

Annex 6a

Environmental and Social Impact Assessment (ESIA)

to the GCF Funding Proposal

*Building the resilience of Togo's national health system and vulnerable communities to
climate-sensitive health outcomes*

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Abbreviations and Acronyms

ACM	Asbestos-Containing Materials (<i>Matériaux contenant de l'amiante</i>)
AE	Accredited Entity (<i>Entité accréditée</i>)
ANAMET	National Hydrometeorological Agency (<i>Agence Nationale de la Météorologie du Togo</i>)
ANC	Antenatal Care (<i>Soins prénataux</i>)
ANGE	National Environmental Management Agency (<i>Agence Nationale de Gestion de l'Environnement</i>)
AWS	Automatic Weather Stations (<i>Stations météorologiques automatiques</i>)
BMZ	German Federal Ministry for Economic Cooperation and Development (<i>Ministère fédéral allemand de la Coopération économique et du Développement</i>)
CCU	Climate Change Unit (<i>Unité changement climatique</i>)
CHW	Community Health Worker(s) (<i>Agent(s) de santé communautaire</i>)
COVID-19	Corona Virus Disease (<i>Maladie à coronavirus</i>)
DCCF	Directorate of Cadastre and Land Conservation (<i>Direction du Cadastre et de la Conservation Foncière</i>)
DEWATS	Decentralized Wastewater Treatment System(s) (<i>Systèmes décentralisés de traitement des eaux usées</i>)
EE	Executing Entity (<i>Entité d'exécution</i>)
EIA	Environmental Impact Assessments (<i>Évaluations des impacts environnementaux</i>)
ESIA	Environmental and Social Impact Assessment (<i>Évaluation des impacts environnementaux et sociaux</i>)
ESIS	Environmental and social impact study (<i>Étude d'impact environnemental et social</i>)
ESMP	Environmental and Social Management Plan (<i>Plan de gestion environnementale et sociale</i>)
ESMS	Environmental and Social Management System (<i>Système de gestion environnementale et sociale</i>)
ESS	Environmental and Social Standards/Safeguards (<i>Sauvegardes environnementales et sociales</i>)
EWS	Early Warning System (<i>Système d'alerte précoce</i>)
FAA	Funded Activity Agreement (<i>Accord d'activité financée</i>)
FP	Funding Proposal (<i>Proposition de financement</i>)
FPIC	Free, Prior, and Informed Consent (<i>Consentement libre, préalable et éclairé</i>)
GA	Gender Assessment (<i>Évaluation de genre</i>)
GAP	Gender Action Plan (<i>Plan d'action genre</i>)
GBV	Gender Based Violence (<i>Violence basée sur le genre</i>)
GCF	Green Climate Fund (<i>Fonds vert pour le climat</i>)
GDP	Gross Domestic Product (<i>Produit intérieur brut</i>)
GHG	Greenhouse Gas (<i>Gaz à effet de serre</i>)

GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
GRM	Grievance Redress Mechanism (<i>Mécanisme de gestion des plaintes</i>)
HIV/AIDS	Human Immunodeficiency Virus / Acquired Immunodeficiency Syndrome (<i>Virus de l'immunodéficience humaine / Syndrome d'immunodéficience acquise</i>)
IFC	International Finance Corporation (<i>Société financière internationale</i>)
IFRC	International Federation of Red Cross and Red Crescent Societies (<i>Fédération internationale des sociétés de la croix-rouge et du croissant-rouge</i>)
ILO	International Labour Organization (<i>Organisation internationale du travail</i>)
INSEED	National Institute of Statistics, Economic and Demographic Studies (<i>Institut National de la Statistique et des Études Économiques et Démographiques</i>)
IPC	Infection Prevention and Control (<i>Prévention et contrôle des infections</i>)
IPCC	Intergovernmental Panel on Climate Change (<i>Groupe d'experts intergouvernemental sur l'évolution du climat</i>)
IPM	Integrated Pest Management (<i>Lutte intégrée contre les ravageurs</i>)
ITCZ	Intertropical Convergence Zone (<i>Zone de convergence intertropicale</i>)
IWRM	Integrated Water Resources Management (<i>Gestion intégrée des ressources en eau</i>)
LCP	Local Communities Plan (<i>Plan des communautés locales</i>)
LDN	Land Degradation Neutrality (framework) (<i>Neutralité en matière de dégradation des terres</i>)
LMP	Labour Management Plan (<i>Plan de gestion de la main-d'œuvre</i>)
MATUH	Ministry of Land Use Planning, Urban Development and Housing (<i>Ministère de l'Aménagement du Territoire, de l'Urbanisme et de l'Habitat</i>)
MERFPCCC	Ministry of Environment, Forest Resources, Coastal Protection, and Climate Change (<i>Ministère de l'Environnement, des Ressources Forestières, de la Protection Côtière et du Changement Climatique</i>)
MHEWS	Multi-Hazard Early Warning System (<i>Système d'alerte précoce multirisques</i>)
MSHPCSUA	Minister of Health, Public Hygiene, Universal Health Coverage and Insurance (<i>Ministère de la Santé, de l'Hygiène Publique et de la Couverture Sanitaire Universelle</i>)
MUHRF	Ministry of Urban Planning, Housing and Land Reform (<i>Ministère de l'Urbanisme, de l'Habitat et de la Réforme Foncière</i>)
NDA	National Designated Authority (<i>Autorité nationale désignée</i>)
NDC	Nationally Determined Contributions (<i>Contributions déterminées au niveau national</i>)
ND-GAIN	Notre Dame Global Adaptation Index (<i>Indice mondial d'adaptation de Notre Dame</i>)
NSL	Net Soil Loss (<i>Perte nette de sol</i>)
OHS	Occupational Health and Safety (<i>Santé et sécurité au travail</i>)
PCB	Polychlorinated Biphenyls (<i>Biphényles polychlorés</i>)
PMC	Project Management Committee (<i>Comité de gestion du projet</i>)
PMU	Project Management Unit (<i>Unité de gestion de projet</i>)

PNAS	National Adaptation Plan for the Health Sector (<i>Plan National d'Adaptation du Secteur de la Santé</i>)
POP	Persistent Organic Pollutants (<i>Polluants organiques persistants</i>)
PPE	Personal Protective Equipment (<i>Équipement de protection individuelle</i>)
PSC	Project Steering Committee (<i>Comité de pilotage du projet</i>)
PS	Performance Standard (<i>Norme de performance</i>)
PV	Photovoltaic (systems) (<i>Photovoltaïque</i>)
RGPH	General Census of Population and Housing (<i>Recensement Général de la Population et de l'Habitat</i>)
RHC	Regional Hospital Center (<i>Centre hospitalier régional</i>)
RHD	Regional Health Directorates (<i>Direction Régionale de la Santé</i>)
RTG	The Republic of Togo (<i>République Togolaise</i>)
SBC	Social and Behaviour Change Communication (<i>Communication pour le changement social et comportemental</i>)
SEAH	Sexual Exploitation, Abuse and Harassment (<i>Exploitation, abus et harcèlement sexuels</i>)
SEP	Stakeholder Engagement Plan (<i>Plan d'engagement des parties prenantes</i>)
UNDP	United Nations Development Programme (<i>Programme des Nations Unies pour le développement</i>)
UNESCO	United Nations Educational, Scientific and Cultural Organization (<i>Organisation des Nations Unies pour l'éducation, la science et la culture</i>)
UNFCCC	United Nations Framework Convention on Climate Change (<i>Convention-cadre des Nations Unies sur les changements climatiques</i>)
UNICEF	United Nations Children's Fund (<i>Fonds des Nations Unies pour l'enfance</i>)
USP	Peripheral/local health unit(s) (<i>Unité de Santé de Proximité</i>)
WASH	Water, Sanitation and Hygiene (<i>Eau, assainissement et hygiène</i>)
WHO	World Health Organisation (<i>Organisation mondiale de la santé</i>)

Executive Summary

Togo is increasingly affected by climate variability and extreme weather patterns that exacerbate public health risks, particularly in the northern regions of the country. Rising temperatures, recurrent floods, heatwaves, and erratic rainfall intensify the spread and severity of climate-sensitive outcomes such as malaria, diarrhoeal infections, and heat-related illnesses.

These changes expose weaknesses in the health system, particularly in rural and underserved communities in the Centrale, Kara, and Savanes regions. The proposed project, *“Building the resilience of Togo’s national health system and vulnerable communities to climate-sensitive outcomes,”* seeks to address these challenges by improving the climate readiness of health infrastructure, deploying climate-informed disease surveillance systems, building institutional capacity, and promoting adaptive, community-level behavioural change. Through these interventions, the project will enable health professionals, public authorities, and communities to better anticipate, prevent, and respond to climate-induced health threats.

The ESIA demonstrates that the project is expected to generate significant environmental and social benefits. Climate-resilient rehabilitation of health facilities will strengthen access to safe infrastructure, equipped to withstand flooding, heatwaves, and energy disruptions. The installation of solar photovoltaic systems will improve access to sustainable energy services, contributing to long-term reductions in emissions. Communities will benefit from strengthened disease surveillance, risk communication, and preventive health education, ultimately reducing mortality and morbidity linked to climate-sensitive disease outbreaks. The project will also promote equity by supporting gender-responsive service delivery and targeting vulnerable local communities, women, and persons with disabilities who may face barriers to accessing climate-resilient health services.

Although the overall impacts of the project are strongly positive, the ESIA identifies a number of moderate, site-specific risks that will require mitigation. Civil works within functioning health facilities may temporarily disrupt essential services and expose workers and patients to noise, dust, vibration, and safety hazards. The risk of improper handling of construction waste, including possible asbestos from ageing buildings, could result in soil contamination and adverse public health consequences if not managed under strict hazardous waste protocols. Socially, there is a risk that vulnerable communities could be unintentionally excluded from project benefits if neither communication strategies nor facility design sufficiently address accessibility barriers. Additionally, limited safeguard management capacity among national executing entities heightens the need for clear oversight and capacity strengthening throughout the project’s duration.

The ESIA highlights that safeguard management capacity is uneven across institutions involved in implementation. GIZ, acting as the Accredited Entity, possesses a robust environmental and social management system, including a dedicated Safeguards and Gender office and experience implementing climate-related public health programmes in Togo. By contrast, the Ministry of Health (MSHPCSUA) and the National Hydrometeorological Agency (ANAMET) lack internal environmental and social specialists, formalised risk management policies, and structured training systems. To address these gaps, the project will recruit a dedicated Gender & ESS Advisor and require each Executing Entity to appoint an ESS focal point. Furthermore, the project will strengthen collaboration with the National Environmental Management Agency (ANGE), which will provide independent regulatory oversight and external monitoring of ESIA compliance.

To minimise risks and maximise benefits, the project integrates a comprehensive Environmental and Social Management Plan (ESMP) that includes hazardous waste handling protocols, occupational health and safety measures, climate-resilient construction standards, biomedical and electronic waste management procedures, and inclusive design guidelines for service delivery. The ESMP also incorporates a transparent and accessible grievance redress mechanism (GRM), which allows stakeholders to submit complaints through multiple channels and ensures survivor-centred management of sexual exploitation, abuse, and harassment (SEAH) cases. These instruments serve not only to control risk but also to reinforce public confidence, strengthen institutional accountability, and ensure equitable access to climate-resilient health services.

The ESIA concludes that the project aligns fully with the environmental and social risk classification applicable under GIZ’s accreditation category with the GCF (Category B). This classification reflects that the project’s potential risks are moderate, reversible, and manageable through well-defined mitigation measures and monitoring systems. The project complies with all applicable national legal requirements, including Environmental Framework Law No. 2008-005 and ESIA Decree No. 2017-

040/PR, and adheres to the GCF Environmental and Social Safeguards Policy, particularly ESS1 on the assessment and management of risks and impacts.

Overall, the ESIA confirms that the project is environmentally sound, socially beneficial, and strategically positioned to deliver long-term benefits in resilience for Togo's health system. Once mitigation measures and capacity strengthening actions are implemented, residual risks are expected to decline to a low level. ESS mitigation measures will therefore not be only risk management means but also as options for delivering equitable, climate-resilient, and sustainable health system strengthening.

1. Project description

1.1 Project background

With a population of 8.1 million and a GDP per capita of USD 1,043 in 2024 (World Bank, 2025b), Togo ranks among the West African countries most vulnerable to climate, standing at 127th out of 185 countries in the Notre Dame Global Adaptation Index (ND-GAIN Index) (University of Notre Dame, 2023). Rising temperatures, changing rainfall patterns, and the increasing frequency of extreme events such as floods and droughts are exacerbating the spread of climate-sensitive diseases, including malaria, diarrhoeal diseases, and other vector- and water-borne infections, thereby placing additional pressure on an already fragile health system.

Vulnerable communities, particularly women and children in rural areas, are among the least equipped to anticipate, absorb, or adapt to these risks, resulting in increased morbidity, reduced productivity, and heightened economic burdens. Furthermore, poverty remains widespread, particularly in rural areas (45% compared to 7.5% in urban areas) (INSEED, 2024a). Women continue to face persistent inequalities in access to healthcare services and economic opportunities. Despite progress in social indicators, the health sector remains underfunded, with allocations averaging 7–9% of the national budget (7.10% and 8.80% in 2022 and 2023, respectively) (MSHPCSUA, 2024).

Recognising the urgent need to strengthen the resilience of its health system to climate hazards, Togo developed its National Health Sector Adaptation Plan (PNAS), the central objective of which is to protect populations and health infrastructure from the adverse impacts of climate change.

In this context, the proposed project, “Building the resilience of Togo’s national health system and vulnerable communities to climate-sensitive health outcomes”, is supported by the Green Climate Fund (GCF), with co-financing from the German Federal Ministry for Economic Cooperation and Development (BMZ) and the Government of Togo. The project aims to enhance the resilience of the national health system through targeted investments in health early warning systems, climate-resilient health facilities, and community resilience measures against climate-related infectious diseases in the Central, Kara, and Savanes regions.

The project focuses primarily on rural populations, women, and children, who are disproportionately affected by climate-sensitive diseases such as malaria, diarrhoea, and heat-related health complications.

1.2 Project objective and components

The objective of the project is to strengthen the resilience of Togo’s national health system and vulnerable communities to climate-sensitive health outcomes. It seeks to transform the current state of high vulnerability into one characterised by a climate-resilient health system that integrates adaptation measures at both the health facility and community levels.

The proposed project targets the three most climate-vulnerable northern regions (Centrale, Kara, and Savanes), covering 16 districts. Focusing on the prevention and control of climate-sensitive health outcomes such as malaria, diarrhoeal diseases, the project also addresses the effects of extreme heat on maternal and infant health. It delivers systemic resilience and community-level adaptation through a set of interlinked, mutually reinforcing components:

Component 1: Strengthening the surveillance system for climate-sensitive health outcomes

This component addresses the infrastructure, institutional, and technical capacity gaps that currently prevent the establishment of proactive health surveillance mechanisms in Togo. By integrating climate and health data, enabling epidemiological forecasting and projections, and integrating these into the existing Multi-Hazard Early Warning System (MHEWS), the system transitions toward predictive, evidence-based risk management. This enables timely interventions and strategic resource allocation while bridging the gap between data collection, analysis, and response. Technical barriers addressed include fragmented data systems, limited predictive modelling capacity, and the absence of climate-informed health EWS.

Component 2: Building an enabling environment to increase health sector resilience

This component institutionalises climate resilience across Togo’s health sector by strengthening governance, policy frameworks, and human capacity. It addresses fragmented intersectoral

collaboration, limited technical expertise, and the absence of formal climate-health mandates and dedicated financing mechanisms. By embedding climate-health leadership within existing structures and integrating climate science into training systems, this component ensures that climate-informed decision-making and response capacity are sustained and effectively mainstreamed across all levels of the health system.

Component 3: climate-resilient and low-carbon infrastructures, technologies, and supply chain

This component focuses on strengthening the core infrastructure and operational capacity of Togo's health system to withstand and adapt to climate shocks (heat stress, heat related supply disruptions). It ensures that health facilities remain functional and sustainable through climate-resilient construction, energy-efficient technologies, and robust maintenance and supply systems. By integrating low-carbon solutions and digital tools into infrastructure and logistics, this component enhances the continuity of essential services, particularly for women, children, and vulnerable populations in climate-sensitive regions.

Component 4: Enhancing community adaptation and engagement

Component 4 brings the project's system-level investments to life at the community level, fostering locally led adaptation and social resilience. It empowers households, community structures, and local authorities to understand, anticipate, and respond to climate-health risks. By improving access to safe water, sanitation, and vector control, and by promoting behaviour change and social mobilisation, it directly reduces the incidence of climate-sensitive health outcomes. The component strengthens community governance and participation, ensuring that adaptation measures are inclusive, gender-responsive, and sustained through local ownership.

1.3 Implementation arrangements for ESS

To ensure robust environmental and social governance, GIZ (serving as the Accredited Entity – AE) will recruit a dedicated Gender & ESS Advisor within the Project Management Unit (PMU). This specialist will be responsible for coordinating all ESS-related processes and overseeing the day-to-day implementation of the Environmental and Social Management Plan (ESMP, see Annex 6b).

To facilitate seamless execution across the project, the national Executing Entities (EEs), i.e. MSHPCSUA and ANAMET, will nominate dedicated ESS focal points. These focal points will work in tandem with the Gender & ESS Advisor to ensure effective planning, implementation, and monitoring of safeguards at the institutional and activity levels.

The Project Management Committee (PMC) will maintain high-level oversight of these arrangements. The PMC is explicitly tasked with monitoring the implementation of and adherence to the ESMP, the Stakeholder Engagement Plan (SEP, Annex 7b), and the Local Communities Plan (LCP, Annex 6c).

1.4 Co-financing and fund flows

The project is funded by a GCF and a BMZ grant, and matching in-kind funding from the Togolese government. The GCF is providing the main grant through a Funded Activity Agreement (FAA) with GIZ, as the AE. BMZ contributes through technical and advisory inputs, while the Government of Togo provides staff time, operational support, and other in-kind resources channelled through MSHPCSUA and ANAMET.

1.5 Analysis of Alternatives

The project evaluated several technical options across key intervention areas during the preparation phase. The results of this alternatives analysis, detailed in Section 5.6 (Table 37) of the Feasibility Study (Annex 2), demonstrate that the selected technical approaches represent the option with the most favourable environmental and social risk profile in each case. The key alternatives considered and the rationale for selection are summarised as follows:

- **Sanitation infrastructure:** The option of continuing with standard Ventilated Improved Pit (VIP) latrines with permeable pits was rejected. Baseline assessments showed that these systems allow excreta percolation, leading to aquifer pollution (ESS 1, ESS 3) and pathogen leaching into flood-affected communities (ESS 4). The selected alternative — decommissioning high-risk pits and installing sealed septic tanks or Decentralised Wastewater Treatment

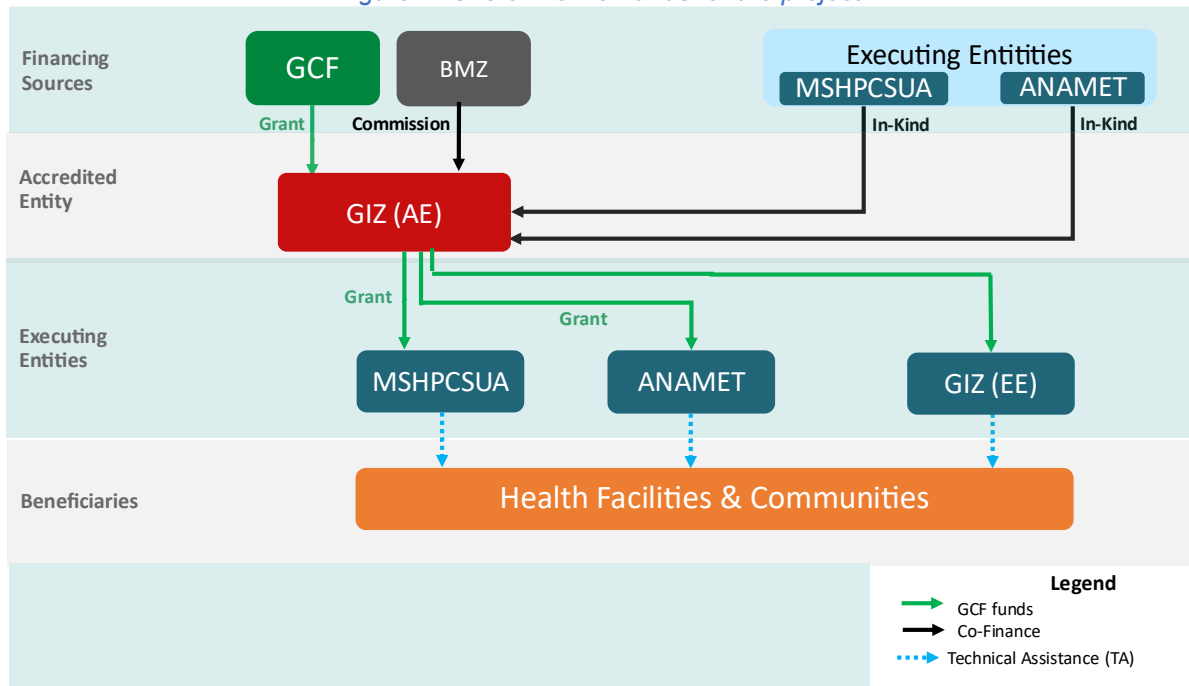
Systems (DEWATS) — significantly reduces groundwater contamination and community health risks.

- **Medical waste management:** Maintaining the status quo of open-pit burning was rejected due to the release of persistent organic pollutants and resulting soil and air contamination (ESS 3, ESS 4). The selected alternative restores or replaces medical waste incinerators to meet international standards, coupled with at-source waste segregation protocols, thereby protecting both worker occupational health and surrounding community health.
- **Architectural design and construction materials:** Conventional approaches using standard cement blocks and metal roofing with low thermal inertia were rejected, as these cause indoor overheating and heat stress for both workers and patients (ESS 2), and necessitate energy-intensive active cooling with high GHG emissions (ESS 3). The project instead applies bioclimatic design principles — including passive cross-ventilation and double ventilated roofs — and low-carbon construction materials, including compressed earth bricks and low-carbon cement, to reduce occupational heat stress and GHG emissions simultaneously.
- **Energy systems for health facilities:** Continued reliance solely on the unstable national electricity grid or diesel generators was rejected due to high carbon intensity (ESS 3) and the risk of cold-chain failure during extreme weather events, jeopardising vaccine potency and essential health service continuity. The selected alternative — hybrid solar photovoltaic and battery storage systems — avoids approximately 986.4 tCO₂eq over the project lifetime while ensuring energy resilience during grid outages.

For further information on the specific selection criteria and performance evaluation of these resilient technologies, refer to Annex 2, Section 5.6, Table 37.

Under a no-project scenario, the baseline conditions documented in the Feasibility Study (Annex 2) and ESIA would persist and intensify. The three northern regions of Centrale, Kara, and Savanes would continue to face rising climate-sensitive disease burdens without a functional Health Early Warning System, and without climate-health data integration between ANAMET and DHIS2. Existing health facilities would remain thermally non-resilient and dependent on unstable grid electricity, leaving cold chains and maternity services vulnerable to heat extremes and power outages. WASH deficits in health facilities and communities would persist, sustaining transmission pathways for diarrhoeal diseases during flood events. The Climate-Health Task Force would remain informal and under-resourced, precluding evidence-based response at national or subnational levels. Marginalised populations — including women, children, and Local Communities such as Fulani — would face continued structural exclusion from climate-resilient health services. Given worsening climate projections for the Sahel, the no-project alternative represents an escalating trajectory of preventable morbidity, mortality, and health system failure.

Figure 1: Overall flow of funds for the project



(Source: GIZ, 2025a)

2. Legal and institutional framework

2.1 International treaties, conventions and agreements

2.1.1 United Nations Framework Convention on Climate Change (UNFCCC) and Kyoto Protocol

The UNFCCC, adopted in New York on May 9, 1992, establishes the general framework for global efforts to stabilise greenhouse gas (GHG) concentrations at levels that would prevent dangerous anthropogenic interference with the climate system. The Kyoto Protocol, which complements this Convention, sets specific emission reduction commitments for developed countries. In accordance with these principles, the project will assess and monitor potential GHG emissions associated with its implementation and ensure that mitigation measures are integrated into the project design and implementation.

2.1.2 Paris Agreement

Adopted on 12 December 2015 at the 21st Conference of the Parties (COP 21) to the UNFCCC, the Paris Agreement provides a global framework for addressing climate change through Nationally Determined Contributions (NDCs). Each Party sets its own commitments to reduce GHG emissions and build climate resilience, with the collective goal of limiting global temperature rise to well below 2°C and pursuing efforts to limit it to 1.5°C above pre-industrial levels.

Togo ratified the Paris Agreement on June 28, 2017, underscoring its commitment to implementing its NDC and contributing to global mitigation efforts. The proposed project aligns with these obligations, specifically Axis 4 of the updated NDC regarding human settlements and health, by integrating low-emission and climate-resilient approaches throughout its implementation. These strategies are operationalised primarily through Activity 3.1.1, which mandates the use of low-emission construction materials for the rehabilitation of health centres, and Activity 3.2.1, which deploys solar-powered cold chain infrastructure and electric motorcycles for last-mile medical delivery. Additionally, Activity 4.1.1 supports this low-carbon transition by installing hybrid solar-powered water pumps in schools. Collectively, these measures not only strengthen health system resilience but are also projected to avoid approximately 986.4 tCO₂eq in GHG emissions, delivering quantifiable mitigation co-benefits.

2.1.3 African Convention on the Conservation of Nature and Natural Resources (Revised Maputo Convention)

First adopted in Algiers in 1968 and revised in Maputo in 2003, this Convention obliges States Parties to integrate environmental considerations into all their development activities. Article 14 (2)(b) expressly requires the conduct of adequate environmental impact assessments (EIAs) for any project likely to affect natural resources or ecosystems, as well as continuous monitoring of the resulting impacts. In accordance with these provisions, this project is subject to an environmental and social impact assessment to identify, mitigate, and monitor potential risks and impacts.

2.1.4 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal

Signed on March 22, 1989, the Basel Convention establishes international controls to prevent the unsafe handling and disposal of hazardous wastes. Its objectives include regulating and reducing transboundary movements of such wastes; ensuring environmentally sound management close to their source of generation; prohibiting exports to countries lacking adequate capacity; and reducing the overall generation of hazardous wastes.

2.1.5 Stockholm Convention on Persistent Organic Pollutants (POPs)

Adopted on May 23, 2001, and entered into force in Togo on July 22, 2004, this Convention aims to eliminate or limit the production and use of persistent organic pollutants (POPs) characterised by long-term persistence in the environment, bioaccumulation, and toxicity. The project will incorporate pollution prevention practices and clean operational processes to avoid or minimize potential releases of POPs such as polychlorinated biphenyls (PCBs), dioxins, and furans, during both construction and operation phase.

2.1.6 Bamako Convention on the Ban on the Import into Africa and the Control of Transboundary Movements and Management of Hazardous Wastes in Africa

Adopted under the auspices of the Organisation of African Unity (now African Union), this Convention, which entered into force on March 20, 1996, complements the Basel Convention by prohibiting the import of hazardous and radioactive waste into Africa from non-parties and regulating the intra-African movement of such waste. The project will respect these commitments, ensuring that hazardous materials are minimized and unavoidable waste is managed in accordance with national and continental regulations.

2.1.7 International Labour Organization (ILO) Convention No. 187 on the Promotional Framework for Occupational Safety and Health

This Convention calls on ratifying States to continually improve occupational safety and health by developing and implementing national policies, systems, and programs. It emphasizes collaboration with employers' and workers' organizations and the progressive establishment of safe working environments. In accordance with these provisions, the project will promote safe working conditions, establish measures to prevent occupational hazards, and ensure compliance with international and national occupational health and safety standards.

2.2 National policies and legal framework

2.2.1 Constitution of May 6, 2024

The Constitution of the Togolese Republic, promulgated on May 6, 2024, constitutes the supreme legal foundation of national governance and lays the foundations for sustainable development and environmental management. Article 17 of the Constitution grants Parliament the power to legislate on environmental protection, public health, conservation, and natural resource management. It also governs the creation and reclassification of public institutions and protected areas such as national parks, reserves, and forests.

The Solemn Declaration of the Fundamental Rights and Duties of Persons and Citizens, annexed to the Constitution, recognizes the right of every citizen to health and a safe and healthy environment. These provisions reaffirm the State's responsibility to preserve natural ecosystems and promote the well-being of citizens, principles that guide all public and private development actions, including this project.

2.2.2 Law No. 2008-005 of May 30, 2008: Framework law on the environment

This fundamental law defines the general framework for environmental protection and management in Togo. Its objectives are as follows:

- Conserve and sustainably manage environmental resources.
- Guarantee every citizen the right to an ecologically balanced and safe environment.
- Promote rational and sustainable use of natural resources for current and future generations.
- Prevent and combat environmental degradation, pollution and nuisances, and
- Improve living conditions while preserving environmental balance.

The law establishes the principles of precaution, prevention, and participation as cornerstones of environmental management. It requires project developers to ensure that any activity likely to affect the environment is subject to prior assessment and regulatory oversight. This project will adhere to these requirements throughout its planning, construction, and operational phases.

2.2.3 Law No. 2009-007 of May 15, 2009: Public Health Code

The Public Health Code integrates environmental health into the broader framework of public welfare. Section 9(2) identifies pollution and waste, whether of industrial, agricultural, or domestic origin, as major threats to human health and ecological integrity. Section 17 requires the Ministers of Health and the Environment to jointly issue regulations to combat pollution and preserve public health, while sections 23 et seq. establish the obligation to prevent and manage waste in all its forms.

In accordance with this legal framework, the project will adopt measures to limit pollution, ensure safe waste management, and prevent exposure of workers and residents to hazardous substances. Environmental health and hygiene will remain central to project implementation, particularly given the importance given to health under the GCF.

2.2.4 Law No. 2021-012 of June 18, 2021: Labour Code

The Labour Code governs all labour relations in Togo and defines the rights and obligations of employers and employees. It regulates contracts, compensation, working hours, contract suspension, and collective agreements. It is important to note that Title VII (Chapters III and IV) establishes legal standards for occupational health and safety, requiring all employers to provide safe working conditions and adopt preventive measures to minimize accidents and occupational illnesses.

Under this law, the project developer must ensure compliance with national labour standards, including the provision of protective equipment, safety training, and access to health services for workers. Contractor selection and construction site supervision will explicitly include occupational health and safety criteria.

2.2.5 Law No. 2011-006 of February 21, 2011: Social Security Code

The Social Security Code provides for the establishment and management of the national social security system, organized into four main branches:

- Family and maternity benefits.
- Retirement and pensions.
- Occupational risks and compensation for work accidents; and
- Other branches will be created by future legislation.

This legal instrument requires employers to enrol their employees in social protection schemes and to guarantee compensation for occupational hazards. The project will ensure compliance with these provisions by requiring all implementing contractors to provide social security coverage to their workers throughout the project.

2.2.6 Law No. 2010-004 of June 14, 2010: Water Code

The Water Code defines the fundamental rules governing the protection, allocation, and sustainable management of water resources in Togo. It is based on the principles of integrated water resources management (IWRM) and recognizes water as a public domain (Article 5). The law prohibits any activity likely to affect the quality or availability of water resources, unless authorized in accordance with current regulations.

Considering the potential interaction of the project with local water systems, for example through construction of sanitary infrastructure or sanitation activities: the implementation of the project will ensure compliance with the Water Code by promoting efficient water use, preventing contamination and protecting surface and groundwater bodies.

2.2.7 Decree No. 70-164 of October 2, 1970: Regulations on health and safety at work

This decree establishes the fundamental rules of occupational health and safety for all types of workplaces in Togo. It prescribes measures to prevent occupational risks, defines the responsibilities of employers, and requires establishments to provide separate sanitary facilities, changing rooms, and rest areas for workers. It also defines administrative procedures for enforcement and appeals in the event of non-compliance.

2.2.8 Decree No. 2017-040/PR of March 23, 2017: Environmental and social impact study (ESIS) procedure

In accordance with Article 39 of the 2008 Framework Law on the Environment, this decree specifies the methodology, procedural steps, and required content for ESIA in Togo. It also provides the official list of projects subject to mandatory environmental assessment before their approval or start-up. The ESIA process ensures the integration of environmental and social considerations into project design and decision-making, under the supervision of the National Agency for Environmental Management

(ANGE). In compliance with the provisions of this Decree, the project will fully comply with all national legal and regulatory requirements related to environmental and social impacts. No construction or physical activities will begin before the completion of the national ESS review process and the issuance of the necessary environmental approvals by ANGE.

2.2.9 Order No. 0150/MERF/CAB/ANGE of December 22, 2017: Public participation in the ESIA process

This ministerial decree formalises the principle of public participation in the ESIA process. Article 2 defines it as the involvement of affected or interested parties to ensure transparency, inclusiveness, and informed decision-making. Article 3 specifies that the "public concerned" includes any person or group directly affected by the environmental consequences of a project or having a legitimate interest in those consequences.

2.2.10 Decree No. 2016-043/PR: Issuance of urban planning authorisations

This decree establishes the national procedures and technical requirements for issuing urban planning authorisations in Togo, including building permits, planning certificates and certificates of conformity. It ensures that all construction and development projects comply with approved urban plans, land-use regulations, and standards relating to safety, accessibility, public health and basic environmental protection. All infrastructure works envisaged under the present project will obtain the necessary urban planning authorisations and will be designed, approved and implemented in full conformity with this decree.

2.2.11 Law No. 2021-033 of 31 December 2021 and Decree No. 2022-080/PR of 6 July 2022: Public Procurement Code

Law No. 2021-033 establishes the general legal framework for public procurement in Togo, while Decree No. 2022-080/PR adopts the detailed Public Procurement Code governing the planning, award, execution and control of public contracts. Together, these instruments enshrine key principles such as transparency, open and fair competition, equal treatment of bidders, value for money, integrity and accountability, and they apply to all contracts financed in whole or in part with public resources. The Code clarifies the responsibilities of contracting authorities, internal procurement bodies and national oversight institutions (including the Public Procurement Regulatory Authority and the National Directorate for the Control of Public Procurement), and introduces standardised procedures and time limits for tendering, bid evaluation, contract award and complaints handling. All procurement of works, goods, and services under this project will be carried out in full compliance with this framework, using competitive and transparent processes and ensuring alignment with both national regulations and the applicable requirements of the GCF and GIZ.

2.2.12 Law No. 2007-017 of July 6, 2007 and Decree No. 2010-100/PR

Law No. 2007-017 (Children's Code) serves as the cornerstone of child protection in Togo, domesticating international treaties such as the UN Convention on the Rights of the Child. This comprehensive statute establishes the fundamental rights of every minor, including the right to identity, health, education, and protection from discrimination. It explicitly criminalizes various forms of abuse and exploitation, such as child trafficking, early marriage, and hazardous labour. The code imposes binding obligations on parents, the state, and society to guarantee an environment conducive to a child's physical, moral, and social development. Complementing this legislative framework, Decree No. 2010-100/PR regulates the operational side of child protection, focusing on institutions that care for vulnerable children. It establishes the technical norms and standards required for the authorization and inspection of reception centres (structures d'accueil). The decree mandates specific requirements regarding infrastructure safety, hygiene, nutritional quality, and staff qualifications. It ensures that facilities housing orphans or victims of abuse are not merely shelters, but are regulated environments subject to state oversight, thereby translating the general rights outlined in the Children's Code into enforceable standards of care.

2.3 Environmental and social standards

2.3.1 GCF Environmental and Social Policies

The GCF's Revised Environmental and Social Policy (Decision B.BM2021/18) is a comprehensive policy framework that describes how the GCF integrates environmental and social considerations into its decision-making and operations to effectively manage environmental and social risks and impacts and improve outcomes. Through this policy, the GCF ensures that all GCF-financed activities commit to:

- Avoid and, where practicable, mitigate negative impacts on people and the environment.
- Avoid, and where not possible, mitigate SEAH risks for people affected by GCF-funded activities.
- Improve equitable access to the benefits of development; and
- Pay particular attention to people in vulnerable situations and marginalized populations, groups and individuals, including women and girls, local communities, indigenous peoples and other marginalized groups of people and individuals who are affected or potentially affected by GCF-funded activities and who are particularly vulnerable to exploitation or other potentially adverse unforeseen impacts of the project.

The GCF ESS Policy requires AEs to undertake an assessment of environmental and social risks and impacts, including transboundary and SEAH, to ensure that activities proposed for GCF funding meet environmental and social safeguards in accordance with the ESS Standards and Policy. The document has been structured using the GCF ESS draft, which are modelled on and closely aligned with the IFC Performance Standards (GCF, 2022b, 2022a).

Table 1: Overview of the ESS standards from the GCF

ESS Standard	Description
ESS 1: Assessment and Management of Environmental and Social Risks and Impacts	Establishes the foundation for the project's environmental and social risk management system. Requires screening, impact assessment, application of the mitigation hierarchy (avoid–minimize–mitigate–offset/restore), cumulative impact analysis, climate risk integration, monitoring frameworks, adaptive management, incident reporting, ESMPs, and disclosure of E&S documentation.
ESS 2: Labour and working conditions	Protects workers and promotes decent labour practices. Covers equal opportunity, non-discrimination, child and forced labour prohibition, worker accommodation, occupational health and safety (OHS), grievance redress mechanisms, supply-chain labour standards, contractor management, and freedom of association where legally permitted.
ESS 3: Resource efficiency and pollution prevention	Encourages sustainable resource use and minimization of environmental harm. Encompasses energy efficiency, water conservation, GHG emission reduction, pollution prevention (air, water, soil), hazardous substances and chemical management, solid and liquid waste management, circular economy concepts, climate-smart technologies, and reduction of project carbon footprint.
ESS 4: Community Health, Safety and Security	Addresses potential community risks arising from project operations. Includes transport and traffic safety, exposure to pollutants, emergency preparedness and response, infrastructure design integrity, communicable disease transmission, disaster risk management, responsible use of security forces, GBV/SEAH prevention, and road safety protocols.
ESS 5: Land acquisition and involuntary resettlement	Prevents and mitigates impacts linked to land acquisition, restrictions on land use, and physical/economic displacement. Covers compensation at replacement value, livelihood restoration, voluntary land donation protocols, negotiated settlements, benefit sharing, grievance mechanisms, tenure insecurity, vulnerable groups support, and monitoring of resettlement effectiveness.

ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	Protects critical habitats, natural ecosystems, and species diversity. Addresses ecosystem services, invasive species risks, protected area management, no-net-loss/ net-gain requirements, sustainable agribusiness, forestry and fisheries management, habitat rehabilitation, and ecological connectivity. Encourages nature-based solutions and climate-resilient production landscapes.
ESS 7: Indigenous Peoples	Safeguards the rights, cultural identity, land, and knowledge of Indigenous Peoples. Requires Free, Prior and Informed Consent (FPIC) where impacts are significant. Addresses cultural integrity, customary land use, traditional ecological knowledge, participation in benefit-sharing, Indigenous-led development planning, avoidance of cultural assimilation, and protection of intangible heritage.
ESS 8: Cultural Heritage	Ensures protection of both tangible and intangible cultural assets. Covers archaeological sites, historical/ritual spaces, sacred landscapes, community traditions, cultural property relocation, chance-find procedures, integration of cultural knowledge into project design, and continuity of cultural practices for affected populations.
ESS 9: Stakeholder Engagement and Information Disclosure	Promotes inclusive and equitable engagement throughout the project life cycle. Requires mapping of stakeholders (including vulnerable groups), consultation processes, free-flowing information sharing, participation in decision-making, grievance redress mechanisms, adaptive communication strategies, and timely disclosure of environmental and social documentation.
ESS 10: Financial intermediaries	Ensures intermediaries maintain robust E&S management systems consistent with GCF standards. Covers risk categorization of downstream subprojects, E&S screening tools, supervision and monitoring protocols, reporting obligations, disclosure, remedy for non-compliance, and capacity-strengthening support to implementing partners and local institutions.

(Source: IFC, 2012)

2.3.2 Policy on Indigenous Peoples

The GCF Indigenous Peoples Policy (decision B.19/11) recognises that Indigenous Peoples are distinct stakeholders whose identities, rights, cultures, lands and traditional livelihoods often make them vulnerable to climate-change interventions. The policy ensures that all GCF-financed projects consider the rights, needs and aspirations of Indigenous Peoples, including land rights, access to natural resources, cultural heritage and participation in decision-making. The GCF requires meaningful and culturally appropriate engagement, including consultation, information disclosure and the Free, Prior and Informed Consent (FPIC) of affected Indigenous Peoples when projects may affect their lands or livelihoods. Consent must be sought in a timely, inclusive, transparent and non-coercive manner, and through their own decision-making processes. The policy mandates safeguarding against potential adverse impacts. Where harm cannot be avoided, GCF requires mitigation, compensation or fair benefit-sharing in a culturally appropriate and equitable way. Implementation of the policy is embedded in GCF's broader environmental and social management framework. It aims both to protect Indigenous Peoples from harm and to ensure they can benefit from and actively contribute to climate change mitigation and adaptation efforts.

2.3.3 Gender equality

The project is fully aligned with the GCF Gender Policy (Decision B.24/12), which recognises that climate change impacts can exacerbate existing gender inequalities. The project acknowledges that sustainable and equitable climate resilience requires the integration of gender equality and women's empowerment into design and implementation. Specifically, the project pursues three main objectives: supporting climate interventions through a comprehensive gender approach; promoting investments that advance gender equality and minimize social risks; and reducing the gender gap in climate vulnerabilities.

Furthermore, the project adheres to the German Government's feminist development policy and GIZ's Gender Strategy 2025–2029 ("United in promoting gender equality"). This framework prioritises a gender-transformative, intersectional, and human rights-based approach to tackle discrimination at its structural roots. Since 2017, GIZ has operated a comprehensive Safeguards and Gender Management

System that applies across all business sectors, mandates and client engagements. The system is overseen by the Safeguards and Gender Office at GIZ headquarters. This office ensures adherence to safeguards policies and provides technical guidance on environmental and social analysis, risk identification, mitigation planning and the development of measures that maximise co-benefits. The system addresses safeguards in the areas of environment, climate protection and climate change adaptation, conflict and context sensitivity, human rights and gender (GIZ, n.d.).

The project upholds a strict zero-tolerance policy regarding all forms of Sexual Exploitation, Abuse, and Harassment (SEAH), aligning with the GCF's Revised Policy on Prevention and Protection from SEAH. This policy imposes clear obligations on all project staff and counterparts to prevent, combat, and refrain from tolerating any SEAH-related activities (GCF, 2019, 2021). As the Accredited Entity, GIZ enforces a corporate culture based on ethical principles, honesty, and respect for human dignity, categorically rejecting any form of harassment or discrimination (GIZ, 2019). Since 2021, there has also been a dedicated unit within the Compliance and Integrity Unit, which is responsible for SEAH and serves as a complaint's mechanism.

2.3.4 GIZ's Code of Conduct

GIZ mandates strict adherence to its Code of Conduct, which serves as the ethical foundation for all employees and partners. This framework explicitly prohibits sexual harassment in the workplace, enforcing a zero-tolerance approach. Additionally, GIZ prioritizes children's rights through its Child Protection Policy, which aligns with international legal standards and limits interactions to ensure safety. This policy obligates all staff and stakeholders to protect children actively within their activities. By integrating these values, GIZ ensures a safe environment grounded in human rights and professional integrity (GIZ, 2020b).

2.3.5 GIZ's Whistle-blower System

GIZ has a well-established whistle-blower system, which offers various reporting channels that can also be used anonymously by anyone, if necessary. This system is available to employees, external stakeholders, and the general public to report serious violations of laws, internal rules, or the Code of Conduct associated with GIZ activities.

- Reporting Channels: Reports can be submitted anonymously via an online whistle-blower portal or directly to GIZ country and project offices (in writing or via interview).
- Reportable Violations: The system specifically handles complaints regarding:
 - Corruption and bribery
 - Embezzlement, fraud and misappropriation of funds
 - Conflicts of interest
 - Sexual misconduct and sexual exploitation
 - Human rights violations and
 - Violations of environmental obligations, including non-compliance with environmental standards, misuse of natural resources, or breaches of environmental law.

All reports are investigated thoroughly and fairly through a standardized, transparent procedure. GIZ strictly enforces a non-retaliation policy, ensuring that whistle-blowers do not suffer disadvantages for reporting, provided they have not themselves violated regulations.

2.4 Gap analysis of applicable ESS standards and National Regulations

A comparative analysis has been performed between the GCF, GIZ and the National ESS standards to understand potential gaps in ESS standards. It indicates that the environmental regulatory framework in Togo provides a solid legal basis for environmental impact assessment and environmental protection, particularly through the Framework Law on the Environment and the national ESIA procedures overseen by the environmental authority. These regulations establish requirements for environmental impact assessments, pollution control, and public health protection. However, the national framework tends to focus primarily on environmental dimensions, while the treatment of social risks, such as labour

standards, gender considerations, vulnerable groups, and community safety, is comparatively less comprehensive.

In contrast, the safeguard system applied by the Accredited Entity, GIZ, together with the Environmental and Social Standards of the GCF, reflects international best practices and provides a broader and more integrated approach to environmental and social risk management. These frameworks place stronger emphasis on social inclusion, stakeholder engagement, gender equality, labour standards, community health and safety, and adaptive environmental and social management throughout the project lifecycle. The gap analysis therefore highlights that the main differences between national regulations and GCF/GIZ standards relate not to conflicting provisions, but rather to differences in scope, implementation capacity, and operational detail. Gaps are observed in areas such as labour supply chain standards, SEAH prevention, structured grievance mechanisms, livelihood restoration in the context of land impacts, and systematic monitoring and adaptive management of environmental and social risks.

To address these differences, the project adopts a “highest applicable standard” approach, whereby project implementation will comply simultaneously with national regulations, GIZ safeguard requirements, and GCF Environmental and Social Standards. Where national regulations are less comprehensive, the project will apply the more stringent provisions of the GCF ESS and GIZ safeguards. This approach is operationalised through the preparation of a comprehensive ESIA and ESMP, the establishment of grievance redress mechanisms, the integration of gender and social inclusion measures, and the appointment of dedicated Environmental and Social focal points within the Project Management Unit and implementing institutions.

Overall, given the nature of the project, primarily involving rehabilitation of existing infrastructure within established footprints, the environmental and social risks are expected to be moderate and manageable. The alignment of project procedures with international safeguard standards ensures that potential risks will be effectively mitigated and monitored throughout project implementation. See Appendix 3

3. Baseline environmental and social situation in the target regions

3.1 Socio-economic profile

3.1.1 Central region

Demographic and social context

According to the fifth General Population and Housing Census (RGPH-5), the Central Region is home to approximately 795,529 inhabitants, of which 50.1% are women and 62.7% are living in rural areas (INSEED, 2023b). Population density, however, varies considerably between districts, largely due to differences in settlement patterns, access to infrastructure and the spatial distribution of economic activities (INSEED, 2022). The population is young, with 50.7% aged between 15 and 59.

Table 3: Population size of the Central region by age group, place of residence, and sex

Age group (year)	Urban			Rural			Total		
	Men	Female	Entire	Men	Female	Entire	Male	Female	Entire
0	2,622	2,499	5,121	8,698	8,550	17,248	11,320	11,049	22,369
1-4	10,710	10,168	20,878	38,707	37,120	75,827	49,417	47,288	96,705
5-9	14,209	13,338	27,547	48,520	45,969	94,489	62,729	59,307	122,036
10-14	13,746	13,203	26,949	41,855	36,610	78,465	55,601	49,813	105,414
15-19	13,212	11,726	24,938	29,724	25,240	54,964	42,936	36,966	79,902
20-24	8,910	8,979	17,889	20,717	24,532	45,249	29,627	33,511	63,138
25-29	6,454	7,647	14 101	18,421	21,068	39,489	24,875	28,715	53,590
30-34	6,040	7,118	13,158	18,370	20,170	38,540	24,410	27,288	51,698
35-39	5,561	6,220	11,781	16,296	17,081	33,377	21,857	23,301	45,158
40-44	4,548	4,797	9,345	13,380	14,184	27,564	17,928	18,981	36,909
45-49	3,692	3,821	7,513	10,395	10,298	20,693	14,087	14,119	28,206
50-54	3,102	3,334	6,436	9,531	10,043	19,574	12,633	13,377	26,010
55-59	2,419	2,577	4,996	6,997	6,622	13,619	9,416	9,199	18,615
60-64	1,942	2,243	4,185	5,541	6,054	11,595	7,483	8,297	15,780
65-69	1,282	1,385	2,667	3,026	3,354	6,380	4,308	4,739	9,047
70-74	852	1,076	1,928	2,357	2,954	5,311	3,209	4,030	7,239
75-79	420	675	1,095	1,143	1,724	2,867	1,563	2,399	3,962
80-84	293	536	829	992	1,495	2,487	1,285	2,031	3,316
85 and over	314	645	959	1,156	1,700	2,856	1,470	2,345	3,815
ND	361	431	792	821	1,007	1,828	1,182	1,438	2,620
Total	100,689	102,418	203 107	296,647	295,775	592,422	397,336	398 193	795,529

(Source : INSEED, 2023b)

Livelihoods, poverty and economic activities

Livelihoods in the region depend largely on rain-fed agriculture, with the main staple crops being yam, maize, millet, sorghum, beans, rice, cassava, voandzou, and soybeans. Some cash crops, such as cotton, cashew nuts, and shea butter, are also grown in some areas, depending on the specific soil and prefecture.

The region also has significant tourism potential, with remarkable natural sites such as the Fazao National Park and the forests of Kéméni, Malfakassa, Djabatoré, Tchorogo and Assoukoko, as well as the Balam and Aou-Mono mountains. However, this heritage is still underexploited economically (INSEED, 2024b).

Household income in the Centre region comes primarily from small-scale trade, primarily run by women, as well as from transport services and livestock farming. Despite these activities, monetary poverty remains higher than the national average of 43.8%, affecting 50.3% of households in 2021. In addition, 43.4% of households suffer from multiple deprivations, particularly in terms of access to education, electricity, health services, housing, drinking water, and sanitation (INSEED, 2024a).

Access to health services and WASH infrastructure

Statistics released by the Ministry of Health showed that the Central Region has 153 health facilities, including a Regional Hospital Center (RHC), 11 hospitals, 284 primary health units (USP1 and USP2) and 9 infirmaries in 2023 with an estimated health service density of approximately one facility per 5,200 inhabitants, given the regional population of 795,529 inhabitants (MSHPCSUA, 2024). The data also revealed that 87.8% of deliveries were attended by skilled health personnel, the antenatal care completion rate reached 64.3%, while 60.7% completed four antenatal visits. Early antenatal care during the first 12 weeks of pregnancy reached 22.3% of expected pregnancies, and 94.3% of pregnant women attended at least one antenatal care (INSEED, 2024b).

Household access to improved drinking water sources in the Central region is estimated at around 66.7%, while 17.6% rely on unimproved sources and 4.4% on surface water. Only 14.8% of households have basic sanitation facilities, and 60% use unimproved facilities or open defecation facilities. Access to hygiene remains low: only 20.5% of households have a soap and water point for handwashing, and 68.1% do not. These conditions increase the risks of waterborne and hygiene-related diseases, particularly in rural areas (INSEED, 2019).

3.1.2 Kara region

Demographic and social context

The Kara region has a population of 985,512, or 12.2% of the national population. Women represent 50.5% of the population with 71.1% people living in rural areas. The population is young and active: the working-age group (15-59 years) represents more than half of the population, while children aged 0-14 represent about a third. Population density varies by prefecture, reflecting disparities in infrastructure, agricultural potential, and access to markets.

Table 4: Population of the Kara region by age group, place of residence and sex

Age group (year)	Urban			Rural			Total		
	Men	Female	Entire	Men	Female	Entire	Male	Female	Entire
0	3,330	3,129	6,459	11,054	10,546	21,600	14,384	13,675	28,059
1-4	13,514	13,004	26,518	48,869	47,423	96,292	62,383	60,427	122,810
5-9	17,613	17,172	34,785	63,000	59,158	122 158	80,613	76,330	156,943
10-14	17,408	17,611	35,019	49,020	40,557	89,577	66,428	58 168	124,596
15-19	18,063	16,983	35,046	32,902	27,175	60,077	50,965	44,158	95 123
20-24	17,500	15,228	32,728	24,986	28,655	53,641	42,486	43,883	86,369
25-29	11,722	11,049	22,771	20,829	24,389	45,217	32,551	35,438	67,988
30-34	9,836	9,975	19,811	20,221	22,983	43,204	30,057	32,958	63,015
35-39	8,423	8,467	16,890	16,703	18,853	35,556	25,126	27,320	52,446
40-44	6,355	6,517	12,872	13,749	16,412	30,161	20 104	22,929	43,033
45-49	4,941	5,070	10,011	10,641	12 121	22,762	15,582	17,191	32,773
50-54	4,146	4,649	8,795	9,588	11,889	21,477	13,734	16,538	30,272
55-59	3,466	3,738	7,204	7,234	8,585	15,819	10,700	12,323	23,023
60-64	2,488	3,211	5,699	5,737	8,145	13,882	8,225	11,356	19,581
65-69	1,437	2,000	3,437	3,562	5,305	8,867	4,999	7,305	12,304
70-74	898	1,486	2,384	2,681	4,490	7,171	3,579	5,976	9,555
75-79	435	890	1,325	1,592	2,843	4,435	2,027	3,733	5,760
80-84	266	707	973	1,095	2,059	3,154	1,361	2,766	4,127
85 and over	319	922	1,241	1,340	2,515	3,854	1,659	3,437	5,095
ND	423	424	847	841	952	1,793	1,264	1,376	2,640
Total	142,583	142,232	284,815	345,642	355,055	700 697	488,225	497,287	985 512

(Source: INSEED, 2023b)

Livelihoods, poverty and economic activities

The Kara region has a relatively diversified economy compared to other northern regions, but it remains dominated by the informal sector. The main sources of income are agriculture, livestock, trade, transport, and handicrafts. Agriculture remains the backbone of rural livelihoods, although it is increasingly a complementary activity for urban and peri-urban households. The main food crops are maize, yam, sorghum, millet, beans, soybeans, and rice, while cash crops such as cotton and peanuts are grown in some areas. Market gardening along the Kara River and in lowland areas such as Toundounoda and Agamadè also provides seasonal income but faces land pressure and irrigation constraints (MATUH, 2022).

Economic diversification remains limited, and most jobs are informal or subsistence. Youth and women face structural barriers to employment, credit, and entrepreneurship, contributing to the persistence of income poverty despite moderate improvements in education and basic services. The Municipal Development Plan (2019-2023) indicates that 68.9% of the population lives below the poverty line, with 8% unemployment and 25% underemployment (MATUH, 2022).

Access to health services and WASH infrastructure

The region had 186 health establishments, including a RHC, 7 hospitals and 166 primary health units (USP1 and USP2) in 2023. The density of health services is estimated at approximately one establishment for every 5,300 inhabitants, for a population of 985,512 inhabitants.

Maternal and child health indicators show progress, but also persistent gaps. The antenatal care (ANC) completion rate reached 66.8%, and 89.1% of deliveries were attended by skilled health personnel in 2023. However, the region recorded 9 maternal deaths and 340 neonatal deaths, highlighting challenges related to emergency obstetric care and the availability of skilled personnel (MSHPCSUA, 2024).

Access to improved drinking water sources is 57.7%, while 20.8% of households still rely on surface water. Only 12.3% of households have basic sanitation and 66.4% use unimproved facilities or open defecation facilities. Access to hygiene remains low: 17.9% of households have a water and soap point for handwashing, and 56.4% do not (INSEED, 2019). These gaps increase the risk of diarrhoea and waterborne diseases, especially in densely populated and flood-prone areas.

3.1.3 Savanes region

Demographic and social context

The 5th General Population and Housing Census (RGPH-5) data shows that the Savanes region represents 13.8% of the national population with 1,142,138 inhabitants, 51.5% of whom are women. The majority of the population lives in rural areas (83.4%), while only 16.6% live in urban areas, mainly in Dapaong, the regional capital.

The population is predominantly young: those under 15 represent 44.6% of the total population, and the working-age group (15-59 years) represents approximately half of the total population. High fertility (approximately 6 children per woman) and limited access to reproductive health services led to rapid population growth and high dependency rates. Population density remains low but uneven, concentrated along major transport routes and near urban centers.

Table 5: Demographic data of the Savanes region

Age group (year)	Urban			Rural			Total		
	Men	Female	Entire	Men	Female	Entire	Male	Female	Entire
0	3,583	3,350	6,933	13,830	13,497	27,327	17,413	16,847	34,260
1-4	14,693	13,821	28,514	62,497	60,395	122,892	77,190	74,216	151,406
5-9	17,669	17,112	34,781	83,980	79,622	163,602	101,649	96,734	198,383
10-14	15,968	16,296	32,264	71,257	63,802	135,059	87,225	80,098	167,323
15-19	14,957	15,753	30,710	44,362	44,418	88,780	59,319	60 171	119,490
20-24	10,071	12,591	22,662	27,480	38,591	66,071	37,551	51,182	88,733
25-29	8,096	10,335	18,431	21,999	29,206	51,205	30,095	39,541	69,636
30-34	7,876	8,971	16,847	20,796	28,618	49,414	28,672	37,589	66,261
35-39	6,923	6,930	13,853	17,624	23,414	41,038	24,547	30,344	54,891
40-44	5,581	5,106	10,687	15,904	21,527	37,431	21,485	26,633	48,118
45-49	3,792	3,593	7,385	11,808	14,433	26,241	15,600	18,026	33,626
50-54	3,148	3,074	6,222	11,414	14,996	26,410	14,562	18,070	32,632
55-59	1,986	2,010	3,996	7,653	8,450	16,103	9,639	10,460	20,099
60-64	1,536	1,884	3,420	6,934	9,980	16,914	8,470	11,864	20,334
65-69	906	989	1,895	3,811	4,915	8,726	4,717	5,904	10,621
70-74	688	1,053	1,741	3,664	5,548	9,212	4,352	6,601	10,953
75-79	280	512	792	1,842	2,486	4,328	2,122	2,998	5 120
80-84	225	490	715	1,783	2,722	4,505	2008	3,212	5,220
85 and over	211	503	714	1,985	2,413	4,398	2,196	2,916	5,112
ND	153	124	277	450	575	1,025	603	699	1,302
Total	118,342	124,497	242,839	431,073	469,608	900 681	549,415	594 105	1,143,520

(Source: INSEED, 2023b)

Livelihoods, poverty and economic activities

The economy of the Savanes region is dominated by subsistence agriculture and livestock farming, which employ over 80% of the working population. The main food crops are millet, sorghum, maize, cowpeas, and yam, supplemented by small-scale cattle, goat, and sheep farming. Monetary income comes from the sale of agricultural surpluses, small-scale trade, and seasonal migration to other regions or neighbouring countries.

Agricultural productivity remains low due to soil degradation, erratic rainfall, and a lack of irrigation infrastructure, making households highly vulnerable to climate shocks. The region is also experiencing emerging activities in small-scale trade, handicrafts, and cross-border trade with Burkina Faso, Ghana, and Benin, but these are hampered by poor road connectivity and insecurity in border areas.

Poverty is widespread: 65.1% of the population lives below the poverty line, the highest rate in Togo. Food insecurity affects more than 40% of households, reflecting low diversification and dependence on rain-fed production. Non-monetary deprivations also remain significant, particularly in terms of access to education, health, electricity, and drinking water (INSEED, 2024a).

Access to health services and WASH infrastructure

Access to health services in the Savanes region remains limited, particularly in remote rural areas. The 2023 health statistics yearbook lists 134 health facilities, including a RHC, 5 hospitals, 116 primary care units (USP1 and USP2), and 7 infirmaries. The density of health services is estimated at approximately one facility per 8,500 inhabitants, the lowest ratio nationally.

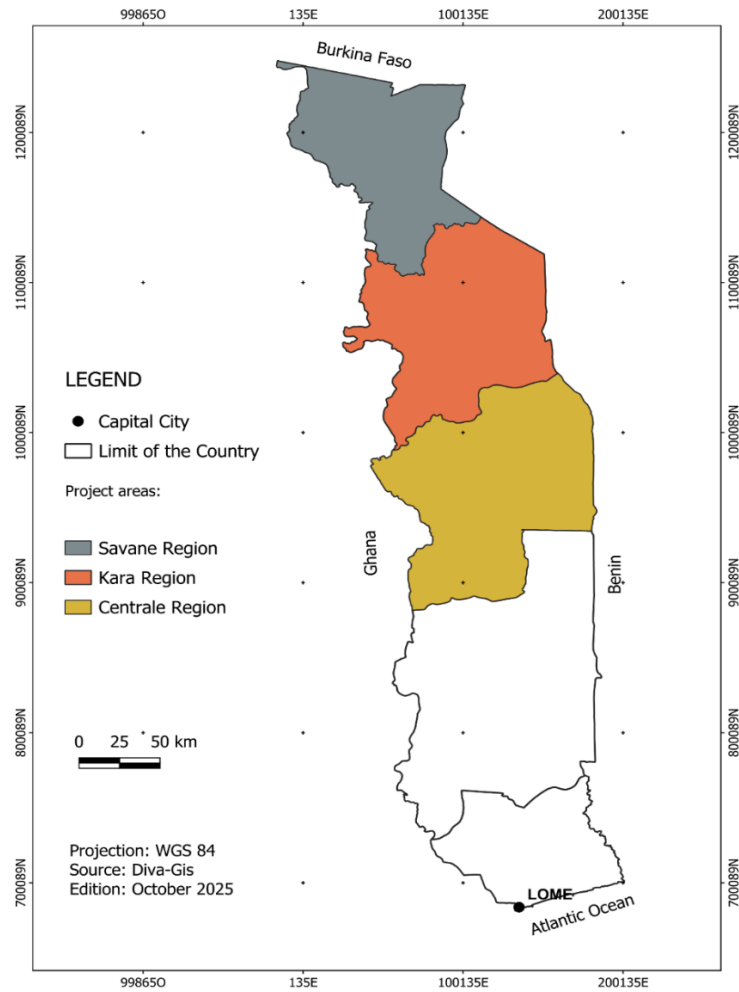
In 2023, 91.1% of births were attended by skilled health personnel, while the antenatal care (ANC) completion rate reached 65.4% and 63.4% of pregnant women completed four visits. Despite these results, the region still suffers from a shortage of skilled personnel and limited infrastructure, with many facilities lacking electricity, running water, and basic sanitation (MSHPCSUA, 2024).

Access to improved drinking water sources is 43.6%, while 10.1% of households still rely on surface water. Only 9.7% of households have basic sanitation and 72.8% use unimproved facilities or open defecation facilities. Access to hygiene is particularly low: 8.6% of households have a handwashing facility with soap and water, and 84.6% have none (INSEED, 2019).

3.2 Environmental profile

Togo's environment reflects a marked transition from humid coastal areas in the south to semi-arid savannas in the north, producing distinct gradients in rainfall, temperature, and vegetation. The country's diverse ecosystems, ranging from humid forests and wooded savannas to dry grasslands, provide essential ecosystem services, including water regulation, soil fertility, and carbon storage. Yet these systems are under increasing pressure from deforestation, overexploitation, and the increasing frequency of floods and droughts (Koglo et al., 2018). Population growth, reliance on biomass energy, and land conversion to agriculture have accelerated forest loss and soil erosion, compromising watershed integrity and biodiversity. These environmental changes are further exacerbated by rising temperatures and erratic rainfall, which disrupt ecological functions and intensify competition for already fragile natural resources (Runting et al., 2017).

Figure 2: Map of the regions of Togo

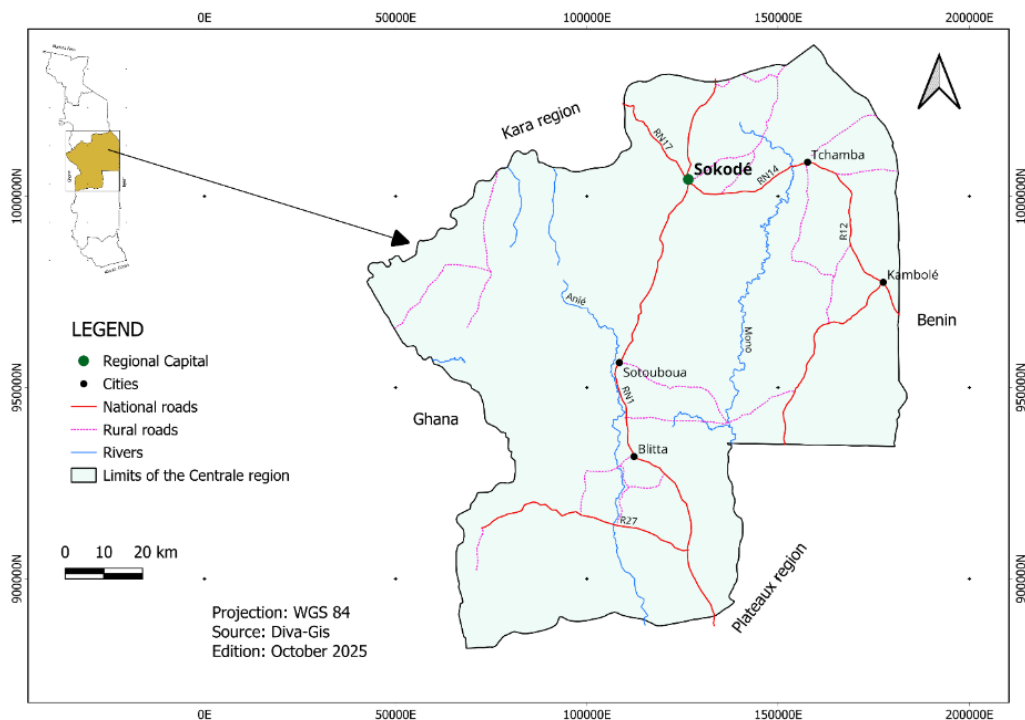


(Source: Own elaboration, 2025)

In this context, the northern regions of Togo, Central, Kara, and Savanes, represent the areas most affected by environmental constraints. They constitute a transition between the Guinean and Sudanian climatic zones and face converging challenges of land degradation, deforestation, and water scarcity (Fousséni et al., 2025; World Bank, 2021). Natural vegetation has been significantly altered by agricultural expansion, grazing, and charcoal production, while rainfall variability and rising temperatures have reduced the productivity of ecosystems and farms. Recurrent floods, droughts, and bushfires contribute to soil loss and habitat fragmentation, further weakening resilience (Assiah et al., 2024). The following subsections provide a detailed environmental baseline for each region, structured around land use, soils and agriculture, water resources, climate hazards and health, and pollution and waste.

3.2.1 Central region

Figure 3: Administrative map of the central region



(Source: Own elaboration, 2025)

Land use and cover

The Central Region lies in Togo's ecological transition belt, between the Guinean rainforest and the Sudanian Savanes. Its landscape consists of plateaus, rolling plains, and the M'oh River basin. Historically dominated by wooded Savanes and dry forest, the region has undergone a gradual conversion to mosaics of cultivated and fallow land. Forest degradation is primarily due to agricultural expansion, unsustainable fuelwood harvesting, and charcoal production (Bilouktime et al., 2024). Satellite analyses show a continued decline in vegetation since the 1990s, with increasing fragmentation of agroforestry landscapes. Remaining forest patches are concentrated along riparian corridors and in Fazao-Malfakassa National Park to the west, which provides a refuge for biodiversity but is under pressure at its edges from agriculture and grazing (Kaboumba et al., 2025).

Soils, agriculture, and land degradation

Soils in the Central region are mainly ferrallitic and lateritic, moderately fertile but shallow and prone to erosion. Continuous cultivation, short fallow periods, and hillside farming have led to a decline in organic matter content and compaction (Diwediga et al., 2017). Maize and yam are the major staple food crops grown in the region while cotton constitutes the major cash crop even with other crops such as soybeans becoming more widespread (Bassan et al., 2020). As such, the use of chemical fertilizers and pesticides has become prevalent, including in the lowland rice valleys. Poor soil conservation and clearing of woody vegetation have led to rill and sheet erosion, particularly in the Blitta and Tchamba prefectures. Gullies and localized sediment in drainage channels have been observed along the M'oh River floodplain with historical net soil loss (NSL) estimated at 26, 23, 27, and 44 t/ha/yr, for 1972, 1987, 2000, and 2014, respectively (Diwediga et al., 2017). Land degradation directly affects yields and increases runoff intensity during heavy rains, accelerating the risk of flooding.

Water resources and hydrology

Hydrological systems in the Centrale region are dominated by the M'oh river basin, which drains the central plateau and forms part of the Oti-Volta system. The region receives between 1,100 – 1,600 mm

of precipitation annually, based on 1988-2018 data from the Fazao, Sokodé, and Sotouboua stations (Houedakor & Yamoula, 2021). Total rainfall and the number of rainy days have declined in the Mô basin since the 1970's thus, the effective hydrological season is limited to May-October, and river flows outside of this window shrink dramatically.

Land-use patterns intensify these hydrological constraints. Results from Diwediga et al.'s modelling for the Mô Basin estimate a net soil loss of 23-44 t/ha/yr between 1972 and 2014, consistently above tolerable tropical limits, with steep slopes ($\geq 15^\circ$), crop lands, savannas, and riparian strips within 100m of channels acting as the main sediment sources (Diwediga et al., 2017). These erosion hotspots feed substantial sediment loads into the drainage network, driving siltation of riverbeds and reservoirs and degrading water quality in local streams.

Across rural and small-town areas of Centrale, domestic water supply relies mainly on groundwater abstracted from wells and boreholes. In a 2023 joint drinking water, sanitation and hygiene assessment by WHO/UNICEF, using microbiological data over a 22-year period, Togo was identified as one of the low- and middle-income countries that exhibits a significant share of groundwater-based drinking-water sources that contain *E. coli*, where on-site sanitation and waste management are inadequate. The use of pit latrines without a slab or platform (hanging latrines or bucket latrines) is prevalent in the region, heightening contamination risks for nearby shallow and unprotected intakes and elevating microbiological risk for local users when water is consumed without treatment (UNICEF, 2023).

Climate risks and health impacts

The Central region faces a growing range of climate risks, driven by rising temperatures, changing rainfall patterns, and the increased frequency of extreme events. The region's plateau and river valleys, particularly the Mô basin, are increasingly affected by recurrent flooding, flash runoff, mid-season droughts, and intensifying heat extremes. Observations from 1981 to 2022 show a consistent warming trend of about 0.3°C per decade, as well as increasingly erratic rainfall patterns that result in longer dry spells followed by short, intense storms. In parallel, the frequency and duration of hot days and heatwaves have increased, exacerbating thermal stress across both rural and peri-urban areas (World Bank, 2025a).

These dynamics cause soil erosion, sedimentation, and contamination of surface water sources used for drinking and irrigation (World Bank, 2021). Climate projections under the SSP2-4.5 and SSP5-8.5 scenarios indicate that temperatures could increase by up to 2°C by 2070, with precipitation increasingly concentrated over shorter periods (IPCC, 2023). Projected increases in extreme heat days are expected to further strain water availability, energy supply, and health infrastructure, particularly in communities with limited adaptive capacity. This hydrological instability increases exposure to flooding in low-lying areas and prolongs water scarcity during the dry season, thus amplifying stress on ecosystems and infrastructure.

The implications for human health are considerable. Warmer and more humid conditions extend the window of malaria transmission by favouring vector survival in stagnant floodwaters (World Bank, 2021). Meanwhile, contamination of open wells and rivers after heavy rainfall has been associated with outbreaks of diarrhoeal disease, particularly in settlements lacking adequate sanitation facilities. Rising temperatures and recurrent heatwaves are also associated with increased incidence of heat-related illnesses, including heat exhaustion, dehydration, cardiovascular stress, and complications during pregnancy and early childhood. These impacts disproportionately affect outdoor workers, pregnant women, the elderly, and young children (IPCC, 2023). Without investments in local WASH infrastructure, drainage, and early warning systems, the region's population will remain vulnerable to these climate-health links under future warming scenarios.

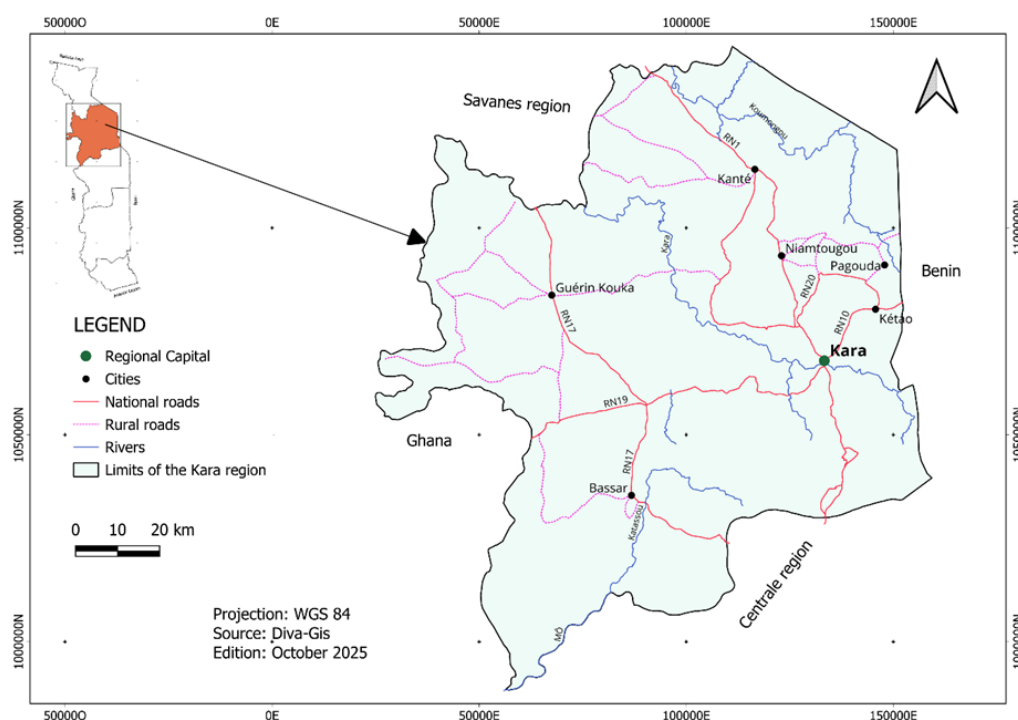
Pollution, waste and air quality

Open burning of household waste and the use of biomass fuels for cooking are widespread in the Centrale region. This contributes to particulate emissions and indoor air pollution, leading to respiratory infections and related deaths, particularly affecting women and children (Agbossou et al., 2022). Chemical residues from land-based activities have been detected in the soils and surface waters downstream of production zones, indicating diffuse sources of pollution (Bafai et al., 2022). Most rural communities lack organised solid waste management; informal dumpsites near rivers increase the risk of leaching. Industrial activity is limited, but small-scale processing units generate smoke and untreated wastewater that can affect local air and water quality. While region-specific measurements for Centrale are limited, studies from similar peri-urban/rural contexts in Nigeria and Ghana show that similar

processing systems produce particulate emissions and high-organic-load effluents. Given the similarity of practices used locally, comparable localised impacts on air and water quality are likely (Onoja et al., 2023; UNDP, 2023).

3.2.2 Kara region

Figure 4: Administrative map of the Kara region



(Source: Own elaboration, 2025)

Land use and cover

The Kara landscape comprises plateaus and indented valleys that are part of the Oti and Kara River sub-basins. It lies within the Sudanian ecological zone, historically dominated by woodland and Savanes. Over the past three decades, forest and woodland cover has declined by approximately 3% per decade, largely replaced by mosaics of cropland and fallow land (Ehlui et al., 2024). Built-up areas around the towns of Kara and Bassar have expanded rapidly, fragmenting habitats and altering drainage systems. Agroforestry parklands remain in rural districts, but their tree density is reduced due to fuelwood extraction and population pressure.

Soils, agriculture and land degradation

Kara soils are ferruginous, moderately deep, and more fertile than Savanes soils, but vulnerable to slope erosion. Land-use intensification and unsustainable practices (burning, continuous tillage, overgrazing) have accelerated degradation. Sediment deposits have been observed in valleys and along the Kara River, affecting irrigation efficiency and aquatic habitats (Assani Amate et al., 2025). Declining soil fertility has been linked to reduced fallow land and nutrient depletion. The main crops (maize, yams, sorghum, and pulses) are predominantly rainfed, exposing farmers to seasonal fluctuations in rainfall. Evidence of topsoil loss and declining infiltration rates indicate declining land productivity (Bagbohouna et al., 2023; Brabant et al., 1997).

Water resources and hydrology

The Kara River is drained by tributaries of the Oti and Kara Rivers. The region receives approximately 1,420 mm of annual rainfall, but rainfall has become more erratic, with more intense events leading to

flash floods. Water quality studies show high turbidity and organic matter concentrations downstream of agricultural areas (Assani Amate et al., 2025). Shallow springs and wells supply most rural settlements, while urban centers rely on boreholes with variable yields. Seasonal drought reduces baseflow and increases reliance on small reservoirs prone to eutrophication. Deforestation of riparian areas further accelerates sediment input and siltation of small dams.

Climate risks and health impacts

The tropical Sudanese climate of Kara produces alternating periods of intense rainfall and prolonged drought, driven by the northward and southward movement of the Intertropical Convergence Zone (ITCZ). The region records an average temperature of 28.5°C, with peaks exceeding 40°C in March and April (World Bank, 2021). Rising maximum temperatures and erratic rainfall have increased the frequency of flash floods in the Kara and Koulougona basins, while longer dry spells reduce groundwater recharge and water availability (Assani Amate et al., 2025). Historical records from 1981 to 2022 indicate a warming rate of 0.22°C per decade, accompanied by increasing rainfall variability. By 2070, temperatures are projected to increase by 1.4°C to 1.9°C, with precipitation increasing by 8–12%, although concentrated in fewer and stronger storms. These changes are already accelerating soil erosion, slope failure, and sedimentation in the region's agricultural valleys and plains.

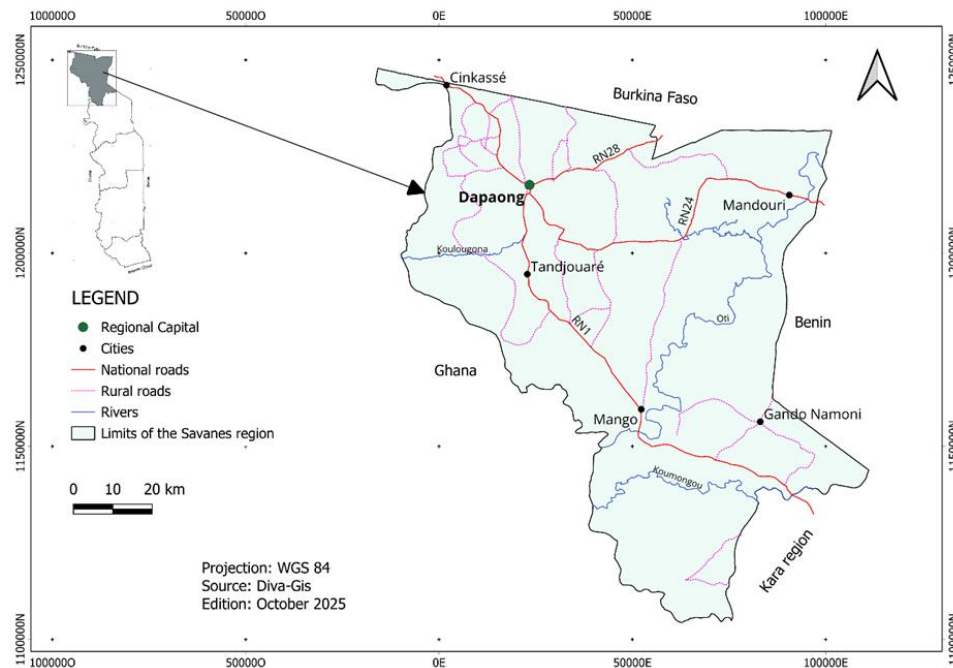
The resulting environmental instability is directly linked to adverse health effects. Flooding and prolonged stagnant water provide breeding habitats for malaria vectors, extending transmission seasons in previously low-risk areas, such as highlands (GIZ, 2020). Heavy rains cause surface water contamination, leading to spikes in waterborne diseases such as cholera and diarrhoea, while dry-season harmattan winds increase respiratory infections due to high particulate matter concentrations (MERFPCCC, 2022). Prolonged heatwaves and rising maximum temperatures increase the incidence of heat-related illnesses, including heat exhaustion, dehydration, and heat stress, particularly among outdoor workers, school-aged children, the elderly, and individuals with pre-existing health conditions. As the region warms, the frequency and intensity of climate-sensitive diseases are expected to increase, highlighting the importance of adaptive public health planning and resilient water management systems (World Bank, 2025a).

Pollution, waste, and air quality

The urbanisation of Kara City and secondary towns has outstripped municipal waste collection capacity. Open dumps and periodic incineration are the primary disposal methods. Biomass cooking remains the main energy source, producing high levels of fine particulate matter indoors. During the dry months, harmattan dust increases ambient fine particulate matter, exacerbating respiratory health risks. Small-scale agro-processing industries (cassava, shea butter, and brick kilns) release smoke and effluent into nearby sewers. Although industrial pollution is low in absolute terms, the cumulative effect of domestic, agricultural, and air pollution places a strain on air and water supply systems.

3.2.3 Savanes region

Figure 5: Administrative map of the Savanes region



(Source: Own elaboration, 2025)

Land use and cover

The region of Savanes is the northernmost area of Togo and is characterized by rolling plains, indented hills, and the Oti River floodplain. The natural vegetation consists of Sudanian and Sahelian Savaness with sparse woody cover. Deforestation has been severe: between 1984 and 2020, woodland cover declined by more than 70%, while cultivated land and agroforestry parklands expanded to nearly half of the territory (Ehlui et al., 2024). Drivers of forest loss include slash-and-burn agriculture, fuelwood harvesting, and charcoal production. Remaining patches of dry forest are mainly confined to protected areas near Oti-Kéran and Mandouri, where encroachment persists. The combination of vegetation loss and surface exposure contributes to local warming and the frequency of dust storms (Mikémina Pilo et al., 2017).

Soils, agriculture and land degradation

Savanes soils are largely ferruginous and poor in organic matter; surveys indicate that more than 80% of sampled sites are deficient in nitrogen and phosphorus (Saibou, 2020). Soil erosion rates in degraded sub-watersheds reach 2 to 3 tonnes/km²/year. Agricultural practices remain extensive and largely rainfed, dominated by millet, sorghum, and peanuts. Reduced fallow land, combined with pressure from livestock, exacerbates compaction and nutrient depletion. The region is recognized as one of the main land degradation hotspots in Togo under the national Land Degradation Neutrality (LDN) framework (Mikémina Pilo et al., 2017; UNDP, 2020). Desertification processes, vegetation loss, topsoil crusting, and declining infiltration are increasingly visible.

Water resources and hydrology

Hydrologically, the Savanes region is bounded by the Oti River and its tributaries (Kpendjal, Tandjouaré, Oti Sud). Average annual rainfall is 900 mm, concentrated between May and October. The region experiences recurrent floods (particularly in 2010 and 2022) which displace populations and contaminate water sources (IFRC, 2022). Conversely, dry seasons can extend beyond seven months, leading to severe water shortages. Groundwater is the main source of domestic water, but yields are declining, and water quality is threatened by surface seepage from latrines and flooding. Seasonal variations fuel cycles of contamination and shortages, complicating water supply planning.

Climate risks and health impacts

The Savaness, the northernmost and hottest region of Togo, exhibit a semi-arid Sudanian climate with a short rainy season (April-September) and a long dry season lasting up to seven months (MERFPCCC, 2022). The mean annual temperature averages 33°C, while precipitation remains around 900 mm, with high interannual variability. Historical data show a temperature increase of 0.2-0.25°C per decade, as well as increasing rainfall irregularity and a higher frequency of droughts (World Bank, 2025a). Projected trends under SSP2-4.5 and SSP5-8.5 indicate a further temperature increase of 2-2.5°C and more intense and shorter rainfall events by 2070. These changes are expected to amplify the frequency of floods and droughts, particularly along the Oti River basin, where floods in 2010 and 2022 displaced thousands of people and contaminated surface water (IFRC, 2022).

These climate pressures have significant health consequences. Extreme heat contributes to heat stress, dehydration, and cardiovascular disorders, particularly among farmers, children, and pregnant women (World Bank, 2021). Recurrent flooding creates conditions conducive to the breeding of malaria and dengue vectors, while periods of drought increase reliance on unsafe water sources, increasing the incidence of diarrheal diseases. In rural communities, where access to healthcare is limited, contamination of latrines and wells by flooding exacerbates outbreaks of waterborne diseases (MERFPCCC, 2022). Spatial analyses of climate vulnerability and risk identify Savanes as the national epicentre of compound climate and health risks, where rising temperatures, erratic rainfall, and land degradation mutually reinforce each other to generate chronic vulnerability (World Bank, 2025a). These overlapping risks underscore the urgent need for integrated health adaptation strategies that strengthen disease surveillance, early warning systems, and access to climate-resilient water and sanitation infrastructure.

Pollution, waste, and air quality

Pollution pressures come from open waste burning, the use of untreated agrochemicals, and biomass burning. Few municipalities have formal waste collection systems; most rely on open dumpsites. During floods, household waste and latrine sludge are released into surface waters. In the dry season, strong winds resuspend dust and ash, affecting air quality and respiratory exposure. Biomass cooking dominates domestic energy, while healthcare facilities frequently burn medical waste in open pits due to the lack of incinerators. Industrial activity is minimal, but cumulative diffuse pollution from domestic and agricultural sources affects soil and water quality (Devault et al., 2016).

4. Environmental and social impact assessment

This section provides a focused evaluation of the environmental and social risks associated with the proposed GCF project “Building the resilience of Togo’s national health system and vulnerable communities to climate-sensitive health outcomes.” The assessment follows the GCF’s Revised Environmental and Social Policy and draft ESS standards, consistent with IFC Performance Standards, and applies a risk-based approach to analyse direct, indirect, cumulative, and transboundary impacts. For each identified risk, relevant ESS standards are screened, and the need for further assessment is determined, while opportunities for environmental and social co-benefits are also explored. The findings of this assessment will inform the ESMP to ensure full compliance with the ESS framework throughout project implementation.

4.1 Preliminary assessment of possible negative impacts (triggered by the ESS)

The preliminary assessment summarised in Table 5 identifies that the project's activities trigger specific environmental and social safeguards (ESS), necessitating targeted risk management. While the project offers significant resilience benefits, it presents moderate risks (ESS 1 to ESS 4) linked to institutional capacity, occupational health and safety, and the management of biomedical and electronic waste. Conversely, risks regarding land acquisition, biodiversity, indigenous peoples, and cultural heritage (ESS 5 to ESS 8) are rated low to moderate due to the localised nature of the interventions. This assessment underscores the necessity of the robust mitigation strategies detailed in the Environmental and Social Management Plan (ESMP) to ensure compliance and sustainability.

Table 6: Summary of ESS Risks and Triggered Standards

ESS	Assumed risk level at pre-mitigation stage	Risk of negative impact	Related project activity	ESS triggered? (Is a thorough assessment necessary?)
ESS 1: Assessment and management of environmental and social risks and impacts	Moderate	<ul style="list-style-type: none"> Environmental and social risks related to working conditions, pollution, gender disparities, biodiversity loss and stakeholder engagement may not be adequately identified, monitored and managed if Executing Entities (EEs) do not establish and operationalise a functional ESMS, including effective stakeholder engagement and grievance redress mechanisms. Environmental and social risks may not be effectively addressed if ESS focal points within the Executing Entities are not formally designated and sufficiently trained to implement the ESMP, coordinate E&S management, and monitor contractors' and suppliers' compliance with applicable environmental and social standards. There is a risk that project activities implemented in the Savanes region may expose project personnel, partners, and beneficiaries to security threats associated with the deteriorating security situation and the presence of violent extremist groups in 	<ul style="list-style-type: none"> Institutional capacity building and inter-agency coordination for climate–health governance (Activities 1.1.3, 1.2.1, 1.3.1, 2.1.1, 2.1.2, 2.1.3). Technical and professional training of health personnel and focal structures on climate-health, ESS and SEAH/GRM (Activities 2.2.1, 2.2.2, 3.1.2). Community communication and awareness mechanisms supporting safe engagement and GRM/SEAH reporting (Activities 4.2.1, 4.2.2, 4.2.3). 	Yes - ESS 1 triggered; due to multi-site civil works and inclusion risks that must be examined through preparation of the ESMP

		the area. Incidents such as armed attacks, road ambushes, or sudden changes in the security classification of operational zones could disrupt activities and endanger staff and communities if adequate security procedures and situational awareness are not maintained.		
ESS 2: Labour and working conditions	Moderate	<ul style="list-style-type: none"> • There is a risk that construction contractors and suppliers involved in project activities may not fully comply with applicable national labour laws and international labour standards, including provisions related to fair working conditions, occupational health and safety, non-discrimination, and the prohibition of child and forced labour. Insufficient oversight of contractors may increase the likelihood of unsafe working conditions and labour rights violations affecting project workers. • There is a risk that construction contractors and suppliers may lack awareness of gender equality, SEAH prevention and protection of vulnerable workers, potentially increasing the likelihood of exploitation, abuse or harassment affecting workers and surrounding communities, as well as inadequate occupational health and safety practices during construction and related project activities. 	<ul style="list-style-type: none"> • Clinical, laboratory and sentinel site operations (Activity 3.2.2, 3.2.3). • Rehabilitation, construction and maintenance of health facilities, WASH infrastructure, AWS installations and maintenance centres (Activities 3.1.1, 4.1.1, 1.1.1, 1.1.2, 3.1.2). • Cold-chain, transport and logistics operations, including handling of solar systems and electric vehicles (Activity 3.2.1). • Community-based activities household visits, vector-control installations and SBCC outreach (Activities 4.1.2, 4.2.2). • Carpentry and local production of mosquito screens and related vector-control materials (Activity 4.1.2). • Work of CCUs, academic institutions, training centres, PMUs and administrative staff (Activities 2.1.1, 2.1.2, 2.2.1, 2.2.2, 3.1.2). • Engagement of volunteers, community multipliers and Red Cross teams (Activities 1.3.2, 2.2.2, 4.1.1, 4.1.2, 4.2.2). 	Yes - ESS 2 triggered; because the project introduces defined OHS and labour risks across multiple work settings that require development of the Labour Management Procedures and site-specific OHS plans

ESS 3: Resource efficiency and pollution prevention	Moderate	<ul style="list-style-type: none"> • There is a risk that expansion and rehabilitation of health facilities may increase biomedical and solid waste generation. If waste segregation, treatment and disposal systems are inadequate, this may lead to environmental contamination, exposure of workers and communities to hazardous waste, and improper disposal practices. • Construction and demolition activities may generate debris and hazardous materials that, if not properly sorted, stored and disposed of, could lead to uncontrolled dumping, obstruction of worksites, and degradation of soil and water quality around project sites. • Health facility infrastructure improvements may increase energy demand and reliance on fossil-fuel-based power generation if low-carbon design, energy-efficient equipment and renewable energy systems are not integrated into infrastructure planning. • Without the adoption of renewable energy technologies and energy-efficient equipment, health facilities may continue to rely on inefficient energy systems, increasing greenhouse gas emissions and operational costs. • Construction and rehabilitation works may generate dust and fine particulate emissions that could affect workers, patients and nearby communities if dust suppression and air quality management measures are not implemented. • Inadequate sanitation systems and wastewater management may lead to 	<ul style="list-style-type: none"> • Rehabilitation and operation of health centres and maternity units generating additional biomedical waste (Activity 3.1.1). • Construction and rehabilitation work at USPs, schools and kindergartens, generating construction debris (Activities 3.1.1 and 4.1.1). • Rehabilitation of existing water infrastructure or drilling of new boreholes and WASH systems in health and education facilities, including sanitation infrastructure that may influence groundwater (Activities 3.1.1, 4.1.1). • Procurement, installation and operation of solar systems, batteries, AWS equipment, cold-chain systems and IT hardware (Activities 1.1.1, 3.1.1, 3.2.1, 4.1.1). • Operation of sanitation facilities in flood-prone areas with high groundwater dependency (Activities 3.1.1, 4.1.1). 	Yes - ESS 3 triggered, because the project will generate biomedical, sanitation, electronic and construction waste that necessitates structured waste-management planning and review of sanitation and pollution risks
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		<p>faecal contamination, groundwater pollution and excessive water consumption if improved sanitation technologies and safe sludge management practices are not implemented.</p> <ul style="list-style-type: none"> • There is a risk that inadequate borehole design, construction and maintenance may compromise groundwater quality and pose health risks. Furthermore, unregulated or poorly planned drilling may lead to aquifer depletion, ground instability, and unreliable water supply, including seasonal borehole failure due to inappropriate siting. 		
ESS 4: Community Health, Safety and Security	Moderate	<ul style="list-style-type: none"> • There is a risk that construction and rehabilitation activities may create unsafe conditions for workers and nearby communities if site-specific OHS assessments, safety plans and labour standards are not properly implemented. This could increase the likelihood of accidents, injuries or unsafe working environments during project works. • Communities may face increased health and safety risks, including climate-related hazards and climate-sensitive diseases such as vector-borne and water-borne illnesses, if infrastructure rehabilitation does not adequately account for extreme weather events and if hygiene promotion, disease prevention messaging and environmental health awareness campaigns are not effectively delivered and adapted to local contexts. • There is a risk that contractors, suppliers and project workers may not adequately respect human rights, gender equality and SEAH prevention measures, potentially 	<ul style="list-style-type: none"> • Construction and rehabilitation of health facilities and associated infrastructure (Activities 3.1.1, 4.1.1). • Operation of health facilities, maternity units, WASH infrastructure and cold-chain systems in community settings (Activities 3.1.1, 3.2.1, 4.1.1). • Community-based outreach, household visits, and behaviour-change communication (Activities 1.3.2, 2.2.2, 4.1.1, 4.1.2, 4.2.2). • Recruitment, engagement and interaction of project personnel, contractors and volunteers with community members in multiple settings. • Transport of construction materials, medical supplies and equipment, including motorcycle distribution (Activities 3.1.1, 3.2.1, 4.1.1). 	Yes - ESS 4 triggered, because construction nuisances, communicable disease risks, traffic hazards, SEAH concerns, and security dynamics require preparation of community health and safety measures and SEAH-sensitive protocols

		<p>leading to exploitation, discrimination, violence or community tensions if awareness and enforcement measures are not in place.</p> <ul style="list-style-type: none"> • Women, persons with disabilities and other vulnerable groups may continue to face barriers to safe, dignified and accessible health services if infrastructure design and service delivery approaches do not adequately address their specific needs. 		
ESS 5: Land acquisition and involuntary resettlement	Low to moderate	<ul style="list-style-type: none"> • Construction and rehabilitation works will only be undertaken on sites owned by public partners, and no land acquisition will take place under the project. However, there remains a residual risk that the public status or boundaries of some intervention sites for health facilities (HFs) and automated weather stations (AWS) may not be fully documented or clearly recognised by surrounding communities. In some cases, historical land donations, informal community use, or unclear site boundaries could create misunderstandings or perceptions of competing claims. If site verification and consultations with local authorities, traditional leaders, and community members are insufficient, this could lead to local tensions, implementation delays, or reputational risks for the project. 	<ul style="list-style-type: none"> • Expansion or rehabilitation of health facilities (USPs and community health centres) requiring confirmation of secure, uncontested land parcels (Activities 3.1.1, 4.1.1). • Construction or upgrading of WASH infrastructure in schools and kindergartens (Activity 4.1.1). • Site selection processes involving verification of land ownership, donation history, boundary clarity and documentation (Activities 3.1.1, 4.1.1). • Engagement of local authorities, traditional leaders and facility management committees in participatory land verification and documentation procedures (Activities 3.1.1, 4.1.1). 	Yes - Project activities will be implemented exclusively on existing government-owned land, but pre-existing land disputes cannot be ruled out
ESS 6 Biodiversity Conservation and Sustainable Management of Living Natural Resources	Low	<ul style="list-style-type: none"> • There is a risk that biodiversity and ecosystem considerations, including antimicrobial resistance (AMR) and environmental health linkages, may be insufficiently integrated into One Health 	<ul style="list-style-type: none"> • Waste handling, site clearing and erosion-control activities associated with rehabilitation and expansion of health centres/ facilities. 	Yes - ESS 6 triggered screening and mitigation measures required, but no critical habitat conversion is planned

		<p>decision-making if the Climate Change Unit (CCU) and ESS focal points within Executing Entities are not actively engaged in the One Health Platform and related policy discussions.</p> <ul style="list-style-type: none"> In the context of health facility infrastructure improvement, there is a risk of localized habitat degradation, heat stress and cumulative ecological impacts if biodiversity considerations, ecological assessments and nature-based solutions such as revegetation or ecosystem restoration are not integrated into infrastructure planning and rehabilitation activities. 		
ESS 7 Indigenous Peoples	Low	<ul style="list-style-type: none"> There is a risk that local communities with semi-nomadic livelihoods, including Fulani pastoralists and other mobile groups, may not adequately benefit from project activities if engagement, communication and service delivery approaches are not adapted to their mobility patterns, cultural norms and communication channels. This could lead to exclusion from early warning systems (EWS), health services and training programmes, as well as tensions related to infrastructure sitting along transhumance routes or areas collectively used by pastoralist communities. These risks may increase if customary institutions and traditional leadership structures are not adequately included in project governance and consultation processes. 	<ul style="list-style-type: none"> Rehabilitation and construction of USPs, WASH facilities and other infrastructure requiring site selection (Activities 3.1.1, 4.1.1). Installation and siting of Automated Weather Stations and related infrastructure (Activity 1.1.1). Delivery of early warning alerts, health awareness campaigns and community engagement activities (Activities 1.3.2, 4.2.3). CHW training, community multiplier training and capacity-building activities (Activities 2.2.2, 4.2.2). Establishment of national and regional Climate Change Units and community health committees (Activities 2.1.1, 2.1.2). 	Yes - ESS 7 triggered due to the presence of semi-nomadic local communities (LCs) requiring application of the Local Communities Plan (LCP)

ESS 8 Cultural Heritage	Low	<ul style="list-style-type: none"> • There is a risk that project activities promoting modern medicine and vaccination may face resistance in communities if they are perceived as disregarding traditional beliefs, healing practices or the role of traditional medicine practitioners. Insufficient understanding of local health practices and cultural norms may reduce community trust and weaken acceptance of project interventions. • There is a risk that Executing Entities' field teams, contractors and suppliers may unintentionally act in ways that are not culturally appropriate during project implementation (e.g., infrastructure works, community engagement or health activities), potentially disturbing culturally significant sites or practices, undermining trust and generating community resistance to project activities. 	<ul style="list-style-type: none"> • Rehabilitation or construction of health facilities, schools, and WASH infrastructure (Activities 3.1.1, 4.1.1). • Siting and installation of AWS and related infrastructure (Activity 1.1.1). • Community engagement, awareness activities, and health interventions that interface with traditional practices (1.3.2, 4.1.1, 4.1.2, 4.2.2) 	<p>Yes - ESS 8 is triggered.as activities will occur in regions where traditional medicine is practiced.</p>
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(Source: Own elaboration, 2025)

4.2 ESS 1: Assessment and management of environmental and social risks and impacts

The project aims to transition Togo's health system from a state of fragility to climate resilience. The interventions are multi-dimensional, involving physical infrastructure upgrades (Component 3), digital data integration (Component 1), and social behaviour change (Component 4). The geographical scope covers the three northernmost regions - Central, Kara, and Savanes - which are critically exposed to climate hazards such as extreme heat, erratic rainfall, and flooding.

The assessment indicates that the project will generate substantial positive environmental and social impacts. These include reduced morbidity and mortality from climate-sensitive diseases (malaria, diarrhoea, heat stress), enhanced water security through solar-powered boreholes, and reduced greenhouse gas (GHG) emissions via the installation of solar photovoltaic (PV) systems. However, the implementation phase introduces specific risks that necessitate management.

The rehabilitation and extension of health infrastructures (Activity 3.1.1) involve civil works that inherently generate environmental stressors. The construction phase is expected to produce noise, vibration, and dust, potentially disrupting healthcare delivery in operational facilities. The management of construction waste, including the potential removal of asbestos-containing materials from older structures, poses a contamination risk to soil and groundwater if not handled according to hazardous waste protocols. Socially, the project operates in a complex landscape. The introduction of new technologies and infrastructure must be managed to prevent exclusion. There is a risk that vulnerable groups, specifically women, persons with disabilities, and the semi-nomadic populations identified in the region, may face barriers to accessing project benefits if surveillance systems and community interventions are not designed with inclusivity as a core tenet.

4.2.1 ESS1 Assessment

Institutional and implementation capacity for ESS Management

- **Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH (Accredited Entity):**

GIZ demonstrates a high level of competency in ESS management. As the AE, GIZ applies its corporate Safeguards + Gender (S+G) Management System, which has been accredited by the GCF. GIZ maintains a dedicated Safeguards and Gender Office at its headquarters and has a strong operational presence in Togo, employing approximately 286 staff. GIZ's role involves high-level oversight, quality assurance of E&S instruments, and reporting to the GCF. GIZ will assume ultimate fiduciary and supervisory responsibility. It will recruit a dedicated Gender & ESS Advisor within the Project Management Unit (PMU) to coordinate all ESS-related processes. This centralised expertise is designed to compensate for capacity gaps at the national level. GIZ's role will include quality assurance of E&S instruments, oversight of EEs, and reporting to the GCF.

- **Ministry of Health, Public Hygiene, Universal Health Coverage and Insurance (MSHPCSUA) (Executing Entity):**

The MSHPCSUA is the principal EE responsible for the health sector components. An initial assessment reveals gaps in the Ministry's capacity to manage environmental and social risks autonomously:

- **Policy Framework:** While the Ministry adheres to national environmental laws (such as the Framework Law on the Environment No. 2008-005), it lacks a specific, codified internal policy for ESS management. The "Combating diseases and managing social and environmental determinants" objective in the National Health Development Plan (2023-2027) provides a strategic entry point, but this has not yet been translated into operational standard operating procedures (SOPs) for risk management.
- **Human Resources:** The Ministry does not currently employ dedicated experts in Environmental, Social, and Governance (ESG) standards. Interviews conducted during the feasibility stage indicate that ESS assessments are typically conducted on an ad-hoc basis, driven by donor requirements rather than institutionalised internal processes. This suggests a reactive rather than proactive culture of risk management.

- **Operational Constraints:** There is limited historical collaboration between the MSHPCSUA and environmental agencies like the National Agency for Environmental Management (ANGE) or technical partners like ANAMET. This siloed approach could hinder the integrated management of climate-health risks envisioned by the project. The lack of comprehensive training strategies for staff on ESS issues further exacerbates this vulnerability.

- **National Hydrometeorological Agency (ANAMET) (Executing Entity):**

ANAMET is responsible for the meteorological infrastructure and data integration components.

- **Technical vs. ESS Capacity:** While ANAMET possesses strong technical capabilities in meteorology and data analysis, its experience in managing the environmental and social risks associated with infrastructure deployment is limited. The installation of AWS and the construction of the maintenance unit in Kara require OHS and community safety management protocols that are not currently part of ANAMET's routine operations.
- **Maintenance Systems:** The project identifies a baseline weakness in the maintenance of observation networks, which necessitates the establishment of a decentralised maintenance unit. ANAMET's capacity to manage the environmental aspects of this unit (e.g., disposal of electronic parts) requires strengthening.

- **National Agency for Environmental Management (ANGE):**

ANGE serves as the national regulator. They possess strong technical capacity to validate Environmental and Social Impact Assessments (ESIAs) and conduct external compliance monitoring. As stated in Section 2.2.8, no construction or physical activities will commence prior to the issuance of environmental approvals by ANGE. However, their role is regulatory oversight rather than day-to-day project implementation.

Gap Analysis

The gap analysis reveals a divergence between the GCF's and GIZ's stringent ESS requirements and the current operational capacities of the national EEs (MSHPCSUA and ANAMET). While the regulatory framework in Togo (e.g., Framework Law on the Environment 2008-005) is robust, the practical enforcement mechanisms within the implementing ministries require strengthening. The project must therefore invest in the following aspects:

- **Dedicated Personnel:** It is a mandatory requirement that each EE (MSHPCSUA and ANAMET) nominates a dedicated ESS Focal Point. These individuals will work in tandem with the GIZ Gender & ESS Advisor to operationalize the ESMP.
- **Capacity Building Program:** A structured training program will be implemented during the project inception phase. This will cover GCF ESS policies, the specific requirements of the ESMP, grievance redress mechanisms, and technical areas such as biomedical waste management and OHS.
- **Enhanced collaboration with ANGE:** The EEs will ensure collaboration with the National Agency for Environmental Management (ANGE) on E&S aspects and adherence to legal provisions in Togo.

Transboundary and cumulative impacts

Project activities are not expected to generate transboundary impacts on air, water, or other natural resources. Interventions are geographically limited to the national territory of Togo, particularly in the Centrale, Kara, and Savanes regions. Project activities focus on modernising health infrastructure, strengthening institutional capacities, and supporting local adaptation planning, all of which have localized impacts. Similarly, cumulative impacts are not expected to be significant, given the level and nature of interventions and the environmentally friendly construction and waste management practices that will be applied, and the mitigation measures outlined in project's Environmental and Social Management Plan (ESMP). However, monitoring of potential cumulative effects related to waste disposal, energy consumption, and water demand will be conducted to prevent unforeseen environmental pressures in areas with multiple health facilities.

Associated installations and impacts on third parties

The project will not depend on major related facilities or third-party operations whose impacts are beyond the direct control of the implementing entities. All facilities to be rehabilitated or constructed are under the supervision of the Ministry of Health and Public Hygiene. Contractors and service providers will be required to comply with the environmental, social, health, and safety standards outlined in the ESMP and contractual clauses. Any minor impacts on third parties, such as those related to transportation or supply chains, will be addressed through supplier due diligence, workplace safety provisions, and regular oversight by the project's environmental and social protection specialists.

Assessment of resilience and adaptation to climate change

The project explicitly integrates a climate change resilience and adaptation assessment as part of ESS1. There is no indication that the project will negatively impact the adaptive capacity of populations, ecosystems, or infrastructure. On the contrary, it will significantly improve climate resilience by strengthening early warning systems, surveillance of climate-sensitive diseases, resilient infrastructure and adaptive behaviour. Interventions are designed to account for projected changes in temperature, precipitation, and extreme weather events. Health facilities will be rehabilitated or constructed with climate-resilient materials, renewable energy systems, and improved drainage infrastructure to withstand flooding and heat stress. The installation of weather stations will improve the collection and use of climate data, allowing for better epidemic planning. The project also directly strengthens the adaptive capacity of communities by providing awareness campaigns, preventive health services, and adaptation measures tailored to local conditions. Therefore, the project contributes positively to national and global adaptation objectives, in line with Togo's National Health Adaptation Plan (PNAS) and the objectives of the Paris Agreement.

Grievance Redress Mechanism (GRM)

A transparent and accessible grievance redress mechanism is established to ensure accountability and responsiveness throughout project implementation (see Annex 7b - Stakeholder Engagement Plan). Stakeholders can submit complaints or comments through several entry points, including community liaison officers, local governments, and the Project Management Committee (PMC) and the Project Management Units (PMU).

Project workers and members of adjacent communities will be sensitized on the Project's Grievance Redress Mechanism (GRM), its procedures, multiple entry points, response timelines, and non-retaliation protections. Sensitization and induction will be delivered during worker onboarding (as part of OHS processes) and through community engagement sessions, using accessible formats, oral briefings, which will be conducted in French and/or local languages where needed in the Centrale, Kara, and Savanes regions.

Stakeholders and workers may submit grievances orally or in writing, including anonymously, in any language used within the project intervention areas. Complaints may be filed through multiple channels, including telephone, SMS or messaging services, post, online platforms, or in person. Entry points include Community Liaison Officers, site-level personnel, ESS Focal Points at the Executing Entities (MSHPCSUA or ANAMET), local government representatives, the Project Management Unit (PMU), as well as GIZ's online whistle-blower portal. Standardized grievance forms will be available at all project sites, health facilities, and offices to facilitate submissions. Information on when, where, and how to report complaints, including incidents of sexual exploitation, abuse and harassment (SEAH), will be widely disseminated to communities, workers, and partners through meetings, training sessions, communication materials, and community outreach activities. SEAH-related complaints may also be reported through confidential channels, including the Gender and ESS Advisor, Gender Focal Points, trusted community focal persons, or other designated confidential reporting mechanisms. Anonymity will be respected upon request, and a strict non-retaliation policy applies to all users of the grievance mechanism. When a complaint is submitted anonymously, it is registered and assessed based on the information provided, without requiring disclosure of the complainant's identity. Anonymous complaints, are handled through confidential, survivor-centred procedures in line with GIZ standards, ensuring data protection, non-retaliation, and access to appropriate support services. Once received, complaints are registered and acknowledged within five working days. The Gender & ESS Advisor conducts a preliminary review and classification of the complaint, followed by investigation and resolution. Feedback is communicated directly to the complainant, and unresolved cases are escalated to GIZ managers.

Complaints related to SEAH will be handled through confidential and survivor-centred procedures, with referral to appropriate support services. Lessons learned from complaint handling are systematically integrated into project monitoring and decision-making to ensure continuous improvement. The GRM is therefore an essential tool for maintaining transparency, building community trust and ensuring that project benefits are delivered in an equitable and conflict-sensitive manner.

Contextual security risks

The project will be implemented in Northern Togo, including the Savanes Region, which is currently affected by a volatile security situation linked to the southward expansion of Sahel based armed groups. Since 2021, attacks attributed to Jamaat Nusrat al-Islam wal-Muslimin (JNIM) and other armed actors have expanded from border communities toward inland prefectures including Oti and Oti Sud. This evolving security context presents a number of risks that may affect communities, project implementation, and service delivery.

Direct security threats remain present in certain prefectures, particularly Kpendjal, Kpendjal Ouest, and Tône, where incidents linked to cross border armed activity, trafficking networks, and the presence of sleeper cells have been reported. These risks create potential safety concerns for communities, project beneficiaries, and personnel operating in the region.

The broader security environment also contributes to heightened social fragility. Government counter terrorism operations, including Operation Koundjouaré, while necessary for national security, may unintentionally contribute to mistrust between local populations and security forces. In fragile contexts, such tensions may increase the risk of social grievances or exploitation of marginalized populations by extremist actors.

Insecurity also constrains access to essential services. Displacement, mobility restrictions, and fear of attacks can limit community access to health facilities and outreach services. Women, children, and persons with disabilities are particularly affected due to barriers to maternal health services, vaccinations, and emergency care. Women and girls may be exposed to increased risks of gender-based violence and sexual exploitation. Fulani communities identified as Local Communities under the project's Local Communities Plan may face additional vulnerabilities linked to displacement, disruption of pastoral mobility routes, and reduced access to communication channels and services.

Security conditions also create risks for supply chain operations associated with the project. The transport of construction materials, solar equipment, medical supplies, and meteorological infrastructure may be exposed to risks such as theft, diversion, or road ambush, particularly along remote transport corridors with limited security or emergency response capacity.

Project staff and community health workers conducting field missions may also face personal security risks, especially in areas classified as moderate risk zones. Female personnel may face heightened exposure to gender-based violence in fragile security environments.

GIZ possesses the operational systems, experience, and risk management procedures required to implement projects in insecure contexts, while ensuring that staff safety and project integrity remain central to its operational approach. To manage these contextual risks, GIZ applies a geographic security classification system distinguishing between red zones, where operations are suspended, and orange zones, where activities may proceed under enhanced security protocols. Project activities will not be implemented in red zones. Activities in the Savanes Region will only occur in orange zones where security conditions permit controlled operations with strengthened security management procedures.

4.2.2 ESS1 Impact rating: Moderate

Moderate impacts are of particular concern in the project context because they tend to affect a wider geographic area or a larger number of people, even if they remain largely predictable and reversible. These impacts typically result from the interaction between project activities and the environment of local communities, particularly in areas with limited institutional capacity or infrastructure. Examples include temporary disruptions to community access during construction, risks related to the improper handling and disposal of biomedical and construction waste, occupational risks related to exposure to chemicals or medical equipment, and potential social tensions or GBV related to the presence of temporary labour. To effectively address these challenges, the project is classified as moderate, emphasizing that, despite their significance, the risks can be managed through robust mitigation and monitoring measures as outlined in the ESMP. These include strict enforcement of biomedical waste management and infection prevention protocols, and the integration of gender-sensitive safeguards

and training programmes to prevent violence, exploitation, or harassment. In addition, community engagement, grievance handling, and information disclosure mechanisms are being strengthened to ensure transparency, promote social acceptance, and build trust. Regular monitoring of environmental and social performance through audits, field inspections, and progress reports ensures that mitigation measures remain effective and adaptive throughout project implementation.

4.2.3 ESS1 Mitigation and management measures

4.2.3.1 Functional Environmental and Social Management System (ESMS)

4.2.3.1.1 Establishment of the Environmental and Social Management System (ESMS) to manage potential risks

The setup of the ESMS is critical to bridging the gap between GIZ's robust corporate safeguards and the current capacity limitations of the national Executing Entities (EEs).

- **Addressing Institutional Gaps:** The ESIA identifies that the Ministry of Health (MSHPCSUA) lacks a specific, codified internal policy for ESS management and relies on ad-hoc assessments driven by donors rather than institutionalised procedures. Similarly, ANAMET lacks experience in managing environmental and social risks for infrastructure like the new maintenance unit.
- **Operationalising Oversight:** To make the ESMS functional, the project must move beyond policy to practice by requiring each EE to nominate dedicated ESS focal points to work alongside the GIZ Advisor. Furthermore, the system must formalise a collaborative framework with the National Agency for Environmental Management (ANGE) to provide independent regulatory oversight and validate compliance, compensating for the lack of internal environmental specialists within the implementing ministries.

4.2.3.1.2 Establishment of the Grievance Redress Mechanism (GRM) to handle complaints

The GRM is necessary not only for resolving conflicts but for maintaining social legitimacy and trust.

- **Accessibility and Anonymity:** The mechanism must provide multiple entry points (community liaison officers, local governments, digital channels) and guarantee anonymity to protect complainants from retaliation.
- **Survivor-centred SEAH Protocols:** A crucial component of the GRM is the handling of Sexual Exploitation, Abuse, and Harassment (SEAH) cases. The system will ensure SEAH-related complaints are managed through confidential, survivor-centred procedures that include referrals to appropriate medical and psychosocial support services.

4.2.3.1.3 Operationalisation of the Stakeholder Engagement Plan (SEP) to ensure meaningful, locally adapted, and gender-responsive engagement with stakeholders

The SEP is the primary tool to mitigate the identified risk of social exclusion.

- **Preventing Exclusion:** The ESIA highlights a specific risk that vulnerable groups - specifically women, persons with disabilities, and LCs - may be excluded from project benefits (such as early warning systems or resilient health services) if interventions are not designed with inclusivity as a core tenet.
- **Adaptive Engagement:** Operationalising the SEP requires tailoring communication to these groups to ensuring that digital data integration (Component 1) and behaviour change activities (Component 4) are accessible and do not reinforce existing barriers.

4.2.3.2 Reinforcement of ESS focal points' capacities within EEs

4.2.3.2.1 Designate ESS focal points to oversee ESMP implementation in each Executing Entity (EE) to ensure compliance with safeguard requirements

The designation of specific focal points is a mandatory requirement to address the critical human resource gap identified in the assessment, where neither the Ministry of Health (MSHPCSUA) nor ANAMET currently employs dedicated Environmental, Social, and Governance (ESG) experts.

- **Institutionalising Risk Management:** This measure aims to shift the executing entities from a reactive, ad-hoc approach to safeguards - often driven solely by external donor requirements - toward a proactive, institutionalized culture of risk management.
- **Operational Responsibility:** These focal points are essential to compensate for the current lack of formalised standard operating procedures (SOPs) for risk management within the Ministry. They will be responsible for the day-to-day operationalization of the ESMP, ensuring that environmental and social considerations are not side-lined by technical execution.

4.2.3.2.2 Build safeguards capacity of ESS focal points and focal points on environment and health in the Regional Health Directorates (RHD)

Capacity building is required to close the divergence between the stringent ESS requirements of the GCF/GIZ and the current operational capacities of national partners.

- **Targeting Technical Deficits:** The training program must go beyond general policy awareness to address specific operational weaknesses identified in the gap analysis, such as the lack of structured training systems for risk management.
- **Specific Curricula:** To be effective, the capacity building must cover technical areas explicitly flagged in the assessment, including Occupational Health and Safety (OHS) protocols for infrastructure deployment (critical for ANAMET's new maintenance roles) and biomedical waste management (critical for MSHPCSUA). It must also equip staff with the skills to manage the Grievance Redress Mechanism (GRM) and ensures compliance with the specific mandates of the ESMP.

4.2.3.2.3 Set up a coordination mechanism for all ESS focal points including reporting to PMC and PSC

A formal coordination mechanism is necessary to overcome the historical siloed approach and the limited collaboration between the Ministry of Health, technical partners like ANAMET, and environmental regulators.

- **Breaking Institutional Silos:** The assessment notes that fragmented intersectoral collaboration could hinder the integrated management of climate-health risks; this mechanism ensures that ESS focal points do not work in isolation but operate within a structured framework.
- **Unified Oversight:** This structure allows the focal points to work in tandem with the GIZ Gender & ESS Advisor, facilitating consistent monitoring and ensuring that ESS performance and compliance issues are systematically reported up to the Project Management Committee (PMC) for high-level decision-making.

4.2.3.3 Strengthening of security and safety arrangements in Savanes

4.2.3.3.1 Continuous monitoring of security situation by GIZ RMO and implementation of safety measures according to risk level

- **Project implementation in the Savanes Region** will follow GIZ's structured security management framework based on the Integrated Context and Human Rights Analysis (iPCA), which is the organisation's standard process for systematically identifying contextual and project-specific risks and defining appropriate mitigation measures. The iPCA is conducted at the country office level and complemented by project-specific assessments reflecting the geographic area of operation and planned activities.
- In response to the security situation in northern Togo and the state of security emergency declared in the Savanes Region in 2022, GIZ applies an iPCA-based security profile using a colour-coded zoning system (green, yellow, orange, red) to reflect area-specific risk levels.

These classifications are informed by the analysis of security incidents and their frequency and are regularly updated by the GIZ Risk management Office (RMO) as the situation evolves. Under this framework, green zones indicate relatively stable conditions where activities may proceed under standard procedures; yellow zones require heightened vigilance and implementation of specific mitigation measures; orange zones indicate high risk where movements and activities are strictly limited and require prior authorisation; and red zones indicate very high risk where movements and activities are generally suspended except under exceptional derogation.

- Operational procedures associated with each colour level are defined in GIZ Togo's "Movement Standard Operating Procedures (SOP)" and guide decisions on the continuation, suspension, or relocation of project activities, as well as potential evacuation of personnel if the security context deteriorates. These procedures are supported by the GIZ RMO and integrated with the Emergency Management and Notification System (EMNS) to ensure rapid communication, coordination with authorities, and timely decision-making during security incidents.
- In the event of a deterioration of the security context, particularly in high-risk areas such as the Savanes Region, GIZ will prioritise the safety of personnel while ensuring the continuity of project activities and maintaining coordination with relevant local stakeholders.
- To reduce exposure to security risks, operational modalities may be adapted in line with the evolving context, including adjustments to working hours, reduction or suspension of field missions in affected areas, temporary suspension of travel and on-site interventions, and increased reliance on remote implementation approaches supported by digital coordination tools.
- Where physical access to project sites is constrained, implementation modalities may shift towards delegation to qualified local consultants or partner organisations. In such cases, GIZ ensures continuous remote coordination, technical support, and monitoring, while local actors play a key role in maintaining community engagement and ensuring context-sensitive implementation of activities.
- In order to maintain operational continuity under restricted access conditions, GIZ prioritises the engagement and recruitment of local consultants and service providers, enabling sustained field presence and responsiveness despite mobility constraints.
- For any intervention in high-risk or security-sensitive areas, strict security and coordination protocols are applied, including prior travel authorisation from the Ministry of Armed Forces, systematic notification of local authorities (administrative, security, and traditional), formal clearance procedures, and full compliance with GIZ's Standard Operating Procedures (SOPs) for travel and security management.
- GIZ ensures close coordination with national and local stakeholders to support effective emergency preparedness and response, including collaboration with local government authorities, security forces and civil protection structures, as well as community leaders and affected populations.
- In crisis situations, GIZ may provide targeted support to affected communities, where feasible and within its mandate, including assistance related to temporary shelter, food security, access to safe drinking water, and basic healthcare services, while ensuring alignment with humanitarian principles and coordination frameworks.

4.2.3.3.2 Conduct additional in-depth security briefings for staff, consultants and workers in Savanes

- Personnel operating in the Savanes region will receive enhanced security orientation prior to field deployment to ensure awareness of the local risk environment and applicable operational restrictions. Security briefings will cover mobility rules, situational awareness, communication protocols, and emergency response procedures. These briefings will be aligned with the organization's internal security framework and supported by tools such as EMNS communication system and established mission authorisation procedures.

4.2.3.3.3 Obtain prior travel clearance from the GIZ RMO and the Government Emergency Programme (PURS) before undertaking travel to project areas

- Travel to the Savanes Region is conducted in accordance with GIZ Togo's "Movement SOP". Prior to departure, mission requests are submitted to the GIZ RMO, which reviews the proposed itinerary against current security guidance and the latest available security information. The request is subsequently transmitted to Government's Emergency Programme (*Programme*

d'Urgence pour la Région des Savanes, PURS), which assesses the mission and itinerary based on the most recent security updates and issues a decision (approval, conditional approval, itinerary modification, or denial). The decision is communicated to the travelling team and the GIZ RMO. Travel is undertaken only after formal clearance has been granted and all prescribed security conditions are implemented.

4.3 ESS 2: Labour and working conditions

4.3.1 ESS2 Assessment

ESS 2 ensures that projects promote fair, safe, and healthy working conditions, while protecting the rights and well-being of all workers involved in project activities. In this project, ESS2 is relevant across all four components, given the diversity of workers and work settings involved. These include: health personnel and laboratory staff in health facilities and sentinel sites; construction, rehabilitation and maintenance workers for health facilities, WASH infrastructure in schools and kindergartens, and climate-resilient infrastructure; technicians and engineers installing, operating, and maintaining AWS, rain gauges and hydrometeorological equipment; cold-chain and logistics personnel, including drivers of conventional and electric vehicles; carpenters and local artisans producing and installing mosquito screens and other vector-control solutions; staff of universities and training institutions, lecturers and trainees involved in climate–health training programmes; staff of national and regional Climate Change Units and other administrative and technical personnel in MSHPCSUA, ANAMET and partner institutions; and community health workers (CHWs), Red Cross volunteers, local NGOs, teachers and other community multipliers implementing outreach, Social and Behaviour Change Communication (SBCC) and community-based interventions.

Across these different work settings, the assessment identifies several major occupational health and safety (OHS) and labour/working conditions risks

Clinical and laboratory settings (health facilities, sentinel sites, fever clinics, laboratories) Workers are exposed to infectious diseases, blood and bodily fluids, medical waste, hazardous chemicals, and high temperatures in poorly ventilated rooms. As highlighted during field visits, among the 17 health facilities visited in the project area, during the public consultation (Annex 7 a), 16 were found to have cramped consultation rooms, and had insufficient air circulation, and all reported limited access to personal protective equipment (PPE), thereby increasing the risk of heat stress and infections. PPE availability is inconsistent, with recurrent stockouts and insufficient training on its correct use and on biomedical waste management (MSHPCSUA, 2021). Fewer than 40% of health centres maintained adequate PPE supplies during national COVID-19 assessments, particularly in rural areas. In northern Togo, studies also found that many health workers lacked continuous access to basic PPE, contributing to high rates of blood exposure incidents (Bassokla Ditorguena et al., 2019). These shortages - combined with limited waste-segregation materials, irregular supply chains, and insufficient PPE training, significantly increase occupational health risks. Similar constraints apply to laboratory technicians and staff handling reagents and diagnostic samples.

Construction, rehabilitation and maintenance works (health facilities, WASH in schools, AWS/rain gauges, maintenance centres)

Civil works and installation activities under Components 1, 3 and 4 expose workers to typical construction risks: work at height, electrical hazards, manual handling of heavy loads, use of machinery and tools, falls, traffic and road safety risks when transporting materials, and accidents during field missions to remote health facilities (Activity 3.1.1), schools and kindergartens (Activity 4.1.1); installation, repair and maintenance of AWS, rain gauges and hydrometeorological equipment (Activity 1.1.1 and 1.1.2); operationalisation of Regional Maintenance Centres and maintenance services for infrastructure and biomedical equipment (Activity 3.1.2). During rehabilitation works, workers may also be exposed to asbestos contained in old roofing tiles and building materials, requiring proper inspection, handling procedures to avoid contamination. Inadequate OHS procedures, insufficient use of personal protective equipment, limited supervision and weak enforcement of safety standards by contractors can increase accident and injury risks.

Cold chain, transport and logistics (including electric vehicles)

Under Activity 3.2.1, drivers, logistics staff and technicians managing cold chain equipment, solar systems and electric motorcycles/cars may be exposed to electrical risks (batteries, inverters, PV systems), road accidents, manual handling of heavy equipment and long driving hours in high temperatures. Inadequate training on safe operation, battery management and emergency procedures could heighten these risks.

Community-based work (CHWs, carpenters, teachers, local multipliers)

CHWs, Red Cross volunteers and local NGOs engaged in household visits, installation of mosquito screens and community mobilisation under Activities 1.3.2, 4.1.1, 4.1.2 and 4.2.2 may face exposure to vector-borne diseases, extreme heat during outdoor activities, unsafe travel conditions, and potential security and GBV/SEAH risks during door-to-door outreach or work in isolated areas. Carpenters and local producers involved in mosquito screen fabrication and installation may be exposed to physical hazards from tools and materials without adequate OHS training and protective equipment.

Office-based and institutional work (CCUs, universities, national agencies)

Staff in newly created CCUs at national and regional levels, universities and training institutions, and project management units (Components 1 and 2) face relatively lower physical risk but may be exposed to psychosocial risks, including high workload, long working hours around deadlines, job insecurity for temporary/consultant staff, and stress related to performance expectations and coordination with multiple partners.

Other labour and working conditions risks include

Deficiencies in biomedical waste management, sanitation infrastructure and fire safety systems increase occupational health and contamination risks for healthcare workers. The technical construction study (Annex 2c) identifies (i) the frequent absence of standardised receptacles for biomedical waste segregation; (ii) insufficient or non-functional incinerators, leading in some sites to unsafe disposal practices such as open-pit burial of syringes; and (iii) degraded or inadequate sanitation installations that compromise hospital hygiene conditions. In addition, the same study reveals an almost complete lack of fire safety mechanisms in the visited facilities, including the absence of functional fire extinguishers, smoke detectors, and visible evacuation plans. This absence heightens operational risks, particularly in areas where biomedical waste is handled and stored. These deficiencies constitute aggravating factors of OHS risks identified under ESS2.

Risks of discrimination and exclusion in access to employment opportunities, particularly for women, people with disabilities and workers from remote or marginalised communities. For example, the bathrooms and delivery tables in some healthcare facilities are not adapted to the needs of workers or patients with physical disabilities.

GBV and SEAH risks are also relevant across several work settings. Although GIZ Togo has established internal mechanisms for prevention and management of workplace harassment, providing clearly defined procedures and avenues for reporting, such risks may arise if preventive measures (e.g., the Code of Ethics and Conduct, and workplace harassment prevention and management mechanisms) are not fully operationalised to all workers. These risks are particularly relevant in settings such as health facilities and laboratories; construction sites and maintenance teams (including risk of harassment of women workers or women living near the sites); community engagement and household visits (abuse of trust, unequal power relations between workers and community members); and training spaces and academic settings (where students or trainees may be exposed to harassment).

Existing infrastructure (e.g., bathrooms, changing rooms, training centers, rest areas) in health facilities and schools is often not adapted to the needs of pregnant workers, breastfeeding women or workers with disabilities, which may further reinforce exclusion and unsafe conditions.

4.3.2 ESS2 Impact rating: Moderate

The overall impact of ESS2 is moderate because the identified risks are well understood, localised, and manageable through standard occupational health and workforce management procedures. The potential severity of these impacts' stems from the vulnerability of healthcare professionals working in environments directly exposed to infectious diseases, waste, or hazardous materials.

The moderate rating also reflects the potential for poor implementation of OHS protocols or lack of supervision during construction or rehabilitation work to lead to injuries, illnesses, or even deaths. In addition, social risks, such as discrimination, unequal treatment, or workplace harassment, could erode worker confidence and morale, thereby compromising project effectiveness.

However, these impacts remain predictable and reversible with appropriate mitigation measures. Strengthening institutional capacity of ANAMET and MSHPCSUA in health and safety, implementing continuous monitoring, and ensuring compliance with national labour regulations and GCF safeguards will minimise these risks. Through comprehensive training and supervision, the project can not only reduce occupational risks but also improve the overall quality and sustainability of healthcare delivery.

4.3.3 ESS2 Mitigation and management measures

4.3.3.1 Require contractors to adhere to labour rights and standards

4.3.3.1.1 Contractually require contractors and suppliers to comply with applicable national labour laws implementing ILO core labour standards, or, where not ratified, with equivalent regulations pursuing the same objectives.

This measure addresses the assessment's finding that inadequate OHS procedures and weak enforcement of safety standards by contractors are significant drivers of accident risk.

- **Mandating Site-Specific Planning:** Contracts require the submission and approval of site-specific OHS Plans before works commence. These plans must explicitly address the high-risk activities identified in the assessment, such as working at heights, handling heavy loads, and managing electrical hazards during the installation of solar PV systems.
- **Addressing Asbestos and Supply Chain Risks:** Given the risk of encountering asbestos in older buildings during rehabilitation, contracts must mandate an Asbestos Management Protocol requiring licensed removal and safe disposal. Furthermore, for the procurement of solar and IT equipment, contracts must include supply chain due diligence clauses to screen for compliance with core labour standards, specifically prohibiting forced and child labour.
- **Implement psychosocial risk management measures** for institutional and office-based project staff (PMU, CCU staff, EE focal points, consultants and advisors), including periodic workload assessments, access to mental health and psychosocial support facilities.

4.3.3.1.2 Check contractors' and suppliers' compliance during construction supervision missions on the ground

Supervision missions must move beyond administrative checks to verify physical conditions, targeting the specific deficiencies identified in the baseline assessment.

- **Verifying PPE and Safety Equipment:** The assessment highlights a critical baseline weakness where widespread PPE shortages and insufficient training exist, with fewer than 40% of health centres maintaining adequate supplies. Supervision must physically verify that workers are provided with and are using adequate protective gear (gloves, masks, boots) and that fire safety mechanisms are present and functional.
- **Monitoring Environmental Conditions:** Checks must ensure that labour conditions mitigate the identified risks of heat stress and poor ventilation, particularly in cramped consultation rooms or during outdoor construction and logistics operations. This includes verifying that workers have access to rest areas, water, and appropriate schedules to avoid peak heat exposure

4.3.3.1.3 Promote local employment and community participation in construction works

To reduce labour influx risks and strengthen community ownership of project infrastructure, contractors will be required to prioritise the recruitment of qualified local community members for both skilled and unskilled construction work wherever feasible.

- **Local Hiring Requirements:** Construction contracts will include provisions requiring contractors to employ a defined proportion of workers from nearby communities, subject to availability of skills and transparent recruitment procedures.
- **Community Benefits and Social Risk Reduction:** Prioritising local recruitment contributes to local economic benefits, strengthens community ownership of the infrastructure being

constructed, and reduces the influx of external workers, which can otherwise increase risks related to social tensions, SEAH, or community conflict. Recruitment Oversight and Capacity Building: Before construction activities begin, a core team responsible for recruitment and supervision of local workers will receive training on transparent recruitment procedures, eligibility criteria, labour standards, and oversight mechanisms to ensure fair and non-discriminatory employment practices.

4.3.3.2 Sensitize construction contractors and suppliers on human rights & gender issues

4.3.3.2.1 Require construction contractors to apply and comply with international human rights standards, prevent SEAH, prohibit incitement to violence or discrimination, and comply with ILO Fundamental Principles and Rights at Work throughout construction activities (e.g., through code of conduct)

This measure is critical to addressing the power imbalances identified in the assessment that can lead to exploitation.

- Addressing Power Imbalances and "Sex for Work": The assessment highlights that workers holding decision-making authority or controlling resources may create situations where boundaries blur, increasing the risk of coercion. The Code of Conduct must explicitly prohibit "sex for work" and exploitative dynamics, particularly involving women seeking health services or employment.
- Combating Discrimination: The assessment notes risk of discrimination and exclusion in access to employment, particularly for women and people with disabilities. The contractual requirements must mandate non-discrimination policies to ensure fair treatment.
- Enforcing Zero Tolerance: The project upholds a strict zero-tolerance policy regarding SEAH. Contracts must impose clear obligations on all project staff and counterparts to prevent and combat these behaviours, with defined sanctions for violations.

4.4 ESS 3: Resource efficiency and pollution prevention

4.4.1 ESS3 Assessment

ESS 3 requires the project to avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities and promoting the sustainable use of resources.

Waste Management

- Biomedical and wastewater management: The core function of the project - improving health service delivery - will inherently increase the volume of biomedical waste and wastewater generated by health facilities. This includes infectious waste (bandages, swabs), sharps (needles, lancets), and pharmaceutical waste (expired medicines) as well as health-care wastewater generated from wards, laboratories, laundries, and sanitation facilities. The baseline assessment indicates that while wastewater treatment infrastructure at several facilities is functional, significant gaps persist along the waste and wastewater management service chain, particularly in segregation, containment, emptying, transport, and final disposal. Many rural facilities continue to rely on open burning or sub-standard pit burning, and irregular emptying or transport of wastewater increases the risk of uncontrolled discharge. Uncontrolled disposal of this waste leads to the release of dioxins and furans (POPs) and creates reservoirs for disease vectors. Many health facilities in Togo currently face inadequate waste segregation practices, insufficient or outdated treatment systems, and non-compliant disposal methods (as documented in the construction study, Annex 2c). These include: (i) the frequent absence of standardised receptacles for biomedical waste segregation; (ii) insufficient or non-functional incinerators leading, in some sites, to unsafe disposal practices such as open-pit burial of syringes; and (iii) degraded or inadequate sanitation and wastewater installations that compromise hospital hygiene conditions) (Annex 2c). These deficiencies contribute to air, soil, and groundwater contamination risks, and increase exposure to infection for nearby communities and healthcare workers.

- **Permeable Septic Systems:** A widespread construction practice in the region involves building sanitation facilities using semi-lined pits with non-sealed bottoms. This design allows excreta to percolate directly into the ground, significantly increasing the risk of contaminating groundwater, especially in areas where communities rely on shallow aquifers for domestic water.
- **Construction Waste:** The rehabilitation of 15 USPs will generate substantial construction debris. In the absence of formal landfills in rural districts, there is a high risk of indiscriminate dumping in sensitive areas such as wetlands or riverbanks.
- **Electronic Waste (E-Waste):** The project includes significant procurement of technological equipment: solar panels, batteries (for cold chains and AWS), computers, and tablets. Solar batteries (lead-acid or lithium-ion) contain toxic heavy metals. The end-of-life management of this equipment poses a significant pollution risk if not integrated into a formal recycling scheme.

Resource Efficiency

- **Water Consumption:** The project promotes WASH in schools and health centres, involving the rehabilitation of existing water infrastructure or drilling of new boreholes. In the Savanes region, which is characterised by semi-arid conditions and projected rainfall variability, increased extraction could stress local aquifers if not managed sustainably. However, the project utilises hybrid solar/manual pumps, which limits extraction rates compared to fully motorised systems, and aligns with climate-resilient design.
- **Energy Efficiency:** The project actively supports energy efficiency through the procurement of solar-powered cold chain equipment and the design of health facilities to maximise passive ventilation and natural lighting (Output 3.1). This contributes to the project's mitigation co-benefits.
- **Raw Materials:** Construction will require sand, gravel, and timber. Sourcing these materials from illegal quarries or unsustainable forests contributes to land degradation and biodiversity loss.

Pollution Risks

- **Water Contamination:** Open latrines in flood-prone areas pose a severe risk of groundwater contamination. The project targets regions where flood risk is increasing due to climate change. If sanitation infrastructure is compromised during a flood, it releases faecal pathogens into the environment, directly counteracting the project's health objectives.
- **Construction Runoff:** Sediment and oil runoff from construction machinery can degrade local water quality, affecting downstream users and aquatic ecosystems.

Hazard and Building Risk Assessment

- Rehabilitation and renovation work at existing health facilities may involve the disturbance or removal of building materials that could contain hazardous substances. Older structures may include asbestos-containing materials or other potentially hazardous construction components that could pose environmental contamination risks if released during demolition or renovation activities. Without proper identification and management, these materials may lead to localized pollution of soil and air through the dispersion of hazardous particles during construction works.
 - **Asbestos-Containing Materials (ACM):** Health facilities targeted for rehabilitation include older buildings constructed prior to the widespread prohibition of asbestos use. Roofing tiles, wall boards, ceiling panels, and pipe insulation in these structures may contain asbestos. During demolition and renovation works, mechanical disturbance of ACM releases respirable asbestos fibres into the air. Exposure to asbestos fibres is associated with mesothelioma, lung cancer, and asbestosis, none of which manifests immediately, making community awareness and perimeter controls critical.

4.4.2 ESS3 Impact rating: moderate

The overall impact of the ESS3 project is rated as moderate, reflecting the fact that, although environmental risks are significant and widespread, they are predictable, reversible, and manageable.

through well-designed mitigation measures. Potential negative impacts primarily concern contamination of soil, air, and water resources, which could have cumulative effects on local ecosystems and public health if left unaddressed.

The moderate rating also considers the limited capacity of some healthcare facilities to effectively manage biomedical and chemical waste. Improper waste disposal, open burning, and leaky septic tanks could lead to groundwater and surface water pollution, endangering nearby communities and biodiversity. However, the project's focus on infrastructure upgrades, the promotion of green technologies, and the implementation of waste management protocols helps reduce these risks to an acceptable level.

At the same time, ESS3 presents significant opportunities for environmental co-benefits. By introducing energy-efficient systems, renewable energy technologies, and sustainable waste management practices, the project can reduce its carbon footprint and serve as a model for climate-resilient and environmentally friendly healthcare infrastructure in Togo.

4.4.3 ESS3 Mitigation and management measures

4.4.3.1 Improve general and biomedical waste management

4.4.3.1.1 Restore or replace incinerators and waste management infrastructure based on existing and consolidated norms

These measures directly address the deficiencies in waste management infrastructure identified in the baseline assessment.

- **Rectifying Unsafe Disposal:** The assessment reveals that many health facilities suffer from insufficient or non-functional incinerators, which leads to dangerous disposal practices such as the open-pit burial of syringes. Restoring or replacing this infrastructure is essential to prevent the release of dioxins and furans caused by uncontrolled burning and to eliminate reservoirs for disease vectors that threaten public health.
- **Standardising Segregation:** The assessment identifies a frequent absence of standardised receptacles for biomedical waste segregation as a major gap. The introduction of colour-coded bins is a necessary mechanism to operationalise a rigorous segregation system, which is required to prevent the mixing of infectious and general waste and reduce contamination risks for staff and communities.

4.4.3.1.2 Introduce waste separation in HFs (colour-coded bins for HFs, schools, kindergartens, incl. selected outdoor areas)

This measure operationalizes the infection control protocols that are currently failing due to infrastructure gaps.

- **Providing Missing Infrastructure:** The assessment noted a frequent absence of standardised receptacles for biomedical waste segregation. The introduction of color-coded bins is the specific physical intervention needed to enable the rigorous segregation system required by the ESMP.
- **Reducing Infection Risks:** Proper segregation is essential to separate infectious waste (bandages, swabs) and sharps (needles, lancets) from general waste, thereby mitigating the high risk of infection exposure currently faced by healthcare workers and nearby communities.

4.4.3.1.3 Include waste management indicators in roll out the quality-of-care service approach in structures supported by the ProSanté project

This measure ensures that waste management is treated as a core clinical competency rather than a peripheral task.

- **Institutionalizing Compliance:** By integrating these indicators into the *Pro Santé* quality approach, the project addresses the reactive rather than proactive culture of risk management identified in the institutional assessment. This ensures that the availability of bins and the functionality of incinerators become mandatory metrics for facility performance monitoring.

4.4.3.1.4 Develop and disseminate a catalogue of environmentally friendly equipment for waste management and training healthcare personnel in the maintenance of waste management equipment

This measure addresses the sustainability risks linked to equipment failure.

- **Bridging Maintenance Gaps:** The assessment identifies weak maintenance capacity as a key risk, noting that many facilities struggle with outdated treatment systems. Developing a catalogue ensures that procured equipment is durable and suited to the local context, while specific maintenance training prevents the recurrence of non-functional incinerators.

4.4.3.1.5 Extend IPC training to providers who have not yet been trained, with a focus on waste management. This measure targets the human resource deficits that exacerbate occupational health risks.

- **Reducing Occupational Exposure:** The assessment found that insufficient training on biomedical waste management and PPE use contributes to high rates of blood exposure incident" among staff. Extending Infection Prevention and Control (IPC) training is critical to ensuring that staff can safely handle the increased volume of biomedical waste generated by improved health services.
- **Correcting PPE Usage:** Training will specifically address the inconsistent use of PPE identified in rural areas, ensuring that available protective gear is utilized effectively to prevent infection.

4.4.3.1.6 GIZ to establish a protocol for managing end-of-life (discarded) equipment, including consultant, technical validation, and implementation monitoring

This measure addresses the specific pollution risks introduced by the project's technological interventions.

- **Managing Toxic E-Waste:** The project involves the significant procurement of solar panels, batteries and IT equipment. The assessment warns that without structured management, this equipment poses a significant pollution risk due to the presence of toxic heavy metals (e.g., lead or lithium).
- **Enforcing Supply Chain Responsibility:** This protocol operationalizes the circular economy approach mandated by the assessment. It facilitates the enforcement of *inter alia* take-back clauses in supplier contracts, ensuring that hazardous components like batteries are responsibly recycled rather than dumped in informal landfills where they could contaminate soil and groundwater.

4.4.3.2 Ensure proper construction waste management and disposal of hazardous waste

4.4.3.2.1 Reduce waste at source with selecting durable materials and avoid over-ordering in case of procurement. Construction documents, i.e. waste management plan (WMP), indicate the requirement of disposal in authorised disposal site

This measure addresses the critical infrastructure gaps in the target regions.

- **Preventing Indiscriminate Dumping:** The assessment highlights that the rehabilitation of 15 USPs will generate substantial construction debris. Since many rural districts lack formal landfills, there is a risk of this waste being indiscriminately dumped in sensitive areas, such as wetlands and riverbanks. Mandating a Waste Management Plan (WMP) that identifies authorized sites is essential to prevent this degradation.
- **Controlling Environmental Footprint:** By reducing waste at the source (e.g., through precise procurement), the project mitigates the cumulative effects of waste disposal in areas where municipal services are already overwhelmed.

4.4.3.2.2 Waste management information (e.g. site maps and visible signage, safety instructions and accessibility information) includes separating zones for material storage, active construction, equipment movement, and waste sorting. Further, contractors' personnel are sensitized and trained applicable waste management provisions

This measure is necessary to organize construction sites to prevent pollution and accidents.

- Controlling Runoff and Pollution: The assessment identifies a risk of construction runoff, including sediment loads and oil leakage from machinery, degrading local surface water. Establishing separating zones prevents runoff from material storage areas from reaching waterways.
- Adequate signage: This includes site maps, visible signage, safety instructions and other information on material storage and active construction areas.
- Disposal training: Training is required because the assessment notes a prevalence of unsafe practices; specifically, the burning of construction waste on-site must be strictly prohibited through sensitization to protect local air quality.

4.4.3.2.3 Conduct hazardous materials including asbestos surveys prior to any renovation or demolition. Based on findings, remove and dispose of contaminated materials by certified companies under strict OHS controls

- Comprehensive hazard and building assessments are embedded as mandatory prerequisites prior to any physical intervention at project sites. As part of the preparation of climate-resilient adaptation measures for health infrastructure, the project will develop dedicated guidelines for climate-resilient adaptation of health facilities in Togo. Hazard assessments are included as a fixed, non-negotiable step within these guidelines for all existing facilities to be adapted. During the facility selection process, hazard assessments are integrated into the technical pre-assessments, which evaluate the current state, challenges, and risks of existing infrastructure. This enables informed selection of health centres and allows for the development of targeted risk management plans to be addressed at the technical design stage, should a facility be selected for construction intervention.
- While a preliminary physical and functional diagnostic of a sample of existing health and WASH facilities was conducted during the project preparation phase (Annex 2c: Construction Study), detailed site-specific audits are formally embedded in the project implementation cycle. Under Sub-activity 3.1.1.4, every selected site must undergo building diagnostics, soil investigations, including hazardous material checks and topographical surveys, before the final technical design is approved.
- This sequencing ensures that all environmental and social risks associated with the physical condition of existing infrastructure are fully characterised and mitigated before construction commences. The measures below are proposed to address any specific legacy risks associated with older health infrastructure in Togo.
- Managing Asbestos Risk: The assessment explicitly flags the risk of possible asbestos from ageing buildings and old roofing tiles during rehabilitation works. Standard demolition would release carcinogenic fibres, causing adverse public health consequences.
- Specialized Handling: To mitigate this, the project must employ containment and wet-stripping methods implemented by licensed specialists rather than general labourers. This ensures that contaminated materials are safely contained and transported to designated landfills.

4.4.3.3 Ensure low-carbon infrastructure design, renewable energy system design and low-carbon material use

4.4.3.3.1 Minimise GHG emissions by using local, low-carbon materials (e.g., stabilized earth bricks), optimising infrastructure design and transportation routes, and implementing energy-saving procedures in facilities

This measure operationalizes the project's alignment with Togo's Nationally Determined Contributions (NDCs) by reducing the carbon intensity of infrastructure.

- **Sustainable Material Sourcing:** To reduce the embodied carbon of construction, the project explicitly encourages the use of compressed earth blocks and other low-carbon materials where structurally feasible, rather than relying solely on energy-intensive cement.
- **Decarbonizing Operations:** Optimizing energy procedures involves the widespread installation of solar photovoltaic (PV) systems for health facilities and solar-powered cold chain equipment. These interventions replace diesel generators and unstable grid connections, contributing to a projected avoidance of approximately 986.4 tCO₂eq.
- **Green Logistics:** Transportation emissions are minimized through Activity 3.2.1, which deploys electric motorcycles for last-mile delivery of medical supplies, reducing the reliance on fossil-fuel vehicles in rural logistics.
- **Preventing soil erosion and protecting natural drainage:** The project will implement site-specific erosion control measures during design, construction and rehabilitation works, including minimising land clearing, stabilising exposed soils, and managing runoff to prevent sediment transport. Natural drainage patterns will be preserved or restored where possible, and appropriate drainage structures will be integrated into infrastructure design to reduce surface runoff, prevent flooding and maintain natural flood regulation functions.

4.4.3.3.2 Climate-resilient infrastructure and intentional climate-resilient infrastructure design reduce health risks from floods, droughts and other extreme weather events.

This measure addresses the critical Occupational Health and Safety (OHS) and community safety risks identified in the baseline assessment.

- **Mitigating Heat Stress:** The assessment found that many existing facilities have cramped consultation rooms with insufficient air circulation, which exacerbates heat stress for staff and patients. Green building designs will rectify this by maximizing passive ventilation and natural lighting, improving thermal comfort without increasing energy consumption.
- **Structural Resilience:** To mitigate the health risks associated with structural failure during extreme weather, technical reviews must ensure that all rehabilitated infrastructure meets strict wind-load ratings for roofs and includes floodproofing for foundations. This protects patients and services from the intensifying storms and floods projected for the Savanes region
- **Building codes:** to ensure that all construction activities comply with the local regulatory framework of the Ministries of Urban Planning, infrastructure and public works, and other competent national authorities, the project collaborates with licensed local engineers and architects. Studies, technical drawings, and specifications are checked against applicable national building codes and sector guidelines and, where required, submitted to the relevant authorities for approval (e.g., building permits, validation of environmental and social impact studies). Projects must also comply with environmental legislation, including Environmental Law No. 2008-005, which mandates environmental screening and, where applicable, impact assessments. During execution, regular site supervision and quality control ensure full adherence to the approved designs and regulatory requirements.
- **Qualified professionals:** Structural, electrical and fire safety work will be carried out by engineers or technicians with proven expertise (formal training and experience) in the relevant field.
- **Solar PV and electrical safety:** All solar panels, inverters and battery systems will be installed to international electrical safety standards and IFC EHS guidelines for electrical equipment.

4.4.3.4 Promotion of renewable energy systems and energy efficiency measures

4.4.3.4.1 Installation and maintenance of solar system and solar pumps to reduce dependence on fossil fuels and to improve energy access in HFs, schools and kindergartens

This measure is central to the project's goal of decoupling health service continuity from the unstable national grid and expensive fossil fuels.

- **Enhancing Energy Security:** The assessment identifies that power outages frequently disrupt essential services (e.g., cold chain for vaccines). Installing solar photovoltaic (PV) systems and

hybrid solar-powered water pumps ensures that health facilities and schools maintain critical operations during blackouts, directly boosting resilience.

- **Managing Technical Risks:** The assessment highlights a baseline weakness in maintenance capacity. Therefore, this activity includes the training of local technicians and the operationalization of regional maintenance units (Activity 3.1.2) to prevent the failure of these new assets. It also requires strict adherence to the E-Waste Strategy, ensuring that the lead-acid or lithium-ion batteries are managed through "take-back clauses" to prevent toxic soil contamination at the end of their life cycle.

4.4.3.4.2 Purchase sustainable, energy-efficient equipment and promote energy-saving procedures (e.g. low-flow lighting, LED lighting) and promote energy-saving procedures in facilities

This measure operationalizes the "Resource Efficiency" requirements of ESS 3 and contributes to the project's mitigation co-benefits.

- **Reducing Operational Costs and Carbon Footprint:** By procuring energy-efficient technologies, such as solar-powered cold chain equipment and LED lighting, the project reduces the operational financial burden on rural health facilities while avoiding approximately 986.4 tCO₂eq in emissions.
- **Integrating Passive Design:** Promoting energy-saving procedures extends to the physical design of the facilities. The rehabilitation works will prioritize passive ventilation and natural lighting to reduce the need for active cooling (AC/fans), thereby lowering energy consumption while simultaneously mitigating the heat stress risks identified in cramped consultation rooms.

4.4.3.5 Measures for air quality improvement during construction works

4.4.3.5.1 Implementation of dust suppression measures (e.g. water spraying, proper storage of materials) during construction and renovation work to reduce fine particles suspended in the air

This measure addresses the specific respiratory health risks exacerbated by the project's location and operational context.

- **Protecting Vulnerable Patients:** The assessment highlights that rehabilitation works will take place in *operational* health facilities. Consequently, dust is not merely a nuisance but a clinical hazard. Strict suppression (e.g., using dust screens and regular water spraying) is required to prevent fine particles from entering wards, specifically protecting maternity and neonatal cases who are highly susceptible to respiratory distress.
- **Adapting to Seasonal Risks:** The baseline assessment notes that the Kara and Savanes are already subject to harmattan dust and strong winds during the dry season, which significantly degrade air quality. Proper storage of materials, such as covering sand and gravel stockpiles with tarpaulins, is essential to prevent wind erosion from compounding these existing environmental stressors
- **Noise and vibration management:** Noise and vibration disrupting healthcare services will be minimised by selecting low-noise construction machinery and planning noisy construction activities to reduce interference with healthcare operations (e.g. scheduling works during off-hours or periods of lower patient volume). Also, noise and vibration will be minimised by requiring that some major noisy processes (cutting, welding) are processed in factories and ready elements are moved onsite. Requirements for noise and vibration control will be clearly included in the technical prescriptions for construction works and in OHS provisions.

4.4.3.6 Measures for safe faecal sludge and wastewater management

4.4.3.6.1 Decommission of existing VIP toilets and replace them with a model of toilet equipped with sealed septic tanks or directly connected to a DEWATS facility.

This measure directly addresses the critical risk of groundwater contamination identified in the baseline assessment.

- **Preventing Aquifer Pollution:** The assessment highlights that a widespread construction practice in the region involves semi-lined pits with non-sealed bottoms. These permeable systems allow excreta to percolate directly into the ground, contaminating shallow aquifers that communities rely on for drinking water. Decommissioning these and installing sealed septic tanks is essential to stop pathogen leaching, particularly in areas with high water tables.
- **Flood Resilience:** In flood-prone zones like the Savanes region, unsealed pits are easily inundated, releasing faecal sludge into the environment. Replacing them with sealed or connected systems ensures that sanitation infrastructure remains containment-secure even during the recurrent floods projected for the region.

4.4.3.6.2 Treatment of wastewater generated by the sanitation blocks (toilets, handwashing facilities and showers) using the ecological and decentralised DEWATS approach, ensuring compliance with national standard for treated effluent

This measure provides a sustainable sanitation solution for rural facilities that are disconnected from municipal sewage networks.

- **Managing Rural Waste:** The assessment notes that most rural communities lack organised solid waste management or sewage systems. The DEWATS (Decentralised Wastewater Treatment System) approach provides an on-site solution that uses biological processes to treat effluent, ensuring that discharged water meets national standards and does not degrade local surface water quality or downstream aquatic ecosystems.
- **Operational Sustainability:** Unlike mechanical treatment plants that require high energy and technical maintenance, DEWATS relies on low-maintenance, gravity-flow systems. This is critical given the weak maintenance capacity identified in the institutional assessment.

4.4.3.6.3 Safe reuse of DEWATS treated water by a case-to-case scenario for irrigation of non-food crops (lawn, trees, flowers, etc.)

This measure operationalizes the project's resource efficiency goals in a water-scarce context.

- **Adapting to Water Scarcity:** The Savanes region faces severe water shortages during dry seasons that can last up to seven months. Reusing treated wastewater for landscaping (lawns, trees) reduces the demand on potable water sources for non-potable uses, preserving boreholes for drinking and hygiene.
- **Creating Green Spaces:** This reuse supports the revegetation of facility grounds with native species, which reduces local warming and dust through improved ground cover.

4.4.3.6.4 Use of water-saving technologies, e.g. pour flush toilets equipped with water-saving squatting pan or toilet bowl as an alternative to the mechanical-flush toilet equipped with a siphon system

This measure mitigates the risk of water depletion.

- **Reducing Extraction Pressure:** The assessment warns that increased extraction could stress local aquifers if not managed sustainably, particularly in semi-arid zones. Pour-flush toilets require significantly less water (1–3 litres) compared to standard mechanical siphon systems (6–9 litres), directly aligning with the requirement to promote efficient water use.
- **Ensuring Viability:** By lowering the daily water requirement for sanitation, these technologies ensure that hygiene standards can be maintained even during the prolonged dry spells anticipated under future climate scenarios.

4.4.3.7 Safe and Sustainable Borehole Siting, Construction and Maintenance

4.4.3.7.1 Ensure evidenced-based borehole planning and siting, informed by a baseline needs assessment and supported by geophysical and hydrogeological surveys a

This measure addresses risks such as aquifer depletion, ground instability, water contamination and unreliable water supply from poorly planned boreholes:

- Prioritize rehabilitation: conduct a needs assessment to prioritize the rehabilitation of existing water infrastructure over new borehole drilling, ensuring cost-effective and sustainable water supply solutions.
- Evidence-based planning: use hydrogeological data supported by geophysical surveys and soil analysis to ensure appropriate borehole siting to identify drilling locations with sustainable yield and minimal environmental risk.
- Regulatory compliance: ensure all proposed drilling locations are reviewed and approved by the relevant authorities to comply with local regulations and standards before implementation.

4.4.3.7.2 GIZ will oversee borehole planning, construction, rehabilitation and handover, with rigorous quality assurance, groundwater monitoring, and capacity-building to ensure long-term safety, functionality, and compliance with technical and health standards.

This measure mitigates the risk that inadequate borehole design, construction and maintenance lead to groundwater contamination and health hazards:

- Quality assurance: ensure compliance with technical and safety standards throughout construction and rehabilitation to prevent contamination, structural failure, and premature degradation:
 - Pre-commissioning: Require contractors to submit post-drilling completion reports, including static/dynamic water level data, pump test results, and recommended extraction rates, reviewed by GIZ before commissioning.
 - Post-commissioning: conduct post-installation water quality monitoring in collaboration with the National Institute of Public Health (INH) to verify compliance with national drinking water standards and early detection of contamination.
- Groundwater level tracking: Install water-level monitoring infrastructure (piezometers or automated loggers) to enable continuous tracking of groundwater levels, with dry-season readings reported quarterly to the PMC
- Capacity-building: provide targeted training and support to local partners on the proper operation, maintenance, and management of borehole infrastructure for long-term functionality.

4.5 ESS 4: Community Health, Safety and Security

4.5.1 ESS4 Assessment

ESS 4 recognizes that project activities can have unintended negative consequences for the health and safety of the communities they are intended to serve.

Community Health Risks

- Communicable Diseases: The influx of external construction workers into rural communities can disrupt local social dynamics and increase the transmission of communicable diseases, including STIs and HIV/AIDS.
- Vector-Borne Disease: Construction activities can create new breeding sites for malaria vectors (*Anopheles* mosquitoes) if excavation pits or discarded containers are allowed to collect stagnant rainwater. This would exacerbate the very health outcome the project seeks to reduce.
- Construction Nuisances: Dust and noise from rehabilitation works at active health facilities can negatively affect patients, particularly those in maternity or neonatal wards.

Community Safety and Security Risks

- Localized social tensions may emerge during the siting of infrastructure, recruitment of workers, or the allocation of project benefits if some community members perceive unequal access to employment or resources. While the project emphasizes inclusive participation and equitable distribution of benefits, such risks require careful stakeholder engagement and transparent decision making.

- Traffic safety risks may arise from project logistics. The project will involve the transport of materials and distribution of medical supplies using motorcycles and light vehicles. Increased vehicle movement on rural roads, which are frequently used by pedestrians and school children, may increase the risk of road accidents.
- Infrastructure safety is also a critical consideration. The project will rehabilitate health facilities. Failure of structural elements such as roofs or walls, particularly during storms or extreme weather events, could pose safety risks to patients, health workers, and surrounding communities.

Hazardous Materials Risks to Community Health and Safety Across the Project Life Cycle

This sub-section provides a precise assessment of the potential risks and impacts hazardous materials generated or disturbed during the project life cycle may pose to the health and safety of affected communities in the Central, Kara, and Savanes regions. The project's activities span civil rehabilitation of health facilities, installation of solar PV and cold-chain systems, deployment of hydrometeorological infrastructure, and community-level vector control and health outreach. Each of these activities involves the generation, disturbance, handling, or disposal of one or more categories of hazardous materials that, if improperly managed, may create direct or indirect health and safety risks for surrounding communities beyond the project site boundaries.

Construction Phase

- Given that most target health facilities operate within or immediately adjacent to residential communities, markets, and schools, there is a credible pathway for community members, including children, pregnant women, and patients attending facilities, to inhale fibres beyond the construction perimeter if containment measures are not in place.
- **Construction Chemicals and Demolition Debris:** Civil works will involve the use of paints, solvents, adhesives, waterproofing compounds, and cement. Improper management of these substances, including accidental spills, uncontrolled runoff during rain events, or disposal of demolition debris in unauthorised sites, may contaminate surface water bodies and shallow groundwater sources used by communities for drinking and domestic purposes.

Operational Phase

- **Biomedical and Clinical Waste:** The rehabilitation and expansion of health facilities will increase the volume of biomedical waste generated at target facilities, including sharps, infectious materials, pharmaceutical waste, pathological waste, and chemical laboratory reagents. The baseline assessment confirms that existing waste management systems at health facilities in the target regions are poorly functioning: open-pit burial of syringes, absence of colour-coded segregation receptacles, and non-functional or absent incinerators are documented deficiencies. Where waste storage areas are unsecured or waste is openly burned or pit-buried near residential areas, neighbouring community members, particularly children, scavengers, and waste workers face exposure to pathogenic organisms, toxic combustion by-products, and chemical contamination of soil and shallow groundwater.
- **Solar Photovoltaic Batteries and PV Panel Components:** The project will install solar PV systems with battery storage at health facilities to ensure reliable energy supply for cold chains and clinical services. Lead-acid or lithium-ion batteries used in these systems contain hazardous substances including sulfuric acid, lead, and cadmium. In the event of battery leakage, enclosure failure, or improper maintenance, these substances may contaminate soil and groundwater at or near health facilities, where communities draw water and children may access grounds. At end of operational life, PV panels themselves contain hazardous materials including cadmium telluride, lead-based solder, and silicon compounds that will leach into the environment if informally dumped or landfilled without containment. In the absence of an established formal e-waste recycling infrastructure in northern Togo, the risk of informal disposal is elevated.
- **Electronic Waste (E-waste):** Activities 1.1.1 and 1.1.2 involve the installation of Automatic Weather Stations (AWS), rain gauges, data servers, diagnostic equipment, and computers. Activity 3.2.1 involves cold-chain logistics systems and associated ICT tools. These equipment categories generate e-waste at end of operational life containing hazardous heavy metals

including mercury, lead, and cadmium. In the absence of formalised e-waste management systems in Togo's northern regions, informal disposal, including burning of cable insulation, disassembly without protective equipment, and dumping near waterways poses community-level exposure risks.

Mercury-Containing Medical Devices and PCB-Containing Electrical Equipment: Older health facilities targeted for rehabilitation may contain mercury-based medical devices (thermometers, sphygmomanometers, fluorescent lamps) and polychlorinated biphenyl (PCB)-containing electrical components (transformers, capacitors). Togo has ratified both the Stockholm Convention on Persistent Organic Pollutants and the Basel Convention on Hazardous Wastes, which impose legal obligations on the sound management of PCBs and mercury-containing waste. If these materials are disturbed during construction without prior identification and removal, breakage or uncontrolled release may contaminate community soil and water.

Risks and impacts on community health and safety due to potential damage to ecosystem and ecosystem services

Project activities involving the rehabilitation of health facilities and the improvement of sanitation infrastructure may indirectly affect surrounding ecosystems and the ecosystem services on which communities rely. Poorly managed sanitation systems, inadequate waste management, and uncontrolled wastewater discharge can contribute to environmental degradation, including contamination of soils, surface water, and groundwater. Such impacts may disrupt key ecosystem services such as water purification, disease regulation, and local climate regulation, which are essential for maintaining community health and environmental stability. To address these risks, the ESMP integrates measures that strengthen both environmental management and community awareness. The project will implement community awareness and hygiene campaigns in local languages, aimed at promoting environmentally responsible sanitation practices, safe water management, and disease prevention behaviours. These campaigns will support communities in understanding the links between environmental conditions, ecosystem health, and public health outcomes. In addition, the project will integrate environmental management considerations into communal sanitation and hygiene plans, ensuring that sanitation infrastructure, wastewater management, and hygiene practices are implemented in ways that protect surrounding ecosystems and maintain ecosystem services. By strengthening environmental awareness and promoting sustainable sanitation practices at the community level, these measures will help reduce ecosystem degradation, support the resilience of local ecosystems and communities.

Security Arrangements and Associated Risks to Workers and Adjacent Communities

The deployment of security personnel and the establishment of physical security infrastructure at project construction sites introduces risks to the health, safety, dignity, and rights of both on-site workers and members of the adjacent communities. These risks arise from three principal sources: the conduct of security personnel, the physical design and management of site security infrastructure, and the potential for security arrangements to create barriers between communities and services or resources they customarily access.

- **Risks Arising from the Conduct of Security Personnel:** Where private security guards or public security forces are engaged to protect construction sites, equipment, and materials, there is an inherent risk that the conduct of security personnel may cause harm to workers or community members. This risk is particularly relevant in the Centrale, Kara, and Savanes regions, where construction activities will take place in rural communities with limited institutional oversight capacity, and where power imbalances between security personnel and local populations can create conditions for abuse. Specific risks include:
 - Use of excessive, disproportionate, or arbitrary force against workers or community members who approach or enter site boundaries, particularly in situations where site boundaries are poorly demarcated or overlap with customary community access routes;
 - Harassment, intimidation, or discriminatory treatment of community members seeking access to areas adjacent to or historically within project site boundaries;

- Sexual harassment or exploitation of women and girls in the vicinity of construction sites by security personnel, consistent with the broader GBV/SEAH risk identified for construction activities across the project; and
- Arbitrary restriction of workers' freedom of movement within or between site areas, including preventing workers from leaving sites to seek medical attention or report grievances, which would constitute a violation of ILO core labour standards and GCF ESS 2.
- **Risks Arising from Physical Security Infrastructure:** The installation of physical security measures — including perimeter fencing, barriers, watchtowers, floodlighting, and site access control points may generate direct risks to workers and community health and safety if not appropriately designed, sited, and managed. These include:
 - Perimeter fencing or barriers erected across existing community footpaths, water collection routes, or access routes to health services, cultural heritage sites, medicinal plant collection areas, or agricultural land, creating physical access disruption with direct health and livelihood consequences for adjacent communities, including heightened risks for pregnant women and persons with disabilities who rely on these routes to reach health facilities; Floodlighting and noise from security operations during night hours generating adverse health effects, including sleep disruption and psychological stress for residents of communities immediately adjacent to construction sites, particularly where sites are located close to health facilities, schools, or residential areas;
 - Poorly demarcated or unmarked site boundaries creating confusion among community members about permissible access areas, increasing the risk of accidental injury from construction equipment, open excavations, hazardous materials stockpiles, or vehicle movements; and
 - Security checkpoints or identity verification requirements that create discriminatory barriers to access for community members without formal identification documents, a common situation among Local communities such as the Fulani.
- **Risks from Disproportionate or Militarised Security Responses:** In contexts of pre-existing social tension, including land use disputes, community grievances related to project siting decisions, or broader socio-political instability in northern Togo, there is a risk that security arrangements at project sites could escalate rather than de-escalate conflict. The engagement of armed public security forces (police or gendarmerie) to manage site security, rather than trained private security personnel operating under a code of conduct, heightens the risk of disproportionate force being used against community members who express opposition to project activities or who approach site boundaries. This risk is compounded where community consultation and grievance processes have not been sufficiently accessible or responsive, leading community members to resort to direct action at site level. Any use of security forces in a manner that suppresses legitimate community expression or restricts freedom of assembly would constitute a violation of GCF ESS 4 requirements on the responsible use of security forces.
- **Cumulative Risk: Security Arrangements as a Barrier to Health Service Access:** Several project construction sites are located within or immediately adjacent to functioning health facilities, Unités de Santé de Proximité (USPs), district hospitals, and maternity units, that continue to serve communities during the rehabilitation period. Security arrangements designed to protect construction zones within these facilities risk inadvertently restricting patient access to health services, particularly for vulnerable users including pregnant women, mothers with young children, elderly patients, and persons with disabilities. If security checkpoints, fencing, or restricted movement zones are not carefully designed to maintain clear and unobstructed patient access pathways, the security infrastructure itself may generate community health impacts inconsistent with the project's core objective of strengthening health service resilience.

Sexual Exploitation, Abuse, and Harassment (SEAH)

Gender inequalities in Togo manifest across the life cycle and begin early in childhood, in which social norms and gendered household roles limit girls' access to primary education. High dropout rates persist, often linked to domestic responsibilities and financial barriers (for details see Annex 8a – Gender Assessment). These disparities deepen during adolescence. Fewer than half of girls complete secondary education, with early marriage, early pregnancy – particularly pronounced in the Centrale

region, followed by Savanes and Kara, and restrictive gender norms significantly contributing to school withdrawal (World Bank, 2022). In adolescence and adulthood, women continue to face restricted access to education and economic opportunities, alongside entrenched gender norms that limit labour force participation and reinforce financial inequities. These constraints are compounded by high levels of social tolerance for violence against women, elevated health risks, and reduced autonomy and decision-making power. Prevalence of physical or sexual intimate partner violence is most pronounced in Savanes (32%) and Centrale (29%), while significantly lower rates are reported across the remaining regions, reflecting notable disparities in women's safety and rights nationwide (World Bank, 2022).

Given the considerable gender inequalities in the project regions, project staff and contractors may be exposed to situations where power imbalances between workers and those in positions of authority give rise to risks of SEAH. Workers who hold decision-making authority or control access to resources, employment opportunities, or services may be placed in positions where boundaries become blurred, increasing the potential for inappropriate behaviour, coercion, or misunderstandings. This includes the risk of workers being implicated, intentionally or unintentionally, in situations of "sex for work" or in exploitative dynamics involving women seeking health services.

Furthermore, community members – particularly women, girls, persons with disabilities, and other vulnerable groups – face heightened risk of SEAH during project implementation. The introduction of new infrastructure works, an increased presence of external personnel, and frequent community engagement activities may elevate vulnerabilities including: (i) harassment or intimidation during outreach or service delivery; (ii) exploitation stemming from unequal access to project benefits (such as "sex for services," preferential access to medicines, screenings, or early warning alerts); and (iii) increased exposure of adolescent girls and women when travelling to health facilities or attending community meetings. These risks are further intensified in remote areas with limited social protection systems, weak reporting and referral pathways, and low law-enforcement presence. Stigma associated with reporting SEAH cases may also discourage survivors from seeking support, resulting in significant barriers to accountability and access to justice.

4.5.2 ESS4 Impact rating: moderate

The overall impact of the ESS4 project is rated as moderate, reflecting the project's potential to generate risks to the health and safety of populations during the rehabilitation and operation of healthcare facilities. Although these risks are localised and largely manageable, their consequences for public health and social well-being could be significant if preventive measures are not effectively implemented.

Additional risks arise from construction-related activities, including traffic accidents, noise, and dust, which can temporarily disrupt community life, particularly near health facilities, schools, markets, and densely populated areas. There are also operational risks to communities during the life of the constructed facilities, such as malfunctioning water and sanitation systems or inadequate maintenance of climate-resilient infrastructure.

Despite these challenges, the project's focus on health system resilience, environmental management, and community engagement ensures that risks remain predictable, site-specific, and reversible. The overall residual risk level is expected to be low to moderate, with substantial co-benefits in health, safety, and local capacity building.

4.5.3 ESS4 Mitigation and management measures

4.5.3.1 Measures for occupational health and safety (OHS)

4.5.3.1.1 Conduct site-specific OHS risk assessments and require contractors to implement corresponding health and safety measures (in line with international human rights and ILO core labour standards, child protection, non-discrimination and gender equality, etc.). For this purpose, EEs implementing construction works are required to submit approved health and safety concepts that will be approved by GIZ. Training for workers will be conducted where needed. Evacuation plans are required, communicated to workers, and aligned with GIZ SOPs on Medical Emergency Evacuation and Business Travel.

- **Addressing Construction and Traffic Risks:** The assessment identifies specific hazards such as work at height, electrical hazards, and heavy lifting during facility rehabilitation and solar installation. Furthermore, the distribution of medical supplies and materials involves traffic risks on rural roads used by pedestrians and children.

- **Managing Hazardous Materials:** The rehabilitation of older health facilities poses a risk of exposure to asbestos, requiring specific pre-renovation surveys and removal by licensed specialists using containment methods. Similarly, the handling of solar batteries presents electrical and chemical risks that must be addressed through specialized training for logistics staff.
- **Mitigating Heat Stress and Poor Ventilation:** The baseline assessment found that 16 out of 17 visited facilities had cramped consultation rooms with insufficient air circulation, increasing the risk of heat stress and infection for workers. OHS concepts must mandate adequate breaks, hydration, and the provision of appropriate Personal Protective Equipment (PPE) to mitigate these environmental constraints.
- **Managing Electrical Risks from Solar and Cold Chain Systems:** The installation and operation of solar PV systems, battery storage and cold chain equipment introduce electrical hazards (e.g. electrocution, fire risks, system failure). To mitigate these risks, the project will ensure proper system design using certified components and qualified technical expertise; safe installation of all components, including compliant earthing and grounding systems; continuous supervision and quality control of installation works; training of facility staff and technicians on operation, maintenance logs and preventive maintenance schedules; establishment of maintenance plans and documentation systems; and effective management of warranty periods to ensure supplier accountability and timely repair or replacement of faulty components.
- **Addressing absence of fire safety mechanisms:** The project will ensure that fire safety is systematically integrated into the planning and design of all new constructions and rehabilitation works (mandatory requirement for all infrastructure interventions); fire safety provisions are included in construction documents and technical specifications of construction contracts; and compliance with fire safety requirements is verified during the construction phase through supervision and control mechanisms.
- **Traffic Management around Construction Sites:** As part of the site-specific OHS risk assessment and health and safety concept, adequate traffic management plans around construction sites (such as signage installation and barricading) shall be developed and submitted for GIZ approval prior to the commencement of works. Compliance with approved traffic management measures shall be included in the Bill of Materials and established as a contractual requirement for all construction contractors. Adherence to these measures will be monitored by the GIZ Construction Section through regular site visits.
- **Traffic and road safety:** The project will implement comprehensive road safety measures for all transport activities. This includes route-specific risk assessments (accounting for poor road conditions and limited emergency services) and mandatory safety programs for drivers. Transport contractors are contractually required to follow safe driving practices near health centers, schools and communities and to have emergency response and evacuation procedures aligned with GIZ SOPs on Medical Emergency Evacuation and Business Travel.. These programs will be verified by the GIZ Construction Advisor through supervision missions

4.5.3.2 Measures to improve community health and environmental awareness

4.5.3.2.1 Implement community awareness and hygiene campaigns in local languages to reduce the risk of vector-borne and water-borne diseases

- **Preventing Disease Vectors:** Construction activities can inadvertently create new malaria breeding sites in excavation pits or stagnant water, counteracting the project's health goals. Hygiene campaigns must address these risks alongside water-borne disease prevention.
- **Ensuring Inclusivity:** To be effective, these campaigns must be delivered in local languages, such as Fulfulde, to reach semi-nomadic populations who might otherwise be excluded from health messaging due to language barriers.

4.5.3.2.2 Integrate environmental management considerations into communal sanitation and hygiene plans

- **Protecting Water Sources:** The assessment identifies a severe risk of groundwater contamination from poorly located latrines in flood-prone areas. Integrating environmental

management means ensuring sanitation infrastructure is elevated and pits are sealed to prevent faecal pathogens from leaching into shallow aquifers during floods. "

4.5.3.3 Sensitize construction contractors and suppliers on human rights & gender issues

4.5.3.3.1 Require construction contractors to apply and comply with international human rights standards, prevent SEAH, prohibit incitement to violence or discrimination, and comply with ILO Fundamental Principles and Rights at Work throughout construction activities (e.g., through code of conduct)

- **Addressing Power Imbalances:** The assessment notes that workers with decision-making authority or control over resources may create exploitative dynamics, including "sex for work". The Code of Conduct must explicitly prohibit these behaviours and include clear sanctions for violations.
- **Protecting Community Volunteers:** Community workers face specific risks of harassment or abuse during household visits and work in isolated areas. Contractors must ensure these volunteers are protected under the same human rights and safety standards as formal employees.

4.5.3.3.2 Awareness raising on gender equality, SEAH prevention, and the GRM for construction staff, private sector cooperation partners and community actors

- **Sensitization of project workers and community on the GRM:** Project workers and adjacent community members will be sensitized on the project's GRM and its respective procedures and protocols.
- **Overcoming Barriers to Reporting:** Stigma often discourages survivors from reporting incidents. To address this, targeted, awareness-raising activities will inform communities, particularly women and vulnerable groups about the project's confidential and survivor-centred Grievance Redress Mechanism (GRM) which is confidential and survivor-centred, ensuring that women and vulnerable groups know they can report incidents without fear of retaliation.
- **Availability of survivor support services:** There are several service providers available in the project intervention areas who can provide support services to survivors of gender-based violence (GBV) and SEAH. These services include listening centres, legal support centres, health services, etc., which provide initial reception services to the survivors. In addition, One Stop Centres available in Kara and Savane provide integrated services to the survivors of GBV and SEAH.
- **Coordination for GBV case management:** At the national level, a single protocol has been established to ensure case management of GBV, which involves all the key actors who are responsible for responding to GBV, including the justice system, health services, security forces, and social services. This protocol has created a coordinated system of responding to cases of GBV, which is centered on the survivor. This ensures a smooth referral system across all actors.
- **Mapping and Integration of Referral Pathways:** To ensure that cases of SEAH, which could potentially arise from the project activities, are addressed, the project has identified available GBV and SEAH service providers available in the target regions. These service providers have been integrated into the project referral pathways.

4.5.3.4 Measures to strengthen human rights and to improve access to health services of women and vulnerable groups

4.5.3.4.1 Use the preference- and dignity centred humanised childbirth approach in existing and newly built maternity wards to account for specific needs and choices of women

- **Respecting Cultural Norms:** The assessment reveals that certain communities e.g. Fulani women face barriers to healthcare access due to cultural norms regarding privacy and space in maternity wards. Adopting a humanized approach involves adapting service delivery to respect these specific needs, thereby reducing exclusion and improving health outcomes.

4.5.3.4.2 Ensure infrastructure is accessible and equipment is adapted to people with reduced mobility/ disabilities. This will reduce barriers to access to health services and increase safety for persons with reduced mobility (e.g. pregnant women and persons with disabilities)

- Removing Physical Barriers: The baseline assessment found that existing facilities often lack adapted bathrooms and delivery tables for pregnant women and persons with disabilities, reinforcing exclusion. Rehabilitation works must retrofit these spaces to ensure universal access, promoting safety and dignity for all patients.
- Accessible design: Publicly accessed buildings (clinics, schools, etc.) will incorporate universal design features. This includes step-free entrances, ramps with handrails, wide doorways, accessible restrooms, tactile guidance indicators for the visually impaired, and clear evacuation routes. These features ensure safe, equitable access and egress for people with disabilities, the elderly, or anyone with reduced mobility.

4.6 ESS 5: Land Acquisition and Involuntary Resettlement

4.6.1 ESS5 Assessment

Many USPs in Togo occupy land acquired through community donations, municipal allocations, or informal purchases by health committees, often without registered legal documentation. Togo's land tenure regime recognises customary ownership and statutory ownership, and land titles are formally granted only through the Land Registry and Land Conservation Directorate (DCCF) under the Ministry of Urbanism, Habitat and Land Reform (MUHRF). The 2018 Land and State Property Code introduced mechanisms for legalising customary holdings, such as rural land certificates (*certificats fonciers ruraux*) and titles (*titres fonciers*), but rural parcels typically remain unregistered, unsurveyed, and unmapped (MUHRF, 2018). During consultation, in several health facilities, land parcels are documented only by verbal agreements, handwritten donation attestation, or minutes from village assemblies, without cadastral registration, survey plans, or notarization (Annex 7a). This creates potential risks of: (i) boundary disputes between families or village lineages; (ii) claims from descendants of land donors; and (iii) challenges during formalisation or expansion of facilities.

Land-related conflicts are among the most frequent civil disputes in rural areas of Togo, particularly where customary tenure overlaps with rising land value driven by infrastructure investments (AFSA, 2022). These risks may delay construction works or lead to exclusion of some community groups if agreements are not formalised and documented in accordance with ESS5 and national law.

The project will not engage in land acquisition. Construction works will only be undertaken on sites that are already formally under public ownership. As part of site selection, health centres must demonstrate secure land availability, free from disputes, informal claims, or ambiguity. Therefore, activities will not proceed in locations where land tenure is unclear or contested, eliminating risks of conflict, or unequal access among community members.

Similar considerations apply to schools and kindergartens where the project will rehabilitate or construct WASH infrastructure under Component 4. In the targeted regions, these facilities are generally located on land belonging to the State, communes, or faith-based/community organisations, but the quality of documentation and clarity of boundaries can vary, particularly where land was originally donated by communities or traditional authorities.

Furthermore, in rural areas where traditional authorities manage land allocation, intra-community conflicts can arise if land contributions are perceived as unfair or insufficiently compensated. Vulnerable groups such as women, youth, and marginalised households may be disadvantaged if their customary rights are not formally recognised. A careful, participatory approach to land verification and documentation - covering both health facilities and education sites - is therefore essential to ensure fairness, legitimacy, and alignment with the principles of ESS5.

4.6.2 ESS5 Impact rating: Low to Moderate

The overall impact of the ESS5 project is assessed as low to moderate. Although the project does not involve physical and/or economic displacement or land expropriation, the risk of social tensions and

conflicts related to land ownership remains a concern. These risks are localised and can be effectively managed through transparent procedures, documentation, and stakeholder participation.

The moderate rating reflects the fact that even minor disputes can disrupt project schedules and undermine community confidence. In areas where land is collectively held or inherited, the lack of legal documentation could complicate verification. However, these risks are foreseeable and reversible, provided that land issues are proactively addressed by GIZ in coordination with MSHPCSUA, local authorities (communes and traditional leaders), and school/health facility management committees, and that affected community members are fully involved in decision-making.

The low to moderate classification reflects both the manageable nature of these risks and the project's ability to implement effective mitigation measures.

4.6.3 ESS5 Mitigation and management measures

4.6.3.1 Clarify land tenure status of intervention sites (HFs and AWS) Selection

4.6.3.1.1 Interventions will only be conducted in locations that are government-owned. Consequently, a reputable and qualified legal consultant will clarify land rights at all sites from project start on to ensure full legal compliance with ESS 5. This will allow the project team to establish and maintaining a central register of land use rights

This measure is essential to address the widespread informality of land tenure in the target regions.

- **Addressing Informal Documentation:** The assessment reveals that in many health facilities, land parcels are documented only by verbal agreements, handwritten donation attestation, or minutes from village assemblies rather than formal cadastral registration. A qualified legal consultant is necessary to rigorously verify these informal claims and ensure that sites selected are formally allocated, uncontested, and fully documented to prevent future conflicts.
- **Preventing Future Disputes:** Establishing a central register addresses the specific risk of claims from descendants of previous land donors who may contest ownership if original agreements were not legally binding. This ensures that all sites meet the strict criterion of being free from disputes, informal claims, or ambiguity before any investment is made.

4.6.3.1.2 Conduct transparent consultations with local authorities, traditional leaders and affected people before selecting sites to confirm land status and community consent

This measure ensures that the land verification process is socially legitimate and inclusive.

- **Verifying Customary Consent:** Consultations are critical in rural areas where traditional authorities manage land allocation. They provide a mechanism to verify that original land contributions were voluntary and not perceived as unfair or insufficiently compensated by the community.
- **Ensuring Inclusivity:** The assessment highlights the risk that vulnerable groups such as women, youth, and marginalised households might be disadvantaged in customary land deals. Transparent consultations, supported by inclusive outreach tools like audio messages and illustrated leaflets for illiterate stakeholders, ensure that all affected people can voice concerns regarding boundaries or ownership history.

4.6.3.1.3 Advise MSHPCSUA and ANAMET on land tenure regularisation for HFs and locations of Automated weather stations and rain gauges

This measure strengthens institutional capacity to manage land assets sustainably.

- **Formalizing Tenure:** The assessment notes that while the 2018 Land Code allows for legalizing customary holdings, most rural parcels remain unregistered, unsurveyed, and unmapped. Advisory support will help the executing entities navigate the transition from customary ownership to statutory titles (e.g., *titres fonciers*), ensuring secure, undisputed land tenure for critical climate and health infrastructure.

4.7 ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources

4.7.1 ESS6 Assessment

The target regions (Centrale, Kara, Savanes) contain diverse ecosystems, including wooded savannas and protected areas such as the Fazao-Malfakassa National Park. Although the physical footprint of the project is relatively small and is located primarily on existing or previously developed land, potential indirect and cumulative impacts on biodiversity and ecosystems must be carefully managed.

The target regions (Centrale, Kara, Savanes) contain diverse ecosystems, including wooded savannas and protected areas such as the Fazao-Malfakassa National Park.

Direct Impacts

- **Habitat Loss:** Minor land clearing and soil disturbance during rehabilitation activities may increase the risk of site-specific erosion, land degradation, and loss of vegetation cover. However, given that construction is confined to existing settlements and institutional grounds, the risk of significant habitat conversion is negligible.
- **Protected Areas:** Strict site selection criteria will prevent any project activity within notified protected areas or critical habitats.

Indirect Impacts

- **Supply Chain:** The demand for timber for construction could indirectly drive illegal logging if supply chains are not monitored.

4.7.2 ESS6 Impact rating: Low

The overall impact of the ESS6 project is assessed as low to moderate. Most risks are localised, predictable, and reversible, but they merit special attention due to their potential to disrupt fragile ecosystems or degrade natural resources in the long term. The environmental footprint of the rehabilitation and construction of health facilities is expected to be minor; however, without effective waste management and erosion control, even small-scale disturbances could have cumulative impacts at the landscape scale.

The “low to moderate” classification reflects both the limited geographic scope of the project and the existing environmental sensitivity of some intervention sites. For example, runoff from construction sites or incineration residue could reach nearby agricultural fields or waterways, reducing water quality and harming biodiversity. Similarly, the unsustainable use of construction materials such as sand, gravel, or wood could contribute to habitat degradation if sourced irresponsibly.

The project's design, which emphasizes climate resilience and sustainable resource use, already incorporates mechanisms to mitigate these risks. By implementing strict environmental management protocols and encouraging restoration activities, the project has the potential not only to prevent biodiversity loss but also to generate positive co-benefits, including increased environmental awareness, soil stabilisation, and habitat restoration around treatment sites.

4.7.3 ESS6 Mitigation and management measures

4.7.3.1 Consider one health considerations in policy and strategic planning in Togo

4.7.3.1.1 Ensure active participation of the Climate Change Unit (CCU) at national level and ESS focal points in providing relevant ESS inputs to the One Health Platform **This measure addresses the institutional fragmentation identified in the assessment**

- **Breaking Institutional Silos:** The assessment highlights a siloed approach where limited historical collaboration exists between the Ministry of Health and environmental agencies. Active participation of the CCU and ESS focal points is necessary to bridge this gap, ensuring that environmental determinants (such as vector ecology and climate data) are integrated into health decision-making rather than treated separately.

- **Mainstreaming Safeguards:** By embedding ESS inputs into the One Health Platform, the project ensures that relevant ESS inputs - such as the management of chemical risks from vector control or biomedical waste - are considered within the broader national strategy for disease surveillance and response.

4.7.3.2 Biodiversity assessment and inclusion of revegetation interventions in infrastructure rehabilitation activities

4.7.3.2.1 An ecological assessment around HFs identifies potential interventions to slow down degradation, biodiversity and habitat loss

This measure targets the specific environmental pressures identified in the target regions.

- **Mitigating Cumulative Degradation:** Although the project's footprint is small, the assessment warns that small-scale disturbances could have cumulative impacts at the landscape scale if erosion and waste are not managed. The ecological assessment must identify specific hotspots where construction runoff or site clearing could degrade nearby soil or water quality, allowing for targeted preventive measures.
- **Addressing Localized Risks:** The assessment notes that the sourcing of materials like sand and timber could contribute to habitat degradation. The ecological assessment serves as a screening tool to ensure these resources are not sourced from ecologically sensitive areas or critical habitats.

4.7.3.2.2 Community-based ecological restoration around HFs (e.g. reforestation with native species) engages local communities, women's groups and school children in nurseries and tree planting. Interventions include environmental education messages (e.g. risk communication on heat exposure; benefits of biodiversity conservation; and other livelihood co-benefits

This measure provides both environmental mitigation and social co-benefits.

- **Countering Heat and Erosion:** The assessment identifies local warming and dust storms as consequences of vegetation loss, particularly in the Savanes region. Reforestation with native species directly mitigates these risks by stabilizing soils against runoff and providing shade to reduce heat stress around health facilities.
- **Enhancing Community Stewardship:** Engaging women's groups and schools' addresses the need for increased environmental awareness identified as a positive co-benefit in the assessment. This approach ensures that restoration activities are not just technical fixes but also serve as platforms for communicating risks regarding heat exposure and biodiversity conservation

4.8 ESS 7: Indigenous Peoples

4.8.1 ESS7 Assessment

The IFC's Environmental and Social Safeguards (ESS) dimension 7 recognises that Indigenous Peoples (IPs) and ethnic groups, as distinct social groups with differentiated cultural identities and customary practices, are often among the most marginalised populations in society. This ESS standard aims to ensure that their rights, livelihoods, culture, and development aspirations are respected and promoted. The proposed project is fully aligned with the standard as outlined in the GCF Indigenous Peoples Policy. At the same time, the project's LCP acknowledges that the term 'Indigenous Peoples' is not officially used or recognised within the national legal framework of Togo.

The Fulani face unique socio-economic tensions and exclusion in Togo. They are frequently perceived as foreigners regardless of citizenship status and face structural exclusion from land ownership and decision-making bodies (Oluka, 2022).

Togo is made up of a mosaic of approximately 40 ethnic groups with highly diverse customs and traditions (INSEED, 2023). Alongside the major groups such as the Ewe, Kabye, Tem, and Mina, the country is also home to smaller, scattered communities of mixed origins that have gradually assimilated into the dominant cultures of their host regions. In contrast, agro-pastoralist and semi-transhumant communities like the Fulani often reside in small hamlets near host villages, where they manage

livestock and migrate seasonally according to pasture availability (Bukari et al., 2020). Their pastoral mobility and semi-autonomous settlement patterns distinguish them from other groups, shaping their unique sociocultural and economic vulnerability in Togo's multi-ethnic landscape (Timpong-Jones et al., 2023).

In summary, the Fulani, like elsewhere in the West Africa, often face marginalization in national decision-making and land governance frameworks, resulting in limited recognition of customary institutions and recurring tensions with sedentary farming communities over access to land and water resources (Bukari et al., 2020; Courtright, 2025; Tonah, 2002). These dynamics situate the Fulani of northern Togo within broader West African patterns of mobility, ecological adaptation, and political marginalization, shaped by historical and contemporary pressures on rangelands and governance regimes (Imoro, 2018).

There are also gender inequalities linked to the social and cultural norms governing Fulani women's access to health facilities. Consultations revealed that these norms represent significant barriers to equitable healthcare access. Fulani women observe specific practices related to pregnancy and childbirth, including expectations regarding the use and organisation of space within maternity wards. These cultural requirements can become additional obstacles when health personnel are not trained in cultural sensitivity or in providing care that adequately responds to the needs and practices of women from these communities (GIZ, 2025b).

Further details can be found in Annex 6c – Local Communities Plan.

Screening results against GCF's IP Policy and Draft ESS7 were as follows:

- Self-identification: They self-identify as a distinct ethnic group. The Fulani are traditionally transhumant pastoralists whose livelihoods, culture, and social organization are closely tied to seasonal mobility, rangelands, and cattle herding (Turner, 2022).
- Collective attachment to distinct territories: As transhumant/semi-nomadic pastoralists, they have a strong collective attachment to grazing lands, transhumance corridors, and water resources, rather than fixed territories. Siting of Automated Weather Stations (AWS) could inadvertently block transhumance routes, restrict access to traditional water points, or occupy pasturelands.
- Distinct customary systems: They maintain distinct social, cultural, and political systems, particularly in communities living far from dominant villages. Among Fulani pastoralist communities in Togo and across the Sahel, the Ruga/Ardo system functions as a customary governance structure that operates in parallel with formal state-sanctioned chieftaincies. The Ardo (chief herder) serves as a moral and administrative leader, mediating conflicts, managing grazing routes, and coordinating relations with host agrarian communities, often without direct recognition from official administrative systems (Bukari et al., 2020; Turner et al., 2011). This informal but highly organized governance framework sustains social cohesion and resource management among mobile Fulani populations, making it a form of governance invisible to the state yet central to pastoral life (Djohy, 2017).
- Distinct language: They maintain a distinct Fulfulde language, customary institutions, and spiritual-cultural practices that play central roles in communal identity and pastoral governance (de Bruijn & van Dijk, 2003)

Overall, given the above results, there is a risk that Fulani pastoralist communities, due to their mobility, semi-nomadic lifestyle, and reliance on transhumance systems that are often not formally recognized, could be excluded from project benefits, including education-based wash benefits, health services, EWS and communication and training.

The project is committed to a process of Free, Prior, and Informed Consent (FPIC) for any activities that may affect the rights, lands, resources, or cultural heritage of IPs. All procedures are detailed in the project's LCP (Annex 6c). Its objectives are:

- Minimise and/or compensate for adverse impacts on local communities, particularly nomadic, pastoralist, agro-pastoralist and (semi-)transhumant groups;
- Promote equitable access to benefits from the project, focusing on marginalised groups, particularly women and youth;

- Foster inclusive governance in public health planning and ensure active participation from local communities;
- Ensure Free, Prior, and Informed Consent (FPIC) for affected communities when any project activity impacts their access to public health services, land or any other services and resources;
- Respect and preserve the cultural practices, traditional knowledge, and livelihoods of local communities.

Key baseline vulnerabilities of LCs include:

- Land and Resource Insecurity: Their collective attachment is to grazing lands and corridors, which are often not formally recognised, leading to recurrent and intensifying conflicts with settled agricultural communities.
- Marginalization: State policies often favour settled lifestyles and restrict pastoral movements. This is compounded by a negative public discourse that stigmatizes pastoralists.
- Security: Pastoralist communities, particularly in the northern regions, face security threats, including kidnapping for ransom and stigmatisation during anti-terrorist operations.
- Social Integration: While some Fulani reside near villages and participate in local governance (e.g., village chiefs' meetings, management committees), many others live far from villages and maintain entirely separate customary systems.

The project has prepared a specific LCP that establishes the mandatory procedures for screening, social assessment, and FPIC protocols to manage all interactions with these communities.

4.8.2 ESS7 Impact rating: Low

The project is classified as low risk under ESS7, reflecting its deliberate efforts to proactively include and protect ethnic minority groups, particularly the nomadic Fulani, across the northern regions of Togo.

Potential Adverse Impacts

1. **Exclusion from Project Benefits:** There is a risk that Fulani, due to their mobility and semi-nomadic lifestyle, could be excluded from project benefits. This includes:
 - a. **Education-Based WASH Benefits (Activity 4.1.1):** The project invests significantly in rehabilitating water supply and sanitation facilities in formal schools and kindergartens to reduce water-borne diseases. Fulani families often have lower enrolment rates in the formal public education system due to their seasonal mobility and a cultural preference for non-formal or religious education, particularly Quranic schools, which are central to Islamic learning traditions across West Africa and often operate outside state frameworks (Diallo, 2016). This educational pattern reflects a historical emphasis on Islamic literacy (Ajami) and religious scholarship rather than Western-style schooling, which remains less compatible with the pastoral mobility characteristic of Fulani livelihoods (Brock et al., 2006).
 - b. **Health Services (Output 3.1):** May not be able to access the rehabilitated or constructed Peripheral Care Units (USPs), and improved health delivery services (such as vaccines and diagnostic services).
 - c. **EWS and Communication (Outputs 1.3 & 4.2):** Early warning alerts and health awareness campaigns may not reach them if not delivered in Fulfulde or through accessible channels (e.g., community radio).
 - d. **Training (Output 2.2):** Training for community health workers (CHWs) or community multipliers may overlook Fulani members.
2. **Impacts on Lands and Livelihoods (Triggering FPIC):** Project activities involving physical infrastructure could interfere with the Fulani's collective attachment to grazing lands and corridors. This includes:
 - a. Siting of Automated Weather Stations (AWS) (Output 1.1).
 - b. Rehabilitation of Health Facilities (Output 3.1).
 - c. Siting of community WASH infrastructure (Output 4.1).

These activities could inadvertently block transhumance routes, restrict access to traditional water points, or occupy valuable pastureland, thereby impacting livelihoods and potentially exacerbating conflict.

3. **Exclusion from Governance:** The project supports the creation of national and regional Climate Change Units (CCUs) (Output 2.1). There is a risk that these new structures, as well as community health committees, may engage primarily with settled village leadership, overlooking the distinct customary institutions of the Fulani.

Potential Positive Impacts / Opportunities

- **Improved Health Access:** The project's focus on rehabilitating USPs and training CHWs provides a significant opportunity to improve health service access for historically underserved Fulani populations.
- **Tailored Early Warnings:** The climate-health EWS (Output 1.3) can be specifically designed to provide pastoralists with alerts relevant to their needs (e.g., water source availability, high-risk malaria zones, heat stress for livestock).
- **Inclusive Communication:** Awareness campaigns (Output 4.2) offer a pathway to develop culturally appropriate health materials in Fulfulde, strengthening health-seeking behaviours.

4.8.3 ESS7 Mitigation and management measures

The mitigation measures are outlined under *Annex 8c - Local Communities Plan (LCP)*. They include:

- Capacity building in FPIC processes, GRM, gender-related subjects and capacity to facilitate critical reflection in project implementation for EE's project staff, consultants, cooperation partners and beneficiaries
- Inform local communities about the GRM and ensure capacity to file grievances, if needed
- Improvement of health service delivery through improving local women's self-determination during delivery by applying the humanised childbirth approach
- Prepare communication messages, tools, and channels adapted for local communities (e.g. language translation, framing of health messages with reference to local cultural and spiritual belief systems where appropriate) to alert them on climate induced changes to health risks
- Training of traditional healers from local communities as multipliers for of climate-health messages
- Monitoring & Reporting on the implementation of the Local Communities Plan

4.9 ESS 8: Cultural Heritage

4.9.1 ESS8 Assessment

ESS8 aims to protect cultural heritage from the negative impacts of project activities and support its preservation and enhancement as part of sustainable development. Cultural heritage includes both tangible elements, such as monuments, artifacts, and historic buildings, and intangible elements, including traditions, practices, and spiritual values that define community identity.

The project recognizes that some of the proposed interventions (rehabilitation or construction of health facilities, schools, WASH infrastructure, etc.) will occur in regions that possess notable cultural heritage. In Togo, the protection of cultural heritage, movable or immovable, is legally governed by Law No. 90-24 of 23 November 1990 on the Protection of the National Cultural Heritage, which mandates the State to ensure the safeguarding and promotion of cultural heritage assets (RTG, 1990).

Among the heritage assets in Togo's northern regions is Koutammakou, the Land of the Batammariba, located in the Kara Region. This cultural landscape, inscribed on the UNESCO World Heritage List in 2004 for its outstanding cultural value, is distinguished by its traditional multi-storey earthen tower-houses (takienta / sikien), sacred natural sites, ancestral villages, and ritual and social practices that reflect the Batammariba community's relationship with nature and spiritual life (UNESCO, 2004).

Northern Togo also holds other important, though lesser-known, cultural resources that contribute to community identity and historical memory. **These include:**

- The ancient cave-granaries of Nôk and Mamproug in the Savanes Region, a network of shelters and grain-storage caves historically used as refuge and to protect harvests, now listed on the UNESCO Tentative List (UNESCO, 2021).
- The iron-smelting heritage sites of Bassar in the Kara Region - archaeological evidence shows that Bassar has been a major iron-production centre for more than two millennia, illustrating long-standing metallurgical traditions and local craftsmanship (De Barros et al., 2020).

Together, these tangible and intangible expressions of heritage, from vernacular architecture and settlement systems to ancient metallurgy and traditional refuge structures, underscore the cultural richness of northern Togo.

Project activities involving earthworks, civil construction, and community-level interventions across the Centrale, Kara, and Savanes regions present two interrelated categories of risk to cultural heritage. The first is the risk of physical disturbance to tangible and intangible heritage assets — including unintentional damage to cultural relics or sacred sites during excavation and site clearance, damage to culturally significant buildings during renovation works, and social conflicts that may arise if project activities are perceived as disrespectful of local customs or spiritual values. The second, equally significant risk is the potential for project activities to interrupt, restrict, or obstruct community access to cultural heritage sites and practices that are materially important to community identity, livelihoods, and wellbeing. This second risk arises not only from direct physical disturbance but also from indirect effects — including construction traffic blocking access routes, security cordon installations limiting movement around work sites, site clearance removing approaches to sacred groves and medicinal plant collection areas, and temporary land use during construction.

Disturbance of Tangible and Intangible Cultural Heritage

The physical disturbance risk is particularly relevant given the density of identified tangible heritage assets in the target regions — including the UNESCO World Heritage Site of Koutammakou, the ancient cave-granaries of Nok and Mamproug listed on the UNESCO Tentative List, and the iron-smelting sites of Bassar — as well as the widespread presence of intangible heritage in the form of sacred natural landscapes, ancestral ritual sites, and traditional healing environments.

A distinct and well-documented dimension of this risk concerns the disruption of traditional medicine systems, which constitute a primary healthcare safety net across all three target regions. Studies from the Centrale Region of Togo document large numbers of active traditional healers using medicinal plants and receiving patients regularly, indicating that plant-based traditional medicine remains a primary health resource (Tchacondo et al., 2010). Ethnopharmacological surveys conducted specifically in the Centrale and Kara regions identified dozens of traditional healers specialising in conditions such as tumours and chronic wounds, confirming that such practitioners are not marginal but are common and socially recognised (Karou et al., 2012; Kola et al., 2020; Tchacondo et al., 2010). National-level and recent surveys on medicinal plant use in Togo report that a high proportion of the population still relies on traditional medicine providers for primary healthcare, particularly in rural northern regions such as Kara and Savanes where formal health services are less accessible (Kola et al., 2020; Schmuck et al., 2019; Tchacondo et al., 2010). These healers are frequently organised in associations or networks and contribute significantly to managing common illnesses, chronic conditions, and culturally defined ailments (Kola et al., 2020; Schmuck et al., 2019; Tchacondo et al., 2010).

Construction activities — including site clearance for health facility rehabilitation, WASH infrastructure installation, and AWS siting — may degrade or destroy the medicinal plant habitats and sacred natural environments upon which traditional healers depend for their practice. This would not only eliminate an important healthcare resource for communities with limited access to formal health services, but would also sever the intangible knowledge transmission systems through which medicinal and ceremonial practices are passed across generations. Failure to recognise or integrate these cultural dimensions could weaken community trust and acceptance of the project (Mokgobi, 2014), potentially undermining the broader project objective of strengthening community resilience to climate-sensitive health outcomes. These risks therefore justify the need for a culturally aware approach that recognises traditional values, respects community norms, and ensures that project interventions complement rather than disrupt local cultural dynamics — protecting access to medicinal plant habitats and sacred landscapes, engaging traditional healers and community elders as legitimate stakeholders in site selection and activity design, and ensuring that Social and Behaviour Change Communication (SBCC) campaigns are designed to strengthen rather than displace existing traditional healthcare systems (Mokgobi, 2014).

Risk of Interrupted Community Access to Cultural Heritage Sites and Practices

Beyond the risk of physical damage, project activities carry a distinct risk of interrupting or restricting community access to identified cultural heritage sites and practices. The following five specific access disruption pathways are identified across the three project regions.

- **Physical Obstruction of Access Pathways to Heritage Sites:** Construction and rehabilitation activities at health facilities, schools, and WASH infrastructure may involve temporary fencing, materials stockpiling, and increased construction traffic on community paths and access routes. In communities where sacred groves, ancestral burial grounds, ritual landscapes, or medicinal

plant collection areas lie along or adjacent to these routes, construction activity could effectively prevent or discourage community members — particularly elders, traditional healers, and women — from accessing these sites during the construction period. Even temporary obstruction of access to sites of active ritual significance (e.g., ceremonial grounds, healing springs, sacred trees) represents a direct cultural harm, as many traditional practices are tied to specific seasonal cycles and cannot simply be deferred.

- **Restricted Access to Medicinal Plant Collection Areas:** A high proportion of the population in Kara and Savanes relies on traditional medicine practitioners for primary healthcare, with these practitioners regularly accessing defined forest patches, hillside vegetation, and riverbank flora for medicinal plant collection (Kola et al., 2020; Tchacondo et al., 2010). Where project construction, site clearance for AWS installation, or WASH infrastructure works encroach on or are adjacent to these collection areas, access may be physically restricted during site works, machinery movement, and/or removal of ground cover. This interrupts not just individual access, but the entire intangible heritage knowledge system tied to those plants, which is transmitted through active practice.
- **Disruption of Access to the Koutammakou Cultural Landscape:** The Koutammakou World Heritage Site in the Kara Region encompasses not only the iconic *takienta* tower-houses but an active, living cultural landscape of sacred sites, ceremonial spaces, and ritual pathways used continuously by the Batammariba community. Any project activities within or on the approach routes to this landscape — including AWS siting, community health infrastructure, or road use by construction vehicles — risk altering access patterns for community members engaged in ongoing ritual and ceremonial practices. As a UNESCO-listed site, any restriction of access also triggers Togo's obligations under the 1972 World Heritage Convention and the 2003 Convention for the Safeguarding of Intangible Cultural Heritage.
- **Disruption of Access to the Cave-Granaries of Nok and Mamproug:** The ancient cave-granaries of Nok and Mamproug in the Savanes Region, listed on the UNESCO Tentative List, are not merely archaeological monuments but are embedded in living cultural memory and serve as active sites of community gathering and identity. Construction and field activities in the Savanes Region must not generate physical or social barriers that prevent community members — especially elders and custodians of traditional knowledge — from accessing and maintaining their relationship with these sites throughout the project lifecycle.
- **Disruption of Intangible Heritage Practices and disturbances to Tangible Heritage:** Many traditional and spiritual practices — including seasonal harvest ceremonies, healing rituals, ancestral commemorations, and community governance assemblies held at culturally significant sites (resulting in physical disturbance of these tangible heritage e.g. relics, buildings, sites) — are governed by specific calendars and cannot be rescheduled. If construction activities, contractor noise, or project-related community mobilisation events are scheduled in ways that conflict with these calendrical obligations, access to associated cultural spaces is functionally interrupted even without physical obstruction. This risk is particularly acute in communities where traditional authorities — chiefs, elders, and ritual custodians — have not been adequately consulted in advance about project activity scheduling. Many traditional and spiritual practices — including seasonal harvest ceremonies, healing rituals, ancestral commemorations, and community governance assemblies held at culturally significant sites — are governed by specific calendars and cannot be rescheduled. If construction activities, contractor noise, or project-related community mobilisation events are scheduled in ways that conflict with these calendrical obligations, access to associated cultural spaces is functionally interrupted even without physical obstruction. This risk is particularly acute in communities where traditional authorities — chiefs, elders, and ritual custodians — have not been adequately consulted in advance about project activity scheduling.

4.9.2 ESS8 Impact rating: Low

The overall impact assessment of the ESS8 project is low, as the likelihood of significant adverse effects on cultural heritage is minimal. Project activities are primarily limited to existing USPs, schools, kindergartens, weather station locations and other previously disturbed areas, reducing the likelihood of discovering archaeological or sacred remains. However, this assessment reflects the possibility of accidental or chance discoveries during construction and the need for ongoing vigilance and community engagement to avoid cultural misunderstandings.

This low rating also considers the project's inherent commitment to respecting local culture, its inclusive approach to consultation, and the integration of traditional knowledge into community health initiatives. Despite this, the project recognizes that failure to properly manage cultural sensitivities, such as neglecting consultation with local leaders or adhering to traditional protocols, could lead to community resentment or delay project implementation.

Thus, maintaining respect for cultural heritage and promoting inclusive dialogue with traditional institutions are essential to ensure the social legitimacy and sustainability of the project's results.

4.9.3 ESS8 Mitigation and management measures

4.9.3.1 Improve acceptance of conventional/ modern medicine without undermining traditional health practices

4.9.3.1.1 Conduct an analysis of acceptance of conventional/modern medicine and vaccination among communities, in collaboration with traditional medicine practitioners, to identify culturally adapted approaches that promote uptake without undermining traditional health practices

This measure addresses the risk that project interventions could be rejected if they are perceived as competing with or disrespecting established traditional health systems.

- **Leveraging Existing Networks:** The assessment highlights that a high proportion of the population in the Kara and Savanes regions relies on traditional medicine as their primary health resource, with healers often organized into professional associations or networks. The analysis must therefore map these networks to identify opportunities for collaboration rather than conflict.
- **Promoting Complementarity:** The assessment stresses the need for a culturally aware approach where scientific tools, such as the Early Warning System (EWS), are framed as complementary to traditional indicators rather than replacements. By involving traditional practitioners who treat common conditions like chronic wounds and tumors, the project can legitimize modern interventions (like vaccinations) within the local cultural context, thereby enhancing community trust.

4.9.3.2 Enhance cultural sensitivity of EEs and contractors

4.9.3.2.1 Provide cultural sensitivity and local communication protocols briefings to contractors and field teams, covering local customs, communication norms and community engagement protocols and chance find procedures for cultural heritage⁷³)

This measure is essential to prevent conflicts and protect the rich tangible and intangible heritage identified.

- **Protecting Specific Heritage Sites:** Briefings must explicitly cover the region-specific assets identified in the assessment, such as the Koutammakou landscape with its traditional earthen tower-houses (takienta) in Kara, the ancient iron-smelting sites of Bassar, and the cave-granaries of Nôk and Mamproug in Savanes.
- **Continuous Community Access to Cultural Heritage Sites:** To ensure uninterrupted community access to all identified cultural heritage sites during project implementation, the project will implement the following measures. Prior to construction, a Cultural Heritage Access Map identifying all heritage sites and access routes will be prepared and validated in consultation with traditional authorities. Construction contracts will include binding provisions guaranteeing unobstructed access to these sites at all times, with clearly marked and safe alternative pathways established where existing routes are temporarily disrupted. A Cultural Calendar Conflict Avoidance Schedule will be developed in consultation with community representatives to ensure that construction activities do not coincide with important ceremonial or cultural dates. For the Koutammakou, additional safeguards consistent with UNESCO World Heritage protection requirements will be applied. Following completion of works, a joint verification inspection involving community representatives and traditional authorities will be conducted to

confirm that all access routes to cultural heritage sites have been fully restored prior to site handover.

- Operationalizing Protocols: The training must cover the Chance Find Procedure, mandating an immediate halt to work if artifacts are discovered. Furthermore, communication protocols must emphasize mandatory consultation with traditional chiefs and elders to identify and avoid sacred natural sites or taboo areas that may not be visible to outsiders but are critical to community identity.

5. Conclusion

The proposed project *“Building the resilience of Togo’s national health system and vulnerable communities to climate-sensitive outcomes”* presents a transformative opportunity to strengthen climate resilience in the health sector while improving public health outcomes and community preparedness. The ESIA confirms that the project’s interventions (rehabilitation of resilient health infrastructure, deployment of climate-sensitive surveillance systems, and community behaviour change activities) will generate substantial positive environmental and social impacts. These benefits include reduced morbidity and mortality linked to climate-induced diseases, improved access to climate-resilient health facilities, enhanced water and energy security through solar-powered systems and strengthened institutional capacity for climate-informed decision-making.

Negative risks are assessed as moderate, localised, and reversible. Environmental risks relate primarily to construction activities within health facilities, dust emissions, noise, waste generation (including possible hazardous waste such as asbestos), and OHS concerns for workers. Social risks include short-term disruption of medical services during rehabilitation works and the risk of excluding vulnerable groups (women, persons with disabilities, vulnerable communities) if systems are not designed for equitable access. Institutional gaps within national executing entities, particularly the MSHPCSUA and ANAMET, further heighten the need for strengthened safeguards management capacity.

The ESIA concludes that these risks can be effectively mitigated through the ESMP, which integrates clear mitigation measures, inclusive design requirements, waste and hazardous materials management protocols, climate-resilient engineering standards, occupational health and safety measures, and community communication strategies. The appointment of dedicated ESS focal points in each executing entity and the recruitment of Gender & ESS Advisor within the Project Management Committee will ensure competent implementation and monitoring. Additionally, collaboration with the National Environmental Management Agency (ANGE) provides independent regulatory oversight, reinforcing compliance with national and donor safeguards requirements.

Importantly, the project aligns with GIZ’s accreditation under Environmental and Social Risk Category B, indicating that its impacts are moderate, site-specific, reversible, and fully manageable through standard mitigation and monitoring measures. This confirms that the ESMP, capacity-building actions, and grievance mechanisms are adequate to reduce risks to Low–Moderate, consistent with GCF requirements for Category B projects.

No transboundary impacts are anticipated, and cumulative effects are expected to remain low with proper monitoring of water use, waste management, and energy efficiency. The grievance redress mechanism ensures transparency, timely complaint resolution, and survivor-centred handling of SEAH-related cases, reinforcing accountability and community trust.

In conclusion, the ESIA confirms that the project complies with GCF’s ESS framework and national regulatory requirements. The proposed ESS mitigation measures will not only serve as risk controls but will also act as means to enhance climate resilience at community level and support the sustainable strengthening of Togo’s health system.

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Appendix 1: Exclusion List

Activities falling under the IFC exclusion list, reproduced below, are excluded from the project:

IFC does not finance the following projects:

- Production or trade of any product or activity deemed illegal under the laws or regulations of the host country or international conventions and agreements.
- Production or trade of arms and ammunition.
- Production or trade of alcoholic beverages (excluding beer and wine).
- Production or trade of tobacco.
- Gambling, casinos and similar businesses.
- Trade in wildlife or wildlife products regulated by CITES.
- Production or trade of radioactive materials.
- Production, trade or use of unbound asbestos fibres.
- Purchase of logging equipment for use in primary tropical rainforest.
- Production or trade in pharmaceutical products subject to international phase-outs or bans.
- Production or trade of pesticides/herbicides subject to international phase-outs or bans.
- Driftnet fishing in the marine environment using nets over 2.5 km in length.
- Production or activities that impinge on the lands owned, or claimed under adjudication, by Indigenous Peoples, without full documented consent of such peoples.

Appendix 2: Summary of the ESS risks and impacts

ESS	Risk/Impact	Category	Phase	Direct/Indirect
ESS1	Environmental and social risks related to working conditions, pollution, gender disparities, biodiversity loss and stakeholder engagement may not be adequately identified, monitored and managed if Executing Entities (EEs) do not establish and operationalise a functional ESMS, including effective stakeholder engagement and grievance redress mechanisms.	Institutional/Governance	Pre-construction, During construction, Post-construction	Direct
	Environmental and social risks may not be effectively addressed if ESS focal points within the Executing Entities are not formally designated and sufficiently trained to implement the ESMP, coordinate E&S management, and monitor contractors' and suppliers' compliance with applicable environmental and social standards.	Socioeconomic	Pre-construction, During construction, Post-construction	Indirect
	There is a risk that project activities implemented in the Savanes region may expose project personnel, partners, and beneficiaries to security threats associated with the deteriorating security situation and the presence of violent extremist groups in the area. Incidents such as armed attacks, road ambushes, or sudden changes in the security classification of operational zones could disrupt activities and endanger staff and communities if adequate security procedures and situational awareness are not maintained.	Socioeconomic	Pre-construction, During construction, Post-construction	Direct
	There is a risk that construction contractors and suppliers involved in project activities may not fully comply with applicable national labour laws and international labour standards, including provisions related to fair working conditions, occupational health and safety, non-discrimination, and the prohibition of child and forced labour. Insufficient oversight of contractors may increase the likelihood of unsafe working conditions and labour rights.	Physical	During construction	Direct

ESS	Risk/Impact	Category	Phase	Direct/Indirect
	There is a risk that construction contractors and suppliers may lack awareness of gender equality, SEAH prevention and protection of vulnerable workers, potentially increasing the likelihood of exploitation, abuse or harassment affecting workers and surrounding communities, as well as inadequate occupational health and safety practices during construction and related project activities.	Socioeconomic	During construction, Post-construction	Direct
	There is a risk that expansion and rehabilitation of health facilities may increase biomedical and solid waste generation. If waste segregation, treatment and disposal systems are inadequate, this may lead to environmental contamination, exposure of workers and communities to hazardous waste, and improper disposal practices.	Physical	Post construction	Direct
	Construction and demolition activities may generate debris and hazardous materials that, if not properly sorted, stored and disposed of, could lead to uncontrolled dumping, obstruction of worksites, and degradation of soil and water quality around project sites.	Physical	During construction	Direct
ESS3	Health facility infrastructure improvements may increase energy demand and reliance on fossil-fuel-based power generation if low-carbon design, energy-efficient equipment and renewable energy systems are not integrated into infrastructure planning.	Physical	Pre-construction, During construction, Post-construction	Direct
	Without the adoption of renewable energy technologies and energy-efficient equipment, health facilities may continue to rely on inefficient energy systems, increasing greenhouse gas emissions and operational costs.	Physical	Post construction	Direct
	Construction and rehabilitation works may generate dust and fine particulate emissions that could affect workers, patients and nearby communities if dust suppression and air quality management measures are not implemented.	Physical	During construction	Direct

ESS	Risk/Impact	Category	Phase	Direct/Indirect
	Inadequate sanitation systems and wastewater management may lead to faecal contamination, groundwater pollution and excessive water consumption if improved sanitation technologies and safe sludge management practices are not implemented.	Physical	During construction	Direct
	There is a risk that inadequate borehole design, construction and maintenance may compromise groundwater quality and pose health risks. Furthermore, unregulated or poorly planned drilling may lead to aquifer depletion, ground instability, and unreliable water supply, including seasonal borehole failure due to inappropriate siting.	Physical	Pre-construction, During construction, Post-construction	Direct
ESS4	There is a risk that construction and rehabilitation activities may create unsafe conditions for workers and nearby communities if site-specific OHS assessments, safety plans and labour standards are not properly implemented. This could increase the likelihood of accidents, injuries or unsafe working environments during project works	Physical	During construction	Direct
	Communities may face increased health and safety risks, including climate-related hazards and climate-sensitive diseases such as vector-borne and water-borne illnesses, if infrastructure rehabilitation does not adequately account for extreme weather events and if hygiene promotion, disease prevention messaging and environmental health awareness campaigns are not effectively delivered and adapted to local contexts	Biological	Post construction	Direct
	There is a risk that contractors, suppliers and project workers may not adequately respect human rights, gender equality and SEAH prevention measures, potentially leading to exploitation, discrimination, violence or community tensions if awareness and enforcement measures are not in place	Socioeconomic	During construction	Direct

ESS	Risk/Impact	Category	Phase	Direct/Indirect
	Women, persons with disabilities and other vulnerable groups may continue to face barriers to safe, dignified and accessible health services if infrastructure design and service delivery approaches do not adequately address their specific needs	Socioeconomic	Post construction	Direct
ESS5	Construction and rehabilitation works will only be undertaken on sites owned by public partners, and no land acquisition will take place under the project. However, there remains a residual risk that the public status or boundaries of some intervention sites for health facilities (HFs) and automated weather stations (AWS) may not be fully documented or clearly recognised by surrounding communities. In some cases, historical land donations, informal community use, or unclear site boundaries could create misunderstandings or perceptions of competing claims. If site verification and consultations with local authorities, traditional leaders, and community members are insufficient, this could lead to local tensions, implementation delays, or reputational risks for the project.	Socioeconomic	During construction	Direct
ESS6	There is a risk that biodiversity and ecosystem considerations, including antimicrobial resistance (AMR) and environmental health linkages, may be insufficiently integrated into One Health decision-making if the Climate Change Unit (CCU) and ESS focal points within Executing Entities are not actively engaged in the One Health Platform and related policy discussions.	Physical/Biological	During construction, Post-construction	Indirect
	In the context of health facility infrastructure improvement, there is a risk of localized habitat degradation, heat stress and cumulative ecological impacts if biodiversity considerations, ecological assessments and nature-based solutions such as revegetation or ecosystem restoration are	Physical	During construction, Post-construction	Direct

ESS	Risk/Impact	Category	Phase	Direct/Indirect
	not integrated into infrastructure planning and rehabilitation activities.			
ESS7	There is a risk that local communities with semi-nomadic livelihoods, including Fulani pastoralists and other mobile groups, may not adequately benefit from project activities if engagement, communication and service delivery approaches are not adapted to their mobility patterns, cultural norms and communication channels. This could lead to exclusion from early warning systems (EWS), health services and training programmes, as well as tensions related to infrastructure sitting along transhumance routes or areas collectively used by pastoralist communities. These risks may increase if customary institutions and traditional leadership structures are not adequately included in project governance and consultation processes	Socioeconomic	During construction, Post-construction	Direct
ESS8	There is a risk that project activities promoting modern medicine and vaccination may face resistance in communities if they are perceived as disregarding traditional beliefs, healing practices or the role of traditional medicine practitioners. Insufficient understanding of local health practices and cultural norms may reduce community trust and weaken acceptance of project interventions.	Socioeconomic	Post-construction	Indirect
	There is a risk that Executing Entities' field teams, contractors and suppliers may unintentionally act in ways that are not culturally appropriate during project implementation (e.g., infrastructure works, community engagement or health activities), potentially disturbing culturally significant sites or practices, undermining trust and generating community resistance to project activities.	Socioeconomic	During construction, Post-construction	Indirect

Appendix 3: Comparison of GCF ESS Standards, National Regulations (Togo), and AE (GIZ) Standards

GCF ESS Standards	National Regulations (Togo)	AE (GIZ) Standards	Gap Analysis	How Inconsistencies are Addressed by the Project
ESS 1: Assessment and Management of Environmental and Social Risks and Impacts Requires screening, ESIA, mitigation hierarchy (avoid–minimize–mitigate–offset), adaptive management, monitoring and disclosure.	Law No. 2008-005 (Framework Law on Environment): Requires environmental impact assessments for projects affecting the environment. Decree No. 2017-040/PR: Establishes ESIA procedures under supervision of the national environmental agency (ANGE).	GIZ applies its Sustainability Guidelines and Safeguards+Gender, aligned with IFC Performance Standards and international best practices. The system requires risk screening, environmental and social management plans (ESMPs), stakeholder engagement, gender integration, monitoring systems, and grievance mechanisms.	National ESIA regulations focus primarily on environmental impacts. Social risk assessment (e.g., labour issues, gender, vulnerable groups) is less systematically addressed. Requirements for adaptive management, stakeholder engagement documentation, and monitoring frameworks are less detailed than GCF/GIZ standards.	The project applies the most stringent standard among national law, GIZ safeguards, and GCF ESS. A full ESIA and ESMP consistent with GCF ESS requirements has been prepared. A Gender/ESS Advisor will be recruited within the Project Management Unit (PMU). MSHPCSUA and ANAMET will each designate ESS focal points. Capacity-building on ESS compliance and monitoring will be implemented under Components 1 and 2. Continuous monitoring and adaptive management will be implemented through ESMP reporting and annual E&S reviews.
ESS 2: Labour and Working Conditions Promotes fair labour practices, OHS, non-discrimination, prohibition of child/forced labour, supply chain standards, and worker grievance mechanisms.	Law No. 2021-012 (Labour Code): Governs employment conditions, working hours, and worker protection. Decree No. 70-164: Occupational health and safety regulations.	GIZ safeguards require compliance with international labour standards including ILO conventions, occupational health and safety procedures, prohibition of forced and child labour, non-discrimination policies, and worker grievance mechanisms. Contractors must comply with labour standards through contractual clauses.	National labour regulations are broadly aligned with international labour principles but enforcement capacity is limited, particularly regarding occupational safety monitoring and contractor oversight. National law also does not explicitly require labour standards within supply chains or SEAH risk	All contractors and subcontractors must comply with the Labour Code and GIZ labour safeguard requirements. Procurement documents include contractual clauses on labour rights, OHS standards, child labour prohibition, and SEAH prevention. Worker codes of conduct and OHS induction will be mandatory. A confidential worker grievance mechanism will be integrated into the project GRM. Periodic labour inspections and reporting will be conducted by the PMU.

	Law No. 2011-006: Social Security Code ensuring mandatory worker protection schemes.		mitigation in construction contracts.	
ESS 3: Resource Efficiency and Pollution Prevention Requires efficient use of resources, pollution prevention, GHG reduction, hazardous waste management, and climate-smart technology use.	Law No. 2009-007 (Public Health Code): Addresses pollution and environmental health risks. Togo is party to the Basel Convention, Stockholm Convention, and Bamako Convention governing hazardous waste management.	GIZ environmental safeguards promote resource efficiency, waste management, pollution prevention, and climate-friendly technologies. Projects must adopt environmental management plans, waste handling procedures, and energy efficiency measures consistent with international standards.	National legislation addresses pollution and hazardous waste but institutional capacity for waste treatment and disposal remains limited, particularly for biomedical waste, asbestos, and electronic waste streams. Monitoring systems are also weaker than GCF/GIZ requirements.	The project adopts international best practices for hazardous waste management, including WHO healthcare waste guidelines. Biomedical waste protocols will be implemented in all health facilities. Solar batteries and electronic equipment will be managed through licensed waste contractors where available. Pre-construction hazardous material assessments will be mandatory. Resource-efficient technologies will be prioritised in facility rehabilitation.
ESS 4: Community Health, Safety, and Security Addresses risks to communities including traffic safety, infrastructure integrity, communicable diseases,	Law No. 2009-007 (Public Health Code) protects public health from environmental hazards. Decree No. 2016-043/PR governs infrastructure and	GIZ safeguards require community health and safety assessments, risk management plans, emergency preparedness measures, and safeguards addressing gender-based violence and social risks.	National regulations address infrastructure safety and public health but do not explicitly require systematic community risk assessments, SEAH risk mitigation measures, or community grievance mechanisms for development projects.	The project ESMP includes community health and safety plans, SEAH prevention measures, contractor codes of conduct, and awareness training. A multi-channel grievance redress mechanism will be established including confidential reporting. Emergency preparedness and infection prevention protocols will be integrated into health facility operations. Monitoring will be

emergency preparedness, and GBV/SEAH prevention.	urban planning authorisations.			conducted quarterly by the Gender/ESS Advisor.
ESS 5: Land Acquisition and Involuntary Resettlement Requires avoidance or minimisation of displacement, compensation at replacement cost, livelihood restoration, and support for vulnerable groups.	National land laws govern land acquisition and compensation but provide limited guidance on livelihood restoration, participatory resettlement planning, and vulnerable group protection.	GIZ safeguards require avoidance of resettlement wherever possible and implementation of compensation and livelihood restoration measures aligned with international standards where displacement occurs.	National legal frameworks do not fully address livelihood restoration or participatory resettlement processes required by GCF standards.	Project activities are designed to avoid land acquisition by prioritising rehabilitation within existing health facility footprints. Should unforeseen land impacts occur, the project will apply GCF and GIZ standards, including preparation of a Resettlement Action Plan and compensation at replacement value.
ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	Togo is party to the African Convention on the Conservation of Nature (Maputo Convention) and maintains national protected area legislation.	GIZ environmental safeguards require biodiversity protection and avoidance of impacts on critical habitats.	No major gaps identified between national legislation and GCF/GIZ standards for the scale and nature of project activities.	Project activities are limited to rehabilitation of existing facilities in urban or peri-urban areas. No critical habitats or protected ecosystems will be affected. Biodiversity screening will be conducted during site assessments.
ESS 7: Indigenous Peoples	Togo does not formally recognize Indigenous Peoples under national legislation. Some communities such	GIZ safeguards recognise the rights of vulnerable and traditional communities and require culturally appropriate consultation processes.	The absence of formal recognition of Indigenous Peoples in national law may limit protection mechanisms required under the GCF Indigenous Peoples Policy.	A Local Communities Plan has been prepared to ensure culturally appropriate consultation and inclusion of vulnerable communities. Project engagement processes will follow GCF Indigenous Peoples Policy principles, including free, prior and informed consultation where relevant.

	as Fulani pastoralists maintain distinct cultural and livelihood practices.			
ESS 8: Cultural Heritage Protects tangible and intangible cultural heritage and requires chance-find procedures.	National legislation protects historical monuments and archaeological sites but provides limited guidance on chance-find procedures in infrastructure projects.	GIZ safeguards require protection of cultural heritage and integration of chance-find procedures within construction contracts.	National regulations provide general protection of heritage sites but lack operational procedures for cultural heritage risk management during construction activities.	Chance-Find Procedures are included in all construction contracts. Contractors will be trained to halt work and notify authorities if cultural heritage resources are encountered.

(Source: Own elaboration, 2026)