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Climate-Induced Insecurities and The ECOWAS Initiatives: Implications for Regional Goals 1991-2021

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ABSTRACT: ECOWAS is a regional organization established in West Africa on May 28, 1975 with the objective of encouraging regional integration and economic cooperation to ensure mutual growth and development among member states. Since its inception, it has involved in humanitarian interventions in some of its crises-ridden member states. However, the sustenance of the success has recently met with serious challenges through the evolution of climate-induced insecurities in the region. Studies indicate that the turbulent nature of such security challenges caused by climate change seems to be overwhelming the ECOWAS. The fact is that the evolving climate-induced conflicts in West Africa largely relate to quest for survival requiring more of econometric and meteorological actions than political solutions to which the ECOWAS, apparently lacks the technical know-how to combat. It is against the backcloth of the stated problematic that this paper sets focus on climate-induced insecurities and ECOWAS initiatives by evaluating the current implications of the weather-related conflicts for West African regional cooperation and integration. Nevertheless, the main idea inherent in the evaluation tends to posit that although the regional organ faces tremendous and unprecedented challenges posed by these climatic insecurities against its original goals, reluctance on the part of the governments of the member-states to adhere to the fundamental principles of the region, further implies that there is little hopes for impactful regional cooperation, integration and development if the outlined plans are not vigorously pursued to achieve the anticipated prospects which is the only way forward. The paper adopted the qualitative and historical analytical research methods.

KEYWORDS: climate change, insecurities, goals, fundamental, development.

INTRODUCTION

The West African people have a prehistory of living in empire system of kingdoms merged together. The pulling together of labour and capital accelerated development in that era. Since pre-colonial times, West Africans have been among the world's most mobile populations. It is indicated that much of the migration had been intra-regional.¹ Even recent record, not quite

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surprisingly, shows that about 7.5 million West African migrants (representing three percent of the regional population) are living in ECOWAS countries other than their own.² This mobility of human resources, to say the least, remains one of the main developmental indices. But the period of colonial experience changed all that. Before the creation of the ECOWAS, the collective territory known as West Africa was made up of aggregation of states that had emerged from different colonial experiences and administrations which largely defined their boundaries. These states operated imposed colonial economic models structurally prone to be protective and which limited growth.

Hence, drawing strength from the past history of the sub-region, leaders of West African countries which gained independence in the 60s and 70s had to make sacrifices to keep the shape of the political culture of the sub-region by giving up some of the sovereign interests in preference to mutual interest. Therefore, the formation of the Economic Community of West African States (ECOWAS) in post-colonial period was to foster interstate economic and political cooperation. The objective was to haul the countries back to the community principle which reigned internally supreme before the community witnessed the external dynamics. This implies that the diverse socio-cultural dimension of development makes it a necessity to establish peace and security in West Africa because according to antecedents, stability, typified by the empire system ensured growth.

However, after its inception, the ECOWAS was faced with security challenges due to internal and external factors altogether. One of the internal factors was political in nature. Elites of member states began to struggle for power to control resources which were meant to go round to foster development. Politics was driven by ethnocentric motives and individual idiosyncrasies. As a result of remnant interests of the colonial powers, some of the politicians of the member-countries became willing tools in the hands of the colonialists who used them to overthrow social regimes and also used them to subvert governments that were indisposed to capitalist practices within the sub-region. Nonetheless, the external caprices fueling the internal crisis within West Africa in the early post colonial epoch took another dimension during the cold war era. The ideological struggle between the Western bloc led by the United States and United Kingdom on one hand, and the Eastern bloc led by the (now defunct) Soviet Union on the other hand, worsened the plight of the crisis in the sub-region. Coups and counter coups, (which were evidentially superintended by these two extremes) ravaged the countries. As a result, insecurity became ubiquitous. The ECOWAS battled with this nature of insecurity in the region through its decisive peace-keeping missions. These missions carried out in Liberia, Sierra Leone and Gambia, to mention but a few, began to achieve the desired effect after decades of efforts. The peace and political stability witnessed in the countries mentioned were commended by the international community. ECOWAS was recognized as a prized subregion organization for security arrangements.

Besides the political crisis which the ECOWAS was apparently scoring on, by providing political solutions such as restoration of political institutions, there was an almost simultaneous emergence of another security challenge caused by climate change. Climate change is a change in global or regional climate patterns, in particular, a change apparent from the mid to late twentieth century onwards and attributed largely to the increased levels of atmospheric carbon

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dioxide produced by the use of fossil fuels.³ It is a term which refers to the significant variation of average weather conditions becoming, for example, warmer, wetter, or drier over several decades or longer.⁴ It is obvious that climate change accelerates the risk as well as the severity of violent conflicts. Whereas climate change cannot be isolated as the sole cause of violence and conflicts, it possesses the capacity of having both direct and indirect impacts on regional security. West Africa, as a (sub)region, has been the unenviable label of climate change and insecurity. Variegated geographies as well as the social context of survival of the fittest mean that changing temperatures, rainfall patterns and drought impacts differently on peoples across the subregion.⁵

Furthermore, in the recent past, it has been deduced that this worsening climate-induced insecurity, and how the inhabitants (that is the people and governments) of the subregion react to it, both stress the capacity of the ECOWAS being the regional organization set-up to ensure security, stability, cooperation, integration, growth and development of the subregion altogether. Nevertheless, the attempts of ECOWAS in tackling the climate-induced insecurities in the sub-region (and the implication of such insecurities to the original goal of regional integration should ECOWAS attempts succeed or fail) constitute the major issues because they reveal a trend of decline in precision and willingness towards the practices of valued principles set for stable growth and development.

Climate change as catalyst to insecurity in West Africa:

The West African sub-region is annually characterized by two distinct weather conditions: the rainy season and the dry season. Both seasons have consequences for the countries of the Sahel (as West African countries are referred to because of their proximity to the Sahara desert). The countries that make up West Africa include Benin Republic, Burkina Faso, Cape Verde, Cote D'Ivoire, Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone and Togo. In order to have a comprehensive idea of the security implications of climate change for these countries, it is important to note that most of them are largely dependent on climate-enhanced and agriculture-based income. A data of ECOWAS Hydromet Initiative in 2021 reported thus:

The economy of the region is substantially based on non-mineral natural resources with livelihood incomes largely derived from forest, wildlife, pastures, water and agricultural lands. The majority of West Africans live in rural areas where traditional forms of agriculture, animal husbandry and fishery remain some of the main activities.... 80 percent of the ECOWAS population... depends on climate-sensitive sectors of the economy. The region also derives large part of its energy from hydropower.⁶

As the GDP of these countries are prone to the vagaries of climate change, their governments alternatively resort to borrowings with high interest rates to cushion budget deficits. In attempt to service these debts huge amount of money is budgeted the upper year from the already depleted income which induces poverty on the countries. The poverty is, in turn, politicized by the elites of the countries to generate internal conflicts within their respective countries.

Floods and droughts form another insecurity aspect of climate change in West Africa. Recent development resulting from climate change and alterations of weather conditions implies that when it rains in rainforest areas, it rains too much thus causing floods that carry away both

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plants, humans and human habitations. Conversely, while it storms in the rainforest areas of West Africa, the arid zones witness extreme dryness which causes drought. Extreme lack of moisture is destructive to humans as well as livestock. Over the decades, whenever the inhabitants of the areas mostly affected by the change orchestrated by weather suffer from decline in standard of living (which equally means harsher living conditions) they tend to move in search of better settlements. These massive migrations cut across sovereign borders and engender conflicts which affect the stability, growth and development of the entire West African sub-region.

Food security is also an angle of climatic implications for security in the Sahel region. The countries of the region either fall within the tropical, rainforest or the coastal zones. Prior to the alteration of the climatic conditions due to green-house effects, the categorical seasons of both zones were predetermined and agricultural activities were structured in anticipation of the climatic conditions. For instance, in the rainforests, when it ceases to rain, bushes are cleared and crops are planted. The next expected rains water the growing plants; next is harvest in that rotation. Conversely, for the inhabitants of the tropical plane, the anticipated dry season enables them to cultivate tropically-supported crops and move their livestock to graze in the fallowing forests of the less tropical regions. They also draw waters through irrigation routes from the wet and coastal regions to supply the crops planted on arid environments. For coastal areas, the dry season means making of crafts while the rainy season means the reduction of water levels and a season of fishing business. Aquatic foods constitute a greater percentage of the protein of this region. Regarding global warming which is threatening the region's fisheries, Schmidt and Muggah have warned that "warming temperature and sea water acidification threaten to reduce by 30% or more the maximum catch potential of fishing in the region. Fishing...supports 16% of the region's protein intake"⁷

Thus the systematic rotation has hitherto been the routine source of food and livelihood across West Africa. Recently, the weather conditions can no longer be forecasted by the indigenous people inhabiting the areas, thus, causing mass migrations and competitions for scarce food sources such as lands, forests, waters, water-ways, and livestock. Noteworthy is the fact that these competitions transcend mere political struggles; rather, they are unending economic strife for survival which has necessitated a conflict-engulfed region.

Examples of climate-induced conflicts in the West African Community since 1990

There is anecdotal evidence that climate change in West Africa might already be associated with conflict since 1990. Nick Brooks has suggested that drought helped to trigger conflict in some Sahelian areas as early as that speculated time; ⁸ an example of such conflict is the 1990 Tuareg rebellion in Mali. Although the conflict was primarily regarded as an attempt by various Tuareg groups in Niger and Mali to secure an autonomous Tuareg state, it actually began amid famine and was later heightened by widespread political repression.⁹

One of the subregion's most striking features is the stark contrast between wet and arid zones. Indeed, the subregion's major water sources (Niger, Senegal, Gambia, and rivers, and the Lake Chad) have their resources in high rainfall areas before flowing through the Sahelian zone which experiences chronic rainfall deficits. Thus, water resources ensure an inter-zonal transfer

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of fresh water from wet to arid areas. The transfers create a high level of water interdependency among West African countries.¹⁰

In line with the discourse on water interdependency, the Mauritania-Senegal conflict is an example of a conflict caused by climate change in the subregion. In the Senegal River Basin, eight of the ten drought years (estimated on the basis of the volume of discharge in the middle reaches of the river during the 20th century) occurred in the 1970s and in the 1980s.¹¹ It is in this context that the Senegal River Basin Development Authority was jointly created by Mali, Mauritania and Senegal and given the mandate of developing and implementing a major water infrastructure programme which included the construction of the downstream Diama dam and the upstream Manantali dam.¹² In the last quarter of 1988, two years after the commissioning of the Diama dam and few months after the completion of Manantali dam (both dams meant to reduce the vulnerability of riparian countries to drought and climate variability), a conflict erupted between Senegal and Mauritania. The tension began when the river started to recede from adjacent floodplains.¹³ Senegalese farmers who went to the right bank of the river to prepare their fields were chased by Mauritanian border guards. Senegalese authorities retaliated by sending back to Mauritania camel herders and their flocks which use to spend most of the dry season in the Sahelian region of the Northern Senegal known as the Ferlo region. Few months later in April 1989, after a dispute between Senegalese farmers and Mauritanian herders in a territory claimed by both countries, the Mauritanian border guards killed Senegalese farmers and held some in custody.¹⁴

Tension grew and a series of skirmishes between Senegalese farmers and Mauritanian pastoralists took place along the river. Few days later, ships held by Mauritanians in small riverine towns and in Dakar were ransacked and looted by bands of youth. In response, hundreds of Senegalese resident were killed in Mauritania. A hunt for Mauritanians followed in Dakar and other big cities in Senegal. Tens of Mauritanians were killed. The two governments then decided to impose a curfew in their respective countries. By the end of June 1989, 75,000 Senegalese and 150,000 Mauritanians were repatriated sometimes by air.¹⁵Thousands of Senegalese who were denied their Mauritanian nationality were deported to Senegal. The two countries severed diplomatic relation and the situation remained tense for the rest of the year. The two armies deployed troops along the river and even exchanges of heavy artillery took place in October and November, 1989.¹⁶

Ghana-Burkina Faso's suspicion and controversies over the causes of energy crisis is another case of conflict engendered by climate change in the region. The Volta River system is increasingly targeted both in Ghana and Burkina Faso to address national development needs. The Akosombo dam, completed in 1965, created the largest man-made lake in the world with an area of 8,500km² and a volume of 148km³ at full reservoir capacity.¹⁷ In 1982, the Kpong dam was built downstream of Akosombo. Together, those two dams have an installed capacity of 1,060mw which translates to 95 percent of Ghana's total electricity supply.¹⁸ In an average year, 56 percent of the water flowing to the Akosombo Reservoir reportedly come from the White and Black Volta (against 44 percent from the Otipendjari river). In 1998, the water in the Akosombo Reservoir fell below its operating level resulting in severe power shortages. This

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gave rise to various speculations about the cause of the low level of water inflows to the Akosombo Reservoir (also known as the Volta Lake).

One view was that Burkina Faso had unduly increased water withdrawals in the upper basin through dam building and irrigation development.¹⁹Truly, few years earlier, Burkina Faso had announced plans to build 3 large dams on tributaries of the Volta within its territory for water supply to Ouagadougou, the capital city, and the Ziga dam for power production. At that time, Burkina Faso had already built two large dams and an estimated 1500 small dams in the upper basin of the Volta River. In addition, the irrigated area in Burkina Faso increased from 2000ha in 1996 to 25000ha in the late 1990s, whereas in Ghana, the area irrigated increased from 1000 ha to only 7000 ha during this same period.²⁰

These trends seem to support the feeling that Burkina Faso's investments in water infrastructures were the main cause of water deficits in the lower Volta. But, there is an alternative view that the total storage capacity of Burkina Faso's planned and existing large and small reservoirs represented only 1.49km³ or less than 5 percent of the storage capacity of the Akosombo reservoir. It is, therefore, more correct to link Ghana's 1998 energy crisis to reduced discharge of the Volta as a result of climate change and variability rather than to increased water withdrawals in Burkina Faso.²¹ Yet, because of ignorance of the unprecedented climate occurrence, there was tension between the two countries.

The Niger-Nigeria conflict is another example. Nigeria which had invested heavily in irrigation schemes and hydropower in the downstream part of the river Niger, by building the Kainji and Jebba dams, 1.6 million hectares of irrigated land, river transport installations and urban water supply, today believes and fears that the construction of dam projects upstream (such as the Kandadji dam project in Niger) would lead to reduced inflow to its Nigerian part. Thus, on several occasions, the Nigerian authorities had expressed their opposition to any dam project on the Niger river that would involve a reduction of more than 10% in the volume of inflow received annually in Nigeria.²² Considering that climate variability over the recent years has resulted in a drop of between 20% to 50% in average annual flows in the Niger river just as in other major rivers in West Africa, and taking into account the fact that the climate predictions could degenerate to further reductions in river discharges, one can wonder whether climate variability and change are not going to "withdraw" more water from the Niger river than downstream countries like Nigeria would deem acceptable. In fact, from the foregoing, one would even fear the occurrence of instances where downstream countries would ignorantly blame upstream dams and irrigation schemes for what would be rather due to climate variations²³ and as a result increase hostility among the countries. Postel and Wolf were therefore right when they postulated that:

As a result of growing water demand combined with decreased water availability as a result of factors such as climate change and variability, risks of water disputes are higher and could lead to [other] costly regional conflicts.²⁴

Correspondingly, Anthony Nyong has opined that there is a correlation between reports of conflicts and periods of drought in northern Nigeria,²⁵ otherwise known as herders'-farmers' crises.

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Climate change in dimensions of regional disintegration and underdevelopment:

There have been strains in the relation of ECOWAS-member states since the beginning of climate-induced conflicts. This is mainly because the countries of the subregion are basically geographical expressions harbouring variegated groups of people whose kits and kin spill across other countries. From the community discourse of it all, kin residing in one country have been said to have aided and abated their kin from another country to fight and kill their fellow countrymen who are not of the same ethnic or group as them. As exemplified in the Nigerian crises, the Fulani residing in the northern part of the country are said to have collaborated with their kin infiltrating from the Republic of Niger, and other parts of West Africa to kill and maim the Hausa and other ethnic groups residing in the northern part of the country.

From the socio-political point of view, chief executives of states within a country have reportedly used states institutions to protect their kin (within and without) who have committed crimes against human rights, usually against the people of their immediate society (whose lives and properties they swore to protect). Thus, they have been playing politics of conflict of interest with the security of the immediate society entrusted into their care. Nevertheless, the most worrisome point which complicates regional cohesion centers on the policy discourse. Commanders-in-Chief of countries have been fingered as having vigorously pursued policies that caused the insecurity of the citizens of their own country while reportedly being sympathetic towards the course of their foreign kin. For instance, it would be, speculatively, more difficult for ECOWAS to dissuade President Muhammadu Buhari of Nigeria, an ethnic Fulani, from implementing the Cattle Colony (RUGA) policy which entails forcefully apportioning lands belonging to indigenous Nigerians to his kin migrating from their earlier settlements like Niger and Chad due to hardship caused by climate change in those countries, than it would be to persuade him to follow the comprehensive all-inclusive plan articulated by ECOWAS. This speculation is based on the account of President Buhari's disposition towards policies concerning climate-induced conflicts. According to Journalists' reports, it was perceived that President Buhari was so adamant in enforcing and implementing the RUGA policy until mid 2019, when he eventually succumbed to pressure of criticisms and suspended the policy. Peoples Gazette wrote of the President thus:

Following nationwide outrage, President Muhammadu Buhari suspended the controversial Ruga Policy in July 2019. What a large chunk of the population did not know, however, was that the President's [late] decision came at a substantial cost to the nation. In 2019 [that is earlier before the decision], Premium Times reported that President Buhari sacked Vice-President Osinbajo from his role as the head of an inclusive committee on resolving the deadly conflict between farmers and herdsmen [infiltrating from Mali and Chad] in the Northern and Central parts of the country based on the standard of ECOWAS initiative. Mr. Buhari took the decision based on the recommendation of his (now deceased) Chief of Staff Abba Kyari. Mr. Kyari had intercepted a memo from Mr. Osinbajo to Mr. Buhari in which the Vice-President updated his principal on the progress of the livestock transformation committee and requested funding to execute a long-time proposal that would effectively resolve the decades-long crisis that have killed thousands. The memo which was addressed directly to the President... was hijacked by Mr. Kyari, who advised the President to disregard its prayers because they were either premature or entirely unnecessary. Without seeking Mr. Osinbajo's opinion on the observations of Mr. Kyari, Mr. Buhari endorsed the recommendations of his Chief of Staff, effectively undermining his own Vice President [and the inclusive approach].²⁶

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Note that Mr. Kyari recommended the continuation of the Ruga policy to establish cattle ranches across the nation as against the recommendations of the Osinbajo-led committee which proposed, among other plans, the resettlement of migrants and creation of ranches in states that would willingly accept (probably money) to offer their lands for the ranches. This reluctance to follow a broader and inclusive plan devoid of ethnocentrism and nationalism is one of the reasons why the community had made little or no progress in tackling the climate-induced insecurity in the region.

Similarly, it is speculated that it would have been more difficult for ECOWAS to convince Mahamadou Issoufou, an ethnic Hausa,²⁷ and the immediate past President of Niger Republic (7th April, 2011 to 2nd April, 2021) to drop a repressive policy than it would have been to convince him to instead pursue the policy of cattle ranching which entailed permanent apportionment of very small expanse of land that would accommodate the Fulani (pastoralists) who constitute only 8.5% of the population of his country and for which he would have perceived as enhancing Fulani expansion. It is deduced that the repression of Fulani in that country enabled a forced migration of the pastoralists into Nigerian Northern settlements and invariably breeding daily clashes between herders and the indigenous Nigerian farmers. This speculation is buttressed by the assertion of former UN Director – Initiative on Nonstate Armed Actors, Venda Felbab-Brown who wrote of Niger's crisis thus:

When I visited Niger in May [2017]... the capital of Niamey were abuzz with foreign military personnel. Niger is rapidly becoming a key US... ally [and equally] hosts French troops, and, as part of its TransSahara Counter Terrorism Initiative, the United State is building a \$100 million drone base there to... respond to terrorist activities across the Sahel... To boot, its political situation is precarious. Addressing the toxic mix challenges requires sustained efforts to improve governance, not just military operations.²⁸

However, this perceived adamancy coupled with the unilateral postures of some West African states, makes these climates related crises to, stereotypically, appear intractable by the governments of the member-states due to sympathy and empathy or none thereof. It is putting a strain on unity of purpose. This unilateral situation stalls the prospects of multilateral initiatives aimed at mutual growth and sustainable development. For instance, in 1992, diplomatic relations between Mauritania and Senegal were restored but the wounds of the crises remained because since then, there has been what Simeon Seck called a "thickening" of the border²⁹ as a virtual wall seemed to have been erected along the river. This marks a new difficult era in the subregion as Senegal River was, previously, a communication and commercial highway regularly crossed by thousands of trans-bounding agro-business oriented people of the subregion plying their trade in both banks of the river.

In fact, recent events illustrate the precarious nature of the situation along the borderline between Senegal and Mauritania. In June 2000, the Mauritanian government accused Abdoulaye Wade, the then Senegalese President of intending to exhume and re-launch the fossil valley rehabilitation project involving the diversion of water from the shared river to a network of fossil tributaries in the Centre-North of Senegal. The Mauritanian government reacted promptly by giving a 15-day notice to Senegalese nationals to leave Mauritania. President Wade then announced the shelving of the project, and this resulted in the dousing of the tension.³⁰

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Although the laudable quick reversal of the policy by the Senegalese government calmed down the tension, the impact of such uncertainties as exemplified by the threat of the Mauritanian government could not have failed to take its toll on the ECOWAS Free Trade Agreement (FTA) in which free movement of goods, services and human capitals were agreed upon to enable mobility of resources to accelerate the mutual development of the countries in the subregion. Amidst the differences in states' interests bothering on climate change which have worsened by their unilateral behaviours which however conflict with regional goals of integration and mutual development, what have been ECOWAS responses?

ECOWAS' concerted efforts to face the threats or challenges of climate-induced insecurity:

In 1992, ECOWAS convened the first meeting of the Committee of Directors of National Meteorological Services in Lagos, Nigeria and initiated the ECOWAS Hydromet Programme (otherwise known as the Hydormet Initiative).³¹ The programme was designed as a framework/platform for governments, development partners, and the private sector to support Hydromet services in the subregion. It is an integrated programme facilitating incremental increase to modernizing Hydromet services in West Africa aimed at sustaining the delivery of key weather, water, climate and early warning service.³² Yet, it took the Conference of Heads-of-State and Government of ECOWAS five years to adopt this programme in 1997 after which the Executive Secretary of the organizations was mandated to mobilize the necessary resources for its implementations. But the first version of the ECOWAS meteorology programme document was presented and adopted after almost two decades in Banjul the Gambia in May 2014³³ remaining to feel the implementation.

As the impacts of the initiative were less palpable in the region, the African Ministerial Conference on Meteorology (AMCOMET) in 2021, renewed its integrated African Strategy on Meteorology. In its communiqué, the forum reinstated the continued need for adequate investments in modernizing and integrating hydromet systems, from governments, development partners, and private sectors.³⁴ Within this context, the idea of (re)establishing a comprehensive ECOWAS Hydromet Initiative was re-acknowledged, and regional governments mandated to expedite implementation of collective plans.

Nevertheless, it is askew to postulate that the ECOWAS has done nothing over the years in line with the AMCOMET neo-mandate. The ECOWAS had previously developed and seemingly implemented various strategic plans and policies related to hydromet services and early warning, some of which include Agricultural Policy (2005), Disaster Risk Reduction Policy (2006), Environmental Policy (2008), West Africa Water Resources Policy (2008), Regional Strategic Plan 2011-2015 (2010), Vision 2020 (2010), Disaster Risk Reduction Action Plan (2016), Environmental Action Plan 2020-2026 (2020), ECOWAS Flood Risk Manage Strategy (2021).³⁵A closer observation of the list will reveal that some programmes have been repeated by ECOWAS and converted from mere policy to action plan. Yet, none of these seems to have met the greater percentage of the expectation in helping to proffer solutions to the enigmatic problem of climate-induced insecurities in the subregion.

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The ECOWAS Agricultural Policy (ECOWAP) was formulated in 2005. ECOWAP's general objective was to contribute in a sustainable way to meeting the food needs of the population and also to contribute to economic and social development and reduction of poverty in the member-states; and thus to reduce existing inequalities among territories, zones and nations.³⁶ This policy was in line with the fundamental principles of community cooperation and was going to succeed before being deviated by external forces which found collaboration with willing leaders of member-states who let their national interests to take preeminence over mutual interests. This deviation came in the manner of ECOWAS Disaster Risk Reduction (DRR) Policy in 2006. ECOWAS Heads of States and Governments were apparently induced to focus attention on, and channel funds to anther policy transferred to them by the UN committee of nations. This policy area did not at the time require immediate attention in West Africa. In fact, following the occurrences of natural disasters in the north side of the equator, it seemed the United Nations coerced West African nations through the African Union to join in a policy that is not the priority of the sub-region. The promise of loans and aid attached to the DRR policy must have influenced the leaders of West Africa to deviate from the Agricultural policy.

Titilayo Doremi decried the derailing process thus:

During the decade, however, the disasters challenging West Africa and its intergovernmental regional body [the ECOWAS] were... domestic challenges. ECOWAS Authorities of Heads of States and Governments... followed in the step of the organization of African Unity [now African Union]. Despite having to grapple with the challenge of conflict in some West African States... ECOWAS contributed to the development of the African Regional Strategy for Disaster Risk Reduction. ECOWAS interest in DRR can be linked to the establishment of an African office of the UNISDR... [therefore] indicating that the transfer process was focused on altering administrative arrangements within the recipient jurisdiction.³⁷

The next ECOWAS initiative was the 2008 Environmental Policy which seemed dead on arrival because of its cumbersomeness approach. It lacked the precision on what constituted environmental challenges. For instance, the policy seemed confused with what defines the environment; was it to focus on loss of bio-diversity through deforestation or was it going to be attentive to loss of free resources and pasture land degradation? Or was it to focus on river and lake water resources degradation? Or to focus on degradation process brought about by the development of mineral resources, or urban and industrial pollution and nuisances?³⁸ ECOWAS member-states undoubtedly had, in each of their states, one or more of these challenges. Therefore, the main challenge should preemptively be on which areas of focus (between land and waters) should take preeminence in the policy.³⁹ In line with the diversity of interests in member states, fund-raising strategy also posed an issue. The resources for the implementation of the Environmental Policy was to be from, first, the sub-regions's own resources mainly from the general funds or funds allocated to the ECOWAS commission particularly from Regional Solidarity Fund, and also from the contributions from other bodies and contributions allocated by individual countries to joint programmes targeting specific aspect of the policy.⁴⁰ The conundrum is: which country would give up funding of its own specific target areas for the interest of another, or for the common good?

Deducing from the above dilemma, the West Africa Water Resources Policy which came up later on December the same year was probably meant to mediate the interest between the land

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and water areas. That is to say, to tackle the later with separate precision because water is a key factor in socio-economic development of the sub-region.⁴¹ West Africa has significant water resources but apparently suffers from chronic deficits because of uneven distribution of rainfall and flows. The water resource policy intended to harmonize the problem and to define a water policy framework in West Africa in order to reconcile economic rationality and social equity of member-states with economic development of the sub-region.⁴² The water resource policy, however, faced a number of socio-economic factors such as unwillingness to participate, poorfunding, the population explosion and the lack of hydrological data. The ECOWAS data on West Africa Water Resource Policy summed up the challenges thus:

Water resources management covers various and complex issues such as responding... participation, cost recovery, rapid population growth... These require the adoption of an integrated management [mechanism], taking account of all the uses of water and involving all the actors concerned. Interactions are complex between water policy and economic... policies [which] are not necessarily consistent.⁴³

Probably, the Regional Strategic Plan 2011 - 2015, which was an alignment of Vision 2022 (both policies formulated in 2010) meant to meet the requirement of the adoption of an integrated management mechanism lacking in the West Africa Water Resources Policy. This is because the ECOWAS Vision 2020 was said to have aimed at deepening the integration process and promoting a West African identity. The vision statement read in parts "to create a cohesive region through the sustainable development and environmental preservation".⁴⁴ The Regional Strategic Plan 2011 – 2015, which derived from Vision 2020 articulated six integrative strategic pillars such as good governance; mechanisms for conflict resolution; infrastructural development for competitive business environment; sustained development and cooperation in the region; economic and monetary integration; reinforcement of institutional capacity; and strengthening of mechanisms for integration into global market.⁴⁵

However, because of the disconnect between the duo policies and the climatic problems facing the community, speculations were rife that those were just another deviation offshoots from community's administrative arrangements to tackle its immediate problems. Besides the fact that the speculation was heightened because the process followed similar procedure with the Disaster Risk Reduction Policy in which an African institution, AU (but this time African Development Bank) was used to alter the direction of the Community Policy, the preference of African Development Bank in setting the policy requirements seems to have justified the speculations. The Bank's Regional Integration Strategy Paper (RISP) for West Africa, 2011-2015 released on March 2011 read:

The Bank's strategy for supporting regional integration in West Africa rests on two pillars... pillar one will support investments in regional transport infrastructure... rehabilitation of priority road corridors... Pillar two will strengthen the capacity of... selected regional institutions and national entities where necessary, to deliver more effectively the integration agenda.

It is deductive from the Bank's statement that climate change was less of its concern than was colonial infrastructure. This deduction is because, the section of transport and logistics of the Bank's paper read:

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West Africa has the lowest quality of transport services... compared to both other regions in Africa. In addition to the poor quality of the existing road infrastructure, the road transport links still reflect the North-South commodity trade routes of the colonial era. The Bank financed 17 railway... links... prioritized based on... detailed design... by EU and other donors financing.⁴⁶

Secondly, it is unlikely that the policy was really meant for integrative purpose since, according to the Bank's statement, state actors were to be strengthened when what mainly needed to be strengthened to achieve integration was the intergovernmental organization, ECOWAS.

Nevertheless, serious concern is to be put on the behavior pattern of the leaders of West African countries whenever the occasion presents itself to choose between original policy direction and a policy transferred via external influence. Their inclination to be induced to follow the later pact in total negligence of the former portrays declining fundamental principles. In order to acknowledge that the duo policies of Regional Strategic Plan 2011 – 2015 and Vision 2020 were rather orchestrated to tackle more foreign than domestic challenges, and also show the attached inducements which both deflated the policy direction of the recipient jurisdiction, West Africa, the Bank's paper noted thus:

On the global scene, attention is currently focused on the WTO Aid for Trade (AfT) process and on Economic Partnership Agreements (EPAs) with the EU. Key issues in the negotiations with the EU include; (1) short-term compensation to the ECOWAS countries for the likely revenue loss from reduced tariffs on EU products. (ii) Most favored nation status for ECOWAS countries; and (iii) EU support to enhance the production capabilities of ECOWAS countries, to improve their competitiveness within the EU-ECOWAS trading zone.⁴⁷

Despite the number of initiatives brought forward, many challenges remain which limit the full potential of a closely integrated landscape of weather, climate, water and early warning services. The challenges include polices and data-sharing arrangements.⁴⁰ As mentioned earlier, due to the reluctance of member-states governments to opt for cohesive (rather than disintegrative) policies because of their unilateral postures, the hydromet initiatives have suffered huge setbacks because of the actions of bigger countries in the sub-region. Wealthier countries in the sub-region have reportedly employed experts who gave near accurate forecasts of the weather conditions and suggested plans for the countries to meet with the demands of such expected climate change. But some countries have withheld the information from other contiguous countries which would undoubtedly suffer from the forecasted disasters in the future. The long-term implication is that the ripple effects of the climatic disasters in the contiguous nations (such as migrations, displacement, refugee problems, exportation of diseases, competition for scarcer resources and the conflicts that would ensue) would, be suffered or felt by the poorer as well as the richer countries.

Infrastructure is another challenge. Lack of Information Communication Technology infrastructure and adequate data management system for adequate data-processing capacity entails that sometimes vital data are lost after cumbersome meteorological exercises have been carried out and documented by paid experts. This is tantamount to a waste of resources as well as a waste of time and it could impact negatively on the morale of the regional planners and development partners. Funding poses another challenge. Sustainable financing of the ECOWAS programmes involved proves difficult. ECOWAS hydromechanics are said to currently lack the resources to contract seasonal forecasting experts in various fields for

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collaborations. Instead they depend largely on donor funding. Thus, in West Africa, over 60% of the data are collected manually by unprofessional and voluntary staff. Consequently, such data are of poor quality and cannot be relied upon for real-time monitoring and early warning.⁴⁹ However, for the concrete efforts of an organization of 16 countries proven to be in dire need of hydormet initiative in the face of climate-induced insecurities, which is notably renowned for sponsoring peace support operations to successful completion in the past and present, it beckons to wonder if the problem of funding the hydromet initiatives does not relate more to reluctance than to reality of insufficient fund.

Prospects and the way-forward:

In spite of the obvious challenges, the potentials of the ECOWAS Hydromet programme cannot be over-emphasized. It appears to be the only apparent panacea to the climate-induced insecurities and the retrogressive impact of same on West African integrative development. Apart from the fact that it took into consideration all reported cases and interests of the member states, it proffers solutions for protecting the interest of the citizens of the ECOWAS who are engaged in various climate-oriented businesses. For instance, for rain-fed crop producers, the programme considered that crop yields and pests are highly sensitive to variations in precipitation and temperature. Therefore, it targeted more precise dates and quantities on the application of pesticides and use of enhanced crop varieties. It also gave verdicts on decisions related to the date of sowing, harvesting and post-harvest processing.⁵⁰ For irrigated crop producers, it captured the necessity for availability of surface and ground-water resources for irrigation. It also suggested irrigation management which depends highly on precipitation and temperature forecasts.

For livestock herders, it noted that livestock are climate-sensitive and needs fodder and water supply during shortages so as to avert being infected by climate-related livestock diseases due to malnutrition. For that, the plan suggested the stocking of fodder reserves, provision of additional water supply, and efficient vaccination.⁵¹ For coastal cities, the programme captured the dependency of fishing business on water quality, and the declining fish stock impacted by droughts, low water levels and low oxygen. Thus, it suggested skills for successful day-to-day fishing operations and ways of water quality improvement by providing relevant information on water quality and levels, flood and low water level forecasting as well as situational data.⁵² For hydropower utilization, it indicated that water level and quality [sediments] and precipitated information are critical for a successful operation. Therefore, it guided on a day-to-day operations, the maximization of hydropower output and optimizing water releases from reservoirs. The programme also guides on patterns of water releases and water quality monitoring, modelling, assessments and forecast on seasonal climate outlooks.⁵³

In terms of efforts to address climate variability and climate change, the utmost should be the need to manage uncertainty. This implies that ECOWAS needs to develop strategies that allow for better management of climate variability so as to lessen the impact of same on livelihoods and agricultural production, such strategies as hydromet initiative becomes ideal. The implementation needs of the hydromet programme needs to be driven by the ECOWAS member-states with sound implementation plans and coordinated actions by ECOWAS and regional institutions. Any regional collaboration on hydromet services should be driven by the

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effective exchange of hydromet data between member-states with regional, technical organizations and complying with Global Basic Observation Network and related global requirements⁵⁴, most especially transparency by the member states. Moreover, towards a coordinated multilateral approach based more on broad regional interests than narrow national concerns, ECOWAS needs to promote open and constructive dialogue. It is also observed that although climate change awareness is international, the mechanisms for addressing climate issues are still primarily national, given the lack of multilateral regulatory mechanisms and environmental laws.⁵⁵

The absence of multilateral mechanisms not only limits the scope for effective long-term action but also adds an element of uncertainty into the collective initiative which propels states to monitor environmental concerns unilaterally. Promptness and willingness by member-states are essential pre-requisites to enable diplomatic dispositions to concede to regional rather than national plans and goals, because the ECOWAS hydromet initiative identifies areas of synergy with existing programmes and projects, and formulates a regionally coherent strategy for funding and implementation with most of the genuine prospects that can ultimately, effect mutual growth and integrative development in the sub-region.

CONCLUSION

In a distinct nomenclature, this research has given an expose to the evolving nature of the conflicts facing the ECOWAS. The assertion that the climate-induced conflicts are seen to be overlapping with ECOWAS capacity of integrative goals of development is a presumption owing to lack of precision and decisiveness in policies. However, it amounts to a stereotype for one to assert that the insecurities necessitated by climate change overwhelm the capacity of the ECOWAS because it is evidencing that the reason for such speculative assertion is associated with the fact that the people of West Africa and their governments have been turning away from their original principle of unity which has always been the fundamental factor for development. This spontaneous act could be remedied through consciousness towards collective action.

Furthermore, the implications of these climate-induced crises with regards to failure to act together (against external dynamics) and which was orchestrated by the reluctant disposition of the leadership of member-states of the ECOWAS, remain a constant threat to mutual cooperation of states in the West African sub-region. In this vein, the efforts made through the ECOWAS hydromet initiative and related policies and plans which genuinely seek to remedy the situation of insecurity (that often results to instability and underdevelopment) remain altogether commendable. Therefore, any initiatives whose patterns and objectives seek to articulate and implement a holistic approach targeted to achieve long-term mutual results should not be frustrated with short-term national interests; otherwise the multilateral prospects inherent in the initiatives will remain elusive. In order to remain optimistic with the hopes of achieving the ECOWAS original aim of regional unity, growth and development through economic cooperation, the soluble ideas as detailed in the tail of this paper seem the only way-forward.

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Website: https://www.eajournals.org/

Publication of the European Centre for Research Training and Development -UK

REFERENCES

- ¹ECOWAS; "ECOWAS Common Approach on Migration" Being the 33rd ordinary session of the Heads of State and Government, Ouagadougou, 18 January. *ECOWAS Commission*, 2008.
- ²ECOWAS; ECOWAS Common Approach on Migration"...
- ³The World Bank Group Report. Accessed from the original site *www.climateknowledgeportal.worldbank.org* on October 19, 2022.
- ⁴The World Bank Group Report. Accessed from the original site *www.climateknowledgeportal.worldbank.org...*
- ⁵K, Tarif. Climate Change and Violent Conflict in West Africa: Assessing the Evidence. Stockholm International Peace Research Institute (Sipri), Sweden, 2022. *www.sipri.org.*
- ⁶ECOWAS. ECOWAS Hydromet Initiative: Strengthening Weather, Climate and Water Services in West Africa *Analytical Report* Abuja, 2021.
- ⁷P, Schmidt and R, Muggah. Climate Change and Security in West Africa. IGARAPÉ Institute, Rio de Janerio, Brazil, 2021. *www.igarape.org.br*.
- ⁸N, Brooks. Climate Change, Drought and Pastoralism in the Sahel. Being Discussion note for the *World Initiative on Sustainable Pastoralism*, 2006.
- ⁹N. Brooks. Climate Change, Drought and Pastoralism...
- ¹⁰M, Niasse. Climate-Induced Water Conflict Risks in West Africa: Recognizing and Coping with Increasing Climate Impacts on Shared Watercourses. Being an Article on International Workshop on Human Security and Climate Change organized by Global Environmental Change and Human Security (GECHS) in partnership with Center for International Climate and Environmental Research Oslo (CICERO) at University of Oslo, 2005. Accessed via *http://www.researchgate.net/publication/237699436* on 11th August, 2022.
- ¹¹G. E, Hollis. Senegal River Basin Monitoring Activity Hydrological Issues. Part 1, *IDA Working Paper*, New York, 1990.
- ¹²M, Niasse. Equity Dimension of Dams-Based Water Resources Development Winners and Loosers In W, Steffen; J, Jäger; D. J, Carlson; C, Bradshaw. *Challenges of aChanging Earth*, University of Berlin, 2002. pp 39-43.
- ¹³M, Niasse. Climate-Induced Water Conflict Risks in West Africa...
- ¹⁴M. M, Horowitz. Victims of Development. *Journal of Development Anthropology* Network. Vo. 7, 2, 1989. p 1-8.
- ¹⁵R, Parker. The Senegal-Mauritania Conflict of 1989: A Fragile Equilibrium. Journal of Modern African Studies, Vol. 29, 1, 1991. p155-171.
- ¹⁶J. V, Magistro. Crossing Over, Ethnicity and Trans-boundary Conflict in Senegal River Valley. *Cahier d' StudesAfricaianes*. Vol. 130, 33, 1993. pp. 201-232.
- ¹⁷M, Andreini and N, Van de Giesen. Volta Basin Water Balance. *Center for Development ResearchUniversity of Bonn*, ZEF Discussion Papers, 2002.
- ¹⁸W. E. I, Andah. Climate Variability/Change and the Energy Crises in Ghana: Input to the West Africa Adaptation Strategy on Water and Climate, eds. *IUCN-BRAO*, 2003.

Vol.11, No.2, pp.38-54, 2023

Print ISSN: 2053-2199 (Print),

Online ISSN: 2053-2202(Online)

Website: https://www.eajournals.org/

Publication of the European Centre for Research Training and Development -UK

- ¹⁹C, Gordon and J. K, Amatekpor. The Sustainable Integrated Development of Volta Basin in Ghana. Volta Basin Research Project, University of Ghana, Accra, 1999.
- ²⁰C. Gordon and J. K. Anatekpor. The Sustainable Integrated Development...
- ²¹P. J, Ashton. Avoiding Conflicts over Africa's Water Resources. *Journal of Ambio*, Vol. 31, 3, 2002.
- ²²M, Niasse. In W, Steffen; J, Jäger; D. J, Carlson; C, Bradshaw. *Challenges of a Changing Earth*, University of Berlin, 2002. pp 39-43.
- ²³M, Niasse. In W, Steffen; J, Jäger; D. J, Carlson; C, Bradshaw. Challenges of a Changing Earth...
- ²⁴S. L, Postel and A. T, Wolf. Dehydrating Conflict. Journal of Foreign Policy. Accessed via http://www.globalpolicy.org/security/natres/water/2001/1001fpol.htm on 11th August, 2022.
- ²⁵A, Nyong; C, Fiki and R, McLeman. Drought-related Conflict, Management and Resolution in the West African Sahel: Consideration for Climate Change Research. *Journal of Die Erde.* Vol. 137, 3, 2006. pp. 223-240.
- ²⁶Oyindamola Olubajo and Hillary Essien of Peoples Gazette on March 1, 2021 quoting Samuel Ogundipe's article "How Abba Kyaria manipulated Buhari to sack Osinbajo from Ruga Projects" of November 5, 2019 in *Premium Times*.
- ²⁷MahamadouIssoufou. An Auto Biography. www.africaconfidential.com. Archived from the original on 11th August, 2022.
- ²⁸Vanda Felbab-Brown. "In the eye of the storm: Niger and its unstable neighbours". Being a re-tweeted article by the Co-Director Africa Security Initiative on Tuesday June 13, 2017. Accessible on www.brookings.edu>blog>2017/06/13.
- ²⁹S. M, Seck cited in M, Niasse Climate-Induced Water...
- ³⁰S. M, Seck cited in M, Niasse Climate-Induced Water...
- ³¹ECOWAS. ECOWAS Hydormet Initiative: Strengthening Weather, Climate and Water Services in West Africa...
- ³²ECOWAS. ECOWAS Hydormet Initiative: Strengthening Weather, Climate and Water Services in West Africa...
- ³³ECOWAS. ECOWAS Hydormet Initiative: Strengthening Weather, Climate and Water Services in West Africa...
- ³⁴ECOWAS. ECOWAS Hydormet Initiative: Strengthening Weather, Climate and Water Services in West Africa...
- ³⁵ECOWAS. ECOWAS Hydormet Initiative: Strengthening Weather, Climate and Water Services in West Africa...
- ³⁶ECOWAS Commission: A Report of the Department of Agriculture, Environment and Natural Resources, 2005. *Directorate of Agriculture and Rural Development, Abuja*.
- ³⁷Titilayo Soremi "Storytelling and Policy Transfer". *International Review of Public Policy*, Toronto. Vol. 1, Issue2, 2019. Pp 194-217.
- ³⁸ECOWAS. "ECOWAS Environmental Policy". Environmental Directorate ECOWAS Commission, Abuja, 2008. Accessible on www.ecowas.int.
- ³⁹ECOWAS. "ECOWAS Environmental Policy"...
- ⁴⁰ECOWAS. "ECOWAS Environmental Policy"...

Vol.11, No.2, pp.38-54, 2023

Print ISSN: 2053-2199 (Print),

Online ISSN: 2053-2202(Online)

Website: https://www.eajournals.org/

Publication of the European Centre for Research Training and Development -UK

- ⁴¹ECOWAS, West Africa Water Resources Policy, 2008. Accessed through the original site *www.PREAO..West-Africa-Water-Resources-Policy-EN* on October 19, 2022.
- ⁴²ECOWAS, West Africa Water Resources Policy...
- ⁴³ECOWAS, West Africa Water Resources Policy...
- ⁴⁴J. K. Litse and F. Perrault. "Regional Integration Strategy Paper for West Africa 2011-2015". Being an analytical report conducted by African Development Bank under the auspices of Operation Regional West A (ORWA) and Operation Regional West B (ORWB) on March 2011.
- ⁴⁵J. K. Litse and F. Perrault. "Regional Integration Strategy Paper...
- ⁴⁶J. K. Litse and F. Perrault. "Regional Integration Strategy Paper...
- ⁴⁷J. K. Litse and F. Perrault. "Regional Integration Strategy Paper...
- ⁴⁸ECOWAS. ECOWAS Hydormet Initiative: Strengthening Weather, Climate and Water Services in West Africa...
- ⁴⁹ECOWAS. ECOWAS Hydormet Initiative: Strengthening Weather, Climate and Water Services in West Africa...
- ⁵⁰ECOWAS. ECOWAS Hydormet Initiative: Strengthening Weather, Climate and Water Services in West Africa...
- ⁵¹ECOWAS. ECOWAS Hydormet Initiative: Strengthening Weather, Climate and Water Services in West Africa...
- ⁵²ECOWAS. ECOWAS Hydormet Initiative: Strengthening Weather, Climate and Water Services in West Africa...
- ⁵³ECOWAS. ECOWAS Hydormet Initiative: Strengthening Weather, Climate and Water Services in West Africa...
- ⁵⁴P. Heinrigs. Security Implications of Climate Change in the Sahel Region: Policy Consideration. Being a 2010 Project of Organization for Economic Cooperation and Development (OECD) on Security Implications of Climate Change in the Sahel (SICCS) funded by the French Ministry of Foreign and European Affairs and the UK Foreign and Commonwealth Office. www.oecd.org/swac/climatechange.

⁵⁵P. Heinrigs. Security Implications of Climate Change...