# Ghana's Request for Support to the Global Shield against Climate Risks

## (including support by the Global Risk Modelling Alliance)

**Submitted by:** ***Ministry of Finance, Ghana***


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## List of Abbreviations

| | |
|---|---|
| AEA | Agriculture Extension Agents |
| AIF | Agriculture Insurance Fund |
| CCT | Conditional Cash Transfer |
| CDRFI | Climate and Disaster Risk Finance and Insurance |
| CSA | Climate Smart Agriculture |
| DRM | Disaster Risk Management |
| EPA | Environmental Protection Agency |
| GAIF | Ghana's Agricultural Insurance Fund |
| GDP | Gross Domestic Product |
| GIZ | Deutsche Gesellschaft für Internationale Zusammenarbeit |
| GMet | Ghana Meteorological Agency |
| GRIDCo | Ghana Grid Company |
| GRMA | Global Risk Modelling Alliance |
| MESTI | Ministry of Environment, Science, Technology and Innovation |
| MOFA | Ministry of Food and Agriculture |
| MOGCSP | Ministry of Gender, Children and Social Protection |
| NADMO | National Disaster Management Organisation |
| NGO | Non-Governmental Organisation |
| NIC | National Insurance Commission |
| SME | Small and Medium-sized Enterprises |
| UNDP | United Nations Development Programme |
| VRA | Volta River Authority |
| WACA | West Africa Coastal Areas Management Program |

## 1. Objective/Problem Statement

Ghana is grappling with the multifaceted impacts of climate change, which are particularly evident in its agricultural sector, urban areas, coastal regions, and the operation/management of national infrastructure like the Akosombo Dam. The agricultural sector, vital to the national economy, is facing challenges due to decreased rainfall and prolonged droughts, leading to lower crop yields and jeopardizing food security. Smallholder and subsistence farmers, who form a significant portion of the agricultural community, are particularly vulnerable, lacking in climate-smart agricultural technologies, financial protection against drought risks, and access to affordable agricultural insurance.

Urban areas, especially Accra and Kumasi, are increasingly vulnerable to flooding, exacerbated by inadequate knowledge, insufficient data on drainage and urban topography, overdependence on limited government resources, and a lack of early warning systems and prearranged finance mechanisms. These challenges hinder effective flood response and resilience-building efforts in these critical economic centres.

Coastal regions face severe threats from coastal erosion and flooding, impacting livelihoods, infrastructure, and the environment. While the recent disaster relating to the inevitable spillage from the Akosombo Dam that led to severe flooding and displaced several communities in the Volta River Delta reiterates the serious impacts of climate events on critical national infrastructure and surrounding communities.

The convergence of these issues underscores the urgent need for a comprehensive and integrated approach to enhance resilience against climate change in Ghana. This involves strengthening agricultural resilience by enhancing the capacity of farmers and local authorities, improving urban flood management through data-driven and financially sustainable strategies, mitigating coastal erosion and its impacts, and expanding the adaptive capacity of the Akosombo Dam to handle future climate-related risks while providing pre-arranged and trigger-based financing instruments that would provide social protection in the event of climate-related disasters in the communities, which impacts lives and livelihoods. These efforts are critical not only for the protection of vulnerable communities and livelihoods but also for safeguarding the nation's economy and ensuring sustainable development in the face of escalating climate threats.

### *(a) Agricultural sector*

Ghana currently intends to build the resilience of 600,000 vulnerable subsistence and smallholder farmers who are affected by drought annually, protect vulnerable communities in urban areas and the critical public infrastructure they depend on as well as protect the communities along the coastal line and livelihood activities, particularly of low-income households and SMEs.

The effects of climate change, such as rising temperatures and changing rainfall patterns, are already being felt in sectors such as Agriculture, Coastal and Urban areas in Ghana. Agriculture, which is a vital sector of the economy, is particularly susceptible to these changes. Decreased rainfall and prolonged droughts have led to lower crop yields, jeopardizing food security for many Ghanaians. Climate variability and change are wreaking havoc on Ghana’s agriculture, crops, livestock, and fisheries sectors, with late onset and early cessation of rainfall, droughts/dry spells, and floods of varying magnitudes and frequency. The national economy stands to suffer from the impacts of climate change because it is dependent on climate sensitive sectors, most especially agriculture.

Promoting adaptation and mitigation strategies are crucial for building resilience among smallholders and improving livelihoods at the local level, as some smallholder farmers engage in unsustainable agricultural systems contributing to the impact of climate variability and change. To ensure effective resilience building, the following key issues have been identified:

- Agricultural Extension Agents and smallholder cocoa and food crop farmers' capacity should be enhanced in the area of climate-smart agricultural technologies.

- A lack of sovereign financial protection to address disaster response and food security related to the risk of drought for smallholder farmers in the Northern regions of Ghana has been identified. In conjunction with this, the capacities of local authorities (districts) in these regions need to be further developed to further promote a timely disaster response.
- A targeted approach to effectively reach the most vulnerable farmers is needed. There is a need to continue developing the market for agricultural insurance at the farmer's level in Ghana as it has not yet reached its potential. Widespread awareness and understanding of insurance are still lacking among farmers. Further, within relevant agencies there is a lack of the necessary tools and equipment to generate data required for the development of agricultural insurance products. Also, the products need to be more affordable for farmers to ensure they have access to vital protection against risks and provide leverage for access to credit.
- To achieve multiple resilience benefits for smallholder farmers, there is a need to jointly address adaptation and financial protection. For an integrated approach, co-benefits in combining risk reduction measures and risk transfer need to be unlocked. Currently, this is not (yet) sufficiently applied in Ghana. Farmers lack an understanding of forecasts and are therefore not able to make decisions for their farming practices based on available data.

### *(b) Urban Areas Susceptible to floods*

Another sector of interest affected by climate change is the vulnerability of urban areas to flooding. 17 major urban flood events have occurred since 1955, with the most recent urban flooding happening in 2015 in Accra, affecting more than 50.000 people and leading to 150 casualties. Vulnerable people rely on critical infrastructure to sustain their livelihoods, in particular market centres and lorry parks. People living in low-cost residential areas. informal settlements and/or low-lying areas are particularly affected by floods.

Accra and Kumasi, given their high flood exposure and socioeconomic relevance for the country, are suggested as focus areas to strengthen flood resilience. Various issues have been identified to mitigate and respond to flooding events effectively in these areas:

- Inadequate knowledge base and capacity to educate appropriately on floods and their impact on livelihoods and cities' socioeconomic position
- Insufficient data on drainage systems, flood-prone areas, waste disposal behaviour and magnitude in drainage systems, and urban topographic characteristics
- The overdependence of the National Disaster Management Organization on limited government subvention has been a key challenge to climate risk management efforts at community and urban levels
- A need for risk-informed decision-making for urban planning, zoning regulations, waste management, and green infrastructure enhancements, informed by future climate and exposure projections. A lack of early warning systems to enable authorities and households to undertake essential precautions in response to flood events.
- Insufficient prearranged finance mechanisms which can disburse funds quickly at an urban level in the event of a flood, building on improved data infrastructure as outlined above, supporting authorities to support affected communities and restore critical infrastructure.

In Accra, the ongoing flood insurance project under the Tripartite Agreement (UNDP, Allianz/Swiss Re and the InsuResilience Solutions Fund) has already made significant progress. Once fully implemented, it will support the disaster response capacity of NADMO and protect approximately 118,000 vulnerable households, building on investments in data, quick payouts based on an index-based trigger capturing excess rainfall and flood footprint, and a newly developed contingency plan. However, to support the government with the payment of the insurance premium and take this solution to the market successfully, an estimated funding of ~3m USD would be needed. In addition, with Accra being exposed to coastal flooding in addition to excess rainfall and riverine flood, going forward, the product could be enhanced with an additional trigger component.

In Kumasi, no such protection exists. The integrated approach above would enable data-informed flood risk management and potentially support a prearranged finance mechanism similar to Accra's flood insurance project.

Further information on existing risk assessments related to urban flooding, ongoing efforts related to prearranged finance, and corresponding protection gaps can be found in the Global Shield Gap Analysis.

### *(c) Coastal Regions*

**Coastal flooding** is another problem in Ghana which is exacerbated by climate change. Ghana's densely populated coastal zone is home to 25% of the population and 80% of industrial activities, including oil and gas production and port operations, as well as agriculture and fishing. Coastal erosion is causing the coastline to recede at about two meters per year on average, with localized coastline recession of up to seventeen meters in a single year. According to Charuka et al., 2023, at least 75% of Ghana's coast is moderate to very high in coastal vulnerability, with 92% having a slope ratio below 5%. The eastern coastline (Aflao to Prampram) is most vulnerable due to the dynamics of the Volta delta, with strong waves and currents.

Poor communities in Ghana's coastal regions, particularly Keta, Anloga, and Ketu assemblies, and environs, are adversely impacted by frequent sea erosion, sea level rise, tidal waves, and flooding, which culminate in water pollution, including saline intrusion into their aquifers, vital for farm irrigation and drinking water sources, dwindling fish stock and destruction of fish landing sites. The construction of the Akosombo hydroelectric dam in 1961 led to intense erosion and flooding in Keta's eastern coast, mainly due to low-lying lands, unconsolidated sediments, shoreline orientation, and sediment starvation from the Volta River. This was exacerbated by a shortage of littoral sediment, which was created due to the Volta River's rise in sea level and lagoon water.[1] Approximately 1,000 houses were destroyed annually by tidal waves, floods, and storm surges in the three assemblies (Anloga District Assembly, Keta Municipal Assembly, and Ketu South Municipal Assembly) from 2020- 2023. Flooding and storms displaced nearly 2,000 people in 2020,[2] 4,000 people in 2021,[3] and 5,000 in 2023,[4] and caused damage estimated at US$ 474 million in 2017 (2.1% of GDP).

The coastline is experiencing rapid erosion, displacing coastal communities and destroying infrastructure, with rates reaching up to 10 meters per year in some areas. This is likely to worsen, given the climate change scenarios for Ghana. Resulting economic impacts make it increasingly difficult for vulnerable families to escape the cycle of poverty. Early warning of coastal flooding and prevention of erosion through a comprehensive coastal erosion management strategy comprising coastal protection and adaptation of human activities and coastal ecosystem restoration is needed.

### *(d) Adaptive Capacity of Akosombo Dam and Social Protection for Surrounding Communities*

The Akosombo Dam, a cornerstone of Ghana's energy infrastructure and a linchpin for the nation's economic activities, now faces imminent threats from climate-induced challenges. Recent unforeseen variations in climatic patterns have resulted in water inflow rates that stretch the dam's current operational and structural limits. The controlled spillage exercise initiated by the Volta River Authority (VRA) in October 2023, although a necessary measure to safeguard the dam's integrity, has manifested as a devastating event for the communities residing along the lower basin of River Volta.

Thousands of residents across multiple district assemblies have been displaced due to the river's overflow, leading to profound societal and economic disruptions. Beyond the immediate inundation, there are extensive power outages in the impacted communities, disruptions in health services, and endangerment of lives due to the absence of electricity,

[1] https://documents1.worldbank.org/curated/en/541981527661149414/pdf/Fighting-coastal-erosion-in-Keta-area.pdf
[2] Ghana Statistical Association (2020).
[3] https://news.mongabay.com/2022/03/as-rising-seas-destroy-ghanas-coastal-communities-researchers-warn-against-a-seawall-only-solution/#:~:text=Some%2037%25%20of%20the%20country's,and%20beds%20as%20they%20slept.
[4] https://www.graphic.com.gh/news/general-news/ketu-south-keta-cry-for-relief-items.html

damaged road networks, and the necessity for makeshift water transit. Vital installations like the GRIDCo sub-station and numerous hospitality facilities were submerged, amplifying the gravity of the current situation.

If such spillage events or other climate-induced challenges recur without any mitigation strategies in place, the results could be even more catastrophic, potentially compromising the dam's structural integrity entirely. Such a scenario would endanger millions in the Eastern, Volta, and Greater Accra Regions.

It is thus clear that while the Akosombo Dam has served Ghana well for decades, its current design, operational protocols, and the associated community infrastructure are ill-equipped to handle the evolving challenges of our changing climate. Immediate, comprehensive, and multi-faceted interventions are essential not only to secure the dam and its functions but also to safeguard and support the numerous lives and communities in its vicinity.

## 2. Type of Intervention(s) / Instrument(s)

### *(a) Financial Assistance for Financial Protection Instruments*

*Agricultural Sector*

- **Premium support for sovereign risk transfer:** to address the lack of sovereign financial protection against drought in the Northern region, the African Risk Capacity's sovereign drought insurance has been identified as a suitable product and preparations were already undertaken by the National Disaster Management Organization (NADMO). Support for the payment of the insurance premiums is requested.
- **Capitalization of the Agricultural Insurance Fund (AIF)** under the National Insurance Commission: the AIF is a critical initiative aimed at supporting the agricultural sector by subsidizing insurance premiums and enhancing the resilience of farmers against the impacts of climate change and other risks. Therefore, it is requested to capitalise the fund to enable operations starting mid-2024.
- **Premium support for agricultural insurance at the farmer's level:** as the agricultural season already starts in March 2024, it is requested to provide interim premium support for agricultural insurance until the AIF set-up is finalised for the agricultural season in 2025.

*Urban Areas*

- **Financial Assistance for premium payments of a flood insurance product:** In line with the SMART principles for premium and capital support, multi-year premium co-financing is being requested. UNDP has submitted a request to the Ministry of Finance to include a placeholder line item of $0.4m to the national budget 2024 as the country's contribution to the premium. Assuming a ~75% co-financing through the Global Shield, an annual contribution of $1m would be needed to bring the product to market at the needed scale, i.e. a $3m contribution over three years.
- **Adaptive Capacity of Akosombo Dam and Social Protection For Surrounding Communities Conditional Cash Transfers**: Conditional Cash Transfers (CCTs) offer a nuanced solution for risk financing in scenarios like the Akosombo disaster, combining immediate financial aid with incentives for long-term resilience. These transfers provide direct financial support to affected individuals or households, conditional upon their participation in activities that reduce future disaster risk, such as engaging in flood preparedness programs or rebuilding in accordance with resilient standards. This approach not only addresses the immediate needs of disaster-stricken communities but also promotes behaviours that enhance overall disaster resilience. Tailoring CCTs to the specific vulnerabilities of different groups ensures targeted and equitable support, integral to a comprehensive disaster response strategy.
- **Parametric Insurance:** Parametric insurance emerges as a highly effective solution for climate risk financing in situations akin to the Akosombo Dam. By utilising specific climate or environmental parameters, such as water levels or rainfall intensity, as triggers for insurance pay-outs, this solution would ensure rapid and objective financial disbursement following climate-induced events. This immediacy is crucial for swift disaster response and mitigation, reducing the financial strain on governments and affected communities. Moreover, since pay-outs would be based on pre-agreed parameters and thresholds, rather than actual loss assessments, the process is streamlined, avoiding lengthy and often complicated claims processing. The parametric insurance would offer a tangible financial safety net that encourages proactive risk management and resilience building in vulnerable regions. In the case of the Dam, the parameters would be closely aligned with the potential risks to the dam's integrity. This can expedite the release of funds, which is crucial for immediate response activities.

*(b) Technical Assistance for Financial Protection Instruments and Risk Analytics*

*Agricultural Sector*

- **Development of contingency plans for sovereign risk transfer:** to better enable the districts in the Northern regions to manage a drought response, capacity building is requested to develop and review contingency plans, in collaboration with NADMO. To ensure a targeted approach to reach the most vulnerable a connection to the social protection system is needed to make use of existing registries and distribution channels, in collaboration with the Ministry of Gender, Children and Social Protection (MOGCSP).
- **Risk analytics for agricultural insurance:** it is requested to support the relevant agencies in Ghana with the NIC as lead institution with the necessary tools and equipment to generate data required for the development of agricultural insurance products. The collection of sex-disaggregated data is particularly important to adapt products to specific needs of the beneficiaries.
- **Technical expertise:** to support the operational set-up of the Agricultural Insurance Fund, technical expertise is requested to develop principles for premium support and a framework for allocating premium subsidies, in alignment with the principles of the Global Shield.
- **Capacity building for agricultural insurance:** to ensure widespread awareness and understanding, it is requested to train agricultural extension officers and other stakeholders involved in disseminating information on agricultural insurance to farmers, in collaboration with NIC.
- **Capacity building on the usage of forecasts:** training for farmers to better understand forecast information for their decision-making, in collaboration with the Ghana Meteorological Agency (GMet).

*Urban Areas*

- **Establishing and strengthening a database** of drainage systems, flood-prone areas, waste disposal behaviour and magnitude in drainage systems, urban topographic characteristics, river systems data collection, and flood-affected social groups using a multi-stakeholder dialogue and a combination of remote sensing, and in-site data collection.
- Leveraging the gathered data to perform **an in-depth assessment of flood risks** in Kumasi, which includes the identification of at-risk areas and vulnerable communities.
- **Making data accessible to inform the development of an early warning system** that utilizes real-time data for delivering timely alerts to residents and authorities, empowering them to undertake essential precautions in response to flood events.
- **Fostering community resilience** by partnering with local communities to enhance their preparedness for flooding through capacity building, enhancements in management practices such as waste in drainage systems, and the establishment of community flood warning and response teams.
- **Policy recommendations to government institutions and local authorities** (Kumasi Metropolitan Assembly) concerning urban planning, zoning regulations, waste management, and green infrastructure enhancements aimed at reducing future flood risks.

*Coastal Regions*

- **Improve risk information to promote climate risk reduction and disaster preparedness in coastal communities and to inform coastal management.**

- In cooperation with local research institutions, assess the risk of coastal flooding under future climate and sea-level conditions, erosion and sea level rise and develop local capability for risk assessment pertaining to impacts on:
  i. Communities and livelihoods, including gender-differentiated risks
  ii. Critical infrastructure
  iii. Ecosystems and natural resources
- Model flood hazards in Anloga District Assembly, Keta, and Ketu South Municipalities.
- To add more information on My Flood Risk Keta App (covering all three flood-prone districts and municipalities)
- Support research on the needs of beneficiaries and cost benefit analysis of individual assets of affected communities. This includes the collection of sex-disaggregated data.

- **Enhance understanding and awareness of coastal risks for communities along the coastline, ecosystems, and critical infrastructure.**
  - Support awareness raising of present and future climate and disaster risks for individuals, constructors, local authorities, and businesses along the coastline.
  - Raise awareness of safe and resilient housing to protect vulnerable coastal communities from increased flooding and storms.
  - Improved understanding of the benefits of risk financing and transfer among local officials and key stakeholders.
  - Improve understanding of the nexus between climate change and ecosystem-based adaptation solutions to climate change and disaster risk reduction.
- **Increase stakeholders' capacity to respond to projected climate impacts and disaster risks to inform planning**
  - Training and capacity building among affected communities, SMEs, local authorities, and people responsible for critical infrastructure (incl. hospitals, schools, etc.) on disaster preparedness, reduction, and response measures, DRM and climate change literacy, waste management, contingency planning (including design, simulation, monitoring), and early warning.
  - Development of an integrated disaster risk management strategy
  - Establish early warning systems and hydrometer observation centers to improve data collection, interpretation, and understanding, generating relevant, science-based information for decision-making and business opportunities.
  - Increase municipalities' range of DRM instruments for public assets against flood.

- **Protect the communities along the coastal line and livelihood activities, particularly of low-income households and SMEs**

*Adaptive Capacity of Akosombo Dam and Social Protection for Surrounding Communities*

- **Enhanced Early Warning and Response Systems:** Develop and implement state-of-the-art forecasting tools that integrate real-time data, AI, and community-level communication channels. Recognizing the Volta as a sub-regional asset that must be managed collectively to avoid climate related disasters and to strengthen response to climate events and build resilience and adaptive capacity of the major national facilities that depend on it as well as the surrounding communities.

### *(c) Product Development of Financial Protection Instruments*

*Agricultural sector*

- Risk transfer solution with an integrated approach: it is requested to develop a solution that combines adaptation measures (climate-smart agriculture) with a financial protection solution (potentially for the cocoa sector).

*Coastal regions:*

- Sovereign level disaster risk instrument connected to social protection schemes to protect the most poor and vulnerable people against the impacts of coastal flood disasters
- Sovereign level disaster risk instrument to protect critical infrastructure, i.e.
    - hospitals, education facilities, cultural heritage etc.
    - Insurance against failure of grey risk reduction infrastructure (e.g. flood defence systems)
    - Insurance against the loss of green risk reduction infrastructure (i.e. nature-based solutions against the risk of flooding and erosion)

### *(d) Adaptation Investments*

*Agricultural Sector:*

- **Support for Alternative Livelihood and Risk Transfer Activities:** Smallholder farmers in the project beneficiary communities can be provided with sustainable economic options (such as beekeeping and micro-livestock (snail and grasscutter) mechanisms to mitigate various risks.
- **Training of farm families on CSA technologies:** training of farmers on compost and biochar preparation and utilization, bund construction, mulching, integrated pest management, manure management and cover cropping.
- **Capacity building of District Agricultural Extension Agents:** training of Extension Agents at the district level on CSA practises in order to backstop farmers at the local communities.
- **Capacity building of farmers and Agricultural Extension Agents (AEAs) on Water Conservation Innovations:** training farmers and AEAs on economic water use technologies like micro irrigation, in-situ rainwater harvesting and water efficient cropping systems.
- **Support for Alternative Livelihood and Risk Transfer Activities:** Smallholder farmers in the project beneficiary communities can be provided with sustainable economic options (snail and grasscutter) such as beekeeping and micro-livestock mechanisms to mitigate various risks.
- **Care must be taken to ensure that women and men are given equal access to information and capacity-building activities,** particularly to support equity for the development of innovations and use of new technology,

*Coastal regions:*

- Improve fish processing facilities and subsidize procurement of canoes and outboard motors for fisher folks.
- Inform the building of grey and green risk reduction infrastructure
- Rehabilitation of critical grey and green infrastructure Atiavi, Hatorgodo, Lawoshime, Agovino, Anyako, and Anloga.
- Three community-based mangrove nurseries established in selected second-cycle schools in the three municipalities.
- Restore 2,000 hectares of mangroves in the Anloga District, Keta Municipality, and Ketu Municipality of Ghana by 2027.

➔ ***Please see below in the Annex for more details on the different proposals.***

*(e) Ghana's Strategies / Policy Frameworks*

- Technical assistance to support the development of a **national climate and disaster risk finance strategy** to be integrated in the National Disaster Management Plan (in cooperation with NADMO)

*(f) Cross-Cutting*

*Advancing Gender and Disability Inclusion*

The implementation of projects and programmes across the sectors of priority risks should address gender and disability inclusiveness within the framework of the Global Shield against Climate Risks initiative through various strategies:

a) Financial assistance for training sessions for field agents and community leaders on climate-resilient practices and gender-responsive Disaster Risk Reduction. Such training sessions should include sensitization on gender and disability inclusiveness to ensure that disaster response and mitigation efforts consider the diverse needs and vulnerabilities of all community members. Monitoring and evaluation of these training sessions should be conducted through a comprehensive framework developed by the project's Monitoring and Evaluation unit, if available.

b) Financial assistance for specialized training for community health workers and volunteers focusing on disability-inclusive disaster preparedness and response. This training will incorporate data collection on the situation of people with disabilities and awareness-raising on gender-based violence within the context of climate-related disasters, enabling timely support for individuals with disabilities and persons affected by violence.

c) Allocation of funds for technical assistance to review community disaster management plans and codes of conduct to promote gender-responsiveness and disability-inclusiveness. Additionally, a communication campaign should be launched to disseminate policy directives and key messages on gender-responsive disaster risk reduction and disability inclusion. Gender-disaggregated data and data on disabilities in respective communities should be collected to identify gaps and monitor progress in addressing gender and disability-related challenges in disaster response and recovery efforts.

d) Financial support for the establishment of dedicated (external) experts within implementation projects across sectors of the request to oversee disability inclusion and mainstreaming of gender perspectives in climate risk management activities. These experts will develop guidelines and provide training to project staff and partners on inclusive practices, drawing on lessons learned from previous initiatives funded by international donors.

e) Technical assistance for data and analytics for assessing the impact of climate-related disasters on individuals with disabilities into the project's risk assessment and management framework. This will ensure that the specific needs of this vulnerable group are considered in disaster response planning and resource allocation.

f) Financial support, incl. technical assistance, for the design and provision of accessible tools, materials, and information on disaster preparedness and response for individuals with disabilities, including those living in remote or hard-to-reach areas. These materials should be distributed to community members through targeted outreach efforts and capacity-building workshops.

g) Within the requested community-related activities, financial support for the promotion of inclusive decision-making processes and leadership within the communities (e.g. through community workshops, specific engagements, relevant communication campaigns) by encouraging the participation of women, persons with disabilities, and marginalized groups in community-level disaster management committees and planning activities.

## 3. Format and amount of Support

### *(a) Agricultural Insurance*

*Component 1: Promotion of proven Cocoa and Food Crops Climate Smart Agriculture (CSA) technologies.*

a) Support for Alternative Livelihood and Risk Transfer Activities

b) Training of farm families on CSA technologies

c) Capacity Building of District Agricultural Extension Agents

d) Capacity building of farmers and Agricultural Extension Agents (AEAs) on Water Conservation Innovations

**Total Amount: US$4 million**

*Component 2: Agricultural Insurance*

a) Premium support for sovereign risk transfer

b) Capitalization of Agricultural Insurance Fund

c) Development of contingency plans for sovereign risk transfer

d) Risk analytics for agricultural insurance

e) Capacity building for agricultural insurance

f) Interim premium support for agricultural insurance at the farmer's level

**Total Amount: US$56.8 million**

*Component 3: Dissemination of Climate and Weather Information Services*

a) Capacity building of Agricultural Extension Agents on the usage of forecasts

b) Disseminate forecasts to smallholder farmers in the project beneficiary communities.

c) Support Project beneficiaries' districts with Automatic Weather Stations

d) Train smallholder farmers on participatory scenario planning in collaboration with MoFA

***Amount: US$1.5 million***

### *(b) Urban Flooding*

Grant-based technical and financial assistance for US$4.2 million.

### *(c) Coastal Flooding*

a) Enhanced climate risk reduction and disaster preparedness in coastal communities - US$ 10 million

b) Enhanced understanding of the risks for communities along the coastline, ecosystems, and critical infrastructure and raise awareness - US$5 million

c) Increase stakeholder's capacity to respond to projected climate impacts and disaster risks to inform planning - US$9.5 million

d) Protect the communities along the coastal line and livelihood activities, particularly of low-income households and SMEs - US$ 6million

e) Inform the building of grey and green risk reduction infrastructure - $10.5million

f) Monitoring and evaluation - US$7 million

g) Project management and administration - US$ 6.5 million

*TOTAL = US$54.5 MILLION*

### *(d) Adaptive Capacity of Akosombo Dam and Social Protection for Surrounding Communities*

The government led gap analysis of the Akosombo disaster is ongoing, and potentially with the support of the GRMA, there should be an opportunity to better develop and fine-tune the necessary, pre-arranged trigger based financing that can address the solutions proposed above, which includes the parametric insurance, conditional cash transfers in terms of the technical support, and the enhancement of early warning and response systems, - especially with the consideration of the Volta river, as a sub-regional asset that needs to be collectively managed to build resilience and the adaptive capacity of the National infrastructure that depend on it, as well as the surrounding communities.

An integrated approach to the Akosombo disaster with a pronounced focus on adaptation has been attached as an Annexure for further consideration.

## 4. Project Stakeholders

| Project stakeholders | Roles and responsibilities |
|---|---|
| Ministry of Finance (MoF) | Formulate, implement, monitor and evaluate macroeconomic, fiscal and financial policies for sustainable development |
| Ministry of Environment, Science, Technology and Innovation (MESTI) | Monitor and evaluate the implementation of plans and programs |
| Ministry of Food and Agriculture (MOFA) | Providing technical training to smallholder farmers |
| Ministry of Gender, Children and Social Protection (MOGCSP) | Social protection and development |
| Ministry of local government | Local government leaders that represent the interests and welfare of these communities. |
| National Disaster Management Organization (NADMO) | Management of disasters as well as other emergencies |
| Relevant Government Agencies | Coordination |
| National Insurance Commission (NIC) | Ensure effective administration, supervision, regulation and control of the business of insurance;<br>Management of GAIF;<br>Connection to key private sector brokers and carriers |
| Environmental Protection Agency (EPA) | Data and regulatory support |
| Ghana Meteorological Agency (GMeT) | Data collection and provision of advice<br>on early warning system procurement |
| Ghana Hydrological Authority | Data on Coastal Infrastructure |
| Volta River Authority | Technical staff and engineers who maintain and monitor the dam's structural integrity and operational efficiency |
| Cooperatives | Beneficiaries |
| GIZ | Coordination |
| HATOF Foundation | Implementing partner and stakeholder engagements |
| International Weather Management Institute | Will target water and land management challenges faced by poor communities |
| Local Authorities (KETA, KETU-Municipalities and ANLOGA District Assembly) | Beneficiaries |
| Micro Level NGOs (KASA) | Support stakeholder engagement |
| Private Sector (e.g. Local and international insurance companies collaborate to pilot innovative insurance solutions and saving schemes) | Developing and delivering insurance products including providing technical support and build capacity in best-practice/market-ready CDRFI analytics and risk transfer solution design |
| Research Institutions that are already working on components relevant to Risk Analysis | Support data collection modelling and<br>analysis |
| Stakeholders involved in WACA project | Data on coastal infrastructure and<br>economic analysis |
| UNDP, Swiss Re and Allianz | Capacity development, human rights and empowerment of women |
| Urban Authorities in Accra and Kumasi | Supports stakeholder meetings<br>Potential providers of data |

## 5. Proposed budget and timelines

Proposed Budget = $118,014,208

Agriculture (January 2024 – January 2029)

Urban flooding (January 2024 – January 2028)

Coastal flooding (January 2024- January 2026)

# ANNEX

## Individual proposals from institutions in Ghana for the Request for Support

1) NADMO - Flood Risk Reduction and Sovereign Risk Insurance
2) NIC - Agricultural Insurance Fund (AIF)
3) MOFA - Climate-Smart Agriculture in major Cocoa growing Zones
4) Ghana Hydrological Authority - Enhancing Flood Resilience in Kumasi
5) UNDP – Flood Risk Insurance Accra – Tripartite Agreement
6) HATOF Foundation – Coastal Zone Volta Region
7) GMet – Strengthening Forecasts
8) MoF - Addressing the Akosombo Dam Disaster