1 billion naira to PDP. Furthermore, Alhaji Isyaku Rabi'u, a prominent Nigerian business mogul, contravened the provisions of the Electoral Act 2006 when he donated N250m to PDP in 2007. Reports by election observers and civil society organizations since 2003 have consistently shown that established political parties particularly ruling parties and large opposition parties spent far above permissible election expenses. There are also media reports which were confirmed by INEC that many political parties do not submit their annual audited accounts to INEC as required by law. Lastly, the famous *Dasukigate* financial scandal as well as the diversion of the Ecological Funds meant for Plateau State to the financing of PDP clearly show the contravention of party financing regulations in Nigeria.

The instances cited above and many others not covered here represent the contradictions of party constitutionalisation in Nigeria. Whereas there are constitutional/legal prescriptions that promote internal party democracy, licit party funding and responsible electoral conduct, these prescriptions are often rudely violated by political parties, political incumbents and godfathers demonstrating a dissonance between formal legal framework and actual practices by political parties and political practitioners. This has thrown up party constitutionalisation as more of a symbolic than substantive tool of strengthening party democracy in Nigeria. Thus, given the negative

unintended consequences that have accompanied party constitutionalisation in Nigeria, one can safely conclude that the efforts have ended in tears for Africa's largest electoral democracy.

Wiping the tears and Strengthening Party Democracy

This study has established that constitutional codification of political parties in Nigeria which set off more than four decades ago has not substantially achieved its intended goals despite its comprehensiveness and elaborateness. According to Jinadu (2011), party constitutionalisation has failed to effectively address the salience of ethnicity in Nigerian politics and has not deepened internal democracy within the political parties. He further contends that formalization of political parties has not ensured a level playing field for political parties and has also failed to engender issue-based and violence-free election campaigns (Jinadu, 2011).

In his own reflection on the outcome of party constitutionalisation efforts of Nigeria's second republic, Patrick Ollawa finds a sharp divergence between what was intended and the actual outcome. According to Ollawa "the paradox of party politics in the second republic is that despite a well-intentioned constitutional attempt to evolve a party system which would promote stable contest between parties, presumably characterized by different programmes manifested in issue-oriented ideologies... what emerged in practice was transactional politics based on opportunistic and informal networks of politicking replete with intra-party factionalism that consistently led to shifting alliances, a situation which unavoidably supplanted the formal structure of party organization..." (Ollawa, 1989). This reality calls for pro-active measures to address the challenge of ineffectiveness of party constitutionalisation.

This paper proposes three key measures for the reversal of the negative realities of party constitutionalisation in Nigeria as demonstrated by this study. First, political gladiators should demonstrate strong will to abide by the rules of party politicking as contained in the legal and regulatory instruments. Without a conscious psychological transition by political practitioners in Nigeria from zero-sum logic to constructive-sum logic, efforts at party institutionalization and party constitutionalisation will perpetually come to grief. Second, regulatory and enforcement institutions should be endowed with the requisite institutional autonomy to discharge their mandate. Third, strong citizen oversight through the instrumentality of associational life should be brought to bear on the activities of political parties and regulatory institutions.

Conclusion

This paper has examined the practice of party constitutionalisation in Nigeria and the extent to which the phenomenon has strengthened party democracy in the country. The paper finds that political parties in Nigeria not only contravene the provisions of national constitution, they equally do not respect their own formal constitutions particularly in the areas of party funding and internal party democracy. This explains regular outbreak of conflicts in all political parties particularly during party nomination

for elective offices. Against this backdrop, the paper argues that efforts at party constitutionalisation in Nigeria have failed to engender intended outcomes both within the party organization and the larger body politic. The paper concludes that while party constitutionalisation, and the attendant incremental review, is a good effort at enhancing party democracy in Nigeria, the effort needs to be accompanied by effective mechanisms capable of achieving its goals. It contends that unless robust and more stringent remedial measures are instituted, the prospects of democratic strengthening may recede or stagnate.

Notes on Contributor

Mojeed Adekunle Animashaun received first and second degrees in Political Science from the University of Ibadan, Nigeria. He also holds doctoral degree (PhD) in Political Science from Osun State University, Osogbo, Nigeria. He currently teaches in the Department of Political Science, Fountain University, Osogbo, Nigeria where he has served at various times as Head of Department and Sub-Dean of the Faculty of Management and Social Sciences. He has previously taught at Nasarawa State University, Keffi and Osun State University, Osogbo. His areas of research interest include political financing, comparative democratization, state-civil society relations and policy analysis. His scholarly works have appeared in reputable local and international journals as well as in edited volumes.

Disclosure Statement

The author received no financial support for the research, authorship and publication of this article.

References

- Ake, C. (2011). *Democracy and development in Africa*. Spectrum Books Limited.
- Aldrich, A. S. (2018). Party organization and gender in European elections. *Party Politics*, 26(5), 675-688. <https://doi.org/10.1177/1354068818806630>
- Ashindorbe, K. (2022). Zero-sum politics: Ruling parties and political opposition in Nigeria. In *Anonymous power: Parties, interest groups and politics of decision making in Nigeria's fourth republic. Essays in honour of Elochukwu Amuchaezi* (pp. 211-227). Springer Nature.
- Avnon, D. (1995). Parties laws in democratic systems of government. *The Journal of Legislative Studies*, 1(2), 283-300. <https://doi.org/10.1080/13572339508420429>
- Azad, A. K. (2022). The Question of India's Endangered Democracy in the Light of Intolerance Debate: Some Reflections. *Journal of Asian Social Science Research*, 4, 87-104. <https://doi.org/10.15575/jassr.v4i1.67>
- Bale, T. (2014). Will it all end in tears? What really happens when democracies use law to ban political parties. In I. V. Biezen & H.-M. T. Napel (Eds.), *Regulating*

- political parties: European democracies in perspective* (pp. 195-224). Leiden University Press.
- Bale, T. (2023). *Britain's political parties and the constitution*. Institute for Government. Bennet Institute for Public Policy. <https://muse.jhu.edu>
- Bartolini, S., & Mair, P. (2001). Challenges to contemporary political parties. In L. Diamond & R. Gunther (Eds.), *Political Parties and Democracy* (pp. 327-343). Johns Hopkins University Press. <https://www.journalofdemocracy.org>
- Borz, G. (2016). Justifying the constitutional regulation of political parties: A framework for analysis. *International Political Science Review*, 1-15. <https://journals.sagepub.com>
- Borz, G., & Janda, K. (2020). Contemporary trends in party organization: Revisiting intra-party democracy. *Party Politics*, 26(1), 3-8. <https://researchgate.net>
- Ceva, E., & De Bernardi, R. (2022). The inherent tolerance of the democratic political process. *Journal of Ethics and Social Philosophy*, 23(321). <https://doi.org/10.26556/jesp.v23i3.1541>
- Chaudhuri, N. (2023). Right not to be misled: Identifying a constitutional basis to fix accountability for election promises. *Indian Journal of Constitutional Law*, 10(2), 1-19. <https://heinonline.org>
- Dalton, R. J. (1985). Political Parties and Political Representation: Party Supporters and Party Elites in Nine Nations. *Comparative Political Studies*, 18(3), 267-299. <https://doi.org/10.1177/0010414085018003001>
- Davidai, S., & Tepper, S. J. (2023). The psychology of zero-sum beliefs. *Nature Reviews Psychology*, 2(8), 472-482. <https://doi.org/10.1038/s44159-023-00194-9>
- Deme, M. (2014). *Political parties: A defence*. *Political parties and democracy in Nigeria*. NIPSS.
- Diamond, L. (1999). *Developing democracy: Toward consolidation*. Johns Hopkins University Press.
- Fombad, C. (2022). Political party constitutionalisation in Africa: Trends and prospects deepening constitutionalism. In *Comparative constitutional law in Africa* (pp. 109-135). Edward Elgar Publishing.
- Fox, G., & Nolte, G. (1995). Intolerant democracies. *Harvard International Law Journal*, 36(1), 1-70. <https://doi.org/10.1017/CB09780511522307.013>
- Ghafur, J. (2020). *Constitutionalization of the political party: Impressions of Indonesia*. Paper presented at the international conference on environmental and technology of law, business and education on post-COVID 19. Bandar Lampung.
- Ginsburg, T., & Versteeg, M. (2023). The Constitutionalization of Democracy. *Journal of Democracy*, 34, 36-50. <https://doi.org/10.1353/jod.2023.a907686>
- Igwe, C. A. (2019). Legal provisions and party politics in Nigeria: Selected empirical cases. *African Journal of Politics and Administrative Studies*, 12(1), 131-151. <https://www.ajol.info>
- Institute for Government. (2023). *Britain's political parties and the constitution*. Institute for Government.

- Issachroff, S. (2007). Fragile democracies. *Harvard Law Review*, 120, 1405-1467. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=935395
- Jinadu, A. (2014). Elections, Democracy and political parties: Trends and trajectories. In O. Obafemi, S. Egwu, O. Ibeanu, & J. Ibrahim (Eds.), *Political parties and democracy in Nigeria* (pp. 19-44). Kuru: National Institute.
- Jinadu, L. A. (2011). Inter-party dialogue in Nigeria: Examining the past, present and future. *Lead paper at the inaugural DGD Political Parties Dialogue Series*.
- Konstytucyjnego, P., Lorencka, M., & Obrębska, M. (2019). The constitutionalization process of political parties in Poland. Party system evolution after 1918. *Przegląd Prawa Konstytucyjnego*, 2018/6 (46), 187-197. <https://doi.org/10.15804/ppk.2018.06.16>
- Lipset, S. M. (1959). Some Social Requisites of Democracy: Economic Development and Political Legitimacy. *American Political Science Review*, 53(1), 69-105. <https://doi.org/10.2307/1951731>
- Meegan, D. V. (2010). Zero-Sum Bias: Perceived Competition Despite Unlimited Resources [Original Research]. *Frontiers in Psychology*, 1(9), 1-7. <https://doi.org/10.3389/fpsyg.2010.00191>
- Mersel, Y. (2006). The Dissolution of Political Parties: The Problem of Internal Democracy. *International Journal of Constitutional Law*, 4, 84-113. <https://doi.org/10.1093/icon/moi053>
- Mobrand, E. (2018). *Constitutionalisation of political parties in East and Southeast Asian democracies*. NUS Centre for Asian Legal Studies Working Paper 18/05. <https://law.nus.edu.sg/wps/>
- Muller, W., & Sieberer, U. (2006). Party law. In R. Katz & W. Crothy (Eds.), *Handbook of party politics*. Sage.
- Omilusi, M., & Adu, A. O. (2016). Party politics and democratic governance in Nigeria: Historical perspective. *International Journal of Multidisciplinary Academic Research*, 4(4), 33-46. <http://www.multidisciplinaryjournals.com>
- Rahat, G., Hazan, R. Y., & Katz, R. S. (2008). Democracy and Political Parties: On the Uneasy Relationships between Participation, Competition and Representation. *Party Politics*, 14(6), 663-683. <https://doi.org/10.1177/1354068808093405>
- Randall, V. (2008). Party regulation in conflict-prone societies: More dangers than opportunities. In B. Reilly & P. Nodlund (Eds.), *Political parties in conflict-prone societies: Regulation, engineering and democratic development*. United Nations University Press.
- Rashkova, E. R. (2014). Ethnic party regulation in Eastern Europe. In I. v. Biezen & H.-M. T. Napel (Eds.), *Regulating political parties: European democracies in comparative perspective* (pp. 225-251). Leiden University Press.
- Read, J. H. (2012). Is power zero-sum or variable-sum? Old arguments and new beginnings. *Journal of Political Power*, 5(1), 5-31. <https://doi.org/10.1080/2158379X.2012.659865>



- Rosenblum, N. (2007). Banning Parties: Religious and Ethnic Partisanship in Multicultural Democracies. *Law & Ethics of Human Rights*, 1(1), 17-75. <https://doi.org/10.2202/1938-2545.1002>
- Sandbrook, R. (1996). Transitions without consolidation: Democratization in six African cases. *Third World Quarterly*, 17(1), 69-88. <http://www.jstor.org/stable/3992993>
- Schattschneider, E. E. (1942). *Party government*. Holt Rinehart, Winston.
- Schelling, T. C. (1958). The strategy of conflict . Prospectus for a reorientation of game theory. *Journal of Conflict Resolution*, 2(3), 203-264. <https://doi.org/10.1177/002200275800200301>
- Tesfay, G. H., & Sete, T. A. (2019). The quest for constitutionalizing political parties in Ethiopia. *Journal of Citizenship and Morality*, 2(1), 40-60. <https://journal.mu.edu.et>
- Tuovinen, J. (2023). Resisting ambiguously anti-democratic parties: What role for the state, political parties and civil society? *Comparative European Politics*, 21, 1-14. <https://doi.org/10.1057/s41295-023-00340-w>
- Van Biezen, I. (2012). Constitutionalizing Party Democracy: The Constitutive Codification of Political Parties in Post-war Europe. *British Journal of Political Science*, 42(1), 187-212. <https://doi.org/10.1017/S0007123411000263>
- van Biezen, I., & Borz, G. (2012). Models of party democracy: patterns of party regulation in post-war European constitutions. *European Political Science Review*, 4(3), 327-359. <https://doi.org/10.1017/S1755773911000294>
- Van Biezen, I., & Ten Napel, H. (2014). *Regulating political parties: European democracies in comparative perspective*. Leiden University Press.
- Veenendaal, W. (2013). Size and personalistic politics: Characteristics of political competition in four microstates. *The Round Table*, 102(3), 245-257. <https://doi.org/10.1080/00358533.2013.794582>
- Vohito-Anyanwu, S. (2020). Promoting constitutional democracy: Regulating political parties in the Central African Republic and Senegal. *PER/PELT*(23), 1-34. <https://doi.org/10.17159/1727-3781/2020/v23i0a5438>
- Von Neumann, J., & Morgenstern, O. (1944). *Theory of games and economic behaviour*. Princeton University Press.
- Wondwosen, T. (2009). Political finance in Africa: Ethiopia as a case study. *International Journal of Human and Social Sciences*, 4(6), 17-31. <https://www.researchgate.net>

Cross Border Criminalities and Insecurity Crisis in Nigeria: An Empirical Analysis of International Borders in Cross River State¹

George Kati Kati², Venatius Azinor Ukor³, Bayode Michael⁴

Abstract:

The study, titled Cross Border Criminalities and Insecurity Crisis in Nigeria: Empirical Analysis of International Border in Cross River State, was conducted with the primary goal of determining the extent to which cross-border criminality in Cross River State influences state insecurity. Specifically, the study attempted to investigate the impact of illegal immigrants, illegal arms trafficking, and illicit drug smuggling on national security. Extant literatures were consulted and reviewed in accordance with the study's aims. The social disorganization theory and ungoverned space theory were used to critically examine the existence and impact of cross-border criminality on the trend of insecurity in Nigeria. The study used a cross-sectional research design, and the target area was Bakassi and Ikom Local Government Area. The choosing of these places was primarily due to the fact that they both share borders with Cameroon. The study's population consisted of people who lived in these target areas. Taro Yamen's statistical technique was utilized to determine a sample size of 400. The questionnaire served as the primary data collection tool. Simple percentages and population t-tests were used for analysis. According to the analysis conducted, there is a substantial association between the surge of illegal immigrants, illegal arms trafficking, and illicit drug smuggling, as well as the insecurity situation in Cross River State. As a result, the report suggests that various security operators in border regions use modern security measures, as well as boost community policing in various border communities.

Keywords:

Cross border;
criminalities; insecurity;
illegal immigrants; arms
trafficking; illicit drugs.

¹ DOI: 10.12700/jceeas.2025.5.4.410

² Post Graduate Student, Department of Public Administration, Faculty of Management Sciences, University of Calabar, Calabar–Nigeria; ORCID: 0000-0002-9447-6442; katigeorge10@gmail.com.

³ Post Graduate Student, Department of Public Administration, Faculty of Management Sciences, University of Calabar, Calabar–Nigeria; ORCID: 0009-0005-9981-0242; azinorukor@gmail.com.

⁴ Post Graduate Student, Department of Public Administration, Faculty of Management Sciences, University of Calabar, Calabar–Nigeria; ORCID: 0000-0001-9990-3805; michaelbayode1987@gmail.com.



Introduction

Background of the study

Cross border criminalities have been a security threat to both developed and developing for quite a long period of time. Its drastic effects have made it imperative for the fortification of national borders across the globe. While affluent countries have made tremendous steps to reduce the entry of illegal immigration and the accompanying repercussions of drug and arms trafficking, the majority of West African borders are permeable. The porous nature of West African borders, combined with marginalisation of community members within border regions, overcentralization of state powers, and the state's inability to fully control the various border routes through its various security agencies, has resulted in what is known as "ungoverned space" or "alternatively governed" areas in most border communities (Ismail, 2013; Agade, 2014; Clunan & Trinkunas, 2010). Most criminal groups have taken advantage of these ungoverned zones, which stretch across Nigeria, to insidiously carry out a variety of illicit activities. Aside from the porous state of border regions in West Africa, the pattern and extent of cross border criminalities have increased as a result of the expanding nature of globalization in West Africa. The associated benefits of inter-state relationship beyond the usual diplomatic ties have encouraged the opening of borders among most countries with advanced technology, socio-economic development and basic amenities which provides a more conducive and safer environment for dwelling. These led to the huge influx of foreigners ranging from legal to illegal immigrants. The proliferation of illegal immigrants further escalated cross border criminalities as most of these immigrants in collaboration with security operatives and native indigenes used different illegal border routes to engage in transnational criminalities that is capable of subverting socio-economic development and peaceful diplomatic ties.

In West Africa, Nigeria is among the countries with porous borders considering its high numbers of illegal border routes. Since it occupies a territory covering 923,768 square kilometers and shares land borders of 770 kilometers with Benin to the west, 90 kilometers with Chad to the northeast, 1,500 kilometers with Niger to the north and 1,700 kilometers with Cameroon to the east (Ayissi & Sall, 2005), the country is presently experiencing high inflow of illegal immigrants from neighboring countries. The influx of illegal immigrants is mostly as a result of the fact that, the country has over 1,499 illegal border routes and 84 officially identified entry routes into the country (Bobbitt, 2002) which makes the task of monitoring and securing the inflow of immigrants into the country difficult for most of its security operatives.

The porous nature of Nigeria's border has permitted different kinds of trans-border criminalities which has grossly spelled doom to the development of the country. Most sophisticated among these trans-border criminalities are illegal influx of immigrants, arms trafficking and illicit drugs smuggling. These menaces have taken deep root into the fabrics of Nigeria's social structure thereby threatening the peaceful coexistence of dwellers within border regions as well as the country as a whole despite various efforts put in place by security operatives. For instance, arms trafficking which has been

nurtured for quite a long period of time in the country, constitute a significant threat to national security in view of its influence on ethnic militia, terrorism, youths' restiveness, armed robbery, political thuggery and host of other insecurity crisis in the country. As rightly noted by Oxfam (2016), the availability of illegal arms in the hands of unauthorized citizens has led to the death of millions of West Africans as well as destruction of valuable properties. He further noted that, the widespread of illegal arms have led to the violation of human rights, facilitation of bad governance through political thuggery, hijacking of ballots boxes, subvert constitutional stipulations and infusing fear into law abiding citizens.

Similarly, the exacerbating state of illicit drug smuggling has equally affected both youths and adults in the country. Aside the fact that it influences various forms of criminalities such as cultism, kidnapping, armed robbery, ethnic militia, terrorism, destruction of public and private properties and host of others, available statistics from extant literatures have equally revealed that it is one of the leading causes of mental disorder among youths in Nigeria (Conway, 2018). As further observed by Holden, Dobson, Ware, Hockey & Lee (2020), mental health disorder which is now a major public health concern is mostly associated with illicit substance abuse and inadequate social support for some time now.

The persistence of these trans-border criminalities and its associated effect on the security of the country makes various efforts put in place by the government through its security apparatus questionable. Most despicable is the fact that inhabitants in most border communities who are expected to play a significant role in cooperating with security agencies through monitor and creating of alert where there are possible trans-border criminalities are now involve in aiding and abating trafficking and smuggling of different kinds. This has helped fueled all forms of cross border criminalities as security agents with its weak security gadgets and equipment cannot sufficiently curb the sophisticated nature of trans-border criminalities. The fact that these security crisis keeps persisting despite various strategies and measures put in place by present and previous administration clearly calls for possible way forward thereby maintaining national security. Arising from this, the study sought to critically assess the prevailing state of cross border criminalities and its associated influence on insecurity crisis in Cross River State thereby proffering valid recommendations as the way forward.

Statement of the Problem

The menace of cross border criminalities is one of the exacerbating crises affecting national security in of most third world countries considering its sophisticated nature. Its aggravating and appalling state is made obvious in most West Africa countries where most of its borders are unguarded and porous in nature. The marginalization of most border communities is which has further subjected them to abject poverty and destitution is one of the core factors responsible for the degenerating state of cross border criminalities as most dwellers in border routes community view trans-border criminalities as a means to sustainable livelihood.



While Cross border criminalities have been witnessed in most West Africa countries, Nigeria tends to be one of the countries with the most porous border in recent time. Most of its border routes are now used as a channel for easy trafficking of illegal arms, smuggling of illicit drugs, unfettered influx of illegal immigrants, human trafficking, nuclear technology, organs trafficking, trafficking in toxic waste and host of others. The existence of these forms of cross border criminalities in various border regions, states and communities clearly account for the high level of insecurity in most of these communities. This fact is clearly seen Northwest and Northeast region of Nigeria where almost all border states are now flashpoint of terrorism ranging from rural banditry to herdsman crisis.

Cross River State is among the border states engulfed with cross border criminalities. Its border areas such as Bakassi and Ikom Local Government Area are known for its porous border routes characterized by different forms of border criminalities and its associated consequences on national security. Recently, more security personnel have been deployed to various border routes with necessary gadgets to help boost their effectiveness towards tackling border related crimes. This approach by both the state and federal government have not provided any significant progress in view of the exacerbating state of cross border criminalities in both Bakassi and Ikom Local Government Area. Despite the magnitude of this menace affecting the security of the state and the country, no study has been conducted within Cross River State ascertaining the cause and extent to which this prevailing crisis of cross border criminalities affects the security of life and properties within border communities in particular and Nigeria in general. It is on the basis of the prevailing exacerbation of cross border criminalities and lack of empirical data using Cross River State as the case study, that this study was conducted with the sole aim of ascertaining the nature of cross border criminalities and its associated effect on the crisis of insecurity in the country.

The Study's Objectives

The study's overarching goal is to investigate the impact of cross-border criminal activities on the insecurity crisis in Cross River State. However, the study aimed to,

- i. Investigate the impact of unchecked illegal immigration on the situation of insecurity in Cross River State.
- ii. Evaluate the impact of illegal arms trafficking on the state of insecurity in Cross River.
- iii. Examine the impact of drug smuggling on insecurity in Cross River State.

Research Questions

The following research questions were addressed at the conclusion of the study.

- i. How does the surge of illegal immigrants affect the security problem in Cross River State?

- ii. How does illegal arms trafficking affect the security problem in Cross River State?
- iii. How does illicit drug smuggling impact the insecurity problem in Cross River State?

Research Hypotheses

The study tested the following hypotheses to contribute to the existing body of knowledge:

- i. There is no significant relationship between uncontrolled influx of illegal immigrants and insecurity crisis in Cross River State.
- ii. There is no significant relationship between illegal arms trafficking and insecurity crisis in Cross River State.
- iii. There is no significant relationship between illicit drug smuggling and insecurity crisis.

Significance of the Study

This study was of immense significance to dwellers in the study area as well as those in other border regions of the country, law enforcement agencies, policy makers as well as researchers. Specifically, the study aided in assessing the present state of Cross River State international border in particular and Nigeria as a whole and its associated influence on the prevailing insecurity crisis in most border regions. Findings of this nature enabled dwellers within border regions to understand how porous border condition in terms of unfettered influx of illegal immigrants, illegal arms trafficking and illicit drug smuggling can lead to insecurity in the area. This will enable them strategies best approach through community policing in collaboration with security agencies within border regions to fortify various border routes. Also, findings of this nature will enable various security operatives to understand the state of various border areas in the country and the best approach to put in place to curb prevailing criminalities in border routes within and outside the study area.

Similarly, findings from this study will enable policy makers understand the prevailing state of Nigeria border in general and that of Cross River State in particular and its resultant effect on insecurity. This will provide policy makers the platform of arriving at a more comprehensive and feasible security policies within various border routes in the country thereby mitigating the insecurity crisis within border regions. Finally, the findings from the study will not only serve as a contribution to the already existing body of knowledge on cross border criminalities and insecurity crisis in Nigeria, but will also stimulate other researchers towards researching on other related areas by providing adequate data for further comparative and theoretical formulation.



Literature Review

Extant literatures were consulted and reviewed in line with the problem under review as well as the sub-variables guiding the study. Its essence is to enrich the study with scholarly postulations as well as findings which will further help in establishing the existing gap in the literature and the bases of this study. These literatures were reviewed under the following sub-headings;

Conceptual Issues on Cross Border Criminalities and the Crisis of Insecurity

Cross border criminalities is a global phenomenon as it cut across various countries in the world. While it has been significantly curbed in most advanced countries, most underdeveloped countries are enveloped in persistent occurrence. In whatever form it takes, cross border criminalities which can also be seen as trans-border criminalities or transnational criminalities are those illegal act that constitute a threat to the safety of life and properties and most occurs across national borders involving a coordinated network of criminal gangs. It often affects different countries as it mainly transcends national boundaries. Common examples of these crimes are, illegal immigrants, arms trafficking, illicit drug trafficking, human trafficking, money laundry, terrorism and host of others. Because of its motivation which are most financial gains, political and ideological reasons, cross border criminalities have presented a unique challenge to security operatives ranging from law enforcement officers to intelligent agencies thereby requiring international coordination and cooperation between security agencies and governments.

In whatever form it takes, cross border criminalities interfere with the national security of any country where it is allowed to flourish. National security in this case mainly implies the protection of a country's stability through safety of lives and properties thereby promoting the well-being of the general masses from possible threats that has drastic effect on the quality of life of the people as well as the government of the day. Cross border criminalities significantly threaten the national security through depleting the country's sovereignty, stability and development strategies. These crimes undermine the control of a nation over its territory especially through its insidious activities such as illegal immigrants, arms and drug trafficking, money laundry and host of others. For instance, the illegals influx of immigrants, arms and drugs challenge state authority and governance thereby creating a lawless environment. This accounts for the reason why terrorists' groups exploit porous border routes to evade arrest, recruit new members across countries, provide arms and ammunition through arms trafficking, invade both rural and urban areas thereby posting a significant threat to the national security.

Cross border crimes also effect both political, economic and social activities of a country. Politically, through the influx of illegal immigrants and arms trafficking, the various government institutions and their programmes towards enhancing the country are been altered. The fact that illegal arms are now in circulation clearly spell doom to the electoral process of the country. Often times, illegal immigrants are used to topple

sitting government through civil war. This trend significantly weakens the political structure of the country. Economically on the other hand, it leads to huge financial losses through tax evasion, money laundry which affects the revenue of a country thereby depleting sustainable economic development plans. Also, smuggling of goods affects legitimate trade such as local businesses leading to instability and loss of job. While socially, human trafficking which often lead to forced labor or sexual exploitation directly violate human rights. Similarly, illicit drug trafficking leads to it abuse and addiction which in turn leads public health crisis such as mental health disorder which significantly affects the social activities of a country.

Unfettered Influx of Illegal Immigrants and the Crisis of Insecurity in Contemporary Society

The illegal immigration situation in most West African countries, including Nigeria, has advanced to a new level, with far-reaching consequences for the host country. Any independent nation is primarily concerned with three things: national security, sovereignty, and territorial integrity. Every independent nation has well-defined borders, an independent government that oversees the affairs of the state, and the legal competence to conduct international contacts outside of its geographical authority. Thus, one of the essential characteristics of a sovereign nation is the presence of borders, and the inability to defend its borders from an unrestricted flood of illegal immigrants indicates a failure to protect national security (Segun & Ufuoma, 2018).

Globally, measures and strategies put in place by government through its institutions on cross-border immigration are to regulate the numbers of immigrants entering the country. These policies and measures are strictly meant to ensure that immigrants entering the country are not threat to themselves as well as the country. As rightly observed by Mahmoud and Augustine (2022), policies and strategies on international borders are basically designed to checkmate the influx of illegal immigrants considering their drastic effect on the national security of a country. Thus, the fundamental responsibility of an existing government is to protect its territorial integrity and national security through ensuring the security and safety of life and properties within its territory.

The unfettered influx of illegal immigrants through Nigeria borders from neighboring countries and the exacerbating state of national insecurity are among the pressing social problems affecting the country. Vast efforts as well as resources have been put in place by previous and present administration to ensure Nigeria border withstand cross border threats across its border regions. Paradoxically, the state of its border regions are quite pitiable and devastating considering its multiple illegal border routes. Also, the porous state of its international borders has rendered it susceptible to influx of illegal migration who are also perpetrators of other trans-border criminalities such as illegal arms trafficking and illicit drug smuggling. According to Aliyu (2021), the porosity of Nigeria's borders has resulted in an influx of illegal immigrants, which has exacerbated the country's insecurity crisis because the majority of them are also actively involved in other



forms of criminality in the country. Similarly, Udeh and Nwokorobia (2021) stated that the excessive influx of illegal immigrants from neighbouring countries without proper documentation or records has had a significant impact on Nigeria's security crisis, as some of them have been apprehended for various forms of crimes such as armed robbery, drug trafficking, banditry, herders and farmers clashes, human trafficking, illegal arms trafficking, terrorism, and a host of others. For example, the Northwest and Northeast regions of Nigeria contain several illicit border crossings that connect Nigeria to various neighbouring nations, further exposing the country to illegal immigrants. Since these illegal border routes lack well equipped security operatives to mitigate the influx of illegal immigrants, these regions are prone to illegal immigrants who also engage in different forms of criminalities and violent behavior such as herder's crisis, armed banditry and all sort of terrorism within border communities (Tabi & Ndum, 2020).

In most African countries, illegal immigrants engage in various trans-border criminalities. Most common among them are illegal arms trafficking and illicit drug trafficking (Nkhoma, 2020). These crimes have now taken a more sophisticated dimension as most dwellers within border communities also aid in propagating both illegal arms trafficking and illicit drug smuggling. Other organized crimes such as armed robbery, kidnapping, car hijacking, political thuggery are also committed by illegal immigrants whose essence of leaving own country is to secure a comfortable life. Also, illegal immigrants increase pressure on social amenities such as medical care, education, land and host of others. There also put pressure on the limited job opportunities which further fuel the prevailing state of unemployment. In Nigeria, political leaders and government officials, including law enforcement officers, have accused migrants from other West African countries of violating different security regulations (Adetula, 2015).

Arms Trafficking and the Crisis of Insecurity in Nigeria

The proliferation of illegal arms trafficking in Africa is one of the core factors responsible for the increase in terrorism and national insecurity. Over 50 percent of arms illegally trafficking into the continent are used for internal crisis, armed robbery, communal clashes, terrorism, ethnic militia and host of others. The proliferation of small arms outside recognized security institutions had significantly fueled the incessant violence and insecurity in most developing countries (Samuel, 2022). In most third world countries like Nigeria, the associated effect of illegal arms trafficking through it porous borders are been witness on daily bases across the length and breadth of the country given the myriad insecurity crisis in both urban to rural areas. Most prevailing is the northern part of Nigeria where the ungovernable spaces in mostly border areas have been captured by bandits and insurgent who on daily bases engage in criminal activities leading to the loss of life and properties of helpless civilian (Okoli, 2019).

The availability of Small Arms and Light Weapons (SALWs) through illegal arms trafficking has resulted in the deterioration of a national security problem in the majority of governments throughout the world. Aside from the exacerbation of terrorism, which

has killed over 37,000 people, displaced more than 2.5 million in the Lake Chad region, and rendered nearly 244,000 refugees since May 2011, as noted by Global Conflict Tracker (2020), the proliferation of illegal arms in both rural and urban areas has further led to the incessant perpetration of crimes such as armed robbery, kidnapping, cultism, political thuggery, rape, murder, and a slew of others in Nigeria. It has also led to increasing state of communal clashes in most rural part of South-South Geopolitical Zone of Nigeria. The occurrence of these security crisis has further led to socio-economic insecurity such as acute food shortages resulting from the destruction of farms and economic trees, killing and displacement of farmers, destruction of infrastructural facilities such as health care centers, schools, electrification projects and host of other basic amenities which further subjects affected areas to underdevelopment and destruction of small scale businesses as well as industries thereby exacerbating the unemployment condition of the people (Uwakwe, Chijioke and Susan, 2020).

The proliferation of illegal arms trafficking is critical to ensuring that a greater percentage of civilians own small arms and light weapons. Armed civilians without a licence pose a threat to national security since they jeopardise the safety of the country's general population. Although illegal arms trafficking is a global crisis, data from The Guardian (2018), cited by Umaru (2021), show that over 640 million small arms and light weapons are in circulation worldwide, with 100 million found in Africa alone and approximately 30 million in Sub-Saharan Africa. The research also suggests that more than 8 million were in circulation in West Africa. Most terrible is the fact that the majority of these weapons, approximately 59%, are in the hands of citizens, while 41% are possessed by government armed forces.

The relationship between civilian arms proliferation and the country's insecurity crisis has been the subject of heated academic debate. While some researchers claim that the proliferation of weaponry among civilians is a direct cause of national instability, others believe that tiny arms are only a precipitating factor. Despite their differing perspectives, there is general agreement that small arms in civilian hands pose a threat to any nation's ability to maintain peace and stability (Osimen & Akintunde, 2015).

In whatever forms it takes, the proliferation of arms through its illegal trafficking aids in exacerbating armed conflicts. It endangers law abiding citizens as well as undermines the respect for both national and international humanitarian laws. It threatens the legitimacy of an existing government to the benefit of its perpetrators (Kofi, 2010). To further buttress the heinous role of arms proliferation among civilians, Gofwan, Ishaya and Ado (2019) noted that, arms trafficking which results in the escalation of small arms and light weapons is among the core security challenges facing third world countries like Nigeria. The trafficking of arms fuel political instability, communal clashes, terrorism, ethnic militia and host of other insecurity crisis that defiles various developmental strategies and programmes.

Illicit Drug Smuggling and the Crisis of Insecurity in Nigeria

Illicit drug smuggling is among the prevailing cross border criminalities that has affected most third world countries such as Nigeria. The NDLEA Report, as mentioned in Nwannennaya (2021), emphasised that illicit drug smuggling and selling remains a thriving business in Nigeria, despite its harmful impact on the general population. As a result, there is a need for vigorous and coordinated efforts to combat this scourge, given its aggravating situation. The fact that illegal drug smuggling is increasingly common in most parts of the country underscores the porous character of Nigeria's borders. The high level of profit involved in trading on illicit drugs made it one of the lucrative trans-border criminalities carried out by organized criminal groups in Nigeria. These organized criminal groups are known to have networks cut across different continent with top political office holders linked to their illicit drug smuggling. Nigeria is not an exception to this trend as some of its top political office holders have been linked to illicit drug trade.

The severity of illicit drug trafficking in Nigeria has further culminated in the exacerbation of other social problems that threatens the safety of the masses in the country. In a study conducted by Amad (2021) it was revealed that in 2020, NDLEA arrested over 21,434 illicit drug dealers. The total quantity of drug seized stood at 654,765 kilograms. As occurred in the previous years, cannabis led the list of substances seized with a total of 401,373 kg. Psychotropic substances followed at 233,920 kilograms, then methamphetamine (340.8kg), cocaine (290.2kg), heroin (24.53kg), amphetamine (19.297kg.) and ephedrine (0.28kg). The fact that these drugs were in circulation clearly poses a serious threat to both the general well-being of the population and the country's national security.

The United Nations Office on Drugs and Crime (UNODC), in collaboration with the National Bureau of Statistics (NBS) and the Centre for Research and Information on Substance Abuse (CRISA), discovered that 14.3 million Nigerians abuse all types of drugs and report "lifetime use" of alcohol and marijuana (UNODC, 2020). Similarly, Amad (2021) observed that there is a consistent increase trend in drug selling, with the rate of illicit drug use in Nigeria in 2023 being more than double the global average of 5.3%. Approximately (60 million out of 200 million) people suffer from mental illnesses, with illegal substance use accounting for 30% of these cases. Nigerian youngsters are the main consumers of illicit substances. According to Aliyu (2021), young people in both secondary and higher institutions are a prime target for illicit drug sellers. Aside the fact that there are often the major consumers, they are also recruited into the illicit drug trafficking within and outside the country. The existence of this menace has significantly contributed to the collapsing state of Nigeria educational system in view of the poor standard of students' academic performance. For instance, it is now common practice in most tertiary institutions and even secondary schools for students to sell illicit drugs within the school environment. This has further led to the forming of cartels as well as cult groups specifically meant to protect its members and the chain of illicit drug business.

Aside the school environment, most rural communities and urban areas in Nigeria are saturated with illicit drug trading. This has further accounted for its high level of consumption with different forms of illicit drugs been introduced on daily bases. Most devastating is it associated consequences on mostly the youths that forms the labor force of the country. In most parts of Nigeria, consumption of illicit drugs is what one can term a conventional practice considering the extent to which it been consumed. For instance, most rural communities in Northern and Southern part of Nigeria sell illicit drugs such as marijuana, ice, tramadol, cocaine, morphines and host of others. The excessive consumption of illicit drugs accounts for the increasing state of mental disorder among youths in the country. Aside it associated consequences on the health of it consumption, illicit drug consumption also triggers violent behaviors which further threaten the safety of lives and properties in the country. This accounts for the reason why most apprehended criminals are mostly under the influence of illicit drugs when crimes are been committed.

Despite it drastic effect on the general public, available literatures clearly reveals that very little efforts has been made by the government towards tackling the problem of illicit drug trafficking.

For example, Nwannennaya (2021) conducted research on Illicit Drug Trafficking in Nigeria: An Obstacle to National Development and Security. The study's primary goal was to investigate the challenges and threats posed by illicit drug smuggling to the general public, socioeconomic development, and national security; it examined the Nigerian government's concerted efforts to curb the menace, with the goal of making potential recommendations on how to combat the growing state of illicit drug trafficking. The study states that weak information gathering, insecurity, bribery and corruption, poverty, civilisation, and permeable borders are the primary problems restricting the government's abilities to address the threat of illicit drug trafficking. To solve the problem, the study recommends sound orientation/education, strong law and good governance, adequate intelligence gathering, and the critical role of law enforcement agencies in maintaining a drug-free society and state.

Theoretical Framework

The nature of social reality in terms of crimes and insecurity is so complex that, it triggering factor is subjected to various critical analyses and interpretations depending on which of the theoretical realm one falls. There are ample theories that can be used in interpreting various forms of criminalities. However, two theoretical perspectives in social sciences were used to explain cross border criminalities and insecurity crisis in Cross River State particularly and Nigeria in general. These theories are;

Social Disorganization Theory

In 1942, Clifford Shaw and Henry McKay proposed the social disorganization theory, which holds that crime emerges when the mechanisms that provide social control are ineffectual and weak. The theory further explains that a disorganized society is



predominantly characterized by poverty, residential mobility, poor social stability, weak public institutions and host of others which affects that behavior of the people. Thus, physical and social environment basically influence the people's behavioral choice on what to do and what not to do. This account for the reason why a particular neighborhood with weak social structures is prone to violent activities and crime. The is because once there is social disorganization which is the breakdown of generally acceptable way of life, confusion, disillusionment and disorientation is prone to set it. In summary, social disorganization theorist maintained that, wherever and whenever there is social disorganization resulting from weak social structures, there is bound to be exacerbation of criminal activities and insecurity.

In practice, social disorganization theory is beneficial since it examines the need to develop social structures in order to address the issues of cross-border crime. It is also relevant because it calls on the Nigerian government to critically examine the social structure of Nigerian border lines, as well as improve the means of livelihood in most border communities that are currently characterised by poverty, unemployment, and inadequate infrastructure, in order to avoid exposing them to various cross-border criminalities that are now viewed as lucrative means of maintaining a healthy lifestyle. The idea also advocates for supplying suitable security gadgets to security operators in various border regions so that they can combat the sophisticated nature of trans-border criminalities plaguing the country.

Ungoverned Space Theory

Jennifer Keister and Andrew Taylor proposed the ungoverned space notion back in the 1990s. The tenet idea of the theory is anchored on it ability to critically analyze the threatening effects of poorly governed or ill governed areas to most nations as there are mostly used as base for perpetrating different forms of criminalities by subversive groups. The theory argued that, ungoverned space are often security threat to the people and the government at large. This is because they are minimally accountable for the construction of governance structures; however, the purpose for their formation is to fill the void left by deficient governance structures as a result of state capacity issues. The deficit gap, which is not well managed, is exploited by organized groups of criminals who are frequently dissatisfied with the current government or are simply motivated by a need for money to conduct crimes at various levels. The core premise of this theory offers a link between large forest regions (that are ungoverned), illegal border routes, cross-border criminalities, and national insecurity, which serves as the foundation of this study.

The consequences of this theory for the study are that cross-border crime thrives in distant locations where the presence of the government is not documented, resulting in little deterrence and numerous chances for illegal behaviour. The majority of border settlements or families are divided and interspersed with wooded regions. This makes them exposed to cross-border criminal activity. This scenario is exacerbated by the lack

of security personnel as well as adequate community policing systems capable of handling the hinterlands' unique security concerns.

Methodology

The study used a cross-sectional design. This design assesses the prevalence of a certain outcome of interest in a given population. That is, it captures a snapshot of a situation as it exists at a specific instant in time. This approach is ideal for this study since it seeks to determine the prevalence of a phenomena, situation, problem, attitude, or issue using a cross-section of the population. The study was limited to a local government area in Cross River State, which borders Cameroon. The local government areas include Bakassi, Ikom, Etung, Akamkpa, and Obanliku. These Local Government Areas were chosen mostly because they share a border with Cameroon.

The study's population consists of both juveniles and adults who are regarded to be sufficiently educated and experienced in cross-border criminalities and insecurity crises in all of the above-mentioned Local Government Areas in Cross River State, which shares a border with Cameroon. The study's population was based on the predicted population of all of these local government districts in 2025. Taro Yamen's (1967) statistical method was utilized to determine the sample size for the investigation. Using the simplified procedure for estimating sample size at 95% confidence level and $p=5$, a total of 400 samples were obtained and used in the investigation.

The study used purposive sampling to pick border settlements from all Cross River State Local Government Areas. Because the study is focused on cross-border criminality, selecting border villages in the survey becomes critical in determining the true level of cross-border criminality and the insecurity situation in Cross River State. The "Cross Border Criminalities and Insecurity Crisis Questionnaire" (CBCICQ) was utilised as the primary data gathering instrument. The instrument was developed taking into consideration the hypotheses and sub-variables under study. It was made up of fifteen (15) items which were interrogative in line with the study objectives requiring the respondents to indicate by ticking the extent to which the statement appeals to them as correct. The simple percentage and population t-test statistics were used to analyze primary data gotten from the field.

Data Analysis

Data presented was generated through the administration of questionnaire. The analysis and discussion of data relate to 385 respondents out of the 400 representing 96% of the entire sample drawn from the target area covered by this study. The analysis is presented below.

Variable	Frequency	Percentage
Returned and usable	385	96%
Not usable	8	2%
Not returned	7	2%
Total	400	100%

Figure 1: Return rate of questionnaire Source: Field Survey, 2025.

Table 4 indicates that the returned rate for the research instrument is 96% (n=385), while the mortality rate is 4% (n=15). The mortality rate is insignificant and as such did not affect the study. Therefore, the analysis and presentation of data for this study was based on 385 copies of research instrument that were returned and found to be usable.

Analysis Of Respondents Responses to the Structure Questionnaire

The summary of the spread sheet showing the frequency and percentage of the respondents based on their responses to the structured questionnaire.

Analysis of Questionnaire Items Relating to Research Question One

Questionnaire items were drafted based on the first research question. This analysis helped in the interpretation of the research findings relating to hypothesis one. The outcome of the administered questionnaire is as shown below;

S/N	Questionnaire items	Scale	Frequency	Percentage	Com muta tive perc enta ge
1	Porous nature of borders routes in various communities have led to the influx of illegal immigrants from neighboring countries?	Strongly Agree	139	36%	36
		Agree	149	39%	75

		Disagree	32	8%	83
		Strongly Disagree	65	17%	100
2	There has been significant increase in illegal immigrants resulting from the nature of porous border routes	Strongly Agreed	109	28%	28
		Agree	127	33%	61
		Disagree	89	23%	84
		Strongly Disagree	60	16%	100
3	Most illegal immigrants are assisted into the country through the help of security operatives and are harbored by various community members?	Strongly Agreed	171	44%	44
		Agree	103	27%	71
		Disagree	69	18%	89
		Strongly Disagree	42	11%	100
4	Most illegal immigrants lack the skills and knowledge to be gainfully employed as such are prone to criminal activities?	Strongly Agreed	162	42%	42
		Agree	129	24%	66
		Disagree	40	10%	86
		Strongly Disagree	55	14%	100
5	The increase in illegal immigrants in various communities has led to the increase in criminal activities?	Strongly Agreed	144	38%	38
		Agree	106	28%	66
		Disagree	32	8%	74
		Strongly Disagree	100	26%	100

--	--	--	--	--	--

Figure 2: Analysis of respondent responses to unfettered influx of illegal immigrants and insecurity crisis in Cross River State Source: field survey, 2025.

The distribution in table 2 shows that majority of the respondents agreed to the fact that porous nature of borders routes in various communities have led to the influx of illegal immigrants from neighboring countries. This is as the result of the fact that 139 representing 36 percent strongly agreed, 149 representing 39 percent agreed, 32 representing 8 percent disagreed and 65 representing 17 percent strongly disagreed.

The table equally shows that majority of the respondents agreed to the fact that there has been significant increase in illegal immigrants resulting from the nature of porous border routes. This is based on the fact that 109 representing 28 percent strongly agreed, 127 representing 33 percent agreed, 89 representing 23 percent disagreed and 60 representing 16 percent strongly disagreed.

The table also shows that majority of respondents strongly agreed that most illegal immigrants are assisted into the country through the help of security operatives and are harbored by various community members. This is based on the fact that 171 representing 44 percent strongly agreed and 103 representing 27 percent agreed, 69 representing 18 percent disagreed and 42 representing 11 percent strongly disagreed. The table equally reveals that majority of the respondents sampled for the study strongly agreed to the fact that most illegal immigrants lack the skills and knowledge to be gainfully employed as such are prone to criminal activities. This is based on the fact that 162 representing 42 percent strongly agreed, 129 representing 24 percent agreed, 40 representing 10 percent disagreed and 55 representing 14 percent strongly disagreed.

Finally, the table shows that majority of the respondents sampled for the study strongly agreed to the fact that the increase in illegal immigrants in various communities has led to the increase in criminal activities. This is as a result of the fact 144 representing 38 percent strongly agreed, 106 representing 28 percent agreed, 32 representing 8 percent disagreed while 100 representing 26 percent strongly disagreed.

Analysis of Questionnaire Items Relating to Research Question Two

Questionnaire items were drafted based on the second research question. This analysis helped in the interpretation of the research findings relating to hypothesis two. The outcome of the administered questionnaire is as shown below:

S/N	Questionnaire items	Scale	Frequency	Percentage	Commutative percentage
1	The porous nature of various border routes has led to the proliferation of illegal arms trafficking from neighboring countries?	Strongly Agree	132	35%	35
		Agree	148	38%	73
		Disagree	55	14%	87

		Strongly Disagree	50	13%	100
2	Most community members and security operatives are involved in illegal arms trafficking through most border?	Strongly Agree	127	33%	33
		Agree	137	36%	69
		Disagree	82	21%	90
		Strongly Disagree	39	10%	100
3	Most illegal immigrants are involved in arms trafficking through various border routes?	Strongly Agree	186	48%	48
		Agree	162	43%	91
		Disagree	20	5%	96
		Strongly Disagree	17	4%	100
4	The increasing rate of illegal arms trafficking through various border routes have led to the perpetration of different crimes in border communities?	Strongly Agree	129	34%	34
		Agree	152	39%	73
		Disagree	71	18%	91
		Strongly Disagree	33	9%	100
5	Proliferation of illegal arms trafficking can best be curbed through the fortification of various border routes?	Strongly Agree	141	37%	37
		Agree	109	28%	65
		Disagree	82	21%	86
		Strongly Disagree	53	14%	100

Figure 3: Analysis of respondent responses on illegal arms trafficking and the crisis of insecurity in Cross River State Source: Field survey, 2025.

The distribution in table 3 shows that majority of the respondents sampled for the study strongly agreed to the fact that the porous nature of various border routes have led to the proliferation of illegal arms trafficking from neighboring countries. This is based on the fact that, 132 representing 35 percent strongly agreed, 148 representing 38 percent agreed, 55 presenting 14 percent disagreed while 50 representing 13 percent strongly disagreed.

The table further shows that majority of the respondents strongly agreed to the fact that most community members and security operatives are involve in illegal arms trafficking through most border. This is based on the fact that 127 representing 33 percent strongly agreed, 137 representing 36 percent agreed, 82 representing 21 percent disagreed, 39 representing 10 percent strongly disagreed.

Also, the table shows that majority of the respondents sampled for the study strongly agreed to the fact that most illegal immigrants are involve in arms trafficking through various border routes. This is as a result of the fact that 186 representing 48 percent strongly agreed, 162 representing 43 percent agreed, 20 representing 5 percent disagreed, while 17 representing 4 percent strongly disagreed.

The table furtherly shows that majority of the respondents' sample for the study agreed that to the fact that, the increasing rate of illegal arms trafficking through various border routes have led to the perpetration of different crimes in most border communities. This is based on the fact that, 129 representing 34 percent strongly agreed, 152 representing 39 percent agreed, 71 representing 18 percent disagreed and 33 representing 9 percent strongly disagreed.

Finally, the table shows that majority of the respondents' sample for the study strongly agreed to the fact that proliferation of illegal arms trafficking can best be curbed through the fortification of various border routes. This is as a result of the fact that, 141 representing 37 percent strongly agreed, 109 representing 28 percent agreed, 82 representing 21 percent disagreed while 53 representing 14 percent strongly disagreed.

Analysis of Questionnaire Items Relating to Research Question Three

Questionnaire items were drafted based on the third research question. This analysis helped in the interpretation of the research findings relating to hypothesis three. The outcome of the administered questionnaire is as shown below:

S/N	Questionnaire items	Scale	Frequency	Percentage	Commutative percentage
1	Smuggling of illicit drugs through various border from neighboring countries has been an ongoing	Strongly Agree	165	43%	43
		Agree	179	46%	89

	process for quite a long period of time?	Disagree	31	8%	97
		Strongly Disagree	10	3%	100
2	The free flow of illicit drugs through various border routes has made such drugs rampant in most border communities?	Strongly Agreed	159	41%	41
		Agree	145	38%	79
		Disagree	37	10%	89
		Strongly Disagree	44	11%	100
3	Most illegal immigrants are involved in the smuggling of illicit drugs through various border routes?	Strongly Agreed	162	42%	42
		Agree	169	44%	86
		Disagree	30	8%	94
		Strongly Disagree	25	6%	100
4	The availability of illicit drugs resulting from it smuggling from neighboring countries has led to the increase of youths' involvement in drug abuse?	Strongly Agreed	139	36%	36
		Agree	148	38%	74
		Disagree	59	15%	89
		Strongly Disagree	39	11%	100
		Strongly Agreed	181	48%	48
		Agree	169	44%	92
		Disagree	17	4%	96
		Strongly Disagree	18	4%	100

		Disagree			

Figure 4: Analysis of respondent responses to the link between illicit drug smuggling and the crisis of insecurity in Cross River State Source: Field survey, 2025.

The distribution in table 14 shows that majority of the respondents sampled for the study strongly agreed to the fact that, smuggling of illicit drugs through various border from neighboring countries has been an ongoing process for quite a long period of time. This is based on the fact that 165 representing 43 percent strongly agreed, 179 representing 46 percent agreed, 31 representing 8 percent of the respondents disagreed, 10 representing 3 percent of the respondents strongly disagreed.

The table also revealed that majority of the respondents' samples for the study strongly agreed to the fact that the free flow of illicit drugs through various border routes has made such drugs rampant in most border communities. This is based on the fact that 159 representing 41 percent of the sampled respondents strongly agreed, 145 representing 38 percent of the sampled respondents agreed, 37 representing 10 percent of the sampled respondents disagreed, while 44 representing 11 percent of the sampled respondents strongly disagreed.

Also, the table shows that majority of the respondents agreed to the fact that most illegal immigrants are involve in the smuggling of illicit drugs through various border routes. This is based on the fact that 162 representing 42 percent strongly agreed, 169 representing 44 percent of the sampled respondents agreed, 30 representing 8 percent of the sampled respondents disagreed, while 25 representing 6 percent strongly disagreed.

Furtherly, the table shows that majority of the respondents sampled agreed to the fact that the availability of illicit drugs resulting from it smuggling from neighboring countries has led to the increase of youths' involvement in drug abuse. This is based on the fact that, 139 representing 36 percent of the sampled respondents strongly agreed, 148 representing 38 percent of the sampled respondents agreed, 59 representing 15 percent disagreed and 39 representing 11 percent of the respondents sampled strongly disagreed.

Finally, the table shows that majority of the sampled respondents strongly agreed to the fact the high rate of illicit drugs smuggling from neighboring countries has been a security threat to most local communities for quite a long period of time. This is based on the fact that 181 representing 48 percent of the sampled respondents strongly agreed, 169 representing 44 percent of the sampled respondent agreed, 17 representing 4 percent of the sampled respondents disagreed, while 59 representing 15 percent of the sampled respondents disagreed.

Test of Hypotheses

The five hypotheses formulated for this study which are stated in the null form were tested using Pearson Product Moment Correlation Coefficient Analysis at 0.05 level of significance.

Hypothesis One:

There is no significant relationship between unfettered influx of illegal immigrants and insecurity crisis in Cross River State.

Variables	Sample mean	S. D	Reference Mean	T-value
Unfettered influx of illegal immigrants		7.12	45.00	33.29
Crisis of insecurity	40.09	5.78	45.00	10.27

Significant at 0.05 level, degree of freedom=383 Critical r-value=1.98

Figure 5: A Population t-test Analysis of hypothesis one (385).

The result of table of 5 shows that the calculated t-value of 33.29 for unfettered influx of illegal immigrants and 10.27 for crisis of insecurity are each greater than the critical t-value of 1.98. Hence the null hypothesis is rejected. In other words, there is significant relationship between unfettered influx of illegal immigrants and insecurity crisis in Cross River State.

Hypothesis two

There is no significant relationship between illegal arms trafficking and insecurity crisis in Cross River State

Variable	Sample mean	S. D	Reference mean	T-value

Illegal arms trafficking	49.78	6.57	45.00	31.78
Crisis of insecurity	40.09	5.78	45.00	10.27

Significant at 0.05 level, $df=383$, critical t -value=1.98

Figure 6: A Population T-Test Analysis of Hypothesis Two (N=385)

The result of table 16 shows that the calculated t -value of 31.78 illegal arms trafficking and 10.27 crisis of insecurity are each greater than the critical t -value of 1.98. Hence the null hypothesis is rejected. This implies that there is significant relationship between illegal arms trafficking and insecurity crisis in Cross River State

Hypothesis three

There is no significant relationship between illicit drug smuggling and the crisis of insecurity in Cross River State.

Variable			Sample mean	S. D	Reference Mean	T-value
Illicit drugs smuggling			58.12	8.11	45.00	36.81
Crisis of insecurity			40.09	5.78	45.00	10.27

Significant at 0.05 level, $df=383$, Critical t -value=1.98

Figure 7: A Population T-Test Analysis of Hypothesis Three (N=385).

The result of table 17 shows that the calculated t -value of 36.81 of illicit drug smuggling and 10.27 of crisis of insecurity are each greater than the critical t -value of 1.98. Hence the null hypothesis was rejected. In other words, there is significant relationship between illicit drug smuggling and the crisis of insecurity in Cross River State.

Discussion of Findings

From the analysis carried relating to hypothesis one, the study revealed that the unfettered influx of illegal immigrants poses a significant threat to the safety of life and properties of most border communities in Cross River State. Most disturbing is the extent to which the influx of illegal immigrants is now taking place in various border routes. This is made possible as a result of the porous nature of various border routes. Security operatives charged with the responsibility of ensuring documentation of immigrants are now accomplices of illegal immigration. This grossly accounts for the porous state of Nigeria border. The fact that most illegal immigrants are allowed into the country without proper documentation only expose the country to various forms of criminalities.

As clearly observed by majority of the respondents sampled for the study, most illegal immigrants enter the country through various border routes without any form of skills or education to enable them become productive to the society at large. Striving to ensure their survival without any skills and knowledge merely expose them to all form of criminalities. This greatly account for their involvement in various forms of crimes such as kidnapping, armed robbery, cultism, stealing, drug abuse/addiction, prostitution and host of other forms of criminalities that exacerbating the security crisis in the country.

Analysis of the second hypothesis also revealed that, illegal arms trafficking through various border routes is one of the factors responsible for the growing state of insecurity in Cross River State. The fact that most border routes in the study area are porous in nature has further led to the increase in illegal arms trafficking from neighboring countries. Despite it associated consequences on the peace and security of the country, illegal arms trafficking is now seen as a lucrative business opportunity for both the security operatives charge with the responsibility of ensuring the safety of various border routes as clearly noted by majority of the sampled respondents. Aside the security operatives, dwellers in most border communities and illegal immigrants are also involve in illegal arms trafficking as a means of ensuring sustainable livelihood.

As further observed by majority of the sampled respondents, the influx of illegal arms through it trafficking from neighboring countries has created a situation where most household are now in possession of arms. These has further escalated to different forms of crimes such as armed robbery, kidnapping, cultism, murder, destruction of private and public properties, political thuggery during election period, intercommunal conflict, boundary crisis and host of other forms of criminalities that has been threatening the peace and security of the people. The presence of illegal arms in most household has made most law-abiding citizens to live in perpetual fear considering the prevailing nature of insecurity in the area.

Finally, analysis of the third hypothesis revealed that arising from the porous nature of most border routes, illicit drug smuggling has been on the increase in Cross River State. Most disturbing is it resultant effect on the safety of life and properties in various border communities. The incident of illicit drug smuggling is not only a social problem



to most community dwellers in most border regions but rather one that is fast increasing as a result of the porous nature of border routes and the fact that most security operatives within most border routes are also accomplices that enable it free flow. As also observed by majority of the sampled respondents, both community members in border communities and illegal immigrants are active perpetrators of illicit drug trafficking. This is in view of it lucrative benefits which tends to ensure their sustainable livelihood.

This trend accounts for the reason why most border communities are now host for adulterated brands of alcohol and illicit drugs such as tramadol, ice, morphine, cocaine, marijuana and host of others. The presence of this drugs has also exposed most youths to drug abuse and addiction. This has further rendered them unproductive to themselves and their social at large.

Also, the presence of these illicit drugs has also led them into perpetration of various forms of crimes under the influence of such drugs. This has also accounted for the increase in mental health challenges among most youths in the region considering their addictive and abusive nature to most of the illicit drugs in circulation. The fact that these illicit drugs are allowed to flow freely within various border communities clearly reflects the nature of insecurity in the area.

Conclusion/Recommendations

From the findings and discussion of the findings, it quite obvious that the porous nature of most border routes has led to different forms of cross border criminalities which has in turn threaten the security of border communities in particular and Nigeria in general. Most paramount among these cross-border criminalities are unfettered influx of illegal immigrants, illegal arms trafficking and illicit drug smuggling as covered in this study. The fact that these criminalities are exacerbating is mainly as a result of the fact that most security operatives who are constitutionally bestowed with the responsibility of fortifying border routes to ensure proper documentation and screening of what comes in to the country are now accomplices of cross border criminalities. While most neighboring community members are also seen to be involve in these crimes, most illegal immigrants are also perpetrators of these crimes considering it lucrative benefits to their sustainable livelihood.

The issue of illegal immigrants and it exacerbation is one of the main cross border criminalities considering their role in illegal and trafficking and illicit drug smuggling into the country. Aside the fact that they lack the skills and knowledge to become productive to society as well as themselves, they are now seen as active members of different crimes in various communities. Through their involvement in illegal arms trafficking and illicit drugs smuggling, most communities have been exposed to different forms of crimes and mental disorder. Most youths are now drug addicts and as such less productive to themselves and their society. The increase in illegal arms and illicit drugs has further escalated the insecurity in most border communities and local government areas. Arising from this, the following recommendations were put forward:

- I) The growing state of cross border criminalities is a clear reflection of the countries porous border routes. Thus, it is imperative for the federal government through its various security agencies to ensure the fortification of its border routes. This can best be carried out through the procurement of modern security measures such as CCTV cameras, body worn cameras, security drones, finger print detecting equipment, predictive policing and host of other modern security gadgets. Also, there is need to train security operatives in various border routes on how to use these modern security measures in order to ensure its effective implementation on daily bases. This will help in curbing cross border criminalities because it will serve as a deterrence to both security operatives and community members who are accomplices to cross border criminalities and also help in the quick apprehension of its perpetrators.
- II) There is also need for community policing to be incorporated in the fortification of most border routes. The fact that Nigeria borders have been exposed to different hidden border routes clearly accentuate the need for various border communities to be incorporated in the protection of these border routes through community policing. This is because most times, community members are aware of those illegal routes through which illegal arms are trafficked, illicit drugs are smuggled and also where illegal immigrants freely enter the country without proper documentations. Through community policing, the masses and the security operatives will work together towards fortifying various border routes in the country.
- III) Public education and awareness programmes should be carried out in various border communities on the need to be law abiding rather than engaging in cross-border criminalities such as illegal trafficking of arms and illicit drugs and also providing opportunity for easy influx of illegal immigrants.
- IV) Also suspected individuals who are directly or indirectly involved in the perpetration of cross border criminalities should be apprehended, trail and prosecuted as stipulated by the constitution once they are found guilty. The existing appalling trend where certain group of individuals are celebrated to be above the law as a result of their political affiliation with the ruling class should be curbed in view of the fact that the constitution remains binding on every citizen. This will serve as a deterrence to intending criminals.

Notes on Contributor

George Kati Kati is a Graduate Assistant in the Department of Modern Language and Translation Studies at the University of Calabar (UNICAL), where he is actively involved in teaching, academic research, and scholarly development. His academic interests extend beyond language studies to include public administration, with a particular focus on development-oriented research. George has contributed to studies examining entrepreneurship training and its impact



on unemployment in Nigeria, reflecting his commitment to addressing pressing socio-economic challenges through research and policy-relevant inquiry. He is especially interested in interdisciplinary approaches that connect language, governance, and economic development. Through his academic work, George aims to contribute meaningfully to knowledge production and capacity building within the Nigerian higher education system. He is dedicated to continuous learning, research excellence, and the application of academic findings to real-world problems, particularly those affecting youth empowerment and sustainable development.

Venatius Azinor Ukor is a thirty-eight-year-old man, and he comes from Cross River State in the South – South Region of Nigeria. He is a proud family man, a husband and a father. He is a postgraduate student and researcher. He studied Policy and Administrative Studies at the undergraduate level, and in his postgraduate studies, he is studying Security Administration. He is currently a Postgraduate student in the Department of Public Administration, Faculty of Administration and Management Sciences, University of Calabar. His area of specialization is Security Administration. His specific issues of research interest include issues of security, issues of governance and public policy. As a postgraduate student, he has published various articles which including Combatting Internal Security Problems in Nigeria: The Relevance of Surveillance, Fuel Subsidy Removal and the Standard of Living of Nigerians: A Study of Tinubu-Led Administration.

Michael Bayode is a native of Ondo State from Okoko North-West Local Government Area. He was born and raised in Keffi Local Government Area of Nasarawa State, where he completed his elementary, secondary, and tertiary education. His academic and professional journey reflects a deep commitment to governance, security, and leadership development. He holds a Bachelor of Science in Political Science from Nasarawa State University, Keffi, and a Postgraduate Diploma in Police Administration and Security Management from Ahmadu Bello University, Zaria. He also earned a Postgraduate Degree in Education (NIT). In further pursuit of excellence in security studies, He became a Certified Security Specialist through the CorpSecurity Institute, India, and obtained a master's degree in Military Leadership and Defence Studies from the Nigerian Defence Academy. Currently, he is a student of Security Administration at the University of Calabar and a member of the American Society for Industrial Security, dedicated to advancing security practice and national development.

Conflict of interest

The author hereby declare that no competing financial interest exists for this manuscript.

References

- Nwannennaya, C. (2021). Illicit Drug Trafficking in Nigeria: Obstacle to National Development and Security. *Journal of Political Sciences & Public Affairs* 9(2), 383. <http://doi.org/10.4172/2332-0761.1000230>

- Osimen, G. U. & Akintunde, B. A. (2015). Small Arms and light weapons (SALW) proliferation and problem of national Security in Nigeria. *International Affairs and Global Strategy. Volume 29.*, pp. 12-20.
- Amad, S. O. (2021). Proliferation of Arms and security challenges. *Nigeria international Journal of History and Cultural Studies (IJHCS)*, 3(3), 38.
- Umaru, T. S. (2021). Proliferations of small and light weapons and the challenges of national security in Nigeria: A case study of Adamawa state. *Asian Research Journal of Arts & Social sciences* 4(3), 11.
- Uwakwe, Chijioke, N. J. & Susan, A. B. (2020). An Evaluation of impacts of book-Haram insurgency in Nigeria: A case study of Abuja metropolis. *Asian Research Journal of Arts & social Sciences* 11(1), 1-11.
- Gofwan, J. D. Ishaya, J. & Ado, D. M. (2019). Small arms and light weapons Proliferation and Insecurity in Nigeria: Nexus and Implications for National Stability. *Journal of Humanities and Social Science*.
- Samuel, U. T. (202). The proliferation of Small Arms and light Weapons and the Challenges of national security in Nigeria: A case study of Adamawa State. *Asian Research Journal of Arts & Social Sciences* 14 (3), 13.
- Global Conflict Tracker, (2020) Retrieved June 17, 2024 from www.cfr.org/interactive/globalconflict-tracker/conflict/boko-haram-nigeria
- Okoli, C. (2019). *What can be done to fight rural banditry in Northern Nigeria*. Retrieved May 11, 2020 from <https://relef>
- Bobbitt, P. (2002). *The shield of Achilles, war, peace and the course of history*. Knopf
- Ayissi, A., & Sall, I. (2005). *Combating the proliferation of small arms and light weapons in West Africa: Handbook for the training of armed and security forces*. United Nations Institute of Disarmament Research (UNIDIR).
- Clunan, K. & Harold I. (2010). The Successes and Failures of the Interventions of the European Union, the African Union and Neighbouring Powers in Somalia. *Sicherheit Und Frieden (S F) / Security and Peace* 31(1), 18-23.
- Brockhaus, M. (2005). *Potentials and obstacles in the arena of conflict and natural resource management: a case study on conflicts, institutions, and policy networks in Burkina Faso*. Cuvillier Verlag
- Adetula, V. A. O. (2015). *Nigeria's response to transnational organized crime and jihadist activities in West Africa. Discussion Paper: No. 10*. Friedrich Ebert Stiftung
- Mahmoud, A. T. & Augustine, A. C. (2022). Migration, border issues and border control in Nigeria: patterns, implications and management. *FUOYE Journal of Criminology and Security Studies*, 3(1), 87- 95
- Nkhoma, B. G. (2020). Transnational threats: the problem of illegal immigration in northern Malawi. *Southern African Peace and Security Studies* 1(2), 29-43
- Tabi, O. F. & Ndum, V. E. (2020). Cross-border migration between Nigeria and its francophone neighbours: policy challenge. *Iconic Research and Engineering Journals*, 3(11), 304- 311



- Udeh, S.C. & Nwokorobia, C. (2021). Land border closure: implications for national security in Nigeria. *African Journal of Social Issues*, 4(1), 63-86. <http://doi.org/10.4314/ajosi.v4i1.4>
- Segun, J. & Ufuoma, O. A. (2018). Border, insurgency and national security: a study of fulani herdsman traversing Chad and Nigeria. *International Journal of Social Sciences and Humanities Reviews*, 8(1), 226 – 233
- Agade, K. M. (2014). Ungoverned Space and the Oil Find in Turkana, Kenya. The Round Table: The Common Wealth. *Journal of International Affairs*, 105(5), 497-515
- Ismali, T. (2013). Terrorists in Mass Importation of Rocket Launchers. Sunday Punch, Lagos, August 5, p.2.
- United Nations Office on Drugs and Crime (UNDOC). (2020). *World Drug Report 2020, Booklet 2, Drug Use and Health Consequences*. United Nations Publications. https://wdr.unodc.org/wdr2020/field/WDR20_Booklet_2.pdf

Terror-Related Wastewater Pollution in the North-African Region¹

Gábor Szűcs², Zsolt Szabó³

Abstract:

The initial focus of our research was a recently published article that examined the potential for wastewater treatment systems to be vulnerable to terrorist attacks. The findings of the present study have prompted the continuation of research on a regional basis, with the aim of analysing the threats to water reuse in North Africa. In the present analysis, the objective was to summarise the results by means of database processing and by searching for relevant sources in English and Arabic. While wastewater treatment facilities do not constitute the primary objectives of terrorist organisations, research on attacks and databases indicate that these facilities are becoming increasingly significant to terrorists and terrorist organisations. Furthermore, scientific findings suggest that such attacks are becoming more prevalent. It is evident that the perpetrators of these attacks are not exclusively affiliated with organised groups; on occasion, individuals also perpetrate such acts. In certain instances, these events constitute direct attacks against sewage treatment facilities, while in others, the impact is indirect, affecting the broader sewage system. The most notable cases are presented in the results section. The authors' conclusions indicate that the significance of wastewater treatment plants and equipment has increased in recent decades in the context of terrorist activities. This assertion is substantiated by the databases and scientific literature analysed.

Keywords:

North Africa;
environmental
terrorism; wastewater;
pollution; threats.

¹ DOI: 10.12700/jceeas.2025.5.4.408

² PhD student, Doctoral School on Safety and Security Sciences, Óbuda University, ORCID: 0000-0003-3658-4813, szucs.gabor@uni-obuda.hu.

³ Assistant Professor, African Research Institute, Óbuda University, Budapest; ORCID: 0000-0002-6226-2626; zsolt.sza86@gmail.com.

Introduction

The accelerated progression of human civilization has been at the expense of the planet's ecosystem. The demand for raw materials is perpetually rising, while the accessible natural resources are limited in quantity. This has resulted in unparalleled climate variability. Consequently, humans are compelled to compete for access to resources, and the repercussions of climate change give rise to internal conflicts (Work, 2019) that, at a certain juncture, have the potential to intensify into violence or terrorism (Strozier & Berkell, 2014). International laws and agreements explicitly prohibit the intentional and indiscriminate destruction of the environment, resources, and vital civilian infrastructure, especially when the damage is grossly disproportionate to military necessity. (Gleick, 2006) The term "environmental terrorism" is used to describe acts that deliberately and indiscriminately target these infrastructures. This term is particularly salient in the context of climate change, demographic trends, and environmental degradation, which are increasingly placing pressure on the availability of basic resources such as food, water, and energy. These resources, in turn, have become primary targets for those seeking to cause harm (Remmits & Torossian, 2021).

The Middle East and North Africa (MENA) regions are particularly vulnerable to the rise of environmental terrorism. The MENA region, an expansive geographical area extending from Morocco in northwest Africa to Iran in southwest Asia, encompasses a diverse array of countries, including those in the Middle East and North Africa. The World Bank's adoption of this nomenclature is rooted in the recognition of salient cultural, religious, linguistic, and historical affinities and cohesions among the populace, which are concomitant with the lifestyle and consumption patterns exhibited by the region's majority. The MENA region exhibits significant political and economic diversity. It encompasses oil-rich Gulf economies and resource-poor countries compared to their population, such as Yemen, Egypt, and Morocco. The population of the MENA region constitutes approximately six percent of the global population, a figure that is nearly equivalent to that of the European Union. (Moustakbal, 2025). However, the present study will concentrate on the North African part of the MENA region. The Middle East region will be the subject of future research.

The Northern-African region is characterized by its aridity, ranking among the most water-stressed regions globally. It exhibits extreme rainfall variability worldwide, with approximately 60% of its water originating from transboundary sources, including surface water and aquifers. According to the Food and Agricultural Organization of the United Nations (FAO), the region experiences greater water stress, defined as water withdrawals as a percentage of total renewable surface freshwater availability, compared to other regions globally. Data from 2023 indicates that the average per capita renewable availability of water resources is 10 times less than the worldwide average. (Lahham, Mateo-Sagasta, Orabi, & Brouziyne, 2022)

The capacity of terrorist groups operating within the North-African region to adopt and implement water-related resources as instruments of conflict is contingent on the availability and quality of environmental resources, as well as the sensitivity and

potential of these resources to be employed as instruments of conflict. The region is particularly susceptible and conducive to the adoption of these tactics due to several factors. Firstly, the arid climates of the region render water resources scarce and of substandard quality, thus heightening the vulnerability of the region to water-related conflict. Secondly, a considerable proportion of the population relies on the region's major water sources for domestic water supply, whilst these same sources are also critical for energy production, agriculture, and livestock farming. Thirdly, state instability, weak institutions and corruption restrict the ability of governments to deliver basic services, manage critical environmental resources, enforce rights, resolve competition over resources, and limit illegal connections to power lines and the construction of illegal wells. (Remmits & Torossian, 2021) In the North-African region, terrorist groups have swiftly discerned the strategic value of key water resources and associated infrastructure as a means to advance their military and ideological objectives. An interesting dynamic can be observed in the Lake Chad region of Africa, where the population is heavily dependent on the water of the lake as a primary source of water. The region is characterized by instability in water and food supplies, which Boko Haram has exploited to the extent that the group has been able to provide basic goods in exchange for the support and services of the population and to recruit additional members from the local population, therefore the group can extend its authority over the region (Piesse, 2019).

The reuse of water has been identified as a potential solution to the challenges posed by the increasing pressure on water resources, which are already under strain. Most national water strategies and plans in the region depend on wastewater treatment as a fundamental component of the national water resources mix, with the objective of reducing water deficits, preserving the natural environment and facilitating socioeconomic development. In Morocco, for instance, the rate of wastewater treatment has increased from 7% in 2006 to over 50% in 2020, a development attributable to the implementation of the National Liquid Sanitation Plan in 2006 and the new National Shared Liquid Sanitation Plan (PNAM) in 2019. In Egypt, the Minister of Housing, Utilities and Urban Communities has announced the construction of 151 sewage treatment plants across the republic, with a capacity of 5 million m³ of water per day. (Lahham, Mateo-Sagasta, Orabi, & Brouziyne, 2022)

North African governments have considered the strategic importance of improving wastewater treatment and taken concrete steps to achieve their goals. Given a significant proportion of the water produced is intended for reuse, it is important to ask whether these systems could also become targets for terrorism, as with drinking water, electrical networks and gas pipelines. The answer is yes. We conducted research into whether wastewater treatment systems could be targets for terrorism. Based on our findings, we concluded that they could be targets and have been targets in the past. We have summarized our research in a recently published article (Szűcs, Barten, & Besenyő, 2025), which also serves as a starting point for our current research.

Methods - Database Selection

The research is of a secondary nature, consisting of database analysis and a review of related studies, publications and reports. In the quantitative part of the study, the research focuses on the analysis of attacks on wastewater treatment systems and facilities in the North-African region, with a focus on the situation in Algeria, Egypt.

In selecting the databases on which to base the subsequent presentation of documented instances of physical attacks, the authors accorded equal importance to key criteria, including global coverage, public accessibility and reliability from the perspective of the wider scientific community. In order to meet the aforementioned requirements, the research was based on a review of the Global Terrorism Database (GDT) (Global Terrorism Database, 2021), which was compiled by the National Consortium on Terrorism and Responses to Terrorism (START) at the University of Maryland. This database encompasses over 200,000 documented terrorist incidents from 1970 to 2020. A comprehensive keyword search was conducted on the data set, with the following search terms: "North-Africa", "wastewater", "sewage", "plant", "attack", "explode", "bomb(ing)", "assault".

Publication Selection

As stated in the preliminary section, the North-African region is particularly vulnerable to environmental and eco-terrorism. Water is an important resource, not only for drinking water but also for agriculture, energy production, etc., so owning or controlling the amount of water is a key issue. For MENA governments, efficient water management is a priority, and a growing population means that alternative resources, such as water from wastewater treatment for agricultural irrigation, must be harnessed. The North-African region has seen notable advancements in wastewater treatment, driven by the mounting recognition that water reclamation through treatment can alleviate water scarcity issues. It is indisputable that intensifying wastewater treatment, constructing plants and sewerage systems, is imperative to maintain water scarcity levels, which are deteriorating. However, it is equally important to recognize that these systems could be prime targets for terrorist activities in the region, like attacks on electricity grids or oil pipelines.

To obtain a comprehensive overview of water and sanitation incidents in the North-African region, the authors reviewed existing literature in English and Arabic. To identify relevant websites, news portals and studies, a keyword search was conducted using the keywords "Northen-Africa", "wastewater", "incident", "threat", "attack" and "terrorism".

Discussion

First, it must be stated that putting together thorough research on the latest terrorist attacks against wastewater facilities was not an easy task due to several reasons. On the one hand, despite the multilingual search (keywords looked up in English, Arabic and French) there were few relevant hits on the terms "wastewater", "terrorist attack",

“North Africa” and “bombing”, even though they were used in relation to each other. On the other hand, the sources that one went through to understand the phenomenon and be able to describe it in detail are not so fully developed yet, and thus it takes considerable time to assess the facts on the ground.

After concluding the research, we saw that how attacks against wastewater plants a socially marginalized bulk of events were. We understood, that although these themes would present something extremely new, not well-researched and that thorough, serious study and work had to be done to achieve positive results and to put irrelevant questions aside, reading takes time and practice is difficult to understand and use in this area of studies. We dug ourselves deep into the research material and the databases on terror incidents, and subsequently realized, that the 6-7 events that had happened in relation with attacks on wastewater management in Africa were not enough in themselves to draw tendencies, charters about them. During our research, we used promising technical opportunities to try this out. There were 2 important databases on terrorism: First, the ACLED database, which put down terrorist attacks sincerely, just as they have happened. The other database was RAND DATABASE. The second compilation also provided us with detailed description on events. However, the phenomenon was so real, that something of a go-between solution has been found. The articles and studies on the theme were also useful and provided us with a great opportunity to expand our research concerning the wastewater-related terrorist events, which we tried as much as we could. Altogether, we got to know that the material and analysed events were interesting in nature and could lead us to a considerable result.

My colleague in the first part went analysing the pn of “eco-terrorism” and its consequences to our life, this way he opened the discussion for us to study the topic. My job is now to base my research on requesting help from the previous findings of my colleague and the important notes he laid down. I can only but promise, that the article will take into consideration his results as well. Perhaps, after thorough research and a joint work the Discussion chapter of the case will be promptly outlined, and its results will be revealed as well.

Analysed Facts and Countries - Research Methods and Results

Besides understanding the relevance of the scientific material, that can be found on wastewater-management when concluding research, it is also important to state the real scientific facts that the researcher is able to receive from studying the subject at hand. To make our article complete and be able to present new, relevant scientific findings on the theme of wastewater-related terrorist incidents, it was inevitable to look through the databases and the literature at hand. I did so by using the Internet, scientific forums and other important sources. During my research, for finding relevant scientific material on the issue the RAND database on Worldwide Terrorist Incidents and the Global Terrorism Database was used. I ran through the Internet and these databases, and several important homepages the terms “wastewater”, “terrorist attack”, “North Africa” and “bombing” in English, Arabic and French, to achieve the maximum results possible



during the study, it has to be stated that the available data on wastewater-related or WWTP-related terrorism as a definite term is rare to find, even though a real thorough search was concluded on the theme and its keywords. Terrorist incidents are frequent in the past 10-20 years – as the databases show to us – but special areas in it like wastewater-concerned terrorist attacks are difficult to find. However, our goal was to conclude research on this specific area of expertise, thus we tried to do are maximum to achieve appropriate results. Looking through the relevant part of the Internet, literature and databases found on the theme it can be assessed that these terrorist attacks are more likely to happen in the Middle-East, but we decided that in this article we would concentrate during our research on North Africa, since after the rise of the ISIS in the 2010s, several terrorist organizations (even Al-Qaida) have moved to this part of the world, and instead of Afghanistan and Pakistan, there main territory is starting to be the MENA region (Middle East and North Africa). Thus, we decided that our research should be based on the facts that we find in North Africa, since the affiliates of global terrorist organizations are leaving their footprints in the region.

Beginning with the evaluation of the found incidents and sources, we may first start with Egypt, in which there is definite track of terrorist attacks against WWTPs and wastewater installations. The idea to conclude an article on the wastewater-related terrorist incidents came from a terrorist attack in Egypt: on 19 October 2014, several bombs exploded in Al-Sharqia, during which the nearby WWTP and the sewage system was destroyed. 2 bombs detonated, but 2 more didn't go off. Nevertheless, it was a vicious attempt to damage the drainage system of the town. Fortunately, according to the sources, there were no casualties, but the economic and social damage it caused is beyond belief. During my research, I found several sites concerning the attack (arabic.cnn.com (CNN Arabic), spa.gov.sa (Saudi Press Agency) & ahram.org.eg (El-Ahram)).⁴ The attack can also be found in the Global Terrorism Database (No. 201410290057/139828). The terrorist attack can be considered the first actual aggression against a WWTP in North Africa. Although there were no casualties, this attack was a clear sign from the terrorist organizations, that the sewage systems and infrastructure of a country can be a target as well. The orchestration of this incident shows that the awareness that the terrorists give to this issue at hand. It was not simply a reckless aggression: the attack was carried out in detail, and it was well-planned. Thus, we must conclude that the action besides the damage it caused was a well-orchestrated attack on a strong power in North Africa. Therefore, the wastewater installations in Africa might be in danger, if we don't take seriously these groups and incidents.

The next incident I took into consideration was the incident in Libya, in Al-Khums. The sewage system of the town was damaged seriously by an unknown assailant, which is counted as a terrorist attack. As mentioned before, the literature takes into consideration the areas that are mainly concerned by these kinds of terrorist actions, and Libya was one of the countries mentioned. The incident is assessed on some Internet

⁴ See: <https://arabic.cnn.com/middleeast/2015/01/26/egypt-clashes-explosion>, <https://www.spa.gov.sa/1321078> and <https://gate.ahram.org.eg/News/589847.aspx>

pages (alwasat.ly (Al-Wasat) & alsabaah.ly (al-Sabah)),⁵ which are both of Libyan origin. The attack was committed on 7 September 2023. Nevertheless, the relevance and the timeliness of the problem can be seen valid. It laid down the foundations of serious attacks against WWTPs. Not as organized, as in Egypt, but it was still an attack on the sewage system of a large town in Libya, which is also a great power in North Africa. The aggression shown by these examples presents that there is frustration in terrorist organizations, who try to look after more and more opportunities to cause damage in the civilian infrastructure. This can be seen in the Libyan attack as well: both organized and single terrorist attacks are becoming more and more frequent on water- and wastewater-related installations.

The next situation is odd, but it is also related to terrorist activity. On 12 November 2001, there was a great flood in the Algiers (Algeria), because to stop the infiltrating terrorists, the Algerian government had to close the sewage system and the drainpipes in the region, thus at least 575 people died in this incident. Although these incidents are not always close to each other in time, the relevance of the importance of sewage systems for a country's security is obvious. The Algerian terrorist incident was published by albayan.ae (Al-Bayan), an Emirates-based online newspaper.⁶ The incident took place in 2001, when the Algerian jihadist organizations were on the rise, but it still shows the tendency, that radical fundamentalists take the opportunity, whenever it is possible to hit at the government, even doing it indirectly, as is the situation here. This example of terrorist aggression also shows that during the recent times terrorist actions concerning wastewater facilities rose considerably.

Staying in Algeria and looking through the databases I stumbled upon another terrorist-related attack on a wastewater institution. According to the RAND database (No. 38697), on 20 August 2008, AQIM (Al-Qaida in the Islamic Maghreb) a suicide bomber drove a car into some workers, who were standing by. These people were working in the nearby Water Purification Plant. We can conclude that this is practically a WWTP, thus a wastewater facility. It is interesting to note that hence the terrorists not only directly attack the WWTPs, but also indirectly, targeting workers there. The aggressive nature can be shown here as well, and the attack fits into the pattern we are trying to build up in this article that the terrorist are interested in wastewater installations or WWTPs, and they are willing to use every method at their hands to cause damage.

Remaining in Algeria there still was a water-related incident, which indirectly can lead to the attacks on wastewater facilities. On 20 February 1998, In the town of Sidi Khaled, the local water tower became the target of the terrorists, who took advantage of the careless security forces, and attacked the installation. The incident is also recorded by the Rand database (No. 8252). Although this was not a clear attack on a water

⁵ See: <https://alwasat.ly/news/libya/411253?author=1> and <https://alsabaah.ly/%D8%AB%D9%84%D9%88%D8%AA-%D8%A7%D9%84%D9%85%D9%86%D8%B7%D9%82%D8%A9/>

⁶ <https://www.albayan.ae/one-world/2001-11-13-1.1212866>



installation, water towers can be counted as WWTPs connected to the sewage system, thus indirectly it could have caused serious damage on the wastewater installations.

As said, we concluded thorough research on the terrorist-related wastewater attacks. However, this is what makes this research so challenging. This is the way I found another terrorist attack that happened in Nigeria. This incident was a relevant example of the terrorists' hunger for destruction: according to RAND database (No. 36735) a water disposal pipeline was attacked by radical groups in Nigeria, in the Niger Delta. A bomb was used during the assailment, which caused serious problems for the Nigerian oil companies concerned in the matter. The incident happened on 6 January 2008, and – although it wasn't confirmed – it might have been the notorious terrorist organization MEND (Movement for the Emancipation of the Niger Delta). This shows that the North-African (Sub-Saharan) terrorist organizations are interested in the attacking of the WWTPs for achieving their goals.

Conclusion

Summarizing the scientific facts and the literature that has been assessed, one can get to the result that although the sources that can be analysed and the resources that can be used to the researcher's advantage in the scientific work are porous, nevertheless, even if the situation is so, putting together these pieces of events concerning the terrorist activity against WWTPS, one can get results, even if further study is advised.

The results and scientific facts of the research show a clear tendency, from the 2000s Algerian radical Islamism through the 2000s Al-Qaida-committed actions even until the modern ISIS/Al-Qaida era, that radical terrorism in North Africa is rising, and it has also taken some interest in the attacking of WWTPs. Although wastewater installations are not the primary target of terrorist organizations, it can be concluded according to the databases and the research done on the attacks that the importance of wastewater (and water) plants and installations for terrorists and terrorist organizations is on the rise, and an increasing frequency can be shown from the scientific findings. The attacks are not only committed by a group, but also sometimes individuals carry out the attack. Sometimes the incident is a direct aggression on a WWTP, sometimes it involves only indirectly the wastewater system.

Altogether it can be said that the relevance of wastewater plants and WWTP installations has grown concerning terrorist activities in the last decades, and this can be clearly shown in the databases and scientific literature used. Finally, it can be assumed, that according to the relevant data that can be found in English, Arabic and French on these incidents, their frequency shows an increasing rate, and with the increasing level of terrorism in general, the committed terrorist acts against WWTPs and wastewater installations have been on the rise in the recent years.

Notes on Contributors

Gábor Szűcs is a doctoral student at the Doctoral School of Security and Safety Sciences of Óbuda University. His research interests include the safety and security protection of

wastewater systems as critical infrastructure. For more than ten years he has been working as a project manager in wastewater infrastructure development projects funded by the European Union. During his work, he has participated in several field visits and his observations there have inspired him to focus his PhD research on the safety engineering of wastewater treatment plants and systems. After successfully completing his doctoral studies, he plans to continue researching this topic and publishing his findings.

Zsolt Szabó finished his PhD at the Eszterházy Károly Catholic University. He is a researcher at the Africa Research Institute at Óbuda University, Doctoral School for Safety and Security Sciences. He graduated at Péter Pázmány Catholic University in Arabic-History major. In the last years, he has actively published articles and reviews in several journals and aims to continue his scientific work in the future. He speaks Arabic, English and Italian language, and he has learned French for one and a half year as well. He intends to become a security expert and to get acquainted with African politics as well as cultural and social issues on the continent. He would like to continue researching African security politics and security politics in the frame of the institution and in every possible way.

Conflict of Interest

The authors hereby declare that no competing financial interest exists for this manuscript.

References

- Abdel Wahaab, R., Mahmoud, M., & van Lier, J. B. (2020). Toward achieving sustainable management of municipal wastewater sludge in Egypt: The current status and future prospective. *Renewable and Sustainable Energy Reviews*, 127, 109880. <https://doi.org/10.1016/j.rser.2020.109880>
- AlSittawy, M. M., Nofal, E. R., & Eid, A. T. (2024). Detecting sources of water leakage in fractured limestone: Case study in Mokattam District, Egypt. *Water Science*, 38(1), 415-427. <https://doi.org/10.1080/23570008.2024.2379565>
- Arefin, M. R. (2019). The State, Sewers, and Security: How Does the Egyptian State Reframe Environmental Disasters as Terrorist Threats? *Annals of the American Association of Geographers*, 109(2), 412-421. <https://doi.org/10.1080/24694452.2018.1497474>
- Awad, D. S. F. (2024). Threats and challenges to Egyptian water security and their impact on the management of Egyptian water resources. *International Journal of Sustainable Development and Science*, 7(1), 315-329. <https://doi.org/10.21608/ijrsrd.2024.277175.1054>
- Gadow, S. I., El-Shawadfy, M. A., & Abd El-Zaher, F. H. (2024). A combined bio-system to improve effluent water quality from sewage wastewater plants for agricultural



- reuse. *Biomass Conversion and Biorefinery*, 14(15), 16883-16890. <https://doi.org/10.1007/s13399-023-03816-7>
- Ghazy, M. R., Dockhorn, T., & Dichtl, N. (2011). Economic and Environmental Assessment of Sewage Sludge Treatment Processes Application in Egypt. *International Water Technology Journal*, 1(2), 102-119. Retrieved June 10, 2025, from https://beng.stafpu.bu.edu.eg/Civil%20Engineering/3622/publications/Mohamed%20Rabee%20Ghazy_02-ECONOMIC%20AND%20ENVIRONMENTAL%20ASSESSMENT%20OF%20SEWAGE%20SLUDGE%20TREATMENT%20PROCESS%20APPLICATION%20IN%20Egypt-Journal.pdf
- Gleick, P. H. (1993). Water and Conflict: Fresh Water Resources and International Security. *International Security*, 18(1), 79-112. <https://doi.org/10.2307/2539033>
- Gleick, P. H. (2019). Water as a weapon and casualty of armed conflict: A review of recent water-related violence in Iraq, Syria, and Yemen. *WIREs Water*, 6(4), e1351. <https://doi.org/10.1002/wat2.1351>
- Global Terrorism Database. (2021). *National Consortium for the Study (START)* (University of Maryland. <https://www.start.umd.edu/gtd/>
- King, M. D. (2015). The Weaponization of Water in Syria and Iraq. *The Washington Quarterly*, 38(4), 153-169. <https://doi.org/10.1080/0163660X.2015.1125835>
- Lahham, N., Mateo-Sagasta, J., Orabi, M. O., & Brouziyne, Y. (2022). Context and drivers of water reuse in MENA. In J. Mateo-Sagasta, M. al-Hamdi, & K. AbuZeid (Eds.), *Water Reuse in the Middle East and North Africa: A Sourcebook* (pp. 3-15). International Water Management Institute (IWMI). <https://doi.org/10.5337/2022.225>
- Moustakbal, J. (2025). *Water resources and climate change in MENA region*. Committee for the Abolition of Illegitimate Debt. Retrieved January 20, 2025 from <https://www.cadtm.org/Water-resources-and-climate-change,5080>
- Piesse, M. (2019). *Boko Haram: Exacerbating and Benefiting From Food and Water Insecurity in the Lake Chad Basin*. Reliefweb. Retrieved January 10, 2025 from <https://reliefweb.int/report/nigeria/boko-haram-exacerbating-and-benefiting-food-and-water-insecurity-lake-chad-basin>
- RAND Database of Worldwide Terrorism Incidents*. (n.d.). RAND National Security Research Division. Retrieved June 10, 2025 from <https://www.rand.org/nsrd/projects/terrorism-incidents.html>
- Remmits, F., & Torossian, B. (2021). *The Widening Arsenal of Terrorist Organizations: Environmental Terrorism on the Rise in the Middle East and North Africa*. The Hague Centre for Strategic Studies (HCSS). Retrieved January 20, 2025 from <https://hcss.nl/report/the-widening-arsenal-of-terrorist-organizations-environmental-terrorism-on-the-rise-in-the-middle-east-and-north-africa/>

- Sowers, J. L., Weinthal, E., & Zawahri, N. (2017). Targeting environmental infrastructures, international law, and civilians in the new Middle Eastern wars. *Security Dialogue*, 48(5), 410-430. <https://doi.org/10.1177/0967010617716615>
- Strozier, C., & Berkell, K. (2014). *How climate change helped ISIS*. Huffington Post. Retrieved January 20, 2025 from https://www.huffpost.com/entry/how-climate-change-helped_b_5903170
- Szűcs, G., Barten, D. G., & Besenyő, J. (2025). Wastewater treatment systems and terrorism. *Water Security*, 24, 100187. <https://doi.org/10.1016/j.wasec.2025.100187>
- von Lossow, T., & Shatat, M. (2020). Less and less: Water in the Middle East. In S. Kronich & L. Maghen (Eds.), *Ensuring Water Security in the Middle East: Policy Implications* (pp. 34-55). IEMed.
- Work, C. (2019). Climate change and conflict: Global insecurity and the road less traveled. *Geoforum*, 102, 222-225. <https://doi.org/10.1016/j.geoforum.2018.11.004>
- Yoffe, S., Fiske, G., Giordano, M., Giordano, M., Larson, K., Stahl, K., & Wolf, A. (2004). Geography of international water conflict and cooperation: Data sets and applications. *Water Resources Research*, 40(5), 5-4. <https://doi.org/10.1029/2003WR002530>



Crisis Beneath the Sands: Groundwater Degradation and Health Risks in the Northeastern Algerian Sahara – The Case of Oued Souf Valley¹

Ayoub Barkat², Foued Bouaicha³, György Szabó⁴

Abstract:

The Oued Souf Valley in southern Algeria, part of the vast Sahara, is confronting a severe groundwater crisis driven by overexploitation, human-induced pollution, and climate variability. This study presents an extensive assessment of hydro chemical, bacteriological, and heavy metal contamination across three major aquifers: the shallow phreatic, complex terminal, and continental intercalary aquifers. Results from 58 monitoring wells and detailed sample analyses reveal alarming contamination levels in the phreatic aquifer, with electrical conductivity up to 7500 $\mu\text{S}/\text{cm}$, nitrate concentrations exceeding 150 mg/L, and high levels of aluminium, lead, and manganese. All phreatic samples showed very high pollution levels based on the Groundwater Pollution Index (GPI). Spatial analysis linked contamination patterns to intensive agriculture and urban expansion. Deeper aquifers displayed lower contamination but still frequently exceeded WHO standards for drinking water and irrigation due to high salinity and mineralization. Health risk assessments revealed hazard index (HI) values exceeding 1 for adults in 8 samples and for children in all samples, highlighting significant risks from long-term exposure to metals. Geostatistical modelling showed fluctuating groundwater levels between 2008 and 2021, driven by human activity and infrastructure failures. While ecological risk from heavy metals was generally low, localized samples showed considerable or high risk, especially due to lead contamination. The findings underscore the urgent need for integrated water management, stricter pollution controls, improved infrastructure, and targeted public health interventions to safeguard this vulnerable region's water resources and its population's health.

Keywords:

Northwest Sahara
Aquifer System,
groundwater pollution;
Human Health Risk
Assessment; Ecological
Risk Assessment.

¹ DOI: 10.12700/jceas.2025.5.4.412

² Assistant Professor, Department of Civil Engineering and Hydraulics, University of Mohamed Khider Biskra, Biskra 07000, Algeria; African Research Institute, Óbudai University Doctoral School on Safety and Security Sciences, Budapest, Hungary.; ORCID: 0000-0002-8651-1252; ayoubbarkathyd@gmail.com.

³Senior Lecturer, Laboratory of Geology and Environment, Université Frères Mentouri Constantine, Constantine, Algeria; ORCID: 0000-0003-0647-332X; bouaicha.foued@umc.edu.dz, fouedbouaicha@gmail.com.

⁴Professor, Department of Landscape Protection and Environmental Geography, University of Debrecen, Debrecen 4032, Hungary; ORCID: 0000-0003-2201-2099; szabo.gyorgy@science.unideb.hu.

1. Introduction

Water is a vital resource that shapes the distribution of human societies, the structure of economies, and the dynamics of political relations (Bechkit et al., 2024; Hamma et al., 2024; Rahal et al., 2024). Its uneven availability, driven by geographical and climatic factors, profoundly influences where and how communities develop, particularly in water-scarce regions (Barkat et al., 2022; Barkat et al., 2023a; Rahal et al., 2023; Barkat et al., 2023b). Access to water not only supports domestic and agricultural needs but also determines regional stability and power dynamics, as shared water sources often become points of tension or cooperation (Debabeche et al., 2022). In this context, the challenges of water scarcity extend beyond local concerns, highlighting the need for coordinated governance, sustainable management, and collaborative international efforts (Barkat et al., 2021).

Water scarcity presents significant challenges to achieving the Sustainable Development Goals (SDGs) (Sayed, 2015), particularly in arid and semi-arid regions where communities heavily depend on groundwater resources. Groundwater, accounting for approximately 98% of the Earth's liquid freshwater, plays a critical role in meeting domestic and agricultural water demands, especially in these regions (Panda et al., 2006; Táany et al., 2009; UNWWDR, 2015). It serves as the primary water source for nearly 2.5 billion people worldwide (Tatawat et al., 2008). However, its sustainable management faces numerous obstacles, including climate change, population growth, excessive abstraction, inadequate management practices, and poor coordination (Ravikumar et al., 2011). These issues have led to the depletion of aquifers, falling groundwater levels due to shifts in rainfall patterns and increased evapotranspiration, overextraction for agricultural and industrial use, and heightened contamination risks (Jha et al., 2007; Momodu et al., 2010; Luna et al., 2012). Such challenges have direct implications for several SDGs, notably Clean Water and Sanitation, Zero Hunger, Good Health and Well-being, and Climate Action (Velis et al., 2017). Addressing these challenges necessitates coordinated efforts from governments, communities, and international organizations to develop and implement sustainable groundwater management policies, particularly in arid regions (Srivastava et al., 2018; Zamani et al., 2022).

In southern Algeria, the Oued Souf Valley as a part of the vast Sahara relies almost entirely on groundwater to meet its drinking water and agricultural needs. This region is underlain by extensive groundwater reserves within geological formations of varying depth and thickness, which are part of the Northwestern Sahara Aquifer System. This system encompasses three major aquifers: the superficial phreatic aquifer, the complex terminal aquifer, and the continental intercalary aquifer, the latter two of which contain multiple, layered water-bearing formations. Together, these aquifers constitute one of the world's largest hydraulic reserves, with an estimated mobilizable potential of 5 billion cubic meters of water (ANRH, 1986; CDTN, 1992).

Despite the abundance of groundwater in the Oued Souf Valley, overexploitation since the 1980s followed by population growth, urban expansion, and economic

development has created significant public health and environmental issues. Intensive pumping from deep aquifers, coupled with the discharge of untreated wastewater and the absence of a proper sewage system, has resulted in the contamination of shallow groundwater. This has disrupted the regional water system's equilibrium and threatens its long-term sustainability (Kadri et al., 2018).

These developments have triggered profound environmental and social changes in the region. The fragile ecological balance of the northern Sahara has been disturbed, infrastructure has been compromised, agriculture has suffered, and the traditional urban landscape including the historic Ghout system has been transformed. Public health challenges have worsened due to contamination of shallow aquifers with waste and nitrates, resulting in water stagnation and the proliferation of waterborne and parasitic diseases such as skin disorders, leishmaniasis, malaria, and typhoid (Côte, 1998).

In response to these crises, local authorities launched a major project in 2005 aimed at mitigating pollution and managing rising shallow groundwater levels. This project included sewerage networks, wastewater treatment initiatives, and water drainage systems. However, several obstacles prevented the project from fully achieving its objectives (Khezzani et al., 2018; Bouzegag et al., 2020). The failure of the vertical drainage system illustrates how human activities can exacerbate natural processes, affecting the fluctuations of the phreatic aquifer in the Oued Souf Valley. The contamination of shallow groundwater, its unauthorized use for irrigation and industrial purposes, and its connection to deeper aquifers pose significant threats to public health and the environment.

Given these challenges, a comprehensive assessment of the hydrochemical and bacteriological quality of groundwater in the Oued Souf Valley is essential to prevent further environmental and socioeconomic deterioration. This study aims to investigate the factors, particularly those driven by human activities that influence the stability of phreatic groundwater levels and the performance of the vertical drainage system in the region. It will also evaluate the hydrochemical and bacteriological quality of phreatic groundwater samples by measuring the concentrations of various physicochemical and microbiological indicators and comparing them to WHO guidelines to identify contamination sources and levels. Furthermore, the research will explore typical spatial patterns of these parameters across urban, peri-urban, and agricultural areas and assess the suitability of complex terminal and continental intercalary aquifers for drinking and irrigation purposes based on hydrochemical analysis.

2. Materials and methods

2.1. Environmental Setting of Oued Souf Valley

2.1.1. Hydrogeology

The phreatic aquifer (Guendouz et al., 2006), the shallowest groundwater reservoir in the area, consists of fine sands, sandy clays, and gypsum lenses that form the water table. Its thickness reaches about 100 meters, with water depths varying from 1 to 40 meters. Below it lies a clay layer that prevents further infiltration. By 2015, over 35,000 traditional wells were tapping into this aquifer. Its average permeability is approximately 10^{-4} m/s, with horizontal transmissivity and storage coefficient values around 10^{-2} m²/s and 0.2, respectively. Recharge occurs naturally through rainfall infiltration and runoff from the southern boundary of the Great Oriental Erg, with episodic heavy rains, such as those in April 1947 and May 1967, also contributing (Castany, 1982; Dervierux, 1957; Ben Hamida, 2005; DRE, 2015; Kherici et al., 1996). The complex terminal aquifer, a deeper system, is made up of multiple geological formations from the Cretaceous to Miocene periods. It lies 400–600 meters underground, has an average thickness of about 400 meters, and contains fossil water estimated to be 20,000–30,000 years old. In 2015, 182 deep wells accessed this aquifer, 28 used for irrigation and 154 for municipal and potable water supply (Abdous et al., 2005; Guendouz et al., 2003; Moulla et al., 2003).

Beneath this lies the continental intercalary aquifer, which includes deposits from the Middle Jurassic to Lower Cretaceous (Barremian and Albian stages). This formation, composed of sandstones and clayey sandstones, is situated between 1,800 and 2,200 meters depth, with a thickness of 200–400 meters. Its groundwater, also fossil water aged 20,000–30,000 years, is accessed by just four deep wells, all for drinking water due to its high temperature (above 70°C) (Cornet, 1964; Djennane, 1990). Figure 1 depicts the hydrogeological structure of the Northwest Sahara Aquifer System (NWSAS).

The Oued Souf region, in the northeastern Mesozoic basin of the Sahara, is dominated by fine-grained, compact, uniform sand dunes from the Quaternary period, reaching up to 100 meters in the south. It features plateaus (Sahans) covered in Quaternary gypsum, and saline depressions (Sebkha) located in the northern part of the Oued Souf Valley (Bel et al., 1966; Bel et al., 1970; Sebaa et al., 2009; Ballais et al., 2002). The geology of this Triassic basin (northeastern Sahara platform) consists of formations from the Lower Cretaceous to Quaternary, resting atop Paleozoic marine formations containing water, with total thicknesses exceeding 2,000 meters (BUSSON, 1972; Nesson, 1975; Giraud, 1978). Due to the region's arid climate and geomorphology, surface water resources are scarce (Dubief, 1965), making groundwater the principal water source for diverse uses in the Souf region (Drouiche et al., 2013).

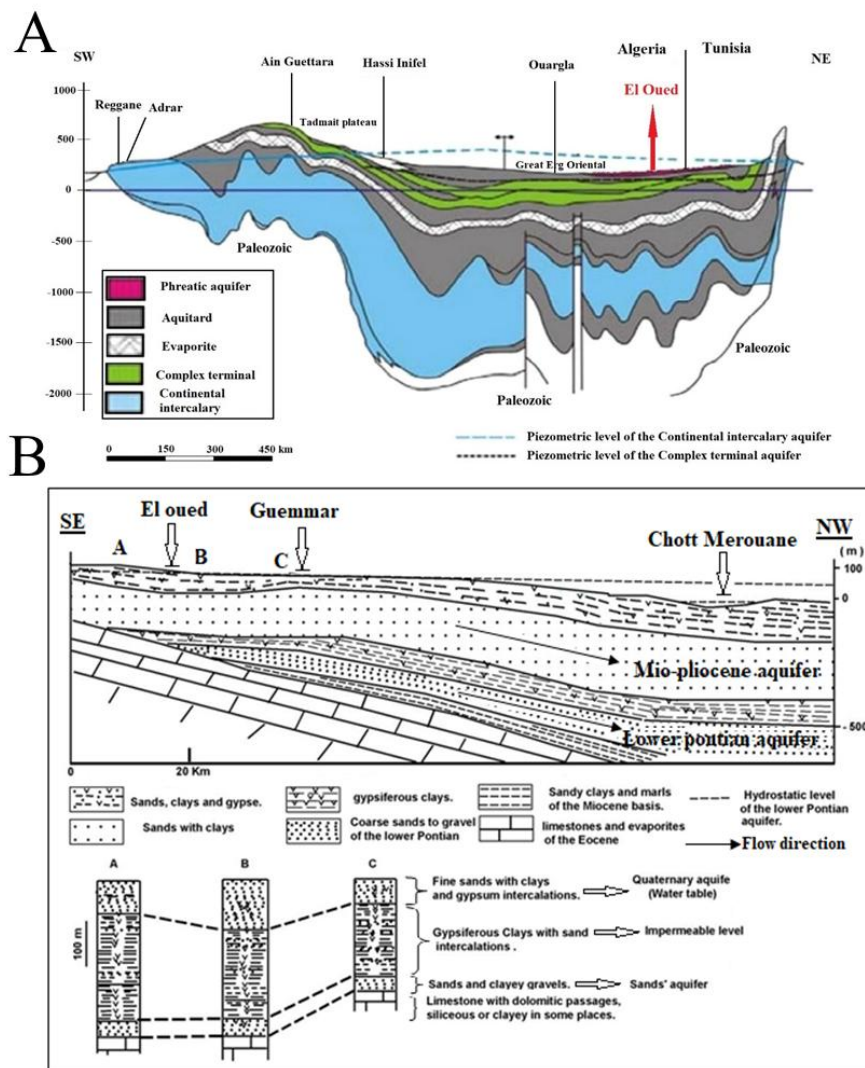


Figure 1. (A). Hydrogeological section of the North-West Sahara Aquifer System, (B). Geological cross-section of Oued souf valley, bottom: (A–C) are log correlation of Oued souf valley.

2.1.2. Topography

The Oued Souf Valley, located within the Great Eastern Erg in the Septentrional Sahara, represents a low-lying topographical area often referred to as the "lower Sahara" due to its modest elevation. The valley's altitude fluctuates between 64 and 100 meters (Cornet, 1964). Its slope is minimal, ranging from 0.03% to 0.16%, generally oriented from south to north, with notable depressions near the city center of El-Oued, as shown in figure 2.

Despite being named a "valley," the Oued Souf does not contain a flowing watercourse. Instead, it denotes a basin where sparse vegetation grows. According to (Najah, 1970), three primary landforms can be identified in the region: Sahanes, Ergs, and Sebkhass. The terrain reflects a combination of the Erg, characterized by dunes, and the Sahane, a sandy landscape interspersed with rocky plateaus extending southward, marked by alternating dunes and rocky ridges. The area features can be described as a

depression zone with multiple chotts that slope eastward, and a vast and prominent dunes, called Ghroudes, located south of Souf, which can rise as high as 200 meters.

A key distinction in Souf's topography lies between the Erg and Sahane regions. The Erg, making up roughly three-quarters of the area, comprises sand accumulations in the form of dunes. This sandy layer is substantial, typically several tens of meters thick. Recent well-drilling has revealed even greater thicknesses than previously estimated: 70–80 meters in southern Souf, 60 meters near El-Oued, gradually tapering to 30 meters in the northern areas, where it becomes a thin layer over Sebkhass (DUTIL, 1971).

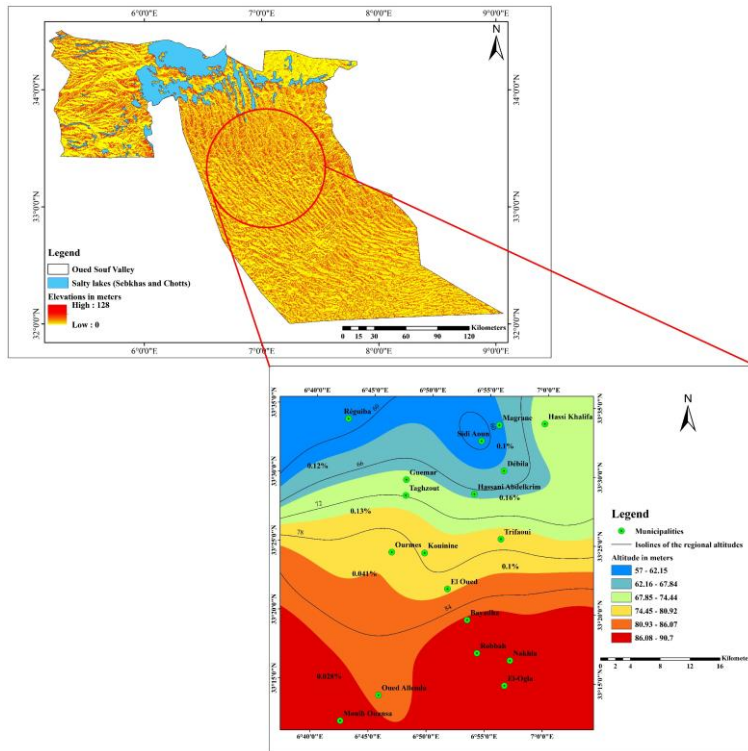


Figure 2. Integrated Topographic and Relief Map of Oued Souf region.

The Erg layer rests on an impermeable Pliocene clay bedrock. In contrast, the Sahane is a flat, often stony, depressed zone characterized by enclosed basins encircled by dunes. Sparse vegetation can grow in these basins, thriving on gypsum crusts. Sebkhass form when intense heat causes water to evaporate, leaving behind salt deposits. These salt pans arise from both phreatic and surface water sources, producing formations such as chotts and sebkhass (Briere, 2000). Additionally, from a broader geological perspective, sabkhas are saline basins typically found at the bottom of depressions in arid environments, often isolated from direct marine contact. However, they may still be linked to the sea through either narrow water channels (in deep basins) or by seepage (in shallow basins). These connections can result in sporadic water overflows, further increasing salinity. Over time, evaporation intensifies, leading to the formation of brine and precipitation of evaporites either across the entire basin or concentrated at one end, depending on the water depth (Medjber, 2014).

2.1.3. Economic Activities in Oued Souf Valley

The Oued Souf region has experienced a notable boom in agriculture over the past few decades, positioning it as one of Algeria's most productive agricultural areas. Farming activities are widespread across the region as presented in figure 3, with extensive areas dedicated to various agricultural uses, including pastures, herbaceous crops, fruit tree plantations, and fallow land. A key agricultural practice in the area is phoeniculture (date palm cultivation), particularly within the Ghout system, a culturally significant and visually striking method that has shaped the Saharan landscape (Bataillon, 1955). This system involves hand-digging large craters where palm trees are planted, utilizing capillary action to draw water from the phreatic aquifer directly to the roots. This technique eliminates the need for traditional irrigation systems (Remini et al., 2011). Ghout systems take different forms such as circular, elongated, and rectangular depending on soil type and wind patterns (Bensaâd, 2011; Côte, 2006). The Ghout areas extend southward to the Libyan border, bordered by the Nemamchas Mountains, stretching east to Tunisia and west to the expansive Oued Righ oasis (Miloudi et al., 2019).

Since the 1990s, a significant shift has occurred in local farming practices with the adoption of mini-pivot irrigation systems. Supported by the State and driven by local farmers, this innovation has transformed Oued Souf into Algeria's leading potato-producing region. Today, the use of mini-pivot systems continues to expand alongside traditional Ghout farming methods (Remini et al., 2019). Fertilizer use in the region is tailored to local soil characteristics, crop types, and farmer preferences. Fertilizers commonly applied include nitrogen-based types such as ammonium nitrate and urea to encourage plant growth (Khouli et al., 2021), phosphorus-based fertilizers like superphosphate and rock phosphate to support root development and fruiting (Tsanakas et al., 2017), potassium-based fertilizers such as potassium chloride and sulfate for overall plant health and quality (Ouarekh et al., 2021), and organic fertilizers including compost and manure, which enhance soil structure and fertility (Abdallah et al., 2021).

Industrially, Oued Souf hosts a diverse range of activities spread across nine municipalities, covering sectors such as industrial chemistry, food and construction materials, metallurgy, textiles, leather, hydraulic binders, electrical appliances, mechanical and automotive industries (ANIREF, 2020). This industrial diversity makes Oued Souf a key industrial hub in Algeria. Additionally, the mining sector plays a significant role, with the region producing 78,500 tonnes of salt annually from the Chotts, along with 5,500 cubic meters of construction sand and 18,930 cubic meters of volcanic tuff each year.

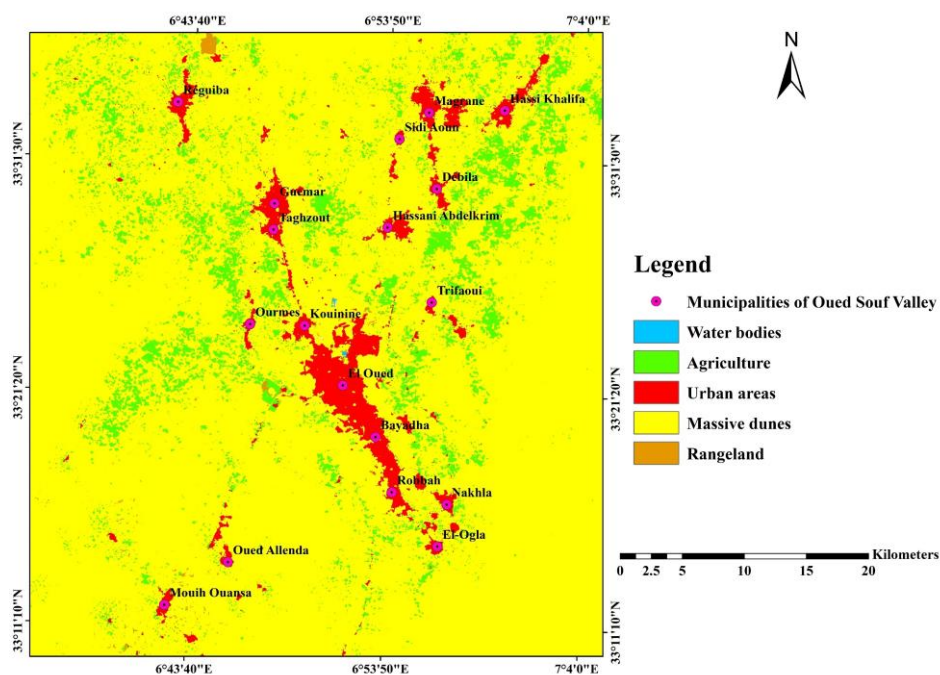


Figure 3. Land cover map of Oued Souf Valley.

2.2. Selection of Study Areas, Data Collection Procedures, and Methodological Applications

This research focused on assessing the groundwater systems in Oued Souf, selecting multiple study areas based on the targeted aquifers and available data. Specifically, it examined the phreatic, complex terminal, and continental intercalary aquifers. To analyze the spatial and temporal variation in the phreatic aquifer's groundwater levels, data were collected from 58 monitoring wells equipped with piezometers and level probes forming part of the vertical drainage network. Measurements were taken from the ground surface to the water table.

The physicochemical and bacteriological characteristics of the phreatic aquifer were evaluated using 28 samples: 22 from the vertical drainage system and six from surrounding agricultural and peri-urban locations. Parameters such as temperature (T), pH, electrical conductivity (EC), and total dissolved solids (TDS) were measured in the field with a Multi-350 i multiparameter instrument. Additional analyses followed established methods (Rodier, 1984). In a separate study in November 2022, the presence of heavy metals in the phreatic aquifer was analyzed using 14 samples and quantified with microwave plasma atomic emission spectrometry (MP-AES 4200, Agilent Technologies).

For the complex terminal aquifer, 49 groundwater samples were collected in March 2019 by ANRH- Agence Nationale des Ressources Hydrauliques and ADE- Algérienne des Eaux (El Oued Unit), covering the Mio-Pliocene and Pontian aquifers across El Oued, Debila, Guemar, Kouinine, Ourmas, Reguiba, and Taghzout. The continental intercalary aquifer was studied using three wells in El Oued. This dataset was provided by ANRH and ADE. Of these wells, eight represented the Mio-Pliocene layer, one the Pontian,

and one the Lower Eocene. Figure 4 shows the study area with its administrative subdivisions.

The research applied a comprehensive methodology to address the research objectives. Geostatistical modeling with the ordinary kriging interpolation method was used to predict spatial patterns of groundwater levels and physicochemical elements in the phreatic and complex terminal aquifers (Webster et al., 2007). For mapping heavy metals, the inverse distance weighting (IDW) method was chosen due to the limited sample availability (Esri, 2012). For the environmental risk assessment of heavy metals in the phreatic aquifer, indices such as the contamination degree, geoaccumulation index (Igeo) (Singh et al., 2005), enrichment factor (EF) (Olivares-Rieumont et al., 2005), and potential ecological risk index (PER) (Fei et al., 2017) were calculated. A human health risk assessment was also conducted, evaluating long-term hazard levels through chronic daily intake (CDI), hazard quotient (HQ), and hazard index (HI) (USEPA, 2006; USEPA, 1999; Qiu et al., 2019; Murray et al., 1995).

The water quality index by (Brown et al., 1973) was applied to assess groundwater for drinking purposes across all hydrogeological units. Groundwater suitability for irrigation was determined using ionic parameters (meq/L) and indices including permeability index (PI) (Doneen, 1964), Kelly's ratio (KR) (Kelly, 1951), residual sodium carbonate (RSC) (El Bilali et al., 2021), residual base saturation coefficient (RBSC) (Amiri et al., 2023), exchangeable sodium percentage (ESP) (Zhou et al., 2021), sodium adsorption ratio (SAR) (Richards, 1947), total hardness (TH) (Todd, 1980), magnesium hazard (MH) (Ragunath, 1987), and others. Regarding the pollution assessment, groundwater pollution index (GPI) was applied to evaluate the contamination level (Subba et al., 2018).

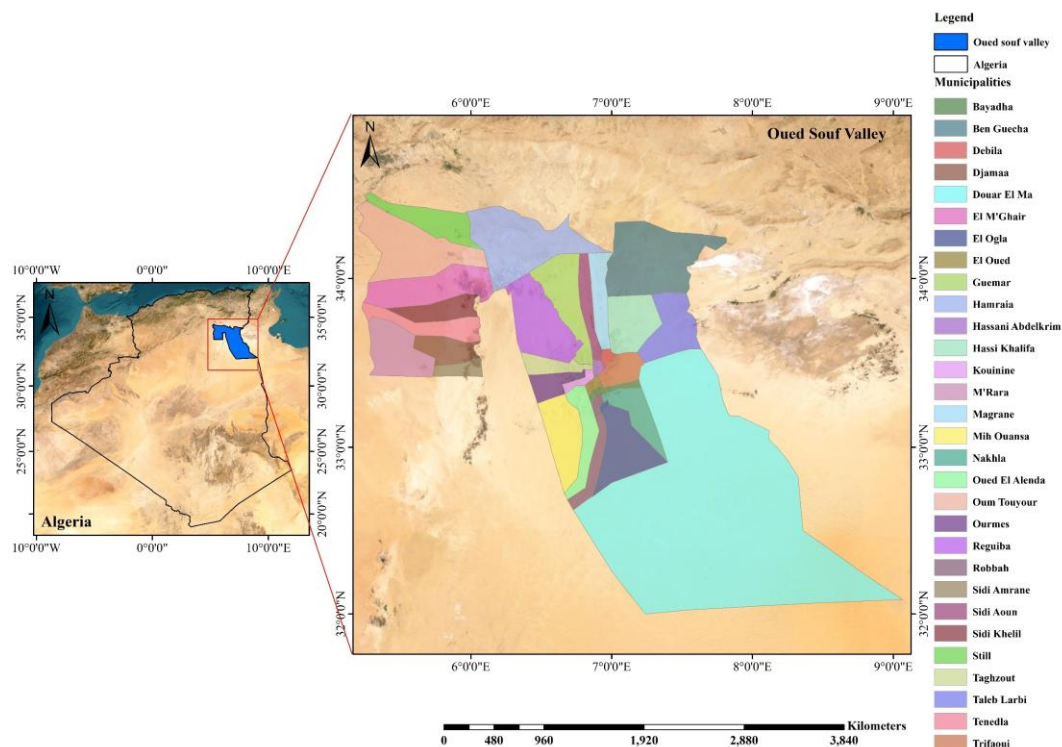


Figure 4. The administrative subdivisions of Oued Souf Valley.

3. Results and discussion

3.1. Analysis of Phreatic Groundwater Level Fluctuations and Influencing Anthropogenic Factors (2009-2018)

Through geostatistical modeling and map analysis, three distinct spatial patterns in the phreatic groundwater level were identified for the observation years 2008, 2009, 2014, 2016, and 2018. Initially, a noticeable rise in groundwater levels (upwelling) occurred from 2008 to 2009, followed by a decline from 2014 to 2018, and finally, a recovery from 2018 to 2021. The shallowest groundwater levels consistently appeared along a northwest-southeast axis in the study area, while the deepest levels were consistently found in the southwest during all observation years.

In 2008, the vertical drainage system began operating, resulting in shallow groundwater levels averaging 5.42 meters below ground level (mbgl). In 2009, this upwelling trend continued with similar patterns and an average depth of 5.06 mbgl, indicating a slight increase. However, from 2014 to 2016, groundwater levels began to decline, with shallowest depths gradually rising from the central northwest to the southeast. Depths ranged from 7.97 mbgl in 2014 to 7.81 mbgl in 2016. By 2018, the groundwater reached its deepest level at 12.74 mbgl, with a major spatial shift affecting nearly half the study area, extending from the south-southwest to the northwest. Although shallow areas maintained their general pattern, they experienced a significant drop compared to earlier years (as depicted in Figure 5).

A comparison with 2008 showed the following changes in groundwater levels: a decrease of 0.36 m in 2009, followed by more substantial declines of 2.56 m in 2014, 2.39 m in 2016, and 7.32 m in 2018 (as shown in figure 6). Despite these declines, by 2021 the groundwater level had risen to an average depth of 8.87 mbgl, representing a recovery of approximately 3.9 meters compared to 2018 levels (figure 6).

Fluctuations in the water table also resulted in areas with deep groundwater levels emerging in the northern part of the study area, extending westward and into the center. The reasons for these fluctuations can be divided into three key stages:

1. Water table rise (2008–2009):

This phase was driven by several factors, including the region's natural topography and lack of natural drainage, poor coordination among water management sectors in Oued Souf Valley, excessive use of deep groundwater reservoirs, absence of sewage and drainage infrastructure, and leakages from the potable water system. Additionally, the vertical drainage system was in its early operational phase, requiring more time to effectively lower groundwater levels.

2. Water table decline (2009–2018):

The decline was due to multiple causes:

- Independent exploitation of different parts of the aquifer system, reducing water recharge to the phreatic aquifer.

- Rapid agricultural expansion, especially around El Oued, which increased groundwater withdrawal and reduced infiltration.
- Replacement of septic tanks with vertical drainage systems in El Oued, which resulted in a steady water table decline and less contamination in the phreatic aquifer.
- Expansion of the sewage network in urban areas, reducing wastewater discharge into the environment and thus lowering the water table.

3. Water table rise (2021):

The resurgence in 2021 was linked to factors such as:

- Drinking water supply inefficiencies, including high leakage rates, unauthorized withdrawals, and illegal connections.
- Poor integration with other water systems and unmetered withdrawals for firefighting, inspections, and maintenance.
- Legal and illegal industries, including gypsum production, which discharge large volumes of water into the environment.
- Issues in the drainage system, such as power outages and non-functional drains since 2018.
- Operational problems at the wastewater treatment plant, especially breakdowns in key equipment like the desander, causing reduced purification capacity and overburdening the system. Additionally, the complex structure of the phreatic aquifer, interspersed with shallow clay lenses, may also contribute to localized groundwater rises (Khechana et al., 2016).

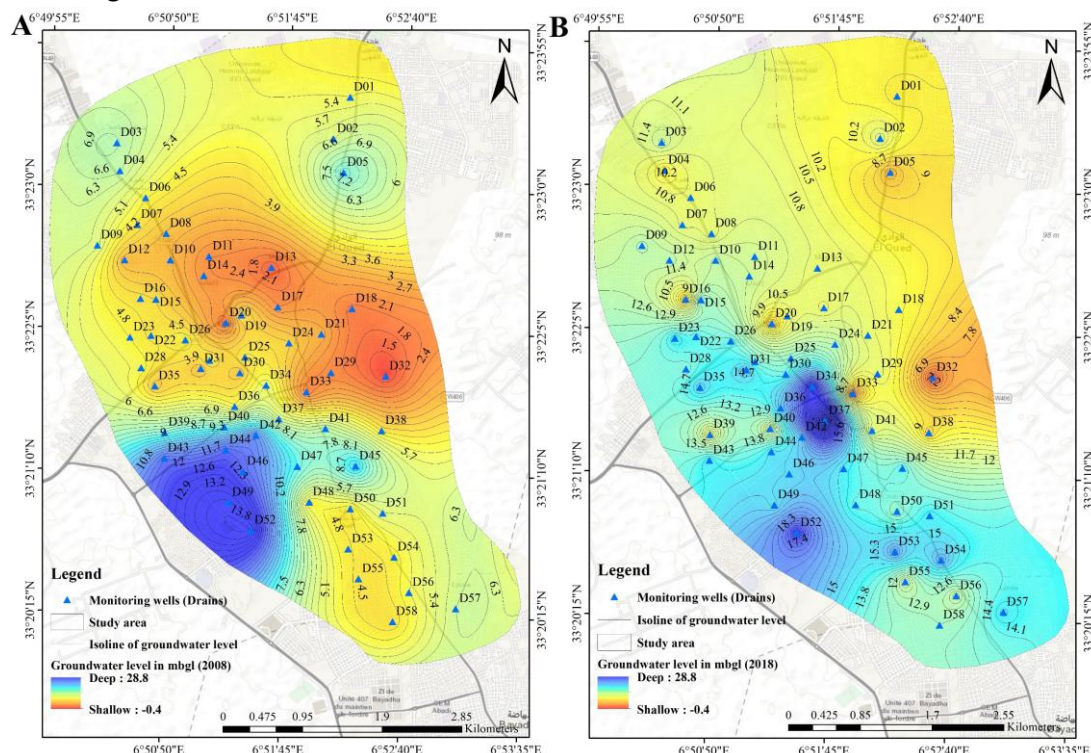


Figure 5. Evolution maps of groundwater level in the study area: (A). 2008, (B). 2018.

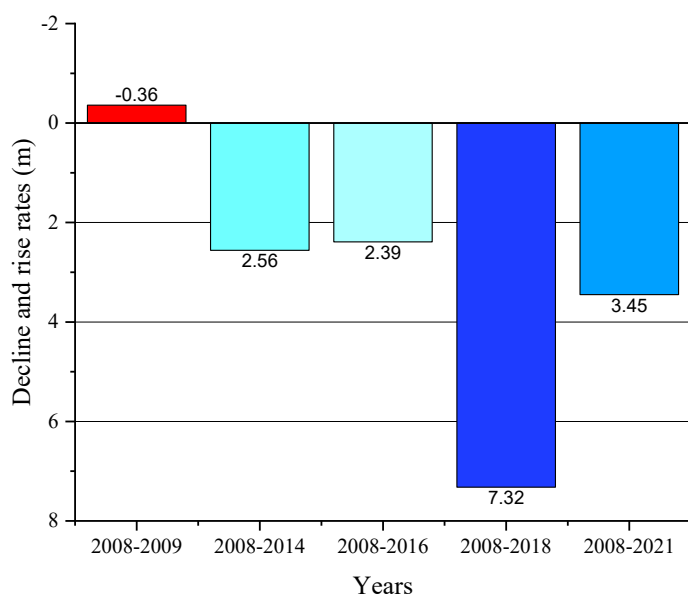


Figure 6. Decline and rise rates over the years of the observation period.

3.2. Assessment of the Physicochemical and Bacteriological Quality of Phreatic Groundwater

The physicochemical and bacteriological analyses of groundwater samples from the phreatic aquifer are summarized in table 1, presenting a statistical overview of the measured parameters. Groundwater temperatures ranged from 25°C to 31.4°C, which could influence quality by promoting microbial growth and reducing gas solubility. The pH values varied between 6.78 and 8.57, with most samples falling within the World Health Organization's (WHO) recommended limits. However, approximately 32% of the samples showed slightly acidic conditions. Electrical conductivity (EC) ranged from 3100 to 7500 $\mu\text{S}/\text{cm}$, exceeding WHO guidelines for potable water, indicating elevated levels of total dissolved solids (TDS), which were also above recommended thresholds in most cases. Turbidity levels were highly variable, affecting the aesthetic quality of the water and indicating the need for treatment before consumption. Some samples were found to be turbid or relatively turbid.

The concentrations of calcium (Ca^{2+}), magnesium (Mg^{2+}), sodium (Na^+), potassium (K^+), and chloride (Cl^-) were generally high, frequently surpassing WHO drinking water standards, though compliance varied across individual samples. Many samples also exceeded WHO limits for nitrate (NO_3^-), nitrite (NO_2^-), and ammonium (NH_4^+), suggesting possible contamination from agricultural runoff, sewage infiltration, or industrial discharges. Fluoride (F^-), sulfate (SO_4^{2-}), and phosphate (PO_4^{3-}) concentrations were above recommended levels in certain samples, though sulfate levels were generally within acceptable ranges.

Levels of dissolved oxygen (DO), chemical oxygen demand (COD), and biological oxygen demand (BOD) varied across samples, reflecting different levels of biodegradability and contamination. Fecal and total coliform counts were high in several samples, indicating significant bacterial contamination.

To assess water quality and pollution levels, the Groundwater Pollution Index (GPI) was applied on the Phreatic groundwater samples, and the results revealed the presence of a Very high pollution across all of the samples as shown in table 2.

Table 1. Statistical overview of the physicochemical and bacteriological parameters analyzed in the phreatic groundwater aquifer samples.

Parameters	Mean	SD	Skewness	Kurtosis	Min	Median	Max	WHO
T(°C)	27.8	1.61	0.47	-0.18	25	27.8	31.4	-
pH	7.25	0.45	1.63	2.32	6.78	7.09	8.57	6.5–8.5
EC (μs/cm)	4386	1310	1.28	0.42	3100	3850	7500	1000
Turbidity (NTU)	16.9	21	1.17	0.08	0.36	5.52	71.6	5
TDS (mg/l)	2350	1089	0.66	1.66	500	1925	5435	500
Ca ²⁺ (mg/l)	714.4	148.4	0.23	0.1	440.9	705.4	1050.1	75
Mg ²⁺ (mg/l)	381.3	177.1	-0.25	-0.89	36.4	429.1	705.1	50
Na ⁺ (mg/l)	325.3	91.0	1.45	1.52	232.2	290.5	582.2	200
K ⁺ (mg/l)	20.6	6.28	-0.03	-0.81	9.55	21.7	33.8	12
Cl ⁻ (mg/l)	378.9	157.3	2.01	4.69	124.3	337.3	914.7	250
NO ₃ ⁻ (mg/l)	27.7	38.1	2.17	5.11	0.1	12.8	159.4	50
HCO ₃ ⁻ (mg/l)	162.2	94.6	0.96	0.82	36.6	142.1	429.4	120
F ⁻ (mg/l)	1.47	0.65	1.66	3.13	0.69	1.3	3.31	1.5
SO ₄ ²⁻ (mg/l)	199.3	44.3	-0.98	1.2	68.2	204.2	266.1	250
PO ₄ ³⁻ (mg/l)	0.67	1.36	3.93	17.4	0	0.19	6.92	1
DO (mgO ₂ /l)	0.25	0.26	0.89	-0.48	0.02	0.13	0.83	-
NH ₄ ⁺ (mg/l)	0.57	0.8	3.25	12.6	0.08	0.26	4	-
NO ₂ ⁻ (mg/l)	0.88	1.88	2.12	3.03	0	0.05	6	-
COD (mg/l)	276.9	70.1	-0.35	-1.77	184	291.1	352	-
BOD ₅ (mg/l)	121.4	19.8	0.06	-0.66	76.8	118.9	152.3	-
Total coliforms (UFC/100 ml)	2041	406.8	-0.51	-0.83	1290	2123	2580	-
Fecal coliforms (UFC/100 ml)	320.5	120.8	-0.02	-0.51	100	311	540	-

Table 2. The application results of the groundwater pollution index (GPI) on the Phreatic groundwater samples.

Range	Category	Number of samples
-------	----------	-------------------

< 1.0	Insignificant pollution	-
1.0–1.5	Low pollution	-
1.5–2.0	Moderate pollution	-
2.0–2.5	High pollution	-
> 2.5	Very high pollution	All the samples

3.3. Spatial Analysis of the Phreatic Groundwater Quality

Based on the applied spatial analysis of hydrochemical parameters in the phreatic groundwater aquifer, I identified three distinct spatial patterns, as illustrated in Figures 7, 8, and 9:

1. Preurban and Agricultural Areas:

High concentrations of electrical conductivity (EC), sodium (Na^+), potassium (K^+), chloride (Cl^-), bicarbonate (HCO_3^-), phosphate (PO_4^{3-}), and dissolved oxygen (DO) indicate both natural and human influences. Elevated EC suggests saline intrusion or fertilizer runoff, leading to increased mineral content in groundwater. High Na^+ , K^+ , and Cl^- levels are often linked to agricultural fertilizers and soil composition, pointing to agricultural activities. Increases in HCO_3^- may result from natural soil-water interactions or farming practices affecting chemical balance. PO_4^{3-} concentrations reflect agricultural runoff, particularly from fertilizers, suggesting nutrient-enriched contamination. High DO levels typically indicate good aeration and a healthy ecosystem, but they may fluctuate due to temperature changes, organic matter decomposition, or pollution.

2. Urban Areas:

Elevated calcium (Ca^{2+}), magnesium (Mg^{2+}), fluoride (F^-), nitrite (NO_2^-), and ammonium (NH_4^+) levels are linked to urban influences. Ca^{2+} and Mg^{2+} , contributing to water hardness, may result from mineral dissolution, urban infrastructure decay, or mixed agricultural and urban runoff. Increased fluoride likely stems from industrial discharges or urban runoff, indicating human and industrial activity. NO_2^- and NH_4^+ levels suggest contamination from urban wastewater, sewage, and industrial sources.

3. Common to Both Agricultural and Urban Areas:

High nitrate (NO_3^-), sulfate (SO_4^{2-}), biological oxygen demand (BOD), and chemical oxygen demand (COD) levels point to multiple pollution sources. NO_3^- concentrations are often caused by fertilizer runoff from agriculture and urban sewage. SO_4^{2-} may originate from industrial emissions or agricultural chemicals.

High BOD and COD reflect organic pollution from sources such as farming runoff, urban sewage, and industrial waste, signifying high oxygen demand to break down organic materials in the water.

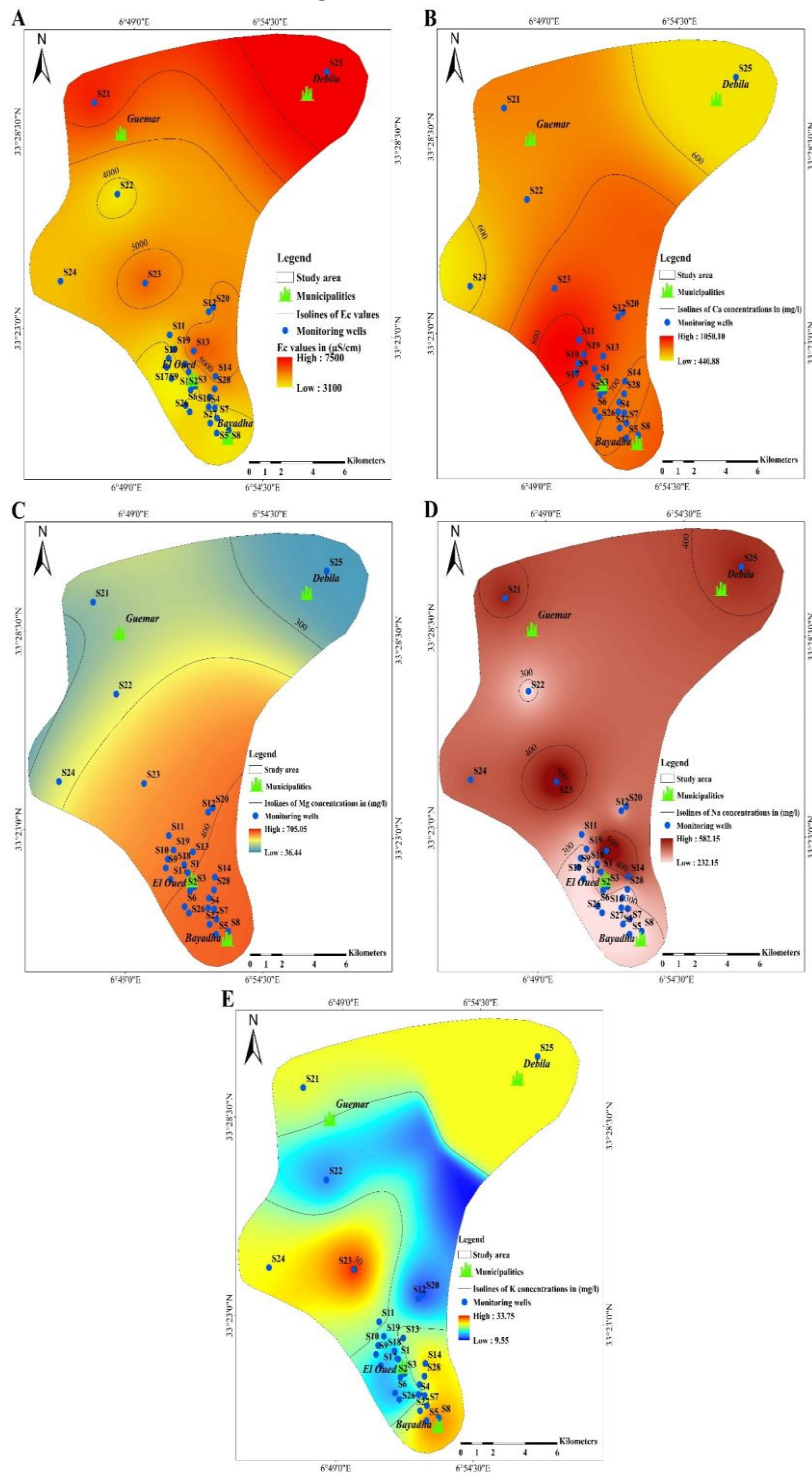


Figure 7. Spatial distribution of the chemical elements in the phreatic groundwater: (A). EC, (B). Ca²⁺, (C). Mg²⁺, (D). Na⁺, (E). K⁺.

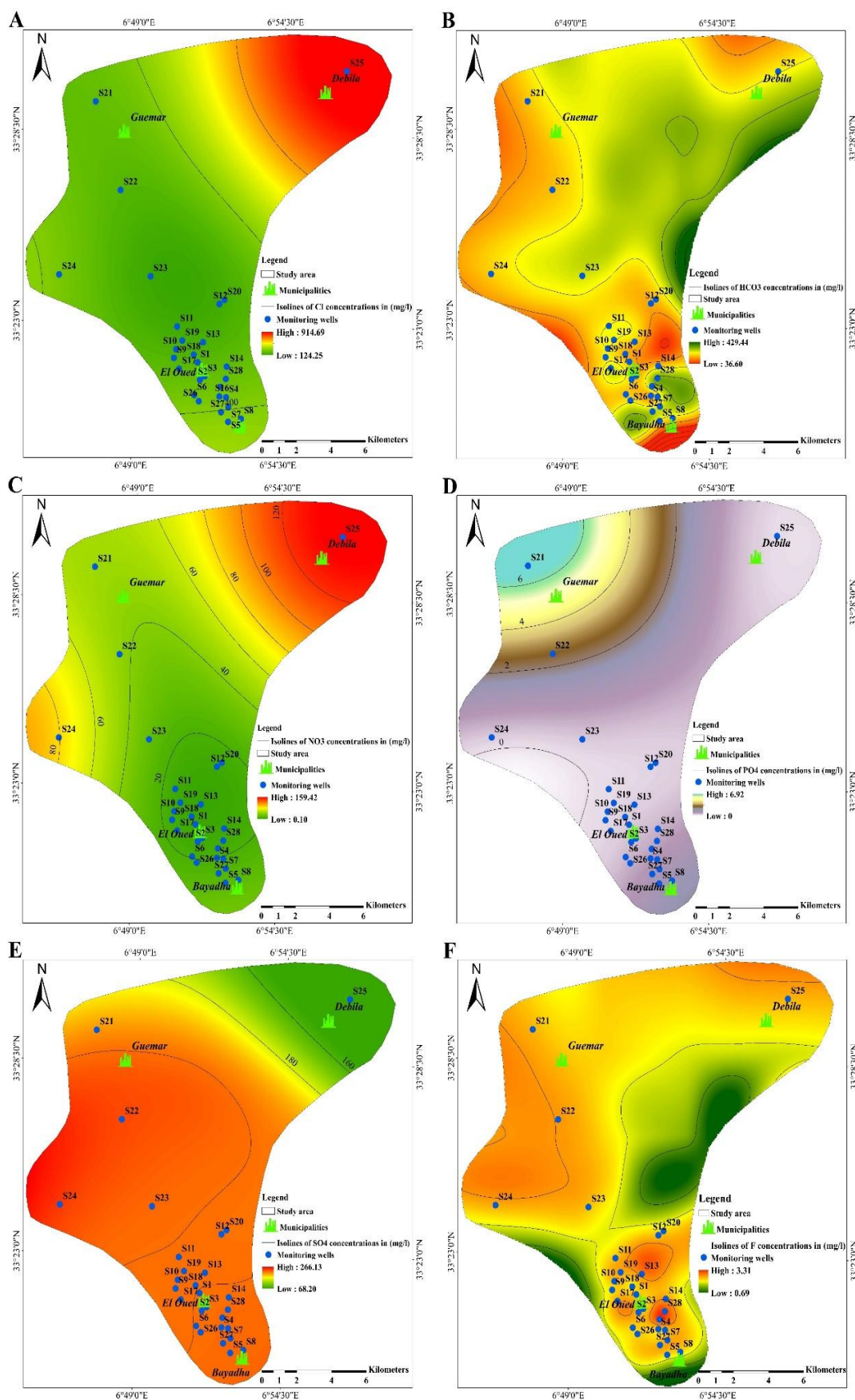


Figure 8. Spatial distribution of the chemical elements in the phreatic groundwater: (A). Cl, (B). HCO₃⁻, (C). NO₃⁻, (D). PO₄³⁻, (E). SO₄²⁻, (F). F.

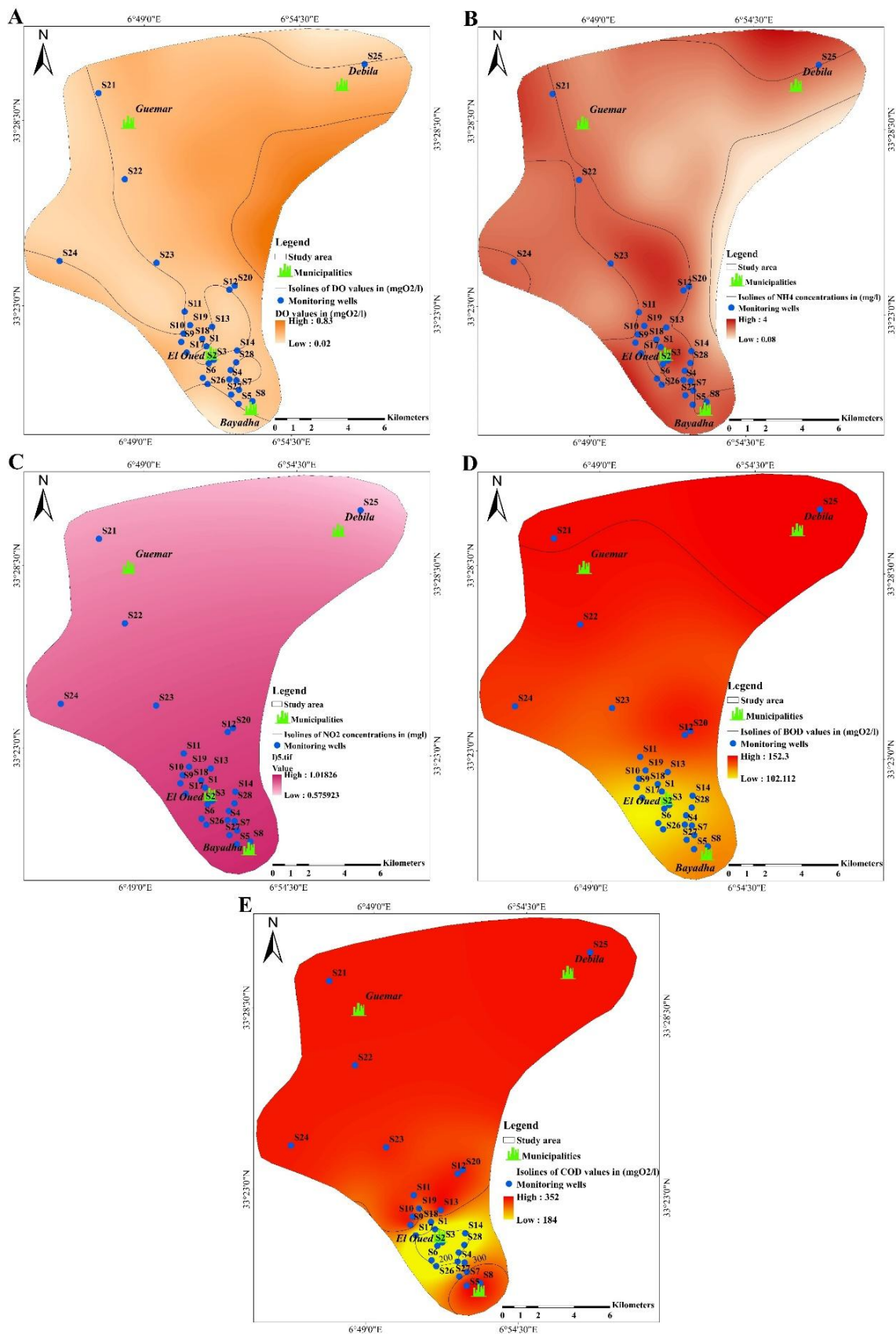


Figure 9. Spatial distribution of the chemical elements in the phreatic groundwater: (A). DO, (B). NH₄⁺, (C). NO₂⁻, (D). BOD, (E). COD.

The analysis revealed significant variations in the strength and structure of spatial dependencies for the hydrochemical parameters within the study area. Parameters like HCO_3^- , F^- , PO_4^{3-} , and COD demonstrated strong spatial dependency, indicating a pronounced correlation between data points. This led to clear separations in interpolated levels and the emergence of distinct patterns, resulting in a high degree of spatial autocorrelation. In contrast, parameters such as EC, Mg^{2+} , SO_4^{2-} , DO, and NO_2^- showed weak spatial dependency, suggesting low correlation across locations and minimal separation in interpolated levels. The remaining parameters exhibited moderate spatial dependency, reflecting localized clustering, trending, or spatial continuity. This variability likely arises from both local and regional factors, including the fluctuating phreatic groundwater level and its impacts on water quality.

3.4. Human Health Risk Assessment and the Presence of Heavy Metals

The analysis of metal concentrations in the phreatic groundwater aquifer of the Oued Souf Valley revealed that aluminum (Al^{3+}), iron (Fe^{2+}), manganese (Mn^{2+}), boron (B^{3+}), nickel (Ni^{2+}), and lead (Pb^{2+}) were present in varying concentrations, often exceeding WHO limits in different samples from both urban and agricultural zones, as summarized in table 3.

Table 3. Statistical summary of the analyzed heavy metals from the phreatic groundwater aquifer of the Oued Souf Valley and its comparison with WHO standards.

Variables	Mean	SD	CV	Min	Median	Max	WHO 2008
T (°C)	27.85	1.72	0.06	25	27.80	31.40	-
pH	7.31	0.52	0.07	6.78	7.11	8.57	6.5–8.5
EC ($\mu\text{S}/\text{cm}$)	4035.71	858.02	0.21	3100	3725	6200	1000
Al^{3+} (mg/l)	0.31	0.08	0.30	0.22	0.29	0.52	0.2
Fe^{2+} (mg/l)	0.21	0.09	0.43	0.11	0.19	0.40	0.3
Mn^{2+} (mg/l)	0.44	0.11	0.25	0.30	0.40	0.71	0.5
B^{3+} (mg/l)	0.63	0.43	0.68	0.19	0.45	1.41	0.5
Ba^{2+} (mg/l)	0.015	0.01	0.63	0.004	0.01	0.03	0.7
Bi^{3+} (mg/l)	0.14	0.11	0.75	0.00	0.15	0.28	-
Cd^{2+} (mg/l)	<Lod	<Lod	<Lod	<Lod	<Lod	<Lod	0.003
Co^{2+} (mg/l)	<Lod	<Lod	<Lod	<Lod	<Lod	<Lod	-
Cr^{3+} (mg/l)	0.01	0.01	1.23	0.00	0.00	0.02	0.05

Cu^{2+} (mg/l)	0.004	0.01	1.61	0.00	0.00	0.02	1
Li^+ (mg/l)	<Lod	<Lod	<Lod	<Lod	<Lod	<Lod	-
Ni^{2+} (mg/l)	0.01	0.01	0.83	0.00	0.01	0.02	0.02
Pb^{2+} (mg/l)	0.01	0.01	2.71	0.00	0.00	0.05	0.01
Sr^{2+} (mg/l)	7.06	2.44	0.35	1.77	7.76	9.94	-
Zn^{2+} (mg/l)	0.01	0.01	1.61	0.00	0.00	0.04	3

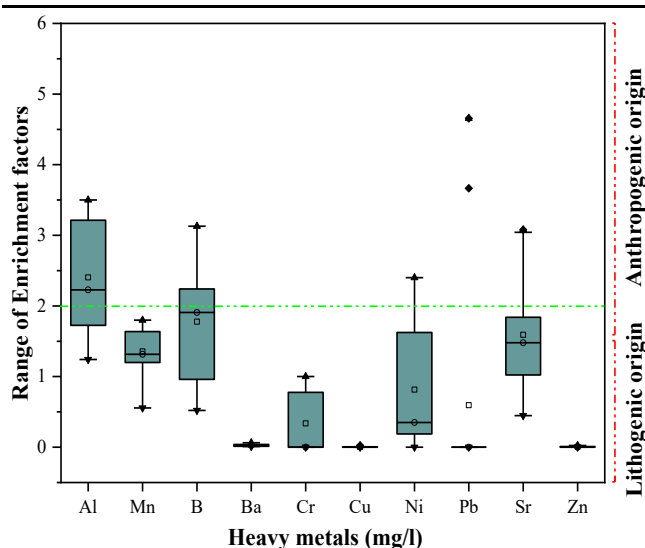


Figure 10. Box plot of enrichment factors of each analyzed metal in the phreatic groundwater aquifer.

Based on the conducted investigation into metal enrichment trends in the phreatic aquifer, presented in figure 10, the observed order of metal concentrations was $\text{Al}^{3+} > \text{B}^{3+} > \text{Sr}^{2+} > \text{Mn}^{2+} > \text{Ni}^{2+} > \text{Pb}^{2+} > \text{Cr}^{3+} > \text{Ba}^{2+} > \text{Cu}^{2+} > \text{Zn}^{2+}$. Minor enrichment of barium (Ba^{2+}), chromium (Cr^{3+}), copper (Cu^{2+}), and zinc (Zn^{2+}) were consistent across all samples, indicating a likely geogenic origin. Aluminium showed minor enrichment in nine samples and moderate enrichment in five, suggesting that anthropogenic activities contributed to elevated Al^{2+} levels in many parts of the study area. Manganese exhibited minor enrichment overall, but six samples showed higher levels, pointing to human-related sources such as wastewater discharge and farming. Boron was slightly elevated in eight samples and moderately enriched in others, with several cases indicating anthropogenic input. Nickel mostly displayed minor enrichment, with a few instances of moderate anthropogenic influence. Both lead and strontium showed variability, with some samples indicating moderate anthropogenic contributions. Overall, six samples were identified as influenced by human activities.

In terms of ecological risk, the analyzed metals generally posed a low threat, except in two samples. Sample S13 showed considerable ecological risk, while sample S14

indicated a high risk, specifically due to lead. However, overall ecological risk across all metals and samples was assessed as low.

Regarding potential human health risks from exposure to the detected metals in the phreatic aquifer, figure 11 presents the hazard quotient (HQ) and hazard index (HI) results for both adults and children. For adults, HI values exceeded 1 in eight samples, indicating a significant long-term health risk primarily from high concentrations of Al^{3+} , along with Fe^{2+} , Mn^{2+} , B^{3+} , Ni^{2+} , and Sr^{2+} in certain samples. For children, HQ values for Mn^{2+} surpassed 1 in nine samples, and Sr^{2+} levels were notably high in two samples, suggesting a potential non-carcinogenic health threat.

The levels of Fe^{2+} , Mn^{2+} , B^{3+} , Ni^{2+} , Pb^{2+} , Sr^{2+} , and Al^{3+} detected in the groundwater indicate a range of health impacts. Excess iron can contribute to chronic conditions such as cardiovascular disease and diabetes. Manganese exposure is linked to neurotoxic effects, while boron can cause gastrointestinal problems and kidney damage. Nickel exposure is associated with lung fibrosis, kidney disease, and respiratory cancers. Lead poses serious risks to children's development and cognitive function, and in adults, it can elevate blood pressure and impair fertility. High strontium levels can negatively affect bone density, and aluminum is linked to neurological conditions, including Alzheimer's disease.

Overall, the HI scores for children were alarmingly high, covering all wells in the study area. This suggests a significant, long-term health risk, particularly non-carcinogenic in nature. The high HI scores not only highlight immediate concerns but also point to potential future risks. Prolonged exposure to these contaminants could result in chronic health problems, especially affecting children's growth and development. Since children are inherently more vulnerable to environmental pollutants due to their developing bodies and higher intake relative to body weight, the elevated HI scores for this group are particularly concerning. Therefore, it is crucial for relevant authorities such as environmental and public health agencies to develop and implement strategies aimed at reducing these risks and protecting the health of children in the affected area. Community engagement and public awareness about potential hazards and protective measures are essential steps to safeguard the well-being of local residents, particularly children.

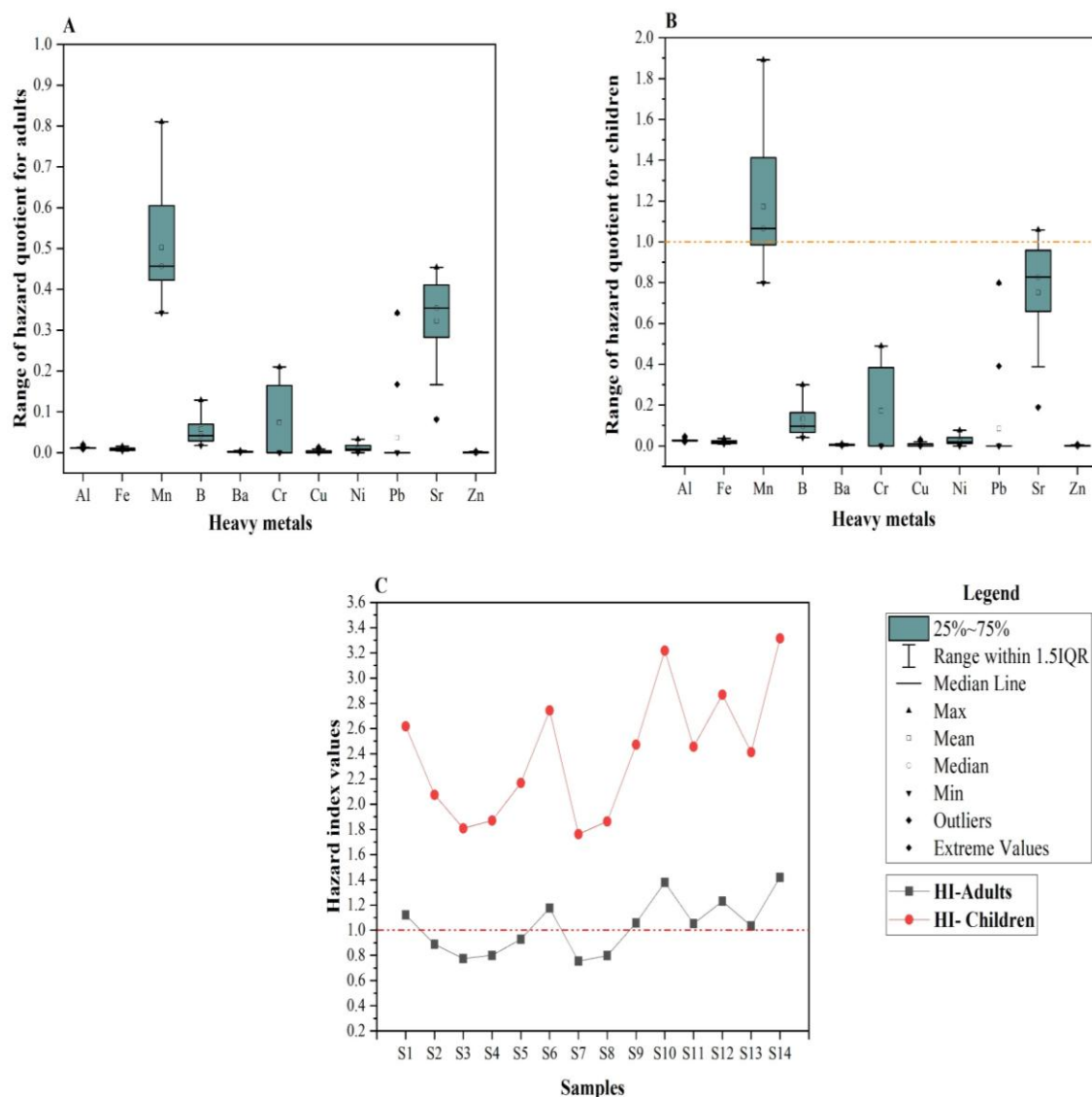


Figure 11. The results of health risk assessment: (A). Box plot of Hazard Quotients (HQ_i) of eleven heavy metals through ingestion exposure of adults, (B). Box plot of Hazard Quotients (HQ_i) of eleven heavy metals through ingestion exposure of children, (C). Hazard Index (HI) values eleven heavy metals for both cases.

3.5. Drinking and Irrigation Suitability of Deep Aquifers (Complex Terminal and Continental Intercalary)

The conducted hydrochemical assessment of the complex terminal groundwater, as detailed in table 4, revealed that both cation and anion concentrations in various wells of the complex terminal aquifer generally exceed the World Health Organization's (WHO) drinking water standards. This high mineralization likely contributes to poor water quality. However, nitrate levels were mostly within acceptable limits, which is likely due to natural purification processes, including denitrification occurring near discharge zones and nitrate fixation facilitated by clay layers.

The Water Quality Index (WQI) results show that a significant portion of the sampled wells (55.10%) exhibited poor to very poor water quality. Only a small number of samples reflected good water quality, and just two were deemed completely unfit for drinking purposes. Regarding irrigation suitability, various applied water quality indices indicated that the groundwater samples from this aquifer range from moderately suitable to unsuitable for irrigation use.

Table 4. List of the physicochemical parameters analyzed in the complex terminal groundwater aquifer samples.

Variables	Mean	S.D	Minimum	Maximum	WHO
T (°C)	23.12	5.05	11.80	35.10	-
pH	7.49	0.15	7.23	7.84	6.5–8.5
EC ($\mu\text{S}/\text{cm}$)	4131.48	382.97	2760.00	4730.00	1000
Salinity (%)	2.64	0.26	1.80	3.00	-
TDS (mg/l)	2650.92	246.36	1766.00	3027.00	500
Turbidity (Ntu)	0.43	0.52	0.07	3.23	5
Dry Residue (mg/l)	3075.10	478.89	1900	3980	-
Total Alkalinity (mg/l)	138.87	27.17	83.00	189.00	-
Ca ²⁺ (mg/l)	274.96	36.85	200.40	360.72	75
Mg ²⁺ (mg/l)	122.74	30.19	63.12	184.72	50
Na ⁺ (mg/l)	379.41	57.93	137.00	600.00	200
K ⁺ (mg/l)	33.35	7.01	15.00	50.00	12
Cl ⁻ (mg/l)	888.59	144.18	457.34	1240.86	250
SO ₄ ²⁻ (mg/l)	729.09	152.21	193.06	997.41	250
HCO ₃ ⁻ (mg/l)	167.98	33.50	101.26	213.58	120
NO ₃ ⁻ (mg/l)	22.39	6.62	1.91	34.90	50

The analysis of the continental intercalary groundwater aquifer revealed a range of conditions. Both electrical conductivity (EC) and total dissolved solids (TDS) were elevated, indicating significant mineralization and surpassing the World Health Organization's (WHO) recommended limits for safe drinking water. All major cations (Ca²⁺, Mg²⁺, Na⁺, K⁺) and anions (Cl⁻, SO₄²⁻, HCO₃⁻), with the exception of nitrate (NO₃⁻), were found at concentrations above WHO standards, rendering the water unsuitable for direct human consumption. Phosphate (PO₄³⁻) and ammonium (NH₄⁺) levels were also high, and iron (Fe²⁺) exceeded safe limits in one of the samples, as detailed in table 5. Despite these issues, the Water Quality Index (WQI) classified all samples from this aquifer as 'good' for drinking purposes. However, when evaluated for irrigation use, the same samples were rated from moderate to poor based on several indices, including EC, sodium percentage (%Na), total hardness (TH), permeability index (PI), potential salinity (Ps), and Kelly's ratio (Ka). This apparent contradiction—where the water is deemed suitable for drinking but less favorable for irrigation—can be explained by the

different implications of water quality for human health versus soil and plant health. While the water may meet short-term drinking water criteria, its high salinity, sodium content, and other dissolved ions pose long-term risks to soil structure, permeability, and overall plant health when used for irrigation. This highlights how the varied effects on humans compared to crops and soil were central to the categorization of the continental intercalary groundwater samples for both drinking and irrigation purposes.

Table 5. Statistical summary of the continental intercalary groundwater samples.

Parameters	Mean	S.D	Minimum	Median	Maximum	WHO 2011
T (°C)	32.8	5.51	26.45	35.7	36.25	-
PH	7.19	0.09	7.10	7.21	7.27	6.5–8.5
EC ($\mu\text{S}/\text{cm}$)	2983.33	296.41	2795	2830	3325	1000
TDS (mg/l)	1909.33	189.69	1789	1811	2128	500
Turbidity (NTU)	2.81	2.22	0.88	2.3	5.24	5
Ca ²⁺ (mg/l)	232.46	30.06	202.40	232.46	262.52	75
Mg ²⁺ (mg/l)	100.87	21.29	80.21	99.65	122.74	50
Na ⁺ (mg/l)	274.33	92.38	220	222	381	200
K ⁺ (mg/l)	34.67	8.74	25	37	42	12
NH ₄ ⁺ (mg/l)	0.31	0.08	0.22	0.35	0.36	-
Cl ⁻ (mg/l)	652.34	30.91	631.06	638.15	687.79	250
SO ₄ ²⁻ (mg/l)	604.49	108.90	541.21	542.02	730.24	250
HCO ₃ ⁻ (mg/l)	153.72	14.99	142.74	147.62	170.8	120
NO ₃ ⁻ (mg/l)	4.81	5.20	1.36	2.28	10.79	50
PO ₄ ³⁻ (mg/l)	1.24	0.21	1.01	1.32	1.40	1
Fe ²⁺ (mg/l)	0.54	0.61	0.17	0.20	1.25	0.3

4. Conclusion

This study provides a comprehensive evaluation of the hydrochemical, bacteriological, and heavy metal contamination in the groundwater systems of the Oued Souf Valley, a region critically reliant on these water resources for agriculture, domestic use, and industrial activities. The findings reveal alarming levels of contamination in the shallow phreatic aquifer, including excessive concentrations of salts, heavy metals (notably aluminum, lead, and manganese), and bacteriological pollutants, posing significant risks to public health—particularly for vulnerable populations such as children. Spatial analyses clearly indicate that both urban and agricultural activities are primary contributors to these pollution patterns. In contrast, while the complex terminal and continental intercalary aquifers exhibit comparatively lower levels of contamination, their water quality still frequently surpasses safe thresholds for drinking and irrigation, highlighting the widespread impact of anthropogenic pressures.

The importance of these results lies in their clear demonstration of the interconnectedness between human activity, environmental degradation, and public health risks. They underscore the urgent need for integrated water management strategies that include enhanced monitoring of groundwater quality, stricter regulations on waste disposal and agricultural practices, and the rehabilitation of essential water infrastructure. Moreover, this research emphasizes the critical need for public health interventions and awareness programs to mitigate the long-term health risks, particularly for children, who are disproportionately affected by contaminated water supplies. Ultimately, the insights gained from this study provide a vital foundation for designing sustainable water management policies aimed at preserving the fragile ecosystem of the Oued Souf Valley, ensuring water security, and advancing public health and socioeconomic stability in this arid and vulnerable region.

Notes on Contributors

Dr. Ayoub Barkat is a dedicated Water Resources Analyst and Sustainable Management Expert with over six years of experience addressing complex environmental challenges. Currently, he serves as an Assistant Professor at Mohamed Khider University of Biskra and as a Researcher at the Africa Research Institute. He recently earned his PhD in Natural Sciences/Earth Sciences with the

highest honours from the University of Debrecen, where his research focused on the integrated assessment of the Northwest Sahara Aquifer System. His academic foundation includes a Master's and Bachelor's degree in Hydraulic Engineering, both of which were completed with first-rank honours. His technical expertise encompasses Water Policy, Water Management, Hydrogeochemistry, and Hydrologic Modeling, supported by advanced proficiency in MODFLOW, HEC-RAS, GIS, and Python. With 14 scientific publications to my credit, he remains committed to advancing the UN Sustainable Development Goals through data-driven solutions for clean water, sanitation, and climate resilience.

Prof. Foued Bouaicha is a distinguished hydrogeologist and the Director of the Geology and Environment Laboratory. He earned his Engineering and master's degrees from the University of Frères Mentouri Constantine 1, Algeria. Prof. Bouaicha brings significant industrial expertise to his academic work, having spent over five years in the petroleum sector with global leaders GeoloG International and Schlumberger. After serving as a researcher at the Center for Scientific and Technical Research on the Arid Region (CR5TRA), he joined the University of Frères Mentouri Constantine in 2013. He currently lectures on geology, hydrogeology, and GIS applications. His research focuses on geothermal energy, the energy transition, and hydrogeochemistry, specifically utilizing advanced statistical methods and GIS integration to solve complex geological and environmental challenges.

Dr. György Szabó is a Full Professor and Head of the Department of Landscape Protection and Environmental Geography at the University of Debrecen. He obtained his PhD in 1999 and completed his habilitation in 2010. His academic career includes over three decades of research and teaching in the field of Earth Sciences. Currently, his research focuses on environmental pollution, with a specific emphasis on groundwater contamination and the monitoring of soil-



water systems. He also investigates the environmental aspects of climate change, contributing to the development of regional climate strategies. Dr. Szabó has published over 200 scientific papers and leads the Groundwater and Soil Monitoring Research Group. He has held various positions in the Hungarian Academy of Sciences and the Hungarian Geographical Society and is also actively involved in teaching geography in English and supervising Hungarian and foreign PhD students.

Conflict of Interest

The author hereby declare that no competing financial interest exists for this manuscript.

References

- Abdallah, A., Raoudha, D., & Zohra, K. (2021). The impact of using natural fertilizers on the productivity and sustainability of potato crops in the region of Oued Souf in Algeria: Econometric study for the period 2002–2018. *Roa Iktissadia Review*, 11(1), 177–191.
- Abdelmalek Drouiche, A., Chaab, S., & Khechana, S. (2015). Impact du déversement direct des eaux usées et de drainage dans la nappe libre de l'Oued Souf et son influence sur la qualité des eaux souterraines. *Synthèse: Revue des Sciences et de la Technologie*, 27(1), 50-62. <https://www.ajol.info/index.php/srst/article/view/117344>
- Abdous, B., Besbes, M., Fezzani, C., Latrech, D., & Mamou, A. (2005). *Système aquifère du Sahara septentrional: Gestion commune d'un bassin transfrontière* (Vol. 12). Ouargla.
- Agence Nationale d'Intermédiation et de Régulation Foncière (ANIREF). (2020). *Monographie wilaya d'El Oued*. El Oued, Algérie.
- Agence Nationale des Ressources Hydrométriques (ANRH). (1986). *Ressources en eau et en sols de l'Algérie. Rapport Technique*. Alger, Algeria.
- Amiri, N., & Nakhaei, M. (2024). Evaluating the potential of treated municipal wastewater reuse in irrigation and groundwater recharge; 5-year contaminant transport modeling. *International Journal of Environmental Science and Technology*, 21(1), 577-602. <https://doi.org/10.1007/s13762-023-05293-x>
- Ballais, J., Côte, M., & Bensaad, A. (2002). *L'influence de la géomorphologie sur le comportement de la nappe phréatique du Souf (PhD Thesis)*
- Barkat, A., Bouaicha, F., Bouteraa, O., Mester, T., Ata, B., Balla, D., Rahal, Z., & Szabó, G. (2021). Assessment of Complex Terminal Groundwater Aquifer for Different Use of Oued Souf Valley (Algeria) Using Multivariate Statistical Methods, Geostatistical Modeling, and Water Quality Index. *Water*, 13(11). <https://doi.org/10.3390/w13111609>
- Barkat, A., Bouaicha, F., Mester, T., Debabeche, M., & Szabó, G. (2022). Assessment of Spatial Distribution and Temporal Variations of the Phreatic Groundwater Level Using Geostatistical Modelling: The Case of Oued Souf Valley—Southern East of Algeria. *Water*, 14, 1415. <https://doi.org/10.3390/w14091415>

- Barkat, A., Bouaicha, F., Rahal, Z., Mester, T., & Szabó, G. (2023). EVALUATION OF CLIMATIC CONDITIONS FROM 1978 TO 2020 OF OUED SOUF VALLEY (SOUTHERN EAST OF ALGERIA). *Landscape & Environment*. <https://doi.org/10.21120/LE/17/1/1>
- Barkat, A., Bouaicha, F., Ziad, S., Mester, T., Sajtos, Z., Balla, D., Makhloufi, I., & Szabó, G. (2023). The Integrated Use of Heavy-Metal Pollution Indices and the Assessment of Metallic Health Risks in the Phreatic Groundwater Aquifer—The Case of the Oued Souf Valley in Algeria. *Hydrology*, 10(10), 201.
- Bataillon, C. (1955). *Le Souf, étude de géographie humaine*. Université d'Alger.
- Bechkit, M., Bouaicha, F., Khedidja, A., & Barkat, A. (2024). Hydrogeological and geophysical characterization using electrical methods, case of Wadi El Nil-Jijel plain-northern east of Algeria. *Euro-Mediterranean Journal for Environmental Integration*, 10. <https://doi.org/10.1007/s41207-024-00620-1>
- Bel, F., & Cuche, D. (1970). *Etude des nappes du complexe terminal du Bas Sahara: Données géologiques et hydrogéologiques pour la construction du modèle mathématique*. Ouargla.
- Bel, F., & Demargne, F. F. (1966). *Etude géologique du Continental Terminal (Rapport technique)*. Igiers, Algeria.
- Ben Hamida, S. (2005). *Inventaire des forages d'eau de la wilaya d'El Oued*. Ouargla, Algérie.
- Bensaâd, A. (2011). *L'eau et ses enjeux au Sahara*. KARTHALA Editions.
- Bouzegag, C., Bouzid-Lagha, S., & Djelal, N. (2020). Forecasting the upwelling phenomenon using an artificial neural network. *Polish Journal of Soil Science*, 53(2), 245–259. <https://doi.org/https://doi.org/10.17951/pjss/2020.53.2.245>
- Briere, P. R. (2000). Playa, playa lake, sabkha: Proposed definitions for old terms. *Journal of Arid Environments*, 45(1), 1-7. <https://doi.org/https://doi.org/10.1006/jare.2000.0633>
- Brown, R. M., McClelland, N. I., Deininger, R. A., & O'Connor, M. F. (1973). A WATER QUALITY INDEX – CRASHING THE PSYCHOLOGICAL BARRIER. In S. H. Jenkins (Ed.), *Advances in Water Pollution Research* (pp. 787-797). Pergamon. <https://doi.org/https://doi.org/10.1016/B978-0-08-017005-3.50067-0>
- Busson, G. (1972). *Principes, méthodes et résultats d'une étude stratigraphique du Mésozoïque saharien* (Vol. 26). Paris.
- Castany, G. (1982). Sedimentary basin of the Northern Sahara (Algeria, Tunisia). Intercalary Continental and Terminal Complex Aquifers (Confined groundwater, multilevel system, hydrodynamics, management of water resources, and environment). Hydrogeology and Geological Engineering. *Bulletin du Bureau de Recherches Géologiques et Minières*, 3(2), 127-147.
- Centro de Desenvolvimento da Tecnologia Nuclear (CDTN). (1992). Etude hydrochimique et isotopique des eaux souterraines de la cuvette de Ouargla.
- Cornet, A. (1964). Introduction à l'hydrogéologie saharienne. *Géographie physique et géologie dynamique*, 6, 5-72.



- Côte, M. (1998). Dynamique urbaine au Sahara. *Revue algérienne d'anthropologie et des sciences sociales*, 5, 85-92.
<https://doi.org/https://doi.org/10.4000/insaniyat.11818>
- Côte, M. (2006). *Si le Souf m'était conté: Comment se fait et se défait un paysage (S. Hannachi, Ed.)*. Média-Plus.
- Debabèche, M., Barkat, A., & Boukebous, M. A. (2022). Reuse of wastewater, treated by phytoremediation, for the irrigation of the Botanical Garden "le jardin Landon" (Biskra, Algeria). Sustainable solution for the preservation of a material heritage site. *Agua y Territorio / Water and Landscape*(20), Article e5270–e5270.
- Dervierux, F. (1957). La nappe phréatique du Souf (Région d'El Oued, Algérie) – Étude du renouvellement de la nappe. *Terres et eaux OCRS 3ème trimestre*, 56, 12-39.
- Djennane, A. (1990). Constat de situation dans des zones sud des oasis algériennes. In V. Dollé & G. Toutain (Eds.), *es systèmes agricoles oasiens* (Vol. 11, pp. 29–40). CIHEAM.
- Doneen, L. (1964). *Notes on water quality in agriculture (Water Science and Engineering Paper 4001)*. University of California.
- DRE. (2015). *Inventaire des puits traditionnels de la wilaya d'El-Oued*. El Oued, Algérie.
- Dubief, J. (1965). Le climat du Sahara. *Annales de Géographie*, 74(403), 360–361.
<https://doi.org/10.3406/geo.1935.10846>
- Dutil, P. (1971). *Contribution à l'étude des sols et paléosols du Sahara*. Strasbourg.
- El Bilali, A., Taleb, A., & Brouziyne, Y. (2021). Groundwater quality forecasting using machine learning algorithms for irrigation purposes. *Agricultural Water Management*, 245, 106625.
<https://doi.org/https://doi.org/10.1016/j.agwat.2020.106625>
- Esri. (2012). An overview of the interpolation toolset.
- Fei, J.-C., Min, X.-B., Wang, Z.-X., Pang, Z.-h., Liang, Y.-J., & Ke, Y. (2017). Health and ecological risk assessment of heavy metals pollution in an antimony mining region: a case study from South China. *Environmental Science and Pollution Research*, 24(35), 27573-27586. <https://doi.org/10.1007/s11356-017-0310-x>
- Giraud, R. (1978). Le Continental Terminal en Algérie. *Annales de la Faculté des Sciences: Dakar*, 31.
- Guendouz, A., & Michelot, J.-L. (2006). Chlorine-36 dating of deep groundwater from northern Sahara. *Journal of Hydrology*, 328(3), 572-580.
<https://doi.org/https://doi.org/10.1016/j.jhydrol.2006.01.002>
- Guendouz, A., Moulla, A. S., Edmunds, W. M., Zouari, K., Shand, P., & Mamou, A. (2003). Hydrogeochemical and isotopic evolution of water in the Complexe Terminal aquifer in the Algerian Sahara. *Hydrogeology Journal*, 11(4), 483-495.
<https://doi.org/10.1007/s10040-003-0263-7>
- Hamma, B., Alodah, A., Bouaicha, F., Bekkouche, M., Barkat, A., & Hussein, E. (2024). Hydrochemical assessment of groundwater using multivariate statistical methods and water quality indices (WQIs). *Applied Water Science*, 14, 33.
<https://doi.org/10.1007/s13201-023-02084-0>

- Jha, M. K., Chowdhury, A., Chowdary, V. M., & Peiffer, S. (2007). Groundwater management and development by integrated remote sensing and geographic information systems: prospects and constraints. *Water Resources Management*, 21(2), 427-467. <https://doi.org/10.1007/s11269-006-9024-4>
- Kadri, S. R., & Chaouche, S. (2018). La remontée des eaux dans la région du Souf : Une menace sur un écosystème oasien. *Les Cahiers d'EMAM*, 30. <https://doi.org/https://doi.org/10.4000/emam.1554>
- Kelly, W. (1951). *Alkali soils—Their formation, properties and reclamation*. Reinhold Publishing.
- Khechana, S., Miloudi, A., Ghomri, A., Guedda, E. H., & Derradji, E.-F. (2016). Failure of a Vertical Drainage System Installed to Fight the Rise of Groundwater in El-Oued Valley (SE Algeria): Causes and Proposed Solutions. *Journal of Failure Analysis and Prevention*, 16(2), 216-224. <https://doi.org/10.1007/s11668-016-0071-8>
- Kherici, N., Zounini, D., & Kherici, H. (1996). Origine de la remontée des eaux dans la nappe superficielle de Souf (Nord-Est du Sahara septentrional algérien). *Hidrogeología*, 12, 49-59.
- Khezzani, B., & Bouchemal, S. (2018). Variations in groundwater levels and quality due to agricultural over-exploitation in an arid environment: the phreatic aquifer of the Souf oasis (Algerian Sahara). *Environmental Earth Sciences*, 77(4), 142. <https://doi.org/10.1007/s12665-018-7329-2>
- Khouli, M., Haouchine, A., & Banton, O. (2021). Deterioration of the quality of ground water in agricultural region. Case Mitidja (Algeria). *Journal of Fundamental and Applied Sciences*, 13, 172-184. <https://doi.org/10.4314/jfas.v13i1.10>
- Luna, M. C. M. d. M., Parteli, E. J. R., & Herrmann, H. J. (2012). Model for a dune field with an exposed water table. *Geomorphology*, 159-160, 169-177. <https://doi.org/https://doi.org/10.1016/j.geomorph.2012.03.021>
- Medjber Teguig, T. (2014). Étude de la composition floristique de la région du Souf (Sahara septentrional algérien). *Algerian Journal of Arid Environments*, 258, 1–14.
- Miloudi, A., & Boualem, R. (2018). THE GHOUT OF SOUF: AN ORIGINAL HYDROAGRICULTURAL SYSTEM. *GeoScience Engineering*, 64(3). <https://geoscience.cz/ojs/index.php/GSE/article/view/197>
- Momodu, M. A., & Anyakora, C. (2010). Heavy Metal Contamination of Ground Water: The Surulere Case Study. *Res J Environtal Earth Scis*, 2, 39-43.
- Moulla, A., & Guendouz, A. (2003). Etude des Ressources en Eau Souterraines en Zones Arides (Sahara Algérien) par les Méthodes Isotopiques. *Hydrology of Mediterranean Semiarid Regions*, 35-42.
- Murray, F. J. (1995). A human health risk assessment of boron (boric acid and borax) in drinking water. *Regul Toxicol Pharmacol*, 22(3), 221-230. <https://doi.org/10.1006/rtph.1995.0004>
- Najah, A. (1970). *Le Souf des oasis*. La Maison des Livres.



- Nesson, C. (1975). L'évolution des ressources hydrauliques dans les oasis du Bas-Sahara algérien. *GéoProdig. Portail d'information géographique*, 17, 7-99.
- Olivares-Rieumont, S., de la Rosa, D., Lima, L., Graham, D. W., D' Alessandro, K., Borroto, J., Martínez, F., & Sánchez, J. (2005). Assessment of heavy metal levels in Almendares River sediments—Havana City, Cuba. *Water Research*, 39(16), 3945-3953. <https://doi.org/https://doi.org/10.1016/j.watres.2005.07.011>
- Ouarekh, M., Bouselsal, B., Belksier, M. S., & Benaabidate, L. (2021). Water quality assessment and hydrogeochemical characterization of the Complex Terminal aquifer in Souf valley, Algeria. *Arabian Journal of Geosciences*, 14(21), 2239. <https://doi.org/10.1007/s12517-021-08498-x>
- Panda, U. C., Sundaray, S. K., Rath, P., Nayak, B. B., & Bhatta, D. (2006). Application of factor and cluster analysis for characterization of river and estuarine water systems – A case study: Mahanadi River (India). *Journal of Hydrology*, 331(3), 434-445. <https://doi.org/https://doi.org/10.1016/j.jhydrol.2006.05.029>
- Qiu, H., & Gui, H. (2019). Heavy metals contamination in shallow groundwater of a coal-mining district and a probabilistic assessment of its human health risk. *Human and Ecological Risk Assessment: An International Journal*, 25(3), 548-563. <https://doi.org/10.1080/10807039.2018.1562883>
- Ragunath, H. (1987). *Groundwater (2nd ed.)*. Wiley Eastern.
- Rahal, Z., Khechekhouche, A., Barkat, A., Smolyanichenko, A., Chekima, H., & Ijost, I. (2023). Adsorption of Sodium in an Aqueous Solution in Activated Date Pits | 398. *Indonesian Journal of Science and Technology*, 8, 397-412.
- Rahal, Z., Khechekhouche, A., Chekima, H., Barkat, A., & Smolyanichenko, A. (2023). Phytotoxicity Assessment of Oat Seeds Using Purified Water Treated with Palm Leaves and Date Pits. 10, 201-209. <https://doi.org/10.22059/POLL.2023.362142.1989>
- Rao, N. S., Sunitha, B., Rambabu, R., Rao, P. V. N., Rao, P. S., Spandana, B. D., Sravanthi, M., & Marghade, D. (2018). Quality and degree of pollution of groundwater, using PIC from a rural part of Telangana State, India. *Applied Water Science*, 8(8), 227. <https://doi.org/10.1007/s13201-018-0864-x>
- Ravikumar, P., Somashekar, R. K., & Angami, M. (2011). Hydrochemistry and evaluation of groundwater suitability for irrigation and drinking purposes in the Markandeya River basin, Belgaum District, Karnataka State, India. *Environmental Monitoring and Assessment*, 173(1), 459-487. <https://doi.org/10.1007/s10661-010-1399-2>
- Remini, B., & Kechad, R. (2011). Impact of the water table raising on the degradation of El Oued palm plantation (Algeria) mechanisms and solutions. 48-56.
- Remini, B., & Souaci, B. (2019). Le Souf: Quand le forage et le pivot menacent le ghout! *Larhyss Journal*, 37, 23-38.
- Richards, L. (1947). *Diagnosis and improvement of saline and alkaline soils*. Riverside, California.

- Rodier, J. (1984). *L'analyse de l'eau: Eaux naturelles, eaux résiduaires, eau de mer: Chimie, physico-chimie, bactériologie, biologie (7th ed.)*. Dunod.
- Sayed, Z. (2015). Transforming our world: The 2030 agenda for sustainable development. *Ethics & Critical Thinking Journal*(3).
- Sebaa, A., Berroussi, S., Bouhanna, M., & Benazzouz, M. (2009). Utilisation des méthodes traditionnelles de lutte contre l'ensablement dans le Bas-Sahara algérien: Le tas de remblai. *Journal Algérien des Régions Arides*, 8, 96–107.
- Singh, K. P., Malik, A., Sinha, S., Singh, V. K., & Murthy, R. C. (2005). Estimation of Source of Heavy Metal Contamination in Sediments of Gomti River (India) using Principal Component Analysis. *Water, Air, and Soil Pollution*, 166(1), 321-341. <https://doi.org/10.1007/s11270-005-5268-5>
- Srivastava, S., Singh, J., & Shirsath, P. (2018). Sustainability of groundwater resources at the subnational level in the context of sustainable development goals. *Agricultural Economics Research Review*, 31, 79-88. <https://doi.org/10.5958/0974-0279.2018.00024.1>
- Ta'any, R. A., Tahboub, A. B., & Saffarini, G. A. (2009). Geostatistical analysis of spatiotemporal variability of groundwater level fluctuations in Amman–Zarqa basin, Jordan: a case study. *Environmental Geology*, 57(3), 525-535. <https://doi.org/10.1007/s00254-008-1322-0>
- Tatawat, R. K., & Chandel, C. P. S. (2008). A hydrochemical profile for assessing the groundwater quality of Jaipur City. *Environmental Monitoring and Assessment*, 143(1), 337-343. <https://doi.org/10.1007/s10661-007-9936-3>
- Tsanakas, G., Georgakopoulou-Voyiatzi, C., & Voyiatzis, D. (2017). Cultivating greenhouse cut roses with bending system. *Journal of Applied Horticulture*, 19, 175-179. <https://doi.org/10.37855/jah.2017.v19i03.32>
- United Nations. (2015). *The United Nations World Water Development Report (UNWDR)*. Retrieved June 20, 2025 from <https://www.unwater.org/publications/un-world-water-development-report-2015>
- United States Environmental Protection Agency (USEPA). (1999). *Guidance for performing aggregate exposure and risk assessments*. Office of Pesticide Programs.
- United States Environmental Protection Agency (USEPA). (2006). *Guidelines for carcinogenic risk assessment*. *Risk Assessment Forum*.
- Velis, M., Conti, K. I., & Biermann, F. (2017). Groundwater and human development: synergies and trade-offs within the context of the sustainable development goals. *Sustainability Science*, 12(6), 1007-1017. <https://doi.org/10.1007/s11625-017-0490-9>
- Webster, R., & Oliver, M. (2007). *Geostatistics for Environmental Scientists: Second Edition*. *Geostatistics for Environmental Scientists: Second Edition*. <https://doi.org/10.1002/9780470517277>



- Zamani, M. G., Moridi, A., & Yazdi, J. (2022). Groundwater management in arid and semi-arid regions. *Arabian Journal of Geosciences*, 15(4), 362. <https://doi.org/10.1007/s12517-022-09546-w>
- Zhou, Y., Li, P., Chen, M., Dong, Z., & Lu, C. (2021). Groundwater quality for potable and irrigation uses and associated health risk in southern part of Gu'an County, North China Plain. *Environmental Geochemistry and Health*, 43(2), 813-835. <https://doi.org/10.1007/s10653-020-00553-y>

Comparative Analysis of National Parks in the Sahel Region, Wildlife Protection in the Sahel Countries¹

Tímea Hillender²

Abstract:

The Sahel region is characterized by semi-arid conditions and fragile ecosystems. The area faces extreme climate variability, recurrent droughts, and accelerating soil erosion. Communities are also exposed to political instability, armed conflicts, and economic crises. This combination creates a highly vulnerable environment where environmental, social, and security challenges reinforce one another, making the Sahel one of the most fragile regions in the world. In this context, national parks play a role that extends far beyond traditional conservation. They are not only biodiversity reserves but also potential instruments for stability, sustainable livelihoods, and community engagement. By protecting ecosystems, supporting local populations, and offering opportunities for tourism and income generation, they can contribute to resilience in a region under constant pressure. This analysis examines the national parks of seven Sahel countries—Mauritania, Mali, Burkina Faso, Chad, Benin, Niger, and Nigeria—in a comparative way. The focus is placed on institutional capacity, management practices, security issues, and the degree of community participation. Special attention is also given to the role of tourism as both an economic driver and a tool for social cohesion. By comparing the countries, common patterns as well as major differences emerge. These insights help explain why similar ecological corridors may lead to very different developmental pathways, depending on governance, resources, and community involvement.

Keywords:

Sahel region; national parks; wildlife conservation; biodiversity protection; comparative analysis.

¹ DOI: 10.12700/jceas.2025.5.4.445

² Researcher, Founder and President of Afrika Sztorik Afrika Vadvilágáért Egyesület; ORCID: 0009-0003-3167-3996; timea@afrikasztorik.hu.



1. Introduction

The Sahel region is a transitional zone extending between the Sahara Desert and sub-Saharan Africa, which, by virtue of its geographical location, has always been considered a sensitive area. The ecological systems here are particularly vulnerable, as the semi-arid climate, extreme weather fluctuations, frequent droughts, and soil erosion all contribute to environmental instability. Moreover, the societies living in the region have long been exposed to political uncertainties, armed conflicts, and economic crises. This complex situation results in environmental, social, and security challenges mutually reinforcing each other, making the Sahel one of the world's most vulnerable regions.

Due to this distinctive interconnectedness, the role of national parks in the region extends far beyond traditional nature conservation. Whereas in other geographical contexts the primary task of parks is to preserve biodiversity and landscape values, in the Sahel these institutions are often complemented by socio-political and security functions. The parks provide sanctuary for species populations of outstanding global importance (such as elephants, big cats, and endangered antelope species), while at the same time they can strengthen the resilience of local communities by offering alternative livelihoods, generating development projects, and partially contributing to the maintenance of regional stability.

The aim of this analysis is to examine the national parks of seven Sahel countries (Mauritania, Mali, Burkina Faso, Chad, Benin, Niger, and Nigeria) in a comparative manner. The focus is on operational viability, institutional and management solutions, security factors, as well as the room for maneuver in community participation and tourism. By comparing countries relative to each other, we reveal common patterns and essential differences. Through this, it becomes comprehensible how the same ecological corridors can follow completely different development trajectories. One example of this is the W-Arly-Pendjari complex spanning three countries: successful nature conservation and tourism development commenced in Benin, whilst in Burkina Faso and Niger the parks collapsed as a consequence of armed conflicts (UNESCO World Heritage Centre, n.d.). As a brief counterpoint, the countries of the East African Community (EAC) also appear, where a more stable institutional background and economic embeddedness linked to tourism offer a strong contrast to Sahelian experiences.

The methodology of the study builds upon international and regional reports (such as the International Union for Conservation of Nature, hereinafter: IUCN; United Nations Environment Programme, hereinafter: UNEP, Crisis Group), governmental background materials, and independent field reports. These are supplemented by the most recent data from the World Database on Protected Areas (hereinafter: WDPA), the United Nations World Tourism Organization (hereinafter: UNWTO), and the Armed Conflict Location & Event Data Project (hereinafter: ACLED), which enable numerical comparison of the extent of protected areas, tourist flows, and the frequency of armed incidents. The qualitative descriptions and quantitative indicators complement

each other to ensure that we not only see the size of designated protected areas but can also interpret their actual functioning, achievements, and risks.

Part of the analysis's terminological framework includes the distinction between de jure and de facto functioning, as well as the use of the concept of "paper parks." De jure status signifies legal designation, whilst de facto functioning refers to actual field presence, management, and community embeddedness. The term "paper park" refers to protected areas existing merely on paper: their protection and community support is not secured, rendering their ecological function largely illusory (UNEP–WCMC & IUCN, n.d.; International Crisis Group, 2023).

The fundamental question raised by the analysis is how nature conservation institutions, security dynamics, and community participation shape the actual operational capacity of parks, and how all of this can contribute to the region's social and economic development.

2. The Nature Conservation System of the Sahel Region

Sharp differences can be observed among the nature conservation systems of the Sahel countries, which are distinctly delineated even within the same ecological corridors. In states with a more stable political and security environment, the parks actually function, whereas in conflict-afflicted countries, protected areas frequently exist only on paper. The differences can therefore be captured primarily not in the size of designated areas but rather in management, state presence, and community embeddedness (UNEP–WCMC & IUCN, n.d.; Ramsar Secretariat, n.d.).

This fault line is most strikingly illustrated by the example of the W–Arly–Pendjari complex (hereinafter: WAP). In Benin, through professional management introduced by African Parks and revenue sharing arrangements, the parks actually function (UNESCO World Heritage Centre, n.d.), whilst in the Burkinabe and Nigerien sections, armed groups have assumed control (International Crisis Group, 2023), which has led to the virtually complete collapse of nature conservation. Stability, however, is not in itself a sufficient condition. In Benin, management innovation and community involvement are transforming nature conservation into a tourism product (CENAGREF, n.d.), whilst in Mauritania, despite the outstanding ecological value of Banc d'Arguin, weak tourism embeddedness perpetuates lasting donor dependency. The juxtaposition of the two cases indicates that operational capacity also requires market and institutional embeddedness (PNBA, n.d.).

The size of designated areas likewise carries a dual meaning. In Niger, the extensive reserves of Termit–Tin-Toumma and Aïr–Ténéré improve de jure indicators, yet de facto functioning remains limited due to weak state presence and security risks (UNEP–WCMC & IUCN, n.d.), constituting a classic paper park situation. In Chad, by contrast, the relatively compact network (Zakouma, Siniaka-Minia, Sena Oura) achieves measurable results through combating poaching and implementing community programmes (African Parks, n.d.). Where the security situation collapses, functioning ceases entirely. In the cases of Mali and Burkina Faso, targeted attacks against ranger infrastructure and



the withdrawal of field presence have resulted in a lasting operational crisis, which is particularly conspicuous in the Burkinabe section of WAP (Africa Center for Strategic Studies, 2025).

Elsewhere, demographic pressure and land use render parks vulnerable. In Nigeria, high population density, low protected area ratio, and security risks collectively weaken the viability of tourism-based models, even when certain units are relatively operational (BirdLife International, n.d.; WCS Nigeria, n.d.).

In summary, it can be established that operational capacity is determined by three mutually reinforcing conditions: security, professional management, and community legitimacy. When all three are simultaneously fulfilled (observable in Benin and Chad), the ecological and economic performance of the nature conservation system measurably improves. If any critical element is missing or compromised (as demonstrated by the cases of Mali, Burkina Faso, and partially Niger and Nigeria), the parks are unable to perform actual nature conservation functions despite legal designation.

3. The Role and Impact of African Parks

The functioning of national parks in the Sahel region depends to a considerable extent on support from international organisations. Among these, African Parks stands out, having become a defining actor in the region's nature conservation over the past two decades (African Parks, n.d.). The organisation's distinctive model is built upon state and civil cooperation. Within the framework of long-term management agreements, it provides not only financial and technical support but also assumes comprehensive professional direction (African Parks, 2023–2025). This approach represents a breakthrough particularly in locations where national institutions are weak or partially dysfunctional, yet political leadership possesses the willingness for international partnership. The African Parks model rests upon three pillars:

Professional management: the organisation directly manages the parks, assuming responsibility for tasks frequently left unperformed by state structures.

Community participation: surrounding villages and residents are involved in decision-making processes, and a portion of park revenues is allocated to development projects.

Long-term financing and the international network signifies that park maintenance does not rest upon a single source but rather on coordinated support from various donors, international NGOs (e.g., African Parks, WWF, WCS), and state partners. This multi-pillar model ensures operational stability even within an unstable political and security environment (WCS Nigeria, n.d.).

Zakouma National Park in Chad represents one of the model's most iconic examples. In the early 2000s, the elephant population underwent a dramatic collapse as a consequence of poaching, declining from approximately 20,000 individuals in the 1980s to fewer than 450 by 2010. The situation was exacerbated by the fact that rangers were powerless due to lack of equipment and support, and communities were often driven to the poachers' side by livelihood pressures. Following African Parks' entry in 2010, however, a comprehensive reform commenced. The organisation strengthened the

ranger force (while their number was below 100 in 2010, more than 300 trained rangers were performing duties by 2023) and introduced modern technologies (employing GPS-based tracking, radio networks, and drones) (African Parks, n.d.). The results are tangible: the documented elephant population grew from approximately 450 individuals to over 650 between 2010 and 2020, and losses stemming from poaching decreased radically. By 2023, the population had stabilized, and a new growth trend had begun, marking one of the most successful conservation turnarounds in the region. Community cooperation also gained new momentum, as schools, health centers, and irrigation projects were launched in the surrounding villages. Ecotourism, which had nearly disappeared in the 2000s, gradually restarted after 2017, and the park once again appeared on the international safari map. Today, Zakouma stands as one of the most successful conservation examples in the Sahel region. (African Parks, n.d.)

A similar process transpired in Benin, where African Parks assumed management of Pendjari and W National Park in 2017 (African Parks, 2023–2025). These two parks are home to West Africa's last significant large predator populations, including lions, cheetahs, and leopards. Growth was perceptible in tourism: from 2018 onwards, Pendjari became one of West Africa's rare ecotourism destinations, though security risks continue to strongly influence visitor numbers. In 2024, African Parks recruited an additional 50 rangers in Benin, including women. This not only strengthens security presence but also represents a milestone from the perspective of gender equality, as women, who previously played a marginal role in conservation, now directly participate in park maintenance. This step symbolically strengthens both community involvement and modernisation. (CENAGREF, n.d.)

The African Parks model, however, is sensitive to the security environment. In the WAP complex, on the Burkinabe and Nigerien sides, the consolidation of armed groups has virtually eliminated state presence. Park infrastructure (watchtowers, bases, communication posts) has been destroyed, and the area is being utilised as a logistical base, supply line, and recruitment site. In the Beninese section, although African Parks management has achieved numerous results, armed infiltration is increasingly intense here as well. Militant groups collect taxes from herders, control illegal logging and gold mining, and utilise the park's territory as a commercial route. The trust deficit experienced in the W region is also documented in detail by the Crisis Group's 2023 interview-based report, specifically highlighting tensions arising from the absence of communication channels between park management and communities in peripheral zones. This dual pressure — the tension between conservation efforts and armed influence — continuously threatens the progress that has been achieved. (International Crisis Group, 2023)

The experiences are unequivocal: professional management alone is insufficient. The condition for sustainability is the continuous strengthening of local communities' trust, as well as transparency in benefit-sharing. According to village interviews recorded by the Crisis Group, many villagers do not perceive that revenues deriving from the park directly improve their living conditions (International Crisis Group, 2023). This mistrust



easily plays into the hands of armed groups, which frequently offer alternative (albeit illegal) livelihoods. African Parks has therefore established peripheral zone committees, where community representatives can directly provide feedback to management. The purpose of these bodies is to maintain dialogue and manage conflicts peacefully, though their long-term impact remains unclear.

The role of African Parks is thus dual in nature. On the one hand, it is capable of bringing stability, expertise, and development; on the other hand, its functioning is heavily dependent upon the security environment. The examples of Zakouma and Pendjari demonstrate that wildlife conservation and ecotourism can be restored even under unfavourable conditions, but lasting results can only be achieved if local communities receive genuine participation in the benefits and armed threats can be mitigated (PNBA, n.d.). The region's experiences also confirm that alongside "hard" factors (rangers, technology, financing), "soft" elements (trust, dialogue, local participation) are indispensable. Interviews conducted with WAP-Benin peripheral communities likewise indicate that the visibility of benefit-sharing and continuous communication are key to operational capacity. Overall, the experiences of African Parks demonstrate that long-term mandate, stable financing, community involvement, and professional management are collectively capable of bridging the gap between legal designation and actual field functioning. Whilst this model does not guarantee success, where political and security conditions are partially given, it has proven to be the most viable nature conservation solution in the region.

4. The Impact of Security Conditions on National Park Operations

The functioning of national parks in the Sahel region is fundamentally determined by the security environment, which has deteriorated dramatically over the past decade and a half. Based on the ACLED database, between 2009 and 2024, the number of armed incidents more than quadrupled. Whilst in 2010 approximately 300 documented armed events occurred in the region, by 2023 this figure exceeded 1,200 (ACLED, n.d.). This quantitative leap is not merely a statistical datum but signifies the impossibility of the parks' daily operations.

The territorial expansion of armed groups is closely intertwined with the geographical characteristics of parks. Large, sparsely populated, and difficult-to-control areas provide ideal hinterlands for militant networks. In Nigeria, for instance, Boko Haram and ISWAP utilise protected areas near Lake Chad as military bases and taxation centres, rendering parks that are crucial for bird migration essentially non-functional (WCS Nigeria, n.d.; BirdLife International, n.d.; International Crisis Group, 2023). In Mali and Burkina Faso, local Al-Qaeda organisations and other jihadist coalitions have assumed control over eastern and northern parks, with targeted attacks on ranger stations and systematic infrastructure destruction (International Crisis Group, 2023; Africa Center for Strategic Studies, 2025). In Niger, armed militias and smuggling networks similarly exploit sparsely controlled border areas (International Crisis Group, 2023).

The consequences are immediate and severe. The cases of Burkina Faso and Mali aptly illustrate the processes. In both countries, the eastern and northern parks, including sections of the WAP complex, have become virtually inaccessible. Rangers often work under life-threatening conditions, visitor traffic has ceased, and nature conservation activity has become practically impossible (International Crisis Group, 2023). In Mali, the central state's weakness and the series of coups led to the collapse of the nature conservation system, whilst in Burkina Faso, direct attacks by armed groups resulted in the withdrawal of rangers and the destruction of infrastructure. In the Burkinabe section of the WAP complex, between 2019 and 2023, more than twenty targeted attacks were executed against ranger stations, in which numerous nature conservation professionals also lost their lives (International Crisis Group, 2023; Africa Center for Strategic Studies, 2025).

The cartographic representation shown in Figure 1 clearly demonstrates that Burkina Faso's violence pattern after September 2022 intensifies towards the east-northeast and northwest, whilst the southeastern border zone (towards Benin and Togo) likewise exhibits continuous exposure. In the northern triangle (Djibo–Arbinda–Dori–Sebba area), the larger circles indicate the concentration of more severe events involving multiple fatalities, which is consistent with the drastic withdrawal of state presence and border permeability. Eastward, towards Fada N'Gourma and the periphery of WAP, a corridor-like distribution becomes apparent. In the west and southwest (Bobo-Dioulasso and the Côte d'Ivoire border zone), smaller but extensive clusters indicate a second front linked to internal mobility routes and more densely populated zones. The environs of Ouagadougou are relatively sparse but not free from events; the "protective effect" of the capital rapidly dissipates with distance. The map thus provides field evidence for the finding that national parks (particularly WAP) have become strategic zones where nature conservation operations directly collide with the presence of armed actors (ACLED, n.d.; Africa Center for Strategic Studies, 2025).

The figure is based on ACLED events, with violent event types (combat actions, explosions, violence against civilians) linked to actors categorised under "militant Islamist group," and displays events from the 33 months following September 2022. Point-based data are represented with bubble symbolism; the size of circles reflects the magnitude of the number of casualties. Concentrations (particularly at the WAP periphery and in the northern triangle) indicate the presence of high-risk zones from a field operations perspective (ACLED, n.d.).



MILITANT ISLAMIST GROUP VIOLENT EVENTS AND FATALITIES AFTER SEPTEMBER 2022

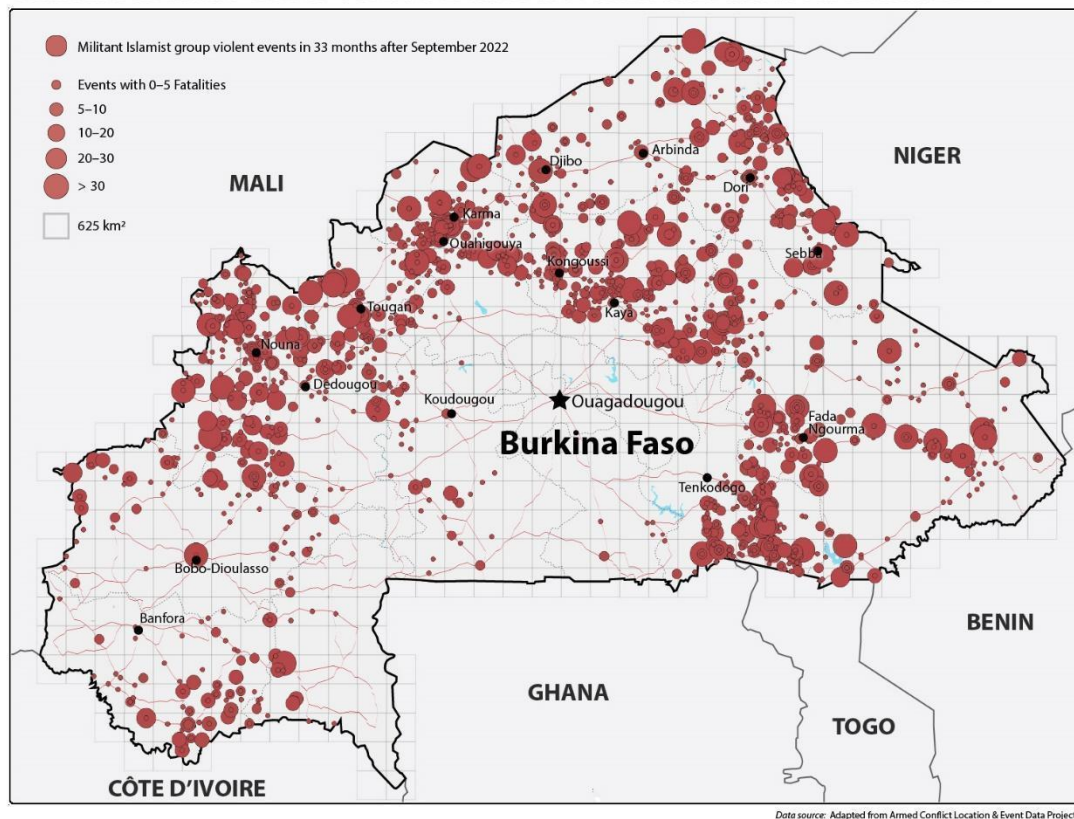


Figure 1: Distribution of violent incidents and fatalities linked to militant Islamist groups in Burkina Faso.

A similar process has transpired in Nigeria. In the northern regions, due to Boko Haram attacks, protected areas near Lake Chad (such as Chad Basin National Park) have become non-functional. These parks ought, on paper, to have protected one of the most important nodes of bird migration, but in practice are now abandoned and uncontrollable. Boko Haram not only utilises parks as military bases but also collects taxes from fishermen and herders, controls transportation routes, and illegal timber and wildlife trade frequently occurs within park territories (WCS Nigeria, n.d.; BirdLife International, n.d.). The deterioration of the security situation is particularly striking in the Park W region. The area situated on the border of Benin, Burkina Faso, and Niger has become one of the most important bases of jihadist groups in recent years. The park's geographical location (borderland with extensive forested and savanna areas) provides an ideal hinterland for armed groups. Park W now functions not merely as a hideout but as a logistical centre and recruitment site. Militant groups collect taxes from herders, control gold mining, participate in cattle trade, and direct illegal logging and poaching, thereby placing dual pressure on nature conservation systems. On the one hand, it renders the work of rangers and professionals impossible; on the other hand, it creates economic pressure situations for local communities, for whom cooperation with armed groups is often the sole survival option (International Crisis Group, 2023). These

tendencies are also corroborated by the Africa Center for Strategic Studies' 2025 maps and indicators analysing Burkina Faso in detail, which document the concentration and southeastern expansion of attacks (Africa Center for Strategic Studies, 2025). The geographical extent of the conflict has undergone conspicuous transformation over the past decade. In the early 2010s, armed attacks concentrated primarily on northern Nigeria. Since then, however, the crisis has gradually extended between 2022 and 2024, several dozen documented incidents occurred directly within or in the immediate vicinity of national parks (ACLED, n.d.; International Crisis Group, 2023). This demonstrates that parks are not merely guardians of natural values but also strategic theatres of armed conflicts. Figure 2 aptly illustrates this process using the example of the WAP complex. The exponential increase in the number of incidents clearly shows how the nature conservation area became a base and supply route for armed groups, particularly in the territories of Burkina Faso and Niger.

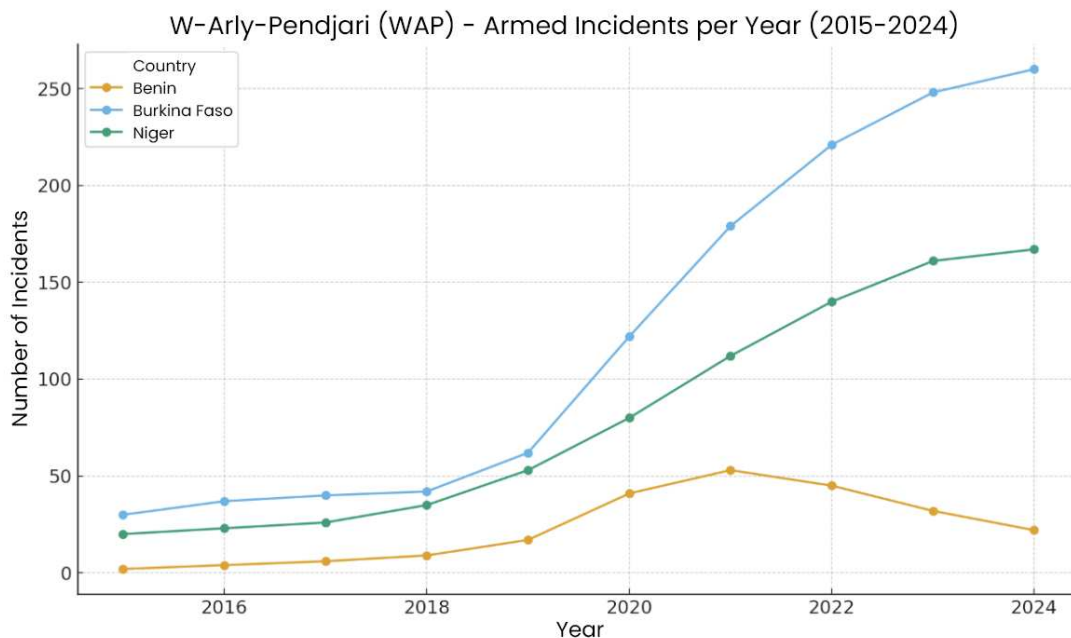


Figure 2: Armed incidents in the W-Arly-Pendjari region (2015–2024).

All of this clearly demonstrates that nature conservation in the Sahel region cannot be separated from security policy. For the sustainable operation of parks, classical nature conservation tools—such as ecological monitoring, species protection programmes, or infrastructure development—are insufficient. A complex approach is required that combines public security measures, support for local communities, and the continuous presence of international partners. Experience indicates that where it has been possible to coordinate these factors (such as in certain parks in Benin and Chad), wildlife conservation and ecotourism have become sustainable even within an unstable environment (International Crisis Group, 2023). Where security risks dominate, however, national parks transform not into nature conservation centres but into strongholds of armed groups (Africa Center for Strategic Studies, 2025).

If we compare the distribution of violent events and fatalities linked to militant Islamist groups in Burkina Faso, as shown in Figure 1, with the 2025 data, it is clear from the two figures that the increasing Islamist presence does not improve the situation in the region. It is no wonder there is no development; we cannot speak of the traditional functioning of national parks, and no positive change in tourist arrivals can be expected.

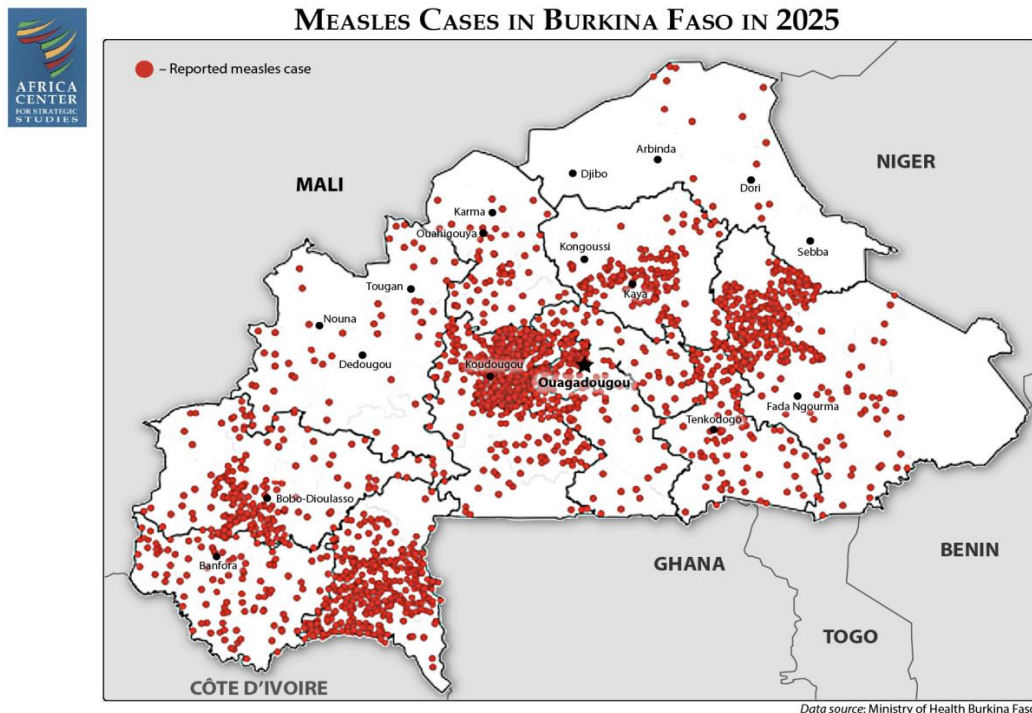


Figure 3: Distribution of violent incidents and fatalities linked to militant Islamist groups in Burkina Faso.

5. Tourism and Economic Dimensions

One of the most important long-term possibilities for the maintenance of national parks is ecotourism, which has demonstrably constituted a significant revenue source in numerous regions worldwide, and in many places represents one of nature conservation's principal financial pillars. Tourism's contribution is measurable not only in the direct revenues of parks but also in the broader economic multiplier effect, as local services, accommodations, handicrafts, and transport all profit from it (UNWTO, n.d.). The development of the Sahel region is primarily constrained by two factors: security instability and infrastructural deficiencies, which render many areas inaccessible or impede the creation of the basic prerequisites for international tourism. These factors together result in most parks being incapable of generating revenue in a self-sustaining manner, and their continued existence is largely donor-dependent (African Parks, n.d.; EEAS, n.d.; GIZ, n.d.). Financial support often covers only the basic operational costs, which does not ensure development or sustainability in the long term. Therefore, the potential of tourism is a strategic issue, as it can offer an alternative to exclusive dependence on external funding. (UNWTO, n.d.)

Significant differences can be observed among the countries of the region in tourism development possibilities and results. Positive examples include Benin and Chad, where tourism capacities have expanded through international partnerships. Accommodations, visitor centres, and safari programmes have been established, which have made these areas attractive once more to international tourists (African Parks, 2023–2025). In Chad, Zakouma National Park constitutes a success story not only in the suppression of poaching but also in the gradual recommencement of tourism following African Parks' intervention (African Parks, n.d.). In Benin, from 2018 onwards, Pendjari became one of West Africa's rare ecotourism destinations, and revenues derived from tourism are also allocated to community development projects, strengthening the commitment of local residents. However, the 2019 kidnappings and the 2022 armed attacks caused a drastic decline in international visitor numbers, thus the restoration of confidence promises to be a longer process (African Parks, 2023–2025).

Mauritania's case, by contrast, demonstrates that outstanding ecological significance alone does not guarantee tourism utilisation. The Parc National du Banc d'Arguin is a globally outstanding bird migration site, serving as a key resting and feeding place for millions of migratory waterfowl. However, due to poor infrastructure, limited international promotion, and difficult accessibility, visitor numbers remain persistently low, park revenues are minimal, and maintenance relies largely on external sources (PNBA, n.d.; Ramsar Secretariat, n.d.). The example of Banc d'Arguin thus demonstrates that outstanding ecological value does not create sustainable financing if tourism embeddedness is lacking.

In the cases of Mali, Burkina Faso, and Nigeria, tourism has virtually ceased due to the security situation. Armed attacks, kidnappings, and transportation risks prevent both international and domestic tourists from appearing in the parks (International Crisis Group, 2023). This is particularly conspicuous, as in Mali the Dogon Plateau or in Burkina Faso the WAP complex were previously well-known stations of West African cultural and nature conservation tourism. However, armed activity after 2010 has virtually eliminated them from the tourism map.

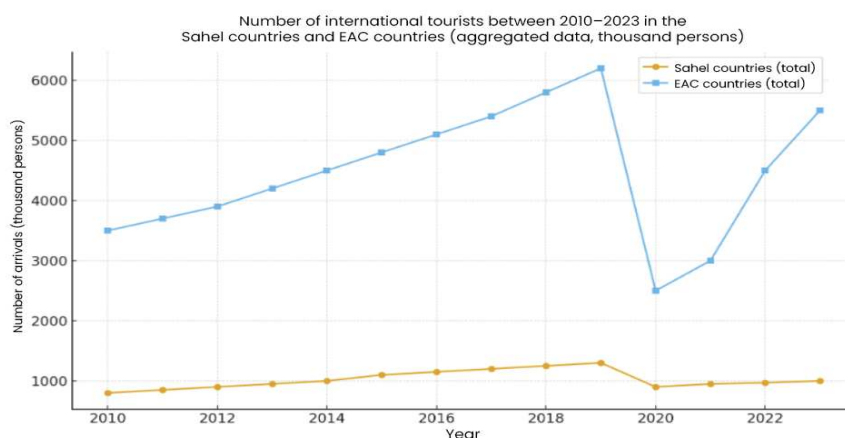
Niger likewise possesses significant but unexploited possibilities. The ecological values of W National Park and the Termit–Tin-Toumma Reserve would theoretically represent substantial tourism appeal, as they are habitats for rare species that are scarcely to be found elsewhere in West Africa. However, the absence of stability, weak transportation infrastructure, and international image impede these potentials from generating actual revenue (UNEP–WCMC & IUCN, n.d.; International Crisis Group, 2023).

The economic significance of tourism is well illustrated by comparison with the countries of the East African Community (EAC). In Kenya, Tanzania, and Uganda, national parks represent one of the driving sectors of GDP, attracting several million visitors annually, and the multiplier effect of tourism is several times the direct revenues (UNWTO, n.d.). The Serengeti, Kilimanjaro, or Maasai Mara have become global icons generating broad social and economic benefits, and are continuously present in the world's travel offerings through international tourism campaigns.

The statistics also clearly demonstrate the chasm between the two regions. The combined international visitor numbers of Sahel countries have moved around merely a few hundred thousand annually over the past decade, and have frequently declined due to security crises. By contrast, the EAC countries (particularly Tanzania and Kenya), according to UNWTO data, received a total of 6.2 million tourists in 2018 (Tanzania 1.5 million, Kenya 2 million, Uganda 1.8 million), and following the post-COVID-19 pandemic decline, rapidly recovered by 2023, with 5.8 million visitors (UNWTO, n.d.). No substantive recovery occurred in the Sahel because the security situation continued to deteriorate, thus the crisis in tourism represents not a temporary but rather a lasting obstacle (ACLED, n.d.; UNWTO, n.d.). This difference does not stem from natural endowments, as the parks of Sahel countries likewise possess globally significant ecological values. However, weak institutional capacity, inadequate infrastructure, an unfavorable international image, and security risks prevent these areas from generating tourism revenue. (UNWTO, n.d.; UNEP-WCMC & IUCN, n.d.)

Ecotourism thus simultaneously represents both opportunity and risk in the Sahel region. Opportunity, because it can contribute over the long term to the self-sustainability of parks, the welfare of local communities, and regional stability. Risk, because it is only realistic where security conditions, professional management, and adequate infrastructure converge. The examples of parks managed through international partnerships demonstrate that initiating tourism is not impossible even in an unstable environment, but its sustainability requires the stabilisation of the security situation, the strengthening of community participation, and the continuation of long-term international support (African Parks, 2023–2025; International Crisis Group, 2023).

The economic significance of tourism is illustrated by Figure 3, which compares the evolution of visitor numbers in Sahel countries and the East African Community over the past decade. It is readily apparent that public security directly determines tourist traffic: where stability exists (such as in Tanzania and Kenya), visitor numbers are in the millions, whilst in the Sahel the security crisis maintains numbers at a persistently low



level.

Figure 4: Number of inbound tourists in Sahel countries and EAC countries, 2014–2023.

6. Size and Proportion of Protected Areas

The extent and proportion of protected areas constitutes an important indicator, as it reveals the degree to which individual countries are capable of setting aside land area from their resources for nature conservation purposes. However, figures alone can be misleading, as the designated area does not necessarily signify actual functioning. In the Sahel region, numerous countries have designated enormous protected areas on paper, yet their actual protection, institutional embeddedness, and community support are frequently limited. Precisely for this reason, the "paper park" phenomenon is particularly emphatic here, and in the course of comparison, the differences between *de jure* and *de facto* functioning became the most important considerations (UNEP–WCMC & IUCN, n.d.; International Crisis Group, 2023).

Niger provides the most conspicuous example of this contradiction. Both the Termit and Tin-Toumma Reserve (97,000 km²) and the Aïr–Ténéré Reserve (77,000 km²) are of enormous extent, and on paper result in a significant portion of the country's territory being under protection. At first glance, these figures might suggest that Niger is one of the region's leading nature conservation states. Reality, however, is precisely the opposite. Due to weak institutional presence, the absence of community involvement, and the presence of armed groups and illegal economic activities, these reserves scarcely function as actual nature conservation units. The control of these vast areas simply exceeds the state's capacities, thus designation is often more symbolic than a practical step (UNEP–WCMC & IUCN, n.d.; International Crisis Group, 2023).

Mauritania's coastal ecosystems likewise exhibit duality. Banc d'Arguin (12,000 km²) and Diawling National Park are of crucial importance from the perspective of global bird migration and safeguarding ecologically unique systems. However, their maintenance relies largely on external donors, as ecotourism revenues are minimal (PNBA, n.d.; Ramsar Secretariat, n.d.). The traditional sustainable fishing practices of the local Imraguen fishing communities constitute a positive example of community participation; however, the absence of economic autonomy renders the system vulnerable to fluctuations in international support (PNBA, n.d.; Ramsar Secretariat, n.d.).

Chad possesses medium-sized but ecologically outstanding parks. Zakouma (3,000 km²), Siniaka-Minia (4,260 km²), and Sena Oura (735 km²) collectively constitute an important link in the protection of the region's biodiversity. Although their proportion at a national level is not outstanding, the management model (the involvement of African Parks) has resulted in these areas fulfilling actual nature conservation functions (African Parks, n.d.). The example of Zakouma also demonstrates that a relatively small area can become of regional significance if functioning is actual and effective.

In Benin's case, Pendjari (2,755 km²) and the Beninese section of W National Park (5,000 km²) provide the country's northern ecological corridor. Based on WDPA data, these together cover approximately 6.9% of the country's territory, which is a particularly high proportion for a small country (UNEP–WCMC & IUCN, n.d.).



However, the difference is not merely constituted by the figures but by the fact that actual functioning stands behind the designation here. Professional management and community involvement have created a system that has achieved measurable nature conservation results, for instance in the stabilisation of lion and elephant populations (UNEP–WCMC & IUCN, n.d.; African Parks, 2023–2025). Benin thus exemplifies how territorial proportion and operational capacity can mutually reinforce each other to produce results.

Mali and Burkina Faso likewise possess, on paper, park networks of significant extent. Boucle du Baoulé, Arly, or the Burkinabe sections of the WAP complex would safeguard outstanding ecological values. However, due to armed conflicts, these parks have remained largely uncontrolled. Infrastructure has been destroyed in many places, rangers have withdrawn, and the territories are being utilised by armed groups as bases (International Crisis Group, 2023). Here, the proportion of protected areas is thus misleading because nature conservation has virtually ceased at an actual level.

Nigeria, Africa's most populous state, maintains protected areas at a surprisingly low proportion—according to WDPA, merely 6.4% (approximately 45,000 km² out of 923,769 km²) (UNEP–WCMC & IUCN, n.d.). This is a modest figure in regional comparison and highlights the low priority accorded to nature conservation in national policy. Gashaka-Gumti and Yankari still count as relatively active, but the remaining parks function in a fragmented manner, and in the northern regions many areas are virtually inaccessible due to armed conflict (UNEP–WCMC & IUCN, n.d.; WCS Nigeria, n.d.; BirdLife International, n.d.; International Crisis Group, 2023). Nigeria's example aptly demonstrates that high population density and security risks together constrict the room for manoeuvre in nature conservation. Several analyses by the Crisis Group likewise emphasise that proportions of protected areas alone do not provide a complete picture of the actual state of nature conservation. As the example of the WAP complex also demonstrates, different security and institutional conditions within the same ecological corridor can lead to radically different outcomes.

The situation of Sahel countries merits comparison with EAC data. Nearly one-third of Tanzania's territory, over 15% of Uganda's, and approximately 10% of Kenya's are under the protection of national parks or reserves. In these countries, designated areas are not merely legal categories but actually functioning systems with stable institutional backing, extensive tourism connections, and broad international embeddedness (UNEP–WCMC & IUCN, n.d.; UNWTO, n.d.). The Serengeti or Maasai Mara are not only biodiversity conservation spaces but also economic engines ensuring the livelihoods of millions. Figure 4 illustrates the differences between the two regions. Whilst in the majority of Sahel countries the proportion of designated protected areas moves around 6–9% (with the exception of Niger), in the EAC countries a considerably larger proportion is accompanied by more stable institutional background and tourism utilisation.

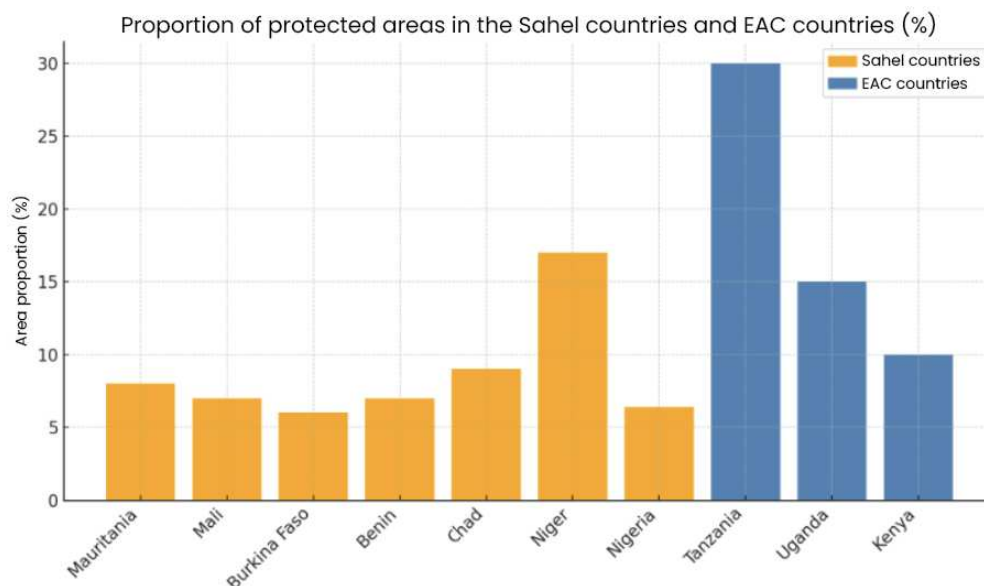


Figure 5: Proportion of protected areas relative to total land area in Sahel and EAC countries.

The difference between the two regions thus manifests primarily not in the magnitude of designated protected areas but rather in their operational capacity and economic utilisation. Whilst in East Africa, smaller proportions of designated areas actively contribute to state revenues and tourism, in the Sahel vast protected areas often exist merely on paper, and in practice provide little protection for biodiversity (UNWTO, n.d.; UNEP–WCMC & IUCN, n.d.; International Crisis Group, 2023). An illustrative summary of the differences is provided by Table 1, which contains the key indicators of the examined Sahelian countries in a single location.

Country	Protected area ratio (%)	Tourist numbers (thousands)	Armed incidents in PA (2015–2023, average/year)	African Parks presence	Remarks
Mauritania	approx. 8%	< 50	low	none	coastal focus
Mali	approx. 7%	n.a.	high	none	coastal focus
Burkina Faso	approx. 6%	0	very high	none	WAP collapse
Benin	approx. 7%	approx. 250	medium-rising	2017-	Pendjari, W

Chad	approx. 9%	approx. 80	medium	2010-	Zakouma success story
Niger	approx. 17%	approx. 100	high	none	large expanse on paper
Nigeria	approx. 6%	approx. 500	high	none	fragmented system

Table 1: Key indicators of Sahel countries.

Protected area ratios based on WDPA, the magnitude of inbound tourism on UNWTO time series, whilst annual averages of armed incidents registered in and around the immediate periphery of protected areas for 2015–2023 based on the ACLED database. The remarks column records the context of operational capacity (such as African Parks presence, infrastructure

7. Challenges and Opportunities

The future of national parks in the Sahel region depends upon numerous interconnected factors. The challenges are multifaceted and are not only ecological in nature but are closely linked to the social, economic, and security environment. Parks are not isolated ecological islands but rather integral parts of the broader socio-political system, thus their vulnerabilities and possibilities likewise stem from this (UNEP, 2015; International Crisis Group, 2023; ACLED, n.d.). However, the possibilities are tangible, as where international partnerships, community participation, and security stability converge, parks can become engines of development (African Parks, 2023–2025; UNWTO, n.d.). Climate change and desertification constitute one of the Sahel's most pressing problems. Precipitation distribution is becoming increasingly uneven, dry periods are lengthening, water sources are gradually disappearing, and vegetation zones are shifting northward. This directly affects the wildlife of parks: large-bodied mammals are compelled to travel increasingly great distances for water, which increases mortality and the risk of population fragmentation (UNEP, 2015; UNCCD, n.d.). The disruption of ecological corridors can lead to rapid decline, whilst fragmentation intensifies conflicts between humans and wild animals as well, as direct competition develops for shrinking resources. In certain parks (such as Diawling, Mauritania), changes in water management also artificially influence the condition of habitats, which engenders fresh tensions amongst the local population (Ramsar Secretariat, n.d.).

Poaching continues to constitute a severe threat. The illegal hunting of large game, particularly elephants, rhinoceroses (rarer in the region but regionally relevant), and big cats, not only causes ecological damage but also provides significant revenue sources for armed groups. The prey frequently does not reach local markets but rather arrives in Asia or the Middle East through international commercial networks, indicating global

interconnection (CITES, n.d.; IUCN Red List, n.d.). The example of Zakouma demonstrates that poaching can be suppressed through intensive international intervention and professional management (African Parks, n.d.), but where state presence is weak, the process remains virtually uncontrolled, as in the cases of Mali or Burkina Faso (International Crisis Group, 2023).

Territories controlled by armed groups impede the functioning of nature conservation units in multiple ways. On the one hand, they pose a direct security threat to rangers and researchers; on the other hand, they construct their own shadow economy within the parks. Illegal logging, gold mining, cattle trafficking, and poaching generate significant revenue for militant groups whilst simultaneously destroying ecological values. Parks thus become not merely hideouts but economic resource bases where armed actors establish parallel governance structures. This undermines both state authority and the legitimacy of nature conservation institutions (International Crisis Group, 2023; Africa Center for Strategic Studies, 2025).

The relationship between local communities and parks is often fraught with tension. Many villagers experience the park as a restriction, as protected status impedes traditional livelihood forms (grazing, logging, fishing). If they do not perceive direct benefits (for instance from tourism, development projects, or revenue sharing), they will not be interested in the preservation of parks. This is particularly perilous in conflict zones, where armed groups offer rapid, albeit illegal, yet immediate alternatives. Positive counterexamples include Mauritania, where the involvement of the Imraguen community has created a sustainable model, or Benin, where a portion of Pendjari park revenues are allocated to community projects (PNBA, n.d.; African Parks, 2023–2025; Ramsar Secretariat, n.d.). These demonstrate that without social legitimacy, lasting nature conservation results cannot be achieved (CBD, n.d.; CMS, n.d.).

Despite the difficulties, the parks of the Sahel region harbour significant potential. Models introduced by African Parks and other international organisations have proven that the combination of community participation and professional management can yield functioning systems. The successes of Zakouma and Pendjari demonstrate that even in unstable environments, nature conservation and tourism results can be created if the involvement of local communities and international support are secured over the long term.

Further opportunity is offered by cross-border cooperation. The example of the WAP complex clearly demonstrates that nature conservation objectives can often only be achieved within regional frameworks. Cooperation among the three countries (Benin, Niger, Burkina Faso) is currently fragmented, but can only be successful over the long term if they construct common mechanisms and involve local communities in conflict management as well. Regional coordination could be strengthened by international programmes such as the UN biodiversity framework or African Union green infrastructure strategies.

Among the opportunities, mention should be made of the long-term potential of ecotourism, which, within an appropriate security environment, can strengthen not only

park maintenance but also local economies through its multiplier effect (UNWTO, n.d.). International climate financing mechanisms (such as REDD+ programmes, carbon market initiatives) can offer new revenue sources for nature conservation units (UNFCCC, n.d.; UNCCD, n.d.). Over the long term, investment in the education and training of younger generations (such as ranger schools, nature conservation scholarships) can likewise be a key factor in creating social legitimacy. Finally, the integration of cultural heritage (for instance, the joint presentation of the Dogon Plateau and Sahelian parks) can create a new, complex tourism offering that simultaneously builds upon natural and cultural values (UNWTO, n.d.).

The duality of challenges and opportunities determines the parks of the Sahel region. The key to success is the simultaneous fulfilment of three conditions: security stability, community involvement, and the long-term presence of international partners. If the factors converge, parks can become not merely ecological islands but engines of the region's social and economic development. However, if the security threat, institutional weakness, and community mistrust simultaneously prevail, the survival of parks remains uncertain (International Crisis Group, 2023; ACLED, n.d.; African Parks, 2023–2025).

8. Conclusion

The comparative analysis of national parks in the Sahel region has revealed that alongside common challenges, country-by-country differences are at least equally determinative. Whilst natural-geographical and ecological endowments exhibit numerous similarities, the actual operational capacity of parks is primarily a function of political stability, institutional capacities, security situation, and community participation combined. This explains why the same ecological corridors have followed different development trajectories: in Benin, management change after 2017 initiated development; in Burkina Faso, armed activity after 2020 led to collapse; whilst in Niger, weak institutional background has kept the de facto functioning of designated areas limited. The picture is thus mosaic-like, and in each country challenges and opportunities manifest in different combinations.

The analysis has identified three conditions as keys to success. The first is a stable security environment, without which neither protection, nor tourism, nor community participation can be sustained. The second is functioning institutional background, which is capable of coordinating international support, ensuring transparent management, and maintaining protective capacities. The third is community participation, which confers legitimacy upon the functioning of parks and renders the local population stakeholders in nature conservation objectives. The three factors do not substitute for one another but rather, through mutual reinforcement, can create a sustainable nature conservation system.

Comparison with the countries of the East African Community clearly demonstrates the differences. Whilst the national parks of Tanzania, Kenya, and Uganda have become engines of tourism and the economy, in the Sahel region the actual functioning of numerous parks is weak and often appears merely as a legal category. The difference

does not reside in ecological values but rather in security, institutional, and economic factors. In East Africa, stability, institutional background, and conscious tourism image-building have collectively created the conditions for parks to become pillars of tourism sectors contributing significant proportions of GDP (certain estimates suggest 8–12%). In the Sahel, by contrast, in many cases even basic functioning depends upon external donors, which renders long-term sustainability uncertain.

Nature conservation in the Sahel therefore cannot be reduced to an ecological question. Parks also possess social and security-political functions: they can contribute to the stabilisation of communities, offer alternative livelihood forms, and mitigate risks arising from armed conflicts. This is of particular significance in those states where other public institutions are weak or absent, and parks remain the sole actually functioning public service. The examples of Zakouma, Pendjari, or the Imraguen community all demonstrate that nature conservation can be successful when ecological, social, and economic dimensions appear in an integrated fashion.

Overall, nature conservation in the Sahel can only be effective through a comprehensive approach coordinated at multiple levels. Parks are organic parts of the region's social, economic, and political fabric, and their sustainability cannot be separated from broader development and security strategies. If this recognition becomes institutionalised, parks can become in the future not merely refuges for biodiversity but central elements of stability and development. The most important question in the coming decade is whether it will be possible to moderate the intensity of armed conflicts and ensure the continuity of international support. If the three key factors (security stability, institutional capacity, and community participation) are simultaneously fulfilled, by 2030 the parks of the Sahel may become not examples of vulnerability but rather institutionalised examples of resilience.

Notes on Contributor

Timea Hillender is a Hungarian professional with a diverse background in education and humanitarian work. She graduated from the University of Szeged with a degree in Hungarian and German teaching, and later obtained a master's degree in German translation from the University of Miskolc. Seeking to broaden her expertise, she completed a second master's degree in Humanitarian Response Management at Bánki Donát Faculty of Mechanical and Safety Engineering, Óbuda University, where her thesis focused on the innovative use of giant pouched rats in landmine detection. She is the founder and president of Afrika Sztorik Afrika Vadvilágáért Egyesület, an association active in Kenya and Tanzania. Through the organisation's programmes, she supports women's training and education, including ranger courses and tour guide certification, with the aim of strengthening communities and promoting sustainable development. Since 2023, she has also been working with APOPO, an international NGO renowned for its mine-detection rats. Her current work focuses on empowering women to participate in the breeding and training of these animals, thereby promoting greater female involvement in humanitarian demining efforts.

Conflict of Interest

The authors hereby declare that no competing financial interest exists for this manuscript.

List of International Agreements and Programmes

- **CITES** (*Convention on International Trade in Endangered Species of Wild Fauna and Flora*)
- **CBD** (*Convention on Biological Diversity*)
- **CMS** (*Convention on the Conservation of Migratory Species of Wild Animals*)
- **Ramsar** (*Convention on Wetlands of International Importance especially as Waterfowl Habitat*)
- **UNFCCC** (*United Nations Framework Convention on Climate Change*)
- **Paris Agreement** (*Paris Agreement under the UNFCCC*)
- **UNCCD** (*United Nations Convention to Combat Desertification*)
- **AP** (*African Parks Network*)
- **PAPACO** (*Programme on African Protected Areas & Conservation*)
- **WAP** (*W-Arly-Pendjari Complex*) (Benin–Burkina Faso–Niger)
- **AHEAD** (*Animal Health for the Environment And Development*) (WCS program)
- **PPI** (*Programme de Petites Initiatives*)
- **IUCN** (*International Union for Conservation of Nature*)
- **WWF** (*World Wide Fund for Nature*)
- **WCS** (*Wildlife Conservation Society*)
- **GEF** (*Global Environment Facility*)

List of International Conventions and Programmes

CBD (Convention on Biological Diversity) — Convention on Biological Diversity

CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) — Convention on International Trade in Endangered Species

CMS (Convention on the Conservation of Migratory Species of Wild Animals) — Convention on the Conservation of Migratory Species (Bonn Convention)

Ramsar (Convention on Wetlands of International Importance especially as Waterfowl Habitat) — Ramsar Convention on Wetland Protection

UNFCCC (United Nations Framework Convention on Climate Change) — UN Framework Convention on Climate Change

Paris Agreement (Paris Agreement under the UNFCCC) — Paris Climate Agreement

UNCCD (United Nations Convention to Combat Desertification) — UN Convention to Combat Desertification

AP (African Parks Network) — African Parks network / organisation

PAPACO (Programme on African Protected Areas & Conservation) — African Protected Areas and Conservation Programme (IUCN sub-programme)

WAP (W-Arly-Pendjari Complex) — W-Arly-Pendjari ecological corridor (Benin–Burkina Faso–Niger)

AHEAD (Animal Health for the Environment And Development) — Animal health for environment and development (WCS programme)

PPI (Programme de Petites Initiatives) — Small Conservation Initiatives Programme (French support, primarily in francophone countries)

IUCN (International Union for Conservation of Nature) — International Union for Conservation of Nature

WWF (World Wide Fund for Nature) — World Wide Fund for Nature

WCS (Wildlife Conservation Society) — Wildlife Conservation Society

GEF (Global Environment Facility) — Global Environment Facility

References

- Africa Center for Strategic Studies (ACSS). (2025). *A Growing Divergence of Security Narratives in Burkina Faso*. Retrieved September 27, 2025 from <https://africacenter.org/spotlight/security-narratives-burkina-faso/>
- African Parks. (2023-2025). *Complexities of Conservation: Staying the Course in the WAP Complex (Benin)*. Retrieved September 27, 2025 from <https://www.africanparks.org/complexities-conservation-staying-course-wap-complex-benin>
- African Parks. (n.d.-a). *Siniaka-Minia National Park*. Retrieved September 27, 2025 from <https://www.africanparks.org/the-parks/siniaka-minia>
- African Parks. (n.d.-b). *Zakouma National Park*. Retrieved September 27, 2025 from <https://www.africanparks.org/the-parks/zakouma>
- Armed Conflict Location & Event Data Project (ACLED) – Data Exporter*. (n.d.). Retrieved September 27, 2025 from <https://acleddata.com/>
- Benjaminsen, T. A., & Ba, B. (2009). Farmer–herder conflicts, pastoral marginalisation and corruption: a case study from the inland Niger delta of Mali. *The Geographical Journal*, 175(1), 71-81. <https://doi.org/https://doi.org/10.1111/j.1475-4959.2008.00312.x>
- BirdLife International. (n.d.). *Data Zone. Country: Nigeria; West Africa regional overview*. Retrieved September 27, 2027 from <https://datazone.birdlife.org/country/nigeria>
- Brito, J. C., Godinho, R., Martínez-Freiría, F., Pleguezuelos, J. M., Rebelo, H., Santos, X., Vale, C. G., Velo-Antón, G., Boratyński, Z., Carvalho, S. B., Ferreira, S., Gonçalves, D. V., Silva, T. L., Tarroso, P., Campos, J. C., Leite, J. V., Nogueira, J., Álvares, F., Sillero, N.,...Carranza, S. (2014). Unravelling biodiversity, evolution and threats to conservation in the Sahara-Sahel. *Biological Reviews*, 89(1), 215-231. <https://doi.org/https://doi.org/10.1111/brv.12049>
- CENAGREF. (n.d.). *Centre National de Gestion des Réserves de Faune (Benin)*. Retrieved September 27, 2025 from <http://www.cenagref.bj/>



- Convention on Biological Diversity (CBD)*. (n.d.). Retrieved September 27, 2025 from <https://www.cbd.int/>
- Convention on International Trade in Endangered Species (CITES)*. (n.d.). Retrieved September 27, 2025 from <https://cites.org/>
- Convention on Migratory Species (CMS), (Bonn)*. (n.d.). Retrieved September 27, 2025 from <https://www.cms.int/>
- European External Action Service (EEAS). (n.d.). *Country profiles / programmes – Sahel*. Retrieved September 27, 2025 from <https://www.eeas.europa.eu/>
- Gesellschaft für Internationale Zusammenarbeit (GIZ). (n.d.). *Projects in the Sahel*. Retrieved September 27, 2025 from <https://www.giz.de/en/worldwide/>
- International Crisis Group. (2023). *Containing Militancy in West Africa's Park W. Report No. 310*. Retrieved September 27, 2025 from <https://www.crisisgroup.org/africa/sahel/burkina-faso-niger-benin/310-containing-militancy-west-africas-park-w>
- International Union for Conservation of Nature's (IUCN). (n.d.). *The IUCN Red List of Threatened Species*. Retrieved September 27, 2025 from <https://www.iucnredlist.org/>
- Leverington, F., Costa, K. L., Pavese, H., Lisle, A., & Hockings, M. (2010). A Global Analysis of Protected Area Management Effectiveness. *Environmental Management*, 46(5), 685-698. <https://doi.org/10.1007/s00267-010-9564-5>
- Mbow, C., Halle, M., El Fadel, R., & Thiaw, I. (2021). Land resources opportunities for a growing prosperity in the Sahel. *Current Opinion in Environmental Sustainability*, 48, 85-92. <https://doi.org/https://doi.org/10.1016/j.cosust.2020.11.005>
- Mulinge, W., Gicheru, P., Murithi, F., Maingi, P., Kihui, E., Kirui, O. K., & Mirzabaev, A. (2016). Economics of Land Degradation and Improvement in Kenya. In E. Nkonya, A. Mirzabaev, & J. von Braun (Eds.), *Economics of Land Degradation and Improvement – A Global Assessment for Sustainable Development* (pp. 471-498). Springer International Publishing. https://doi.org/10.1007/978-3-319-19168-3_16
- Parc Nationale du Banc d'Arguin (PNBA)*. (n.d.). Retrieved September 27, 2025 from <https://www.pnba.mr/>
- Ramsar Convention Secretariat. (n.d.). *Ramsar Sites Information Service (RSIS) – Country Profiles*. Retrieved September 27, 2025 from <https://rsis Ramsar.org/>
- Reij, C., Tappan, G., & Smale, M. (2009). *Agroenvironmental transformation in the Sahel: Another kind of "Green Revolution" (IFPRI Discussion Paper No. 00914)*. International Food Policy Research Institute. <https://doi.org/10.2499/0896295354>
- Sendzimir, J., Reij, C. P., & Magnuszewski, P. (2011). Rebuilding resilience in the Sahel: Regreening in the Maradi and Zinder regions of Niger. *Ecology and Society*, 16(3). <https://doi.org/https://doi.org/10.5751/ES-04198-160301>

- Spenceley, A., & Goodwin, H. (2007). Nature-Based Tourism and Poverty Alleviation: Impacts of Private Sector and Parastatal Enterprises In and Around Kruger National Park, South Africa. *Current Issues in Tourism*, 10(2-3), 255-277. <https://doi.org/10.2167/cit305.0>
- Tesfaye, B. (2022). *Climate change and conflict in the Sahel (Discussion Paper)*. Council on Foreign Relations. Retrieved September 27, 2025 from <https://www.cfr.org/report/climate-change-and-conflict-sahel>
- UNESCO World Heritage Centre. (n.d.). *W-Arly-Pendjari Complex. Benin, Burkina Faso, Niger*. Retrieved September 27, 2025 from <https://whc.unesco.org/en/list/749>
- United Nations Convention to Combat Desertification (UNCCD). (n.d.). Retrieved September 27, 2025 from <https://www.unccd.int/>
- United Nations Environment Programme (UNEP). (2015). *The Sahel Atlas of Changing Landscapes*. Retrieved September 27, 2025 from <https://wedocs.unep.org/handle/20.500.11822/9662>
- United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) - International Union for Conservation of Nature's (IUCN). (n.d.). *World Database on Protected Areas (WDPA). Protected Planet – Country Profiles & Protected Areas Database*. Retrieved September 27, 2025 from <https://www.protectedplanet.net/>
- United Nations Framework Convention on Climate Change (UNFCCC). (n.d.). Retrieved September 27, 2025 from <https://unfccc.int/>
- United Nations World Tourism Organization (UNWTO). *Tourism Data Dashboard (international tourist arrivals time series)*. Retrieved September 27, 2025 from <https://www.unwto.org/tourism-data/dashboard>
- West, P., Igoe, J., & Brockington, D. (2006). Parks and Peoples: The Social Impact of Protected Areas. *Annual Review of Anthropology*, 35(Volume 35, 2006), 251-277. <https://doi.org/https://doi.org/10.1146/annurev.anthro.35.081705.123308>
- Wildlife Conservation Society (WCS) - Nigeria Program, *Gashaka-Gumti*. (n.d.). Retrieved September 27, 2025 from <https://nigeria.wcs.org/>



Book review: The Arab Spring 2.0: New Wave of Revolutions in the MENA Region by Leonid Issaev and Andrey Korotayev¹²

Zoltán Prantner³, Abdallah Abdel-Ati Al-Naggar⁴, Sherif Reda Saadeldin AbouShanab⁵

The present book consists of twelve chapters (11 main chapters and a conclusion). The authors' main aim is to compare and analyse some case studies in the MENA region, discussing how revolutions initially started there and what their consequences were for each country, respectively politically, economically, and socially.

The volume offers a wide range of studies to identify the similarities and differences between the events of the Arab Spring of 2011 and the current upheavals, or even the second wave of revolutions in 2018 in the region under study. Researchers examine the causes in broader world-system context, analysing the motivating forces, goals and organizational forms of the protesters as well as other actors involved, portraying a semi-complete image on the political and economic consequences of these revolutions. They also answer why some countries, actively confused by the Arab Spring, have not been substantially affected by these inevitable developments. Focusing on comparative politics, Arab World, Middle Eastern politics, political sociology, and terrorism and political violence, the book is addressed to scholars of political science. Let's take a quick but accurate look at the work:

In the introductory chapter, the editors mention that towards the end of the 2010s, Middle Eastern countries faced a new revolutionary wave. Here, Leonid Issaev⁶ and Andrey Korotayev⁷ provide a primary description and analysis of this *phenomenon*,

¹ DOI: 10.12700/jceas.2025.5.4.149

² Leonid Issaev – Andrey Korotayev (eds.): New Wave of Revolutions in the MENA Region. A Comparative Perspective. Switzerland, Cham, Springer, 2022. Perspectives on Development in the Middle East and North Africa (MENA) Region: ISBN 978-3-031-15134-7, ISBN 978-3-031-15135-4 (eBook), USD 159.99. <https://doi.org/10.1007/978-3-031-15135-4>.

³ Associate Professor, Kodolányi János University of Applied Sciences, Székesfehérvár, Hungary; ORCID: 0000-0001-9739-9748; prantner.zoltan@gmail.com.

⁴ Member of the Academy of Scientific Research & Technology, Egypt; Habilitated doctor, Visitor lecturer of the Eötvös Loránd University Budapest, Department of Modern and Contemporary History; ORCID: 0000-0002-9646-6643; abdallah_157@hotmail.com, abdallah.alnaggar@gmail.com.

⁵ PhD student in History in Eszterházy Károly University master's degree in international relations from Szeged University, Hungary; ORCID: 0009-0007-6590-4990; sherifshanab@hotmail.com.

⁶ He is currently Associate Professor at the Department for Political Science and International Affairs and the Deputy Chair of the Laboratory for Monitoring Risks of Sociopolitical Destabilization at the National Research University Higher School of Economics in Moscow. He teaches classes on Islamic political philosophy as well as political systems and political processes in the Arab world.

⁷ He is currently the Head of the Laboratory for Monitoring of the Risks of Sociopolitical Destabilization at the HSE University in Moscow. He is also Senior Research Professor at the Institute of Oriental Studies and Institute for African Studies of the Russian Academy of Sciences. In addition, he is a senior research professor of the International Laboratory on Political Demography and Social Macrodynamics (PDSM) of the Russian Presidential Academy of National Economy and Public Administration, as well as a full

which has led to the collapse of several regimes, including Sudan, Algeria, and Mali, while revolutions in Lebanon and Iraq have dragged on. Furthermore, a new quality of protests has manifested in Iran, Egypt, Morocco, and Jordan. This new wave of revolutions was also characterized by the so called “domino effect”.⁸ The events of the new revolutionary wave were characterized by the fact that the protests were directed against the political class, and not against a particular autocrat. The editors then noted another crucial point, that the slogan used in the revolutions was “All must go”, meaning that the departure of the ruler from power would not solve anything. In other words, the protesters' discontent during these revolutions was primarily directed against the whole political establishment.

In the second chapter Sergey V. Kostelyanets⁹ talks about the Sudanese revolution and the fall of Al-Bashir's regime. In April 2019, the long-serving Sudanese President Omar Al-Bashir was overthrown by group of generals in a bloodless military coup d'état. In the four months leading up to the coup, Sudan had witnessed mass protests and civil disobedience. The December Revolution started in late 2018 and has escalated to unprecedented violent clashes between the Sudanese protesters and security forces. The Sudanese regime, which had ruled the country since 1989, has begun to weaken and fragment significantly politically and economically due to internal divisions, political failures, and international isolation, as well as unending insurgencies, corruption and the secession of the oil-rich southern region. The regime has also failed to meet its basic social obligations, such as the provision of food, fuel and medicine. Sudan's political opposition has disintegrated. On the contrary, the Sudanese Professionals Association (SPA), a coalition of independent trade unions, became the main driving force of the revolution and took on the task of planning and coordinating mass protests and demands. The Sudanese December Revolution was a partial success, as the military remained in power, but it facilitated the emergence of a powerful and a vibrant civil society.

After the military coup of 2021, which was triggered by serious disputes between the military and civilians, violent protests have returned once again to the streets of Sudanese cities. While some of the armed opposition groups have begun to support the new regime, several other movements remained committed and fully supported the December revolution. In the fall of 2021, Sudan found itself in the core of a deep economic crisis compared to the period preceding the 2018 protests, which led to a significant decline in the popularity of the transnational government. And as we can see, Sudan has not escaped the ongoing difficulties caused by the events of post-2011 and it is still suffering on several scales.

In the 3rd Chapter, entitled *The Crisis of the Rentier State: How the Revolution of*

professor of the Faculty of Global Studies of the Moscow State University.

⁸ This means that rising tensions and the protests in one country can have a direct impact on other countries, leading to more protests. The economic agenda has paved the way to the political one, which has led to the recurrence and actualization of unresolved problems in each country.

⁹ Leading Researcher, who is Head of the Centre for Sociological and Political Sciences Studies at the Institute for African Studies of the Russian Academy of Sciences.



Smiles Has Brought Down the Sultanistic Regime in Algeria, Yahia H. Zoubir discusses the situation in Algeria and explains how the Algerian Revolution played a significant role in the fall of the regime. In 2019, former Algerian President Abdel Aziz Bouteflika celebrated the 20th anniversary of his accession to power. Few people expected a tsunami of peaceful social protests and movements demanding that Bouteflika should not run for a fifth term as president. While the army has responded in favour of *Hirak*¹⁰ by removing President Bouteflika from office, in addition to imprisoning officials directly involved in corruption, the new Algerian authorities did not show real determination to change the regime or introduce political and economic reforms. The researcher aims to shed light on the reluctance of the authorities to break with past practices and why the protests did not result in protests that could have been used to negotiate a transition to a new political order.

In order to understand the situation in Algeria, it is first of all very important to briefly review the period preceding the uprising, to try to assess the twenty years of Bouteflika's rule and to analyse the causes and demands that triggered the mass protests. Zubair confirmed that *Hirak* marked a major turning point in Algeria's post-independence history. The attempts of Algerians to make the transition from an authoritarian regime to a system characterised by democracy showed that the collapse of old regimes will only happen if its drivers are motivated by the nation itself.

The *17 October (2019) Revolution in Lebanon: A Preliminary Analysis* discusses the situation in Lebanon, and its revolution of October 17th, broke out due to imposing the WhatsApp tax, as the social contract between the ruling elite and the people was no longer valid. The Taif Agreement was very significant as it contributed greatly to ending the conflicts between the warlords by initiating peace and putting them at the helm of the state. The state suffered from bloated bureaucracy, excessive spending, and much lower revenues due to the corruption that was taking place at the time. The author, Dania Koleilat Khatib, confirms that it is unfair to say that the revolution failed because the political elite remained in position.¹¹ Indeed, the uprising groups managed to achieve significant successes in the students' elections, for example. The fact that the then Lebanese government was unable to provide the necessary services to civilians increased the level of corruption in the government. The deteriorated situation is still ongoing, and no one can yet predict the outcome.

The *Revolutionary Protests in Iraq in the Context of Iranian-American Confrontation* or the 5th Chapter portrays the Iraqi protests, focusing on the causes that led to the revolution in the Middle Eastern country. The starting point was the demonstrations against unemployment, poor quality of public services, deteriorating living conditions and widespread corruption, organised by youth groups through social networks, which began on 1 October 2019 in Baghdad and the southern provinces of Iraq. These demonstrations quickly escalated into a wider protest movement demanding a change

¹⁰ Arabic word meaning movement.

¹¹ The fact is that the 17 October Revolution failed to create a quick and decisive regime change.

of government. It should be noted here that the Iraqi protests began at the same time as the demonstrations in Lebanon, which is considered part of the so-called “Shiite axis” in Tehran.

The nature of the anti-government protests, the lack of an organised structure as well as the demands of the protesters were similar in Iraq and Lebanon. The protesters accused the government of being corrupt and demanded changes in the electoral and political system and in employment conditions. After several months of political instability, the country was rocked by massive revolutionary anti-government protests that forced Prime Minister Adel Abu El Mahdi to resign despite some significant and key economic achievements.

In the next chapter, Andrey Zakharov and Leonid Issaev, authors of *Roots of New Wave of Protests in Jordan* and editors of the entire work, outline the unpredictable situation in Jordan. They point out that Morocco and Jordan are among the countries that have shown the persistence of political instability because of the events of the Arab Spring. In both, protests erupted during the 2010s. The authorities in the kingdoms responded to the disturbing events with varying degrees of political virtuosity and by suppressing the protests. At the same time, in examining Jordan and Morocco's policies to adapt to revolutionary trends, researchers have often realised the sacral nature of power: both the Hashemites and Alawites are direct descendants of the Prophet Muhammad. Such a view seems inaccurate, “since the principle of untouchability does not always work in the case of crown leaders, even with such prestigious pedigrees” (Zakharov - Leonid Issaev, 2022, 109). Both the Moroccan and Jordanian rulers deliberately used religious rituals and institutions to consolidate their own power. The two authors show here, focusing on the Jordanian case, that the sacral nature of the Hashemite government does not provide the ruling regime with ‘immunity’ from possible shocks.

Jordan was also affected by the new wave of revolution. In 2018, the country witnessed its largest protests since the Arab Spring, triggered initially by the rise in fuel and food prices. As a result, King Abdullah II was once again forced to call for another resignation of the government, sacrificing economic expediency in exchange for the political loyalty of citizens.¹² Zakharov and Issaev conclude that the Jordanian experience of the 2010s, which has seen Jordan establish itself as an ‘island of stability’ in the MENA region, is more a testament to the art of Abdullah II's political manoeuvring and pragmatism than to the exploitation of his religious status. King Abdullah II, in order to quell public discontent without giving the green light to fundamental reforms, allows him to act as a defender of public interests, directing the protesters’ anger towards

¹² In 2019, the Razzaz government had already faced another round strike, this time by teachers dissatisfied with their low salaries. As a result, the new government quickly became hostage to the old problems of austerity in a country with one of the highest public sector spending on wages and pensions (\$13 billion). A month after the strikes began, King Abdullah II had to intervene again, ordering the government to revise the original plan to raise teacher’ salaries by 35%, which the protesters called “breadcrumbs” (Voice of America 2019). Finally, the Razzaz government had to make concessions to the teachers’ union and raise salaries by 60%.



unwanted governments, of which there were eight in the 2010s alone.

In the chapter “*Tunisia. Revolution of Ballot Boxes?*”, Anna Kashina sheds light on the situation in Tunisia in the ten years following the Arab Spring. Tunisia has gone through several stages of development. In the transition phase¹³, provisional authorities were established, legislation was revised and the 2013 crisis, triggered by political assassinations against a backdrop of sharp social polarisation, was resolved. The second phase began in January 2014 with the adoption of a new constitution, marked by the first free democratic elections and consensus politics within the alliance of the secular *Nidaa Tounes* party¹⁴ and the Islamist Ennahda. This agreement was broken by the political manoeuvres of the Islamists. The growing trend of fierce confrontation between President Essebsi and Prime Minister Youssef Chahed ended with the death of the President in July 2019 and the holding of the next elections.

The 2019 presidential-parliamentary elections in Tunisia took the form of a protest vote and were described as a “political earthquake” or “second revolution”. The newly elected president, Kais Saied, expressed this idea on 23 October 2019.

The new phase of Tunisia's development started after 2019 and “was not only marked by a transformation of the political space, but also raised new questions: how reasonable is it to interpret the events of 2019 as a »Revolution«? Why is there no end to the nationwide political protest in Tunisia, which political actors set the agenda for the country, who are the new political elites and what is their agenda? Why is Tunisia repeatedly raising the question of changing the form of government? The most important question is: will this North African country, under the weight of the economic turmoil exacerbated by the coronavirus epidemic, continue to move towards

¹³ The moderate Islamist movement Ennahda won the support of 41% of the active electorate, winning 89 out of 217 seats in the NCA. The Islamists organized a highly successful election campaign and propaganda in mosques. They won over “a quarter of the people” with sermons and charity events and promised the secular elite that they would not go beyond moderate Islam. Increasing its share in the NCA to 138 seats, Ennahda formed the main parliamentary coalition with two secular parties, the Congress for a Republic (also referred to as CPR, its French acronym) and the Democratic Forum for Labour and Liberties (Ettakatol or FDTL) in an alliance called the Troika. This coalition arbitrarily distributed key state posts. For example, FDTL leader Mustafa Ben Jaafar became the president of the NCA, while Moncef Marzouki was elected interim president. At his inauguration at the Carthage Palace on 13 December 2012, the latter, dressed in the traditional Tunisian brown *burga*, stressed that Tunisia would develop an Arab-Muslim identity while remaining open to the world. In addition, in December 2011, Hamadi Jebali, Secretary General of the Ennahda Movement, was appointed Prime Minister. Moreover, an Islamists triumph in the NCA elections was not to be expected. Rachid Ghannouchi, the leader of Ennahda, who in February 2011 would have received only 1.6% of the vote in opinion polls, was far behind the left-wing Democratic Progressive Party leader Ahmed Najib Chebbi (8%), the army chief Rachid Ammar (4.4%) and the then acting prime minister Mohammed Ghannouchi (3.7%). Expectations on the eve of the Tunisian elections that the relatively weak Islamists would be able to enter parliament and submit to the rules of the game set by the secular opposition elite that replaced the autocratic regime have therefore proved wrong. Thus, although the Islamists were neither an inspiration nor an active participant in the 2011 uprising, they were nevertheless able to seize the moment to spread their wings and succeed in marginalizing left-wing parties and movements (such as the Democratic Progressive Party or the Democratic Modernist Pole, which was initiated by the Ettajdid movement), which appeared to be in the best position to consolidate and expand their influence in the context of the power elite reshuffle.

¹⁴ The literal meaning of the Arabic term (حركة نداء تونس) is “Call of Tunisia”, “Call for Tunisia”, or “Tunisia's Call”. It is considered as a big tent secularist political party in Tunisia.

democratisation or will it choose an alternative path?” (KASHINA, 138).

In Tunisia, the role of the armed forces in the political space is rather limited. This, and perhaps its relatively modest size (35,000), has certainly contributed to the army's fortunate refusal to participate in the struggle for power.

In Chapter 8 (*Egyptian protests 2019: harbingers of a new revolution?*), authors Shady Mansour and Hala Elhefnawy discuss the Egyptian protests of 2019. In that year, Egypt witnessed short-lived protests calling for the overthrow of President Al-Sisi. These events were seen by some as a new beginning that, even if suppressed, would sow the seeds of another revolution that could eventually end the current regime. Others argue that the Egyptian government has successfully managed the protests, not only through security measures but also through the implementation of development policies. By resorting to historical methodology, the authors have assessed both views and attempted to compare the 2011 and 2019 protests,¹⁵ recognizing the drivers and factors that led to the outbreak of the 2011 protests and assessing whether they are present in the 2019 protests. The researchers also sought to understand the implications of the 2019 protests in a regional context.

It is also worth noting that the Sisi government has sought new ways to engage young people to participate in several ministries linked to the Egyptian government through the “Presidential Leadership Programme”, which El Sisi launched in September 2015.

Chapter 9th, *Revolutionary Events in Mali, 2020-2021*, deals with Mali. On 18 August 2020, Malian army officers led by Colonel Assimi Goïta took power in the country and arrested President Ibrahim Boubacar Keïta and several government officials. Keïta resigned the same day and dissolved the government. He was later allowed to leave the country and go to the United Arab Emirates. The coup, which followed 11 weeks of protests in Bamako, was welcomed by most demonstrators.¹⁶ However, on 24 May 2021, another coup took place, proving that the new military regime in power was still able to control current political trends. Meanwhile, the revolutionary instability that Mali is experiencing at the end of the second decade of the 21st century cannot be separated from the period of instability that began in the country in the 1990s and culminated in the destabilisation of 2011, which led to the events mentioned above.

Authors Andrey Korotayev and Alina Hohlova confirm that the events of 24 May

¹⁵ One of the main reasons why the protests in 2019 were remarkably different from 2011 revolution is the fact that by 2011, there was a widespread frustration among different sectors of the Egyptian society. At the time, they felt that their interests had been destabilized and that they had no prospect or hope of any change, which critically undermined the legitimacy of the regime. In addition, by 2011, Egyptians believed that the removal Mubarak regime would end all the hardships they had suffered. However, just the opposite happened as their circumstances deteriorated further. Thus, not only has economic growth stalled in the years following Mubarak's overthrow, but the security situation has also deteriorated with the rise of ISIS in Sinai and mainland Egypt. As a result, people have lost faith in using protests as the main instrument for improving economic and social conditions.

¹⁶ A state rife with coups and violent regime changes: the first Tuareg uprising of 1962–1964, which was almost a domestic political issue and may be classified as internal national-liberation movement; the second Tuareg uprising (1990–1996), which spread to northern Mali and Niger and was triggered by, among other factors, the drought of the 1970s; and the third Tuareg uprising, which took place just before the Arab Spring, in 2006–2009.



2021 can be considered a classic coup, as they were not accompanied by any perceptible mass mobilisation and one part of the elite simply replaced the other. However, in a broader context, it can be seen as part of the 2020-2021 Malian revolution. Some experts have already pointed out that the 2020 Malian revolution, unlike most urban revolutions of the 21st century, typically lacks democratic slogans. The Malian revolution advocated order, the establishment of control over territory and the building of a more just society without corruption. It has also been said that one of the key security considerations emphasised in the final phase of the National Reconstruction Conference was 'the establishment of a new military partnership with the military powers to better protect national sovereignty'.

The 10th chapter, *Sanctions and the Socio-Economic Roots of Iran's Domestic Instability (2010–2020)*, examines the situation in Iran between 2010 and 2020. As is well known, US sanctions have had serious impacts on Iran for the past forty years, during which time their pressure on the Iranian economy has been uneven. The most sensitive measures of economic pressure against Tehran were applied in 2010–2015 and 2018–2020, as they cut the country off from the international banking and insurance systems, restricted Tehran's access to foreign investments, advanced technologies, and international sea carriage services. Tehran's ability to sell oil on external markets and import gasoline has thus been limited. The adoption of the Joint Comprehensive Plan of Action (JCPOA, or “nuclear deal”) signed between Tehran and the international negotiating team in 2015 was welcomed by the Iranian population and a large part of the country's elite, as it lifted many of the nuclear-related sanctions previously imposed and gave Iran economic development aspirations. However, US President Donald Trump's decision to withdraw from the JCPOA in spring 2018 has once again changed the situation in Iran, raising significant concerns in the international community. In his well-structured article, Nikolay Kozhanov has confirmed that the stability of the Iranian regime is not only ensured by a strong repressive apparatus, but also by a willingness to correct its mistakes. Following the suppression of the revolutionary protest Green Movement after the 2009 elections, the Iranian authorities have tried to gradually eliminate the disturbing factors that led to the growth of discontent and have made certain socio-economic compromises.

In the 11th and last chapter, “*Why Has the Recent Wave of Revolutions in the MENA Region Missed Kuwait and Bahrain?*”, entitled, Elena Melkumyan clarifies the situation in Bahrain and compares it with Kuwait, as both are Arab monarchical states with high living standards and well-developed social support system. However, these two Gulf states were the scene of active mass revolutionary protests in 2011. Bahrain and Kuwait are the most politically advanced of the Arab monarchies. These two countries have many common features in their political structure: power is mainly in the hands of ruling families. Both countries were protectorates of Great Britain, and British influence became a factor that pushed for government reforms and enhanced the socio-economic development of these countries. In both countries, oil exploration began earlier than in other Gulf monarchies. Bahrain was the first to discover oil in 1932, while in Kuwait the

exploration of oil fields began in 1938.

The uprising in Bahrain was severely suppressed by the authorities. In Kuwait, the situation was different: the authorities adopted a compromise stance, which contributed significantly to ending the mass protests, and the conflict between the authorities and the opposition continued, as in previous years, in the parliament. So, the mass protest action did not drastically change the political situation in the two countries.

Finally, the authors have sought to provide the reader with a comprehensive comparative analysis of the different revolutionary waves that have taken place in the MENA region. The analysis has been discussed in several dimensions, firstly by presenting the historical background of each country, explaining the nature of the political regimes and the nature of the populations living there, focusing on the roots or main causes that led to the outbreak of revolutions in each country, highlighting the reasons that triggered the revolutions. There was, however, one main objective, common to all countries, namely, to get rid of the governments of those countries, which were clearly oppressing the population, whose demands they were unable to meet. That was the main reason for these revolutions, namely, to put an end once and for all to authoritarian and bureaucratic systems and to introduce more democratic, flexible and vibrant systems capable of meeting the needs of the population.

The volume is an excellent guide for those who want to get a clear and comprehensive picture of the revolutions in the MENA region, as well as detailed answers on why they originally broke out, what political systems were in place in these countries, and what the populations were like. The book is interesting and informative.



Book review: South Africa's Border War 1966-1989 by Willem Steenkamp¹²

Miklós Szakali³

Willem Steenkamp is a South African journalist, historian, military analyst and expert. He has published numerous works on military and historical topics mainly on South Africa. The author's commitment and expertise in military subjects can be attributed to his long military service and experiences he gained there. He served in the Active Citizen Force from 1961 to 1989, spending significant time on active duty and participating in different operations. His service was recognized with numerous decorations, many of which were earned for his operational activities.

His book, *The South African Border War 1966-89*, is considered one of the best on the subject, and has not been surpassed since. It quickly became a bestseller upon its publication, so it is strange that it was decided to republish it almost two decades later. In addition to the content of the book, I would like to highlight the richness of the illustration, the hundreds of colors and black-and-white photos, which vividly and authentically present the events, the environment, and the participants. They also contribute significantly to the success of the book. The photographs were taken and selected by Al J Venter, who is also a successful writer on various military subjects.

The South African Border War 1966-89 clearly encompasses a significant part of the South African military history. The author's aim seems to be to commemorate and acknowledge the South African Armed Forces (SADF), demonstrating their commitment, mindset and efforts in defending their country over this long period. Perhaps this is why the author adopted a one-sided approach and use of sources, relying solely on documents from the SADF. He did not use sources from other participants of the conflict (Angolan, Russian, Cuban, etc.). Imaginably these were not even available. Due to the one-sided use of sources, the book appears to be an expanded, well-illustrated "operational log." The author provides a chronological overview of the main foreign and domestic political processes, social events, and the circumstances necessary to understand the background and reasons for military operations. The main emphasis, however, is on the presentation of military activities. All this is done with a level of competence and thoroughness (equipment, technical details, number of casualties, etc.)

¹ DOI: 10.12700/jceas.2025.5.4.399

² Willem Steenkamp, *South Africa's Border War 1966-1989*, Helion & Company Limited, Unit 8 Amherst Business Centre, Budbrooke Road, Warwick CV34 5WE England, (paperback), Pages: 256, Images: 300+ color & b/w photos, ISBN: 9781915113009. Date of Publication: 15th February 2022, Edition: Reprint, Size: 297mm x 210mm, Helion Book Code: HEL1483, Price: £39.95 Including FREE UK delivery.

³ Independent Researcher, Óbuda University, Budapest, Hungary; ORCID: 0000-0002-8983-3855; mszakali@hotmail.com.

that clearly demonstrates the author's expertise and the credibility of the sources used. In my opinion, there is no doubt that the content authentically reflects the thinking and actions of South Africans in relation to the 1966-89 Border War.

The author repeatedly emphasizes that the Border War was a low-intensity, protracted conflict that spanned generations of South Africans. Thus, we can sense the patriotism inherited from father to son and the ongoing commitment to the security of the homeland. However, the low intensity should not mislead the reader, as it resulted in thousands of casualties and significant material damage and destruction. The loss was probably significantly more than the book states, as the figures are based on SADF sources only. Most of the operations began against insurgent units operating across or near the border and then progressed to heavy conventional warfare across the border, deeply inside the enemy's (Angola) territory. This type of warfare involved the use of air power in addition to ground forces, and even the occasional involvement of the navy. Thus, complete combined arms operations were also part of the so-called border war. Over time, the South African side demonstrated considerable courage and resourcefulness in the use of special operations activities, raiding training camps and command posts in Angola and Zambia. The reader can clearly trace the force development progress of the South African Armed Forces during the long period of the Border War, including organizational, technical, doctrinal, training and planning areas. The author also introduces the decision-making military leaders, most of whom participated in the operations and gained real combat experience.

In addition to military events, he also addresses social issues affecting the military, such as racism, denying that the essence of the conflict was a white-black clash. One of the earlier principles of apartheid policy was that only whites could be called up for military service and provided with weapons. This policy changed radically during this period, for example, an independent Zulu unit was established and successfully deployed (p. 234). We do not know to what extent this was due to military necessity or to the democratization process repeatedly emphasized by the author.

Part 2 presents the operations and the units that played a decisive role in the war. This can be considered more of an appendix, given the relatively short, descriptive text paragraphs and the large number of photos. In any case, it helps the reader to understand Part 1 better.

There is no doubt that the border war presented a continuing challenge to the South African Armed Forces, but it also offered an opportunity for its development. It is important to note that by the end of the war they had gained capabilities in border defense and anti-guerrilla operations that were probably unique in the world at that time. A particularly important achievement was the establishment and development of an independent military industry based on war experiences. The role and the mentality of the South African political and military leadership are also highlighted in the book, as they seized the opportunity and built the most effective and experienced military force of the era in the region.

The author presents the political and social events only in a nutshell to put military



activities into context, but at the same time he still provides a comprehensive picture of the defining political directions of the era and their mutual effects. It is very interesting to follow how a trade union featured movement developed into a regionally significant armed liberation force. Furthermore, how a national organization became a determining factor at the regional and then international level. The Ovambo People's Organization (OPO) was not an ideologically based organization, but a "*labour organisation against the migrant-labour system by which thousands of workers were hired to work in other parts of South West Africa without taking care of their rights and welfare*" (pp.18). The nature of the organization fundamentally changed after a serious police decision to shoot at the protesting crowd, this meant the focal point of the transformation into a liberation and independence organization, which fought for its goals not only with political means, but also with military force. The author describes how this transformed organization gained regional importance through relations with the liberation forces of neighboring countries (Angola, Zambia, Mozambique), establishing training camps and forward commands in their territory. The withdrawal of the Portuguese from the former Portuguese colonies strengthened the positions of the liberation organizations in the region, and thus the regional support and activities of the People's Liberation Army of Namibia (PLAN) also strengthened.

With the changing nature of the OPO and its connections with the liberation organizations of the region, the OPO grew beyond its regional role and became part of the global confrontation. Following the principle of: "the enemy of my enemy is my friend", during the Cold War, it was not necessary to have a strong ideological commitment for the Soviet Union to support an organization fighting against a Western-type state. Then, of course, in addition to military support, they also received strong ideological training.

Therefore, the Soviet Union, Cuba and the Eastern Bloc strongly supported the liberation movements, while the USA and the Western Bloc supported the South African and Angolan UNITA forces on a smaller scale, according to the author. Thus, the border war can also be considered part of the global confrontation, a proxy war on the African continent, one of the stages of the East-West struggle.

I consider this work to be a historic memoir of SADF's border war activities. The author commemorates the generational struggle for the security of the country and the development of the armed forces, and the SADF's rise to become a dominant force on the continent.

However, the book has become particularly relevant today and has gone beyond the "historic memoir" category. It carries a strong critical message regarding the current state of the South African Armed Forces. Already in 2014, "*A series of cuts to its capital and operating budgets compromised several capabilities and the South African National Defence Forces (SANDF)*⁴ was "*in a critical state of decline*". (Department of Defence's

⁴ in 1994 the South African Defence Forces was reorganized and renamed for South African National Defence Forces

2014 Defence Review)⁵ The situation has not improved much to this day, although the “2024 presidential directive that ordered the defence budget to be moved from 0.7 to 1.5% of GDP to redress chronic underfunding”⁶. It is doubtful that this will happen, until then it will remain the lack of maintenance for prime mission equipment (PME) including most of the SA Air Force (SAAF) and Navy assets. The decline was reported by the military website Global Firepower, which published its 2025 military force rankings. “South Africa is ranked as having the 40th greatest military strength globally – dropping seven spots from 2024. The country also dropped in the ranking of strongest military force in Africa, sliding by one spot from third in 2024 to fourth in 2025”⁷.

Overall, this is an excellent history book with an important message for our time. The message is the importance of maintaining and developing the achievements accomplished through the sacrifice and hard work of generations. This is particularly important in today's complex and challenging circumstances not only for moral reasons, but also for fundamental security interests.

⁵ DÖRRIE, Peter, South Africa's Military Is Falling Apart, Medium.com, War Is Boring, 2014. 04.13. <https://medium.com/war-is-boring/south-africas-military-is-falling-apart-a63c5d28220f>

⁶Staff Writer, Dod Management Taken To Task For Failing To Reverse SANDF Decline, Defence Web, 2025.04.25 <https://www.defenceweb.co.za/sa-defence/sa-defence-sa-defence/dod-management-taken-to-task-for-failing-to-reverse-sandf-decline/>

⁷ LIBERA, Malcolm, South Africa's military strength vs the world in 2025, Businesstech.co.za, 2025.01.16. <https://businesstech.co.za/news/government/806980/south-africas-military-strength-vs-the-world-in-2025/#:~:text=South%20Africa%20is%20ranked%20as,2024%20to%20fourth%20in%202025.>



Book review: *Apartheid's Stalingrad – How the Townships of the Eastern Cape Defied the Apartheid War Machine* by Rory Riordan¹²

Ashwell Glasson³

Many books have been written about Apartheid in South Africa, often from a strategic or historical perspective, frequently highlighting significant events and the leading personalities of the day. However, this book and its author, Rory Riordan, have achieved the rare feat of documenting the dynamic history, personality, and political policy in action over the early years of the anti-Apartheid movement, through to the release of Nelson Mandela. It is exhaustively researched and written in a truly accessible manner, making this book a must-read for students, historians and others with an interest in fresh and newer insights into the South African Apartheid era. The author also covers an immense range of security force plans and actions, making it particularly appealing to military and law enforcement historians, especially those with an interest in case study history of insurgency and counterinsurgency, rather than doctrinal or academic studies in those fields.

In addition to Riordan's journalistic mastery, the standout feature of this book is its geographic coverage – specifically, what is now known as the Eastern Cape province, as well as the Ciskei and Transkei homelands during the period from the early 1940s to 1990. While much has been written about the evolution of Apartheid, its policies and the security forces' campaigns and opposing campaigns in provinces such as the Transvaal and Natal and the proximate homelands during the Apartheid era, the author has brought the Eastern Cape story into the light—famous events, such as the Motherwell incident, Crossroads and Langa feature strongly. Riordan locates himself in this work as both an activist and a journalist, and thus, readers will understand that Mr Riordan was a highly committed anti-Apartheid activist, attempting to be both observer and protagonist at the same time. This approach makes his writing rich and passionate, filled with granular detail. Still, he strives to maintain his other commitment – that to journalistic objectivity.

This is likely one of the first comprehensive texts to document that formidable time in the Eastern Cape. It is essential to note that, although the author primarily focuses on the Eastern Cape, he connects the insurgency and counterinsurgency to the rest of South

¹ DOI: 10.12700/jceas.2025.5.4.405

² Rory Riordan, *Apartheid's Stalingrad – How the townships of the Eastern Cape defied the apartheid war machine*, Jacana Publishers, viii + 537 pp., \$36.64 (paperback), 2022, ISBN: 978-1-4314-3280-6.

³ College Registrar, Southern African Wildlife College and PhD Candidate, Stellenbosch University, Faculty of Military Science; ORCID: 0000-0003-4982-9998; registrar@sawc.org.za.

Africa and the activists in exile. This offers new historical insight into the diverse personalities and decisions made across all sides of the Apartheid struggle. From Mathew Goniwe's seemingly innocent transfer from one school to another, to the antics of unskilled security police operatives, whose detention techniques nonetheless led to immense trauma for detainees.

Riordan has collected and narrated several crucial interviews and oral histories, and, along with David Goldblatt, has captured some haunting images of activists, community organisers and leaders who played a fundamental role in the insurgency in the Eastern Cape. Portraits of Govan Mbeki, Ernest Malgas, Judy Chambers, Raymond Mhlaba, and others remind us of the pedigree of the anti-Apartheid leaders. David Goldblatt's simple, yet compelling portrait photography may contain some of the last pictures of certain activists.

In reading Apartheid's Stalingrad, one realises that the author was himself an activist and player in the anti-Apartheid movement. In founding the Human Rights Trust in 1986 and establishing a magazine, Riordan had unprecedented access to many of the anti-Apartheid leadership, allowing him to interview storied leaders like Chris Hani, Mathew Goniwe, Khusta Jack and many others. He also engaged with Apartheid functionaries and leaders.

The author pays specific attention to the period in which the United Democratic Front (UDF) was formed and how it mobilised and challenged the formation of the tricameral parliament, seen by many as a political ploy to undermine the anti-Apartheid movements and generate international support for the Apartheid government.

The author's attention to key geographical areas in Port Elizabeth and Grahamstown, such as the Ibhayi township and various other non-white areas, provides significant insight into the day-to-day lives of their citizens. Examples of this include the financial limits placed upon the Ibhayi Township Council expenditure, which meant that municipal services were limited. Bringing some of the rawness of township life to the reader, Riordan also highlights some of the joyful moments, such as quiet gatherings at night where activists from across the spectrum could meet and socialise.

Strategically, the author also tackles the explicit Cold War support that the South African Apartheid government received from the United States, specifically lighter-than-usual sanctions during the Reagan administration era. Furthermore, the author unpacks the shift in strategy by the anti-Apartheid movements, especially during states of emergency, and later, what is often overlooked in other texts on the success of the anti-Apartheid movement – winning the support of the workplaces. Where the unionisation of non-white workers was normalised, and private employers had a growing say in dealing with mass stayaways, strikes and workplace unrest.

The summation of Riordan's work also highlights that Apartheid was an undeniably whole-of-government approach to countering the anti-apartheid movements and their various attempts to bring about a whole, non-racial, democratic dispensation. His granular style makes this work particularly vibrant and valuable to a range of historians and students of African studies.